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Short-Term Energy Outlook (STEO)

Forecast highlights

- This edition of the *Short-Term Energy Outlook* is the first to include forecasts for 2021.
- EIA forecasts Brent crude oil spot prices will average $65 per barrel (b) in 2020 and $68/b in 2021, compared with an average of $64/b in 2019. EIA expects West Texas Intermediate (WTI) crude oil prices will average about $5.50/b lower than Brent prices through 2020 and 2021, compared with an average WTI discount of about $7.35/b in 2019.
- Global liquid fuels inventories were mostly unchanged in 2019, and EIA expects they will grow by 0.3 million b/d in 2020 and then decline by 0.2 million b/d in 2021.
- On January 1, 2020, the International Maritime Organization (IMO) enacted Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention), which lowers the maximum sulfur content of marine fuel oil used in ocean-going vessels from 3.5% of weight to 0.5%. EIA expects this regulation will encourage global refiners to increase refinery runs and maximize upgrading of high-sulfur heavy fuel oil into low-sulfur distillate fuel to create compliant bunker fuels. EIA forecasts that U.S. refinery runs will rise by 3% from 2019 to a record level of 17.5 million b/d in 2020, resulting in refinery utilization rates that average 93% in 2020. EIA expects one of the most significant effects of the regulation will be on diesel wholesale margins, which will rise from an average of 43 cents per gallon (gal) in 2019 to a forecast peak of 53 cents/gal in March 2020 and an annual average of 50 cents/gal in 2020. EIA expects diesel margins to decline to 49 cents/gal in 2021.
- U.S. regular gasoline retail prices averaged $2.60/gal in 2019, and EIA forecasts that they will average $2.63/gal in both 2020 and 2021.
- EIA estimates that U.S. crude oil production averaged 12.2 million b/d in 2019, up 1.3 million b/d from 2018. EIA forecasts U.S. crude oil production will average 13.3 million b/d in 2020 and 13.7 million b/d in 2021. Most of the production growth in the forecast occurs in the Permian region of Texas and New Mexico.
- U.S. net imports of crude oil and petroleum product fell from an average of 2.3 million b/d in 2018 to an average of 0.5 million b/d in 2019, and EIA estimates the United States has exported more total crude oil and petroleum products than it has imported since

September. EIA forecasts that the United States will be a net exporter of total crude oil and petroleum products by 0.8 million b/d in 2020 and by 1.4 million b/d in 2021.

- U.S. dry natural gas production set a new record in 2019, averaging 92.0 billion cubic feet per day (Bcf/d). EIA forecasts dry natural gas production will rise to 94.7 Bcf/d in 2020 and then decline to 94.1 Bcf/d in 2021. Production in the Appalachian region drives the forecast as it shifts from growth in 2020 to declining production in 2021.

- EIA forecasts that Henry Hub natural gas spot prices will average $2.33 per million British thermal units (MMBtu) in 2020, down from $2.57/MMBtu in 2019. EIA expects that natural gas prices will then increase in 2021, reaching an annual average of $2.54/MMBtu.

- EIA forecasts that U.S. coal production will total 597 million short tons (MMst) in 2020, down 93 MMst (14%) from 2019, as a result of declining domestic demand for coal in the electric power sector and lower demand for U.S. exports. EIA expects that coal production will again fall by 16 MMst (3%) in 2021 as export demand stabilizes and declines in U.S. power sector demand slow.

- EIA expects the share of U.S. total utility-scale electricity generation from natural gas-fired power plants will remain relatively steady, it was 37% in 2019, and we forecast it will be 38% in 2020 and 37% in 2021. Electricity generation from renewable energy sources rises from a share of 17% last year to 19% in 2020 and 22% in 2021. The increase in the renewables share is the result of expected additions to wind and solar generating capacity. Coal's forecast share of electricity generation falls from 24% in 2019 to 21% in both 2020 and 2021. The nuclear share of generation, which averaged slightly more than 20% in 2019 will be slightly less than 20% by 2021, consistent with upcoming reactor retirements.

- After decreasing by 2.1% in 2019, EIA forecasts that energy-related carbon dioxide (CO2) emissions will decrease by 2.0% in 2020 and by 1.5% in 2021. Declining emissions reflect forecast declines in total U.S. energy consumption combined with assumptions of relatively normal weather. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Global Liquid Fuels

EIA estimates that global oil markets were roughly balanced in 2019, as global oil supply declined slightly and global oil consumption grew at its slowest pace since 2011. Both supply and consumption grow in 2020 in this forecast. EIA expects global oil supply will rise by 1.6 million barrels per day (b/d) in 2020 and global oil consumption will rise by 1.3 million b/d, contributing to global oil inventories rising at a pace of 0.3 million b/d. Supply growth in 2020 is led by countries that are not members of the Organization of the Petroleum Exporting Countries (OPEC), particularly the United States, Norway, Brazil, and Canada. EIA expects non-OPEC producers will increase oil supply by 2.6 million b/d in 2020, which will more than offset forecast supply declines of 1.0 million b/d from OPEC members.

In the first half of 2020, EIA expects global oil inventory builds of 0.5 million b/d will contribute to Brent spot prices falling to an average of $62 per barrel (b) by May from an average of $67/b in January. The relatively weak market balances EIA is forecasting for the first six months of 2020 occur amid market concerns about potential supply disruptions. However, a forecast of inventory growth and OPEC spare capacity of more than 2.0 million b/d could help reduce upward price pressure in the case of a limited disruption to oil supply or transportation. For all of 2020, EIA forecasts that global oil inventories will build by 0.3 million b/d and Brent prices will average $65/b.

Oil balances in EIA's forecast begin to tighten in mid-2020, and in 2021, global oil supply growth slows. Non-OPEC supply growth slows to 0.9 million b/d in 2021, driven by a decelerating pace of growth in U.S. tight oil. EIA expects OPEC supply to add another 0.1 million b/d of growth, bringing total forecast global supply growth for 2021 to 1.0 million b/d. EIA forecasts global oil consumption growth will average 1.4 million b/d in 2021, and with consumption growth outpacing supply growth, EIA expects inventories to draw by 0.2 million b/d. These draws contribute to EIA's forecast that Brent prices will rise to an average of $68/b in 2021.

Global Petroleum and Other Liquid Fuels Consumption. Preliminary data and estimates indicate that global liquid fuels consumption grew by 0.8 million b/d in 2019. EIA forecasts that consumption will rise by 1.3 million b/d in 2020 and by 1.4 million b/d 2021. The expected rise in consumption growth from 2019 results from a forecast of rising global gross domestic product (GDP). Based on forecasts from Oxford Economics, EIA assumes global oil-weighted GDP growth will rise from 1.9% in 2019 to 2.4% in 2020 and 3.0% in 2021.

EIA expects that global liquid fuels consumption will also rise in 2020 because of newly completed petrochemical plants in China, the United States, and Russia that use liquefied petroleum gases (LPG) as feedstock. Additionally, EIA forecasts that demand will further grow further as a result of the new International Maritime Organization (IMO) rules on sulfur content of fuel used by ocean-going vessels. EIA assumes that the switch from residual fuel to less energy-dense marine distillate will likely result in an increase in total liquid fuels consumption of about 0.1 million b/d. This increase in total consumption is the result of ships using less energy-dense fuel that requires some increase in volume to serve

the same level of shipping traffic. Absent the increase in LPG consumption and IMO 2020, EIA's forecast for liquid fuels consumption growth would be lower in 2020.

Countries that are not part of the Organization for Economic Cooperation and Development (OECD) continue to drive demand growth in the forecast. Non-OECD liquid fuels consumption growth accounts for 1.2 million b/d of the forecast global growth in both 2020 and 2021; China and India represent about half of all global growth in the forecast.

EIA forecasts that China's consumption will increase by 0.5 million b/d in both 2020 and 2021. EIA does not expect growth in China's oil consumption to slow as much as slowing GDP growth would imply because a number of new petrochemical plants add more than 0.2 million b/d of consumption in 2020 and almost 0.1 million b/d in 2021. EIA also forecasts that liquid fuels consumption in India will grow by about 0.2 million b/d in both 2020 and 2021, driven by rising gasoline, jet fuel, and hydrocarbon gas liquids consumption.

OECD petroleum and other liquid fuels consumption in the forecast grows by 0.1 million b/d in both 2020 and 2021. The United States is the main contributor to this growth. EIA forecasts that Europe's liquid fuels consumption will decline slightly in 2020 and then remain flat in 2021. Japan is expected to see liquid fuels consumption continue to decline in both years.

Non-OPEC Petroleum and Other Liquid Fuels Supply. EIA estimates that non-OPEC petroleum and other liquid fuels supply increased by 2.0 million b/d in 2019. Production growth of 1.6 million b/d in the United States accounted for more than 80% of the 2019 supply growth, and Brazil, Canada, Russia, and China collectively added an additional 0.6 million b/d. EIA expects non-OPEC petroleum and other liquid fuels production will rise by 2.6 million b/d in 2020 and by 0.9 million b/d in 2021. Forecast growth in the United States contributes 1.7 million b/d and 0.6 million b/d, respectively, in each year. Brazil provides another 0.3 million b/d in 2020 and 0.2 million b/d in 2021. Norway contributes 0.4 million b/d of growth in 2020, and then its production growth slows to less than 0.1 million b/d in 2021.

EIA expects Canada's total liquid fuels production will increase by almost 0.2 million b/d in 2020 and 2021. Canada's production growth will accelerate compared with 2019 as the Alberta Government's production curtailments are reduced and more rail takeaway capacity gives producers an outlet for supplies. However, EIA still expects lower production growth in Canada than experienced during most of the past decade. EIA does not expect any additional production from new oil sands projects to come online during the forecast, and production growth stems from expansions of existing projects.

EIA expects Brazil's total liquid fuels production will grow by more than 0.3 million b/d in 2020 and by 0.2 million b/d in 2021. After a number of delays, the seven floating production, storage, and offloading vessels (FPSOs) that came online in 2018 and 2019 are now producing at maximum or near-maximum capacity. The main driver of growth will continue to be at least four more new FPSOs through 2023. EIA believes the Santos Basin, particularly the Lula and Buzios fields, will produce enough crude oil in the next two years to offset declines in Brazil's more mature onshore and offshore areas.

In Norway, Phase 1 of the Johan Sverdrup field came online in October 2019, and it will drive most of the production growth in Norway in 2020 and 2021. At its peak, Phase 1 will produce 0.4 million b/d.

EIA currently forecasts that Russia's production levels in 2020 and 2021 will be similar to production in 2019 because EIA assumes that the agreement between Russia and OPEC to restrain production will continue throughout the forecast period.

EIA forecasts the largest declines among non-OPEC producers will be in Mexico, though Mexico's production declines slow from 0.2 million b/d in 2019 to less than 0.1 million b/d in 2020 and 2021.

OPEC Petroleum and Other Liquid Fuels Supply. On December 6, 2019, OPEC and a group of other oil producers announced they were deepening the production cuts originally announced in December 2018. The group is now targeting production that is 1.7 b/d lower than in October 2018, compared with the former target reduction of 1.2 million b/d. OPEC announced that the cuts would remain in effect through the end of March 2020. However, EIA assumes that OPEC will limit production through all of 2020 and 2021 to target relatively balanced global oil markets. As a result of production restraint from most OPEC members and continuing production declines in Iran and Venezuela, EIA expects OPEC production will fall in 2020. EIA forecasts that OPEC crude oil production will average 29.2 million b/d in 2020, down 0.6 million b/d from 2019. In 2021, forecast OPEC crude oil production increases by 0.1 million b/d.

EIA estimates that Venezuela's crude oil production for 2019 averaged 0.8 million b/d. EIA expects Venezuela's production will continue recent trends and fall through the forecast period—albeit at a slower overall rate of decline—while the financial situation of the state-owned Petróleos de Venezuela (PdVSA) remains extremely precarious. Venezuela, which relies heavily on oil revenues, has seen its cash income severely constricted because only about half of its crude oil exports generate cash revenues. The rest is used for in-kind loan payments to China, which become less valuable with lower global oil prices. Venezuela's oil revenue is also reduced by ongoing payments to ConocoPhillips following an arbitration agreement about its seized assets and to holders of PdVSA's 2020 bonds.

In OPEC Africa, EIA expects Nigeria's production growth to slow considerably through 2021 following production gains from the Egina field, which was commissioned in early 2019. Nigeria's production growth slows reflecting a lack of investment in exploration and development of new fields and declining production from its older fields. Angola's production declined in 2019 as a result of technical issues at existing fields and underinvestment in field exploration and development. Several marginal expansions of existing fields will offset some of the declines from Angola's mature fields through 2021, resulting in production that will remain roughly unchanged. Libya's production increased in 2019 as a result of the restart and development of new or previously shut-in wells. Libya's 2019 production level was the highest since 2012 and remained relatively stable throughout the year despite the ongoing civil war and some minor field disruptions. However, supply disruptions will remain a significant risk through

2021 because of the tenuous security situation in the country and because of infrastructure that needs upgrades for continued operability.

EIA expects that crude oil production in the Neutral Zone shared between Saudi Arabia and Kuwait, which has been offline since 2014, will begin to return to the market in the second half of 2020 and increase to full production levels in 2021. However, EIA assumes that when the Neutral Zone fields start producing, production at other fields will be reduced, and overall OPEC production will be unaffected.

EIA estimates that OPEC non-crude oil liquids production averaged 5.4 million b/d in 2019. EIA forecasts that it will fall to 5.0 million b/d in 2021 and remain flat in 2021. The decrease in non-crude oil liquids production next year is the result of lower expected condensate output in Iran.

EIA expects that OPEC surplus crude oil production capacity, which averaged 2.0 million b/d in 2019, will increase to 2.4 million b/d in 2020 and then to 2.5 million b/d in 2021. This estimate does not include additional capacity that may be available in Iran but is offline because of U.S. sanctions on Iran's oil sales.

OECD Petroleum Inventories. EIA estimates that OECD commercial crude oil and other liquid fuels inventories were 2.91 billion barrels at the end of 2019, equivalent to about 62 days of consumption. EIA expects OECD inventories rise to 2.95 billion barrels at the end of 2020, staying at about the same level at the end of 2021.

Crude Oil Prices. The spot price of Brent crude oil averaged $67/b in December 2019, up $4/b from the average in November and $10/b higher than in December 2018. Price increases in December partly reflect market expectations that global economic conditions in 2020 will be better than previously anticipated, and the announced first phase of a trade deal between the United States and China to be signed in January. Also putting upward pressure on prices, on December 6, 2019, OPEC and partner countries agreed to deepen production cuts through March 2020. More recently, on January 3, events in Iraq increased uncertainty around potential disruptions to oil production and shipping in the Middle East, adding volatility and an additional risk premium to global oil prices in the short term.

EIA estimates that global liquid fuels inventories fell by less than 0.1 million b/d in 2019, an indication that markets were relatively balanced. EIA expects global oil markets will experience builds in 2020, with forecast inventories rising at a rate of 0.3 million b/d. The combination of continuing crude oil production restraint on the part of OPEC and accelerating global demand growth is expected to be more than offset by growth in non-OPEC production, largely in the United States, Norway, Brazil, and Canada. However, in 2021, EIA expects oil markets will experience inventory draws, as non-OPEC production growth slows, led by decelerating growth in the United States. EIA assumes that OPEC will continue to try to adjust production levels to target relative balance in global oil markets. Based on a forecast of slowing oil supply growth and mostly stable oil demand growth, EIA expects global oil inventories will fall by almost 0.2 million b/d in 2021.

Given the expectation of inventory builds in 2020 and draws in 2021, EIA forecasts Brent prices will average $65/b in 2020 and $68/b in 2021. In the first half of 2020, EIA expects global oil prices to be affected by both the downward price pressures of relatively weak oil market balances and by the upward price pressures of geopolitical risk. This forecast assumes that Brent crude oil prices will decline in early 2020, falling from a January average of $67/b to an average of $62/b in May 2020, as risk premiums slowly fade. EIA does not forecast supply disruptions, and any physical supply disruptions would likely cause prices to be higher than this forecast. Beginning in mid-2020 and into 2021, EIA expects that tightening market fundamentals will be the main driver of upward price pressures, with forecast Brent prices increasing to $69/b at the end of 2021 and averaging $68/b for the year.

Global economic developments and geopolitical events in the coming months could push oil prices higher or lower than the current STEO price forecast. Uncertainty remains regarding the duration of, and adherence to, the current OPEC production cuts. Geopolitical-related disruption risks are always present in the oil market, and—as the attacks on Saudi Arabia's oil infrastructure in September 2019 demonstrate—can bring significant volumes of both current production and spare capacity off the market suddenly. Developments regarding the rate of economic growth and its effect on global oil demand growth further contribute to price uncertainty. Also, although EIA expects that crude oil price impacts from IMO regulations that started in 2020 will be limited, how the global refining and shipping industries will respond and how the actual outcomes of these decisions will affect crude oil prices remain unknown. Finally, the U.S. tight oil sector continues to be dynamic, and quickly evolving trends in this sector could affect both current crude oil prices and expectations for future prices.

EIA forecasts average West Texas Intermediate (WTI) crude oil prices average about $5.50/b lower than Brent prices in both 2020 and 2021. This price discount is based on the assumption of continued sufficient pipeline capacity from production areas in West Texas and from Cushing, Oklahoma, to refineries and export terminals along the U.S. Gulf Coast. Given recent growth in U.S. crude oil production, volumes in excess of Gulf Coast refinery demand are exported, and WTI prices are set by competition with Brent into the marginal export markets in Asia. EIA's forecast of a $5.50/b price spread between WTI and Brent reflects the additional costs incurred in bringing volumes from Cushing to Asia compared with the costs of shipping from the North Sea to Asia.

The current values of futures and options contracts suggest significant uncertainty in the oil price outlook. WTI futures contracts for April 2020 delivery that were traded during the five-day period ending January 9 averaged $61/b, and implied volatility averaged 28%. These levels established the lower and upper limits of the 95% confidence interval for the market's expectations of monthly average WTI prices in April 2020 at $48/b and $78/b, respectively. The 95% confidence interval for market expectations widens over time; the lower and upper limits for prices in December 2020 are $36/b and $91/b, respectively.

U.S. Liquid Fuels

Consumption. EIA forecasts that total U.S. petroleum and other liquid fuels consumption will average 20.6 million barrels per day (b/d) in 2020, an increase of 160,000 b/d (0.8%) from the 2019 level. Forecast consumption growth slows to 70,000 b/d (0.3%) in 2020. Increased forecast consumption of hydrocarbon gas liquids (HGL) is the primary reason for the growth.

HGL consumption increased by an estimated 150,000 b/d (5.0%) in 2019, and EIA expects that it will increase by 170,000 b/d (5.3%) in 2020 and by 120,000 b/d (3.6%) in 2021. Ethane, used as a petrochemical feedstock, is responsible for most of the forecast growth in HGL consumption. Ethane consumption is expected to increase by 290,000 b/d in 2020 as outages at existing petrochemical steam cracking plants come back online and several new plants ramp up operations. EIA anticipates ethane consumption will increase by 130,000 b/d in 2021 as cracking plants increase their utilization and an additional plant comes online.

Motor gasoline consumption in the United States averaged 9.3 million b/d in 2019. EIA forecasts U.S. gasoline consumption will stay near that level in 2020 and then fall by 50,000 b/d (0.6%) in 2021. In 2020, gasoline consumption is supported by forecast growth in employment and population, but that support is balanced by expected gains in vehicle fuel efficiency. However, as employment growth in the forecast slows in 2021, the effects of vehicle fuel efficiency gains contribute to the forecast decrease in consumption in 2021.

EIA forecasts that distillate fuel consumption in the United States will increase by 40,000 b/d (1.1%) in 2020 and remain flat in 2021. Forecast U.S. distillate fuel consumption will average about 4.1 million b/d in both years. The consumption growth in 2020 is driven by assumed U.S. real gross domestic product (GDP) growth of 2.0% in 2020 and 1.8% in 2021. The flat distillate consumption growth from 2020 to 2021 reflects a decline in heating oil consumption in 2021 that is offset by increased diesel fuel consumption as a result of GDP growth. The diesel fuel consumption growth also reflects a small expected shift to marine diesel for bunkering purposes as a result of the International Maritime Organization (IMO) 2020 change to marine fuel sulfur specifications.

EIA forecasts U.S. jet fuel consumption will grow by 30,000 b/d (1.6%) in 2020 and by 10,000 b/d (0.4%) in 2021, reaching almost 1.8 million b/d. Growth in the demand for air travel is a result, in part, of expectations of rising disposable incomes.

Crude Oil Supply. EIA estimates that annual average U.S. crude oil production reached a new record of 12.2 million b/d in 2019, up 1.3 million b/d from 2018. EIA forecasts U.S. crude oil production to average 13.3 million b/d in 2020 and 13.7 million b/d in 2021. More production from the Lower 48 states' onshore regions, especially the Permian region, drives the forecast increase.

Slowing crude oil production growth in the forecast results from a decline in drilling rigs over the past year that EIA expects will continue into 2020 and 2021. Despite the decline in the number of rigs, EIA forecasts production will continue to grow as rig efficiency and well-level productivity

rises. For 2020, EIA's WTI crude oil price forecast rises by $2 per barrel (b) from 2019 levels to average $59/b for the year. For 2021, EIA expects WTI prices will rise further to an average of $62/b. EIA expects oil prices above $60/b to contribute to rising crude oil production, as producers will be able to fund drilling programs through cash flow and other funding sources, despite a somewhat more restrictive capital market.

EIA estimates that onshore crude oil production in the Lower 48 states averaged 9.9 million b/d in 2019, up from 8.8 million b/d in 2018. In 2020, EIA expects Lower 48 production will increase by almost 1.0 million b/d and rise by another 0.4 million b/d in 2021. Almost all of the Lower 48 production growth can be attributed to production from tight oil formations within the Permian region in Texas and New Mexico, which account for 0.8 million b/d of the Lower 48 production growth expected by EIA in 2020 and almost 0.4 million b/d in 2021. Favorable geology and technological and operational improvements have allowed the Permian region to become one of the most prolific regions for oil production.

EIA expects crude oil production in the Gulf of Mexico will average 2.0 million b/d in 2020, an increase of 0.1 million b/d over 2019 levels. Production in 2021 is expected to stay flat at 2.0 million b/d.

Crude oil production in Alaska in the forecast remains unchanged at 0.5 million b/d during 2020 and 2021.

Hydrocarbon Gas Liquids Supply. EIA forecasts HGL production at natural gas processing plants will increase from an estimated 4.8 million b/d in 2019 to 5.4 million b/d in 2020 and to 5.5 million b/d in 2021. HGLs produced at natural gas plants—ethane, propane, butanes, and natural gasoline—will increase along with growth in natural gas production and natural gas processing plant capacity. EIA expects ethane will contribute more than two-thirds of the 0.7 million b/d HGL production growth between 2019 and 2021. Higher rates of ethane recovery at natural gas processing plants are expected to help meet growing demand for ethane as a petrochemical feedstock in the United States and abroad.

Liquid Biofuels. On December 19, 2019, the U.S. Environmental Protection Agency (EPA) finalized a rule setting Renewable Fuel Standard (RFS) volumes for 2020 and biomass-based diesel volumes for 2021. EIA used these final volumes to develop the forecasts for liquid biofuels for 2020 and 2021. EIA expects that the largest effect of the current RFS targets will continue to be on biomass-based diesel production and net imports, which help to meet multiple RFS targets for biomass-based diesel, advanced biofuel, and total renewable fuel. Biodiesel production fell by nearly 2% from 2018 to 2019, averaging an estimated 119,000 b/d last year. EIA expects biodiesel production will increase by 13% to average 135,000 b/d in 2020 and increase by 17% to average 158,000 b/d in 2021, driven largely by increasing RFS targets and the renewal of the biodiesel production tax credit through 2022.

Net imports of biomass-based diesel increased by 47% to an average 23,000 b/d in 2019, and EIA expects them to increase further to an average 28,000 b/d in 2020 and to 39,000 b/d in 2021. Increased net imports of biomass-based diesel are driven primarily by increased volumes

of renewable diesel imported to meet both California Low Carbon Fuel Standard requirements and the rising RFS targets.

As a result of limited demand growth and oversupply, U.S. ethanol producers experienced weakening operating margins and ethanol production fell for the first time in seven years in 2019, down 2.0% from 2018 levels to an average of 1.03 million b/d. EIA forecasts that limited domestic and global demand growth potential will result in ethanol production staying largely unchanged in 2020 and 2021. Ethanol consumption averaged 951,000 b/d in 2019, and EIA forecasts a slight decrease to an average 947,000 b/d in 2020 and 945,000 b/d in 2021, driven by falling motor gasoline consumption by 2021. This level of consumption results in the ethanol share of total gasoline, which was an estimated 10.1% in 2018 and 10.2% in 2019, remaining largely flat in 2020 and 2021. This stable ethanol share assumes growth in higher-level ethanol blends is limited by a combination of unfavorable blending economics compared with gasoline, depressed Renewable Identification Number (RIN) prices, and limited consumer demand for higher levels of ethanol blending beyond 10% of gasoline (i.e., E10).

Product Prices. EIA expects the retail price of regular gasoline in the United States will average $2.54 per gallon (gal) during the first quarter of 2020, 18 cents/gal higher than at the same time last year, primarily reflecting stronger expected refinery margins despite similar forecast crude oil prices. EIA expects the U.S. monthly regular retail gasoline price will increase from an average of $2.57/gal in January to $2.76/gal in June and July (a 2020 peak) before falling to $2.53/gal in December 2020. The U.S. regular gasoline retail price, which averaged $2.60/gal in 2019, is forecast to average $2.63/gal in both 2020 and 2021.

Regional annual average forecast prices for 2020 range from a low of $2.36/gal in the Gulf Coast region—Petroleum Administration for Defense District (PADD) 3—to a high of $3.24/gal in the West Coast region (PADD 5).

Refinery wholesale gasoline margins in the United States (the difference between the wholesale price of gasoline and the price of Brent crude oil) averaged 15 cents/gal in December 2019. This level was similar to the average in December 2018, but it was 10 cents/gal lower than the five-year (2014–18) average for December. Refinery wholesale gasoline margins averaged 32 cents/gal in 2019, which was 4 cents/gal higher than the 2018 level but 5 cents/gal lower than the five-year average. EIA expects the refinery wholesale gasoline margin will average 33 cents/gal in 2020 and 27 cents/gal in 2021.

The diesel fuel retail price averaged $3.06/gal in 2019, which was 13 cents/gal lower than the average in 2018. EIA forecasts the diesel price will average $3.11/gal in 2020 and $3.12/gal in 2021. The rising prices from 2019 to 2020 primarily reflect the assumption that diesel refinery margins increase because of IMO 2020 regulations, which became effective on January 1. EIA expects that low-sulfur IMO regulations will drive global demand for U.S. ultra-low sulfur diesel volumes and contribute to gradually increasing diesel refinery margins. Diesel refinery margins based on Brent crude oil, which averaged 43 cents/gal in 2019, are expected to average 50 cents/gal in 2020 and 49 cents/gal in 2021.

Natural Gas

Natural Gas Consumption. Total domestic U.S. natural gas consumption averaged an estimated 85.3 billion cubic feet per day (Bcf/d) in 2019, and EIA expects it will increase by 1.4 Bcf/d (1.7%) in 2020 before decreasing by 1.0 Bcf/d (1.2%) in 2021.

The largest natural gas consuming sector in the United States is the electric power sector. EIA estimates that electric generation consumed an average 31.0 Bcf/d in 2019, up 7.0% from 2018 because of new natural gas-fired electric generation capacity and competitive natural gas prices. EIA forecasts growth in power sector consumption of natural gas to slow in 2020, increasing by 1.3% before decreasing by 3.2% in 2021. Declining power sector consumption in 2021 reflects increased competition from renewable sources of electricity generation as a result of continuing renewables capacity additions. Declining natural gas consumption also reflects a forecast of higher natural gas spot prices in 2021 compared with 2020, which would make natural gas less competitive against coal in power markets.

EIA expects combined residential and commercial natural gas consumption will average 23.2 Bcf/d in 2020, down 1.0% from 2019. The lower consumption reflects lower forecast space heating demand. Based on forecasts by the National Oceanic and Atmospheric Administration (NOAA), EIA forecasts 1.8% fewer heating degree days (HDD) in 2020 compared with 2019. Natural gas consumption in the residential and commercial sectors is expected to decline by 0.9% in 2021, based on a forecast decline in HDD of 0.7% in 2021.

EIA forecasts U.S. industrial sector consumption of natural gas to rise by 4.6% in 2020 and then remain flat in 2021. Most of the 2020 increase in the forecast is the result of new chemical projects. Low natural gas prices in recent years have made it economical to increase use of natural gas as feedstock in ammonia for nitrogenous fertilizer and methanol manufacturers. Two methanol plants plan to come online by the end of 2020, including a methanol plant in St. James, Louisiana, which would be the second-largest methanol facility in the United States after a facility in Beaumont, Texas, which entered service in June 2018.

Natural Gas Production and Trade. EIA estimates that dry natural gas production in the United States will average 94.7 Bcf/d in 2020, up 2.9% from 2019. In 2021, EIA's forecast production declines by 0.7% to an average of 94.1 Bcf/d for the year. EIA's expected growth in natural gas production for 2020 is largely in response to improved drilling efficiency and cost reductions, higher associated gas production from oil-directed rigs, and increased takeaway pipeline capacity from the Appalachian and Permian production regions. Forecast natural gas production growth is also supported by planned expansions in liquefied natural gas (LNG) capacity and increased pipeline exports to Mexico. The decline in natural gas production in 2021 is in response to a forecast of low natural gas spot prices in 2020 that reduces drilling activity in the Appalachian Basin.

The United States exported more natural gas than it imported in 2019, with net exports averaging 5.3 Bcf/d, up 2.0 Bcf/d from 2018. EIA forecasts net natural gas exports will rise to average 7.3 Bcf/d in 2020 and 8.9 Bcf/d in 2021. Rising LNG exports and pipeline exports

changed the United States from its long history as net importer of natural gas, which it had been as recently first quarter of 2017. EIA estimates that U.S. LNG exports averaged 5.0 Bcf/d in 2019. EIA expects LNG exports will increase to 6.5 Bcf/d in 2020 and 7.7 Bcf/d in 2021.

In 2020, EIA assumes U.S. LNG export capacity will reach 8.9 Bcf/d by the end of the year as Cameron, Freeport, and Elba Island place their remaining trains in service. Cameron Trains 2 and 3 are expected to begin production in April and July of 2020, respectively, and Freeport Train 3 is set to start in May 2020. Elba Island shipped its first LNG export cargo in December 2019 after placing the first three of its Moveable Modular Liquefaction System (MMLS) units in service. EIA assumes that the remaining Trains 4–10 at Elba Island will be placed in service by the middle of 2020. In 2021, EIA expects the third train at Corpus Christi facility in Texas to come online, bringing the total baseload U.S. liquefaction capacity to 9.5 Bcf/d. The additional capacity will drive continuing growth in LNG exports to an annual average of 7.7 Bcf/d in 2021, as facilities gradually ramp up to full production.

U.S. natural gas exports to Mexico via pipeline have also increased as more infrastructure has been built to transport natural gas both to and within Mexico. U.S. pipeline exports to Mexico through October averaged 5.1 Bcf/d, increasing by 10% in 2019 compared with the same period in 2018. Exports to Mexico should continue to increase as more natural gas-fired power plants come online in Mexico and more pipeline infrastructure within Mexico is built.

U.S. net natural gas pipeline imports from Canada decreased from 2018 to 2019, continuing a trend that began in 2008. This decrease in net imports is expected to continue as Appalachian production growth displaces some of Canada's natural gas imports in the U.S. Midwest markets.

Natural Gas Inventories. As of January 3, 2020, U.S. working gas inventories were 3,148 billion cubic feet (Bcf), 20% higher than the year-ago level and 2% higher than the five-year (2015–19) average level. After beginning 2019 with stocks much lower than the five-year (2014–18) average, record levels of natural gas production led to storage injections exceeding the five-year average throughout 2019.

Based on an assumption of milder winter temperatures in the first quarter of 2020, along with a forecast of growing natural gas production, EIA forecasts that total inventories will be 1,807 Bcf at the end of March, which would be 5% higher than the five-year average for that time of year. For the 2020 storage injection season, EIA expects injections will exceed the five-year average rate as production outpaces consumption and exports from the end of March through October. EIA expects that inventories will reach 4,016 Bcf at the end of October 2020, which would be 7% higher than the previous five-year average for the end of October and 7% higher than at the end of October 2019.

Natural Gas Prices. Henry Hub spot prices averaged $2.57 per million British thermal units (MMBtu) in 2019, down 59 cents/MMBtu from 2018 levels. EIA forecasts that Henry Hub natural gas spot prices will average $2.33/MMBtu in 2020 and $2.54/MMBtu in 2021. EIA expects some upward price pressures to emerge in 2021 because of falling natural gas production that stems

from the low prices forecast in 2020. However, falling demand for natural gas should limit upward price movements.

Coal

Coal Supply. EIA estimates that U.S. coal production declined by 65 million short tons (MMst) (9%) to 690 MMst in 2019. In 2020, EIA expects total U.S. coal production will decline by a further 14% to 597 MMst because of anticipated declines in both exports and domestic consumption in the electric power sector. EIA expects the largest declines in coal production in 2020 will occur in the Western production region. The coal market has undergone significant restructuring in the past year.

EIA expects coal production will fall by an additional 3% in 2021 to 581 MMst. The slowing declines in production for 2021 are based on EIA's expectation of modest increases in demand for U.S. exports offset by continuing, albeit slowing, demand declines in the U.S. electric power sector.

Coal Consumption. EIA estimates that coal consumption for all sectors totaled 596 MMst in 2019. EIA expects total coal consumption will fall by 65 MMst (11%) in 2020 and by 18 MMst (3%) in 2021. The declines in total consumption of coal closely track those in electric power consumption, which accounted for 91% of all coal consumption in 2019. The decrease in power sector coal consumption in 2020 reflects expected coal plant retirements and increasing shares of electricity generation from low priced natural gas and new renewables generating capacity. However, because EIA expects slight rises in natural gas prices in 2021, coal will become slightly more price competitive.

Coal Trade. In 2019, coal exports decreased 20% from 2018 to 92 MMst. Less favorable market conditions, such as competitive steam coal cargoes from Eastern Europe and high freight costs, contributed to the decline, which was offset somewhat by residual contracts that will expire in 2020. EIA estimates that U.S. coal exports will decrease by 11% in 2020 to 83 MMst and then stabilize near that level in 2021.

Despite EIA's forecast decline in total U.S. coal exports, shipments to top destinations such as India, Japan, and South Korea, are expected to remain stable. Exports to these three countries accounted for 34% (27 MMst) of the coal exported in 2019 through October. Europe received about 36% of U.S. exports during that period. Although U.S. exports to Europe are mostly metallurgical coal and used predominantly for steel production, U.S. steam coal is still used in Germany, Portugal, and the United Kingdom.

U.S. coal exports to North Africa, particularly Egypt and Morocco, rose 5% compared with the same period in 2018, accounting for 9% of total exports. Comparatively, coal exports to North and South America accounted for 8% and 9% of total coal, respectively.

Coal Prices. EIA estimates the delivered coal price to U.S. electricity generators averaged $2.05 per million British thermal units (MMBtu) in 2019, which was down slightly from the 2018 price. EIA forecasts that coal prices will increase to $2.10/MMBtu in both 2020 and 2021.

Electricity

Electricity Consumption. EIA forecasts total U.S. electricity consumption, including direct use of electricity by combined-heat-and-power plants, will decline by 0.4% in 2020 and remain flat in 2021.

The reduced need for air conditioning in the typical household, partly offset by continued growth in the number of retail electricity customers, contributes to EIA's forecast that total retail sales of electricity to the residential sector will decline by 0.5% in 2020. EIA expects the average residential electricity customer will use 1.6% less electricity in 2020 than last year, primarily as a result of milder expected summer temperatures. According to data from the National Oceanic and Atmospheric Administration (NOAA), there were 5% more U.S. cooling degree days (CDD) during 2019 than on average over the previous 10 years. NOAA is projecting that CDDs in 2020 will be about 4% lower than the 10-year average. In 2021, EIA expects total sales of electricity to the residential sector to rise by 0.4%.

Milder expected summer weather in 2020 also affects the forecast for retail sales of electricity to the commercial sector. The reduced need for air conditioning in the commercial sector is generally offset by continued economic growth. As a result, EIA's overall forecast for U.S. commercial sector retail sales of electricity in 2020 is similar to the level in 2019. In 2021, EIA again expects little change in retail electricity sales to the commercial sector.

EIA forecasts that industrial production by electricity-intensive industries will decline by 1.1% in 2020. This decline in industrial production contributes to EIA's forecast that retail sales of electricity to the industrial sector will fall by 1.1% in 2020. In 2021, EIA forecast retail sales of electricity to the industrial sector will fall by 0.9%.

Electricity Generation. EIA expects 1.0% less total U.S. power generation in the electric power sector during 2020 than in 2019. Electric power sector generation in the forecast falls by an additional 0.3% in 2021. Electricity produced by combined-heat-and-power generators in the industrial and commercial sectors will grow by 1.9% in 2020 and 2.9% in 2021.

The share of U.S. electricity generation supplied by natural gas-fired power plants has increased significantly during the past decade, rising from 23% of total generation in 2010 to an estimated 37% in 2019. This increase in the natural gas share of generation has been offset by reduced generation from coal-fired power plants. Coal supplied 46% of U.S. generation in 2010, compared with an estimated 24% in 2019. Much of this change in the generation mix is a result of sustained low prices for natural gas, which have made it competitive.

EIA expects this trend in the U.S. generation mix will continue in the near term. The electric power sector has added or plans to add 11.4 gigawatts (GW) of generating capacity at natural

gas combined-cycle power plants in 2019 and 2020. These additions represent an increase of 4% of the capacity that existed at the end of 2018. In contrast, the industry has retired, or plans to retire, 18.5 GW (8%) of coal-fired capacity in 2019 and 2020. As a result of these changes in generating capacity and fuel prices that continue to favor natural gas, EIA forecasts that the natural gas-fired share of generation will remain fairly steady and close to its 2019 share of 37%, averaging a 38% share in 2020 and 37% in 2021. The forecast share of generation from coal-fired power plants declines to 21% this year, and slightly less than that in 2021.

EIA expects the share of generation from renewable sources will increase from 17% in 2019 to 19% this year and to 22% in 2021. Within the renewables category, hydropower was 7% of total generation in 2019, and EIA forecasts that it will be about that share in 2020 and in 2021. In the forecast, the share of total generation for renewables other than hydropower, which was 10% in 2019, will rise to 12% in 2020 and to 14% in 2021.

According to the latest information about the U.S. inventory of generating capacity, five nuclear reactors are scheduled to retire in either 2020 or 2021. The nuclear share of total electricity generation, which averaged slightly more than 20% in 2019 will be slightly less than 20% by 2021, consistent with upcoming retirements.

Renewables Capacity. EIA forecasts 13 GW of utility-scale solar photovoltaic (PV) capacity will be added in 2020 and 13 GW more will be added in 2021. EIA also expects a total of 11 GW of small-scale solar PV capacity will be installed during 2020 and 2021, mostly in the residential sector. Various state and federal policies support EIA's forecast solar capacity growth, including California's requirement that, beginning in 2020, all new home construction has rooftop solar panels.

Tariffs on PV modules imported into the United States started at 30% in January 2018, but they have declined to 20% in January 2020 and are expected to decline to 15% in 2021 and expire completely after 2021. During 2018 and 2019, increases in U.S. domestic module prices were, to an extent, offset by declines in global module prices. This price decline was in response to reductions in China's domestic PV installation targets and subsequent release of module inventories for global markets. Although global PV module prices showed signs of stabilizing in 2019, the net price impact of the tariffs versus the surplus of modules is uncertain over the short-term forecast.

EIA expects wind capacity will increase from 106 GW at the end of 2019 to 125 GW at the end of 2020 and to 130 GW by the end of 2021. Because wind capacity is often added at the end of the calendar year, increases in generation frequently lag behind increases in capacity for the year they occur in, and they are reflected in the generation for the next year.

In 2019, onshore wind installations grew as many developers worked to meet the deadline on December 31, 2019, to secure the production tax credit (PTC). However, the Taxpayer Certainty and Disaster Tax Relief Act of 2019 that passed in December included a one-year extension to the wind PTC. The legislation extended the PTC through 2020 and restored it to 60% (from 40%) of its full 2.5 cents per kilowatthour (kWh) value for facilities that either enter service or secure

5% safe harboring (spending at least 5% of the total estimated project cost) through the 2020 calendar year. Because of the safe harboring provision, EIA does not expect the extension to have an effect on capacity additions until after the 2021 forecast horizon.

Electricity Prices. EIA expects wholesale electricity prices in many areas of the country in 2020 will be lower than last year, reflecting the lower cost for natural gas as a fuel for power generation. EIA forecasts that wholesale prices in the Southwest will rise 5% this year as a result of the recent retirement of some coal-fired generating units. In 2021, EIA expects wholesale power prices will increase in most areas as a result of an expected 9% increase in the cost of natural gas.

EIA forecasts the U.S. retail electricity price for the residential sector will average 13 cents/kWh in 2020, which is 1.2% higher than the average retail price in 2019. Forecast residential prices increase by an additional 1.2% in 2021.

U.S. Economic Assumptions and Energy-Related Carbon Dioxide Emissions

EIA used the December 2019 version of the IHS Markit macroeconomic model with EIA's energy price forecasts as model inputs to develop the economic forecasts in STEO.

Using the IHS Markit model, EIA forecasts U.S. real gross domestic product (GDP) will grow by 2.0% in 2020 and by 1.8% in 2021, compared with 2.3% in 2019. EIA forecasts that total industrial production will increase 0.3% in 2020 and 0.9% in 2021, compared with 0.8% growth in 2019. EIA forecasts nonfarm employment, which grew by 1.6% in 2019, to increase by 1.1% in 2020 and by 0.6% in 2021.

Using the IHS Markit model, EIA forecasts private real fixed investment will grow by 1.6% in 2020 and by 2.1% in 2021, compared with 1.4% in 2019. EIA forecasts real consumption expenditures, which grew by 2.6% in 2019, to grow by 2.7% in 2020 and by 2.2% in 2021.

Using the IHS Markit model, EIA forecasts U.S. exports will grow by 1.4% in 2020 and by 3.3% in 2021, compared with a decline of 0.3% in 2019. EIA forecasts imports to grow by 2.5% in 2020 and by 4.4% in 2021, compared with 1.3% growth in 2019.

Energy-Related Carbon Dioxide Emissions. After decreasing by 2.1% in 2019, EIA forecasts that energy-related carbon dioxide (CO2) emissions will decrease by 2.0% in 2020 and decrease by 1.5% in 2021. EIA expects CO2 emissions attributable to natural gas alone, which rose by 4.2% in 2019, will rise 1.3% in 2020. However, EIA expects a 1.5% decline in natural gas CO2 in 2021. EIA expects coal-related CO2 will decline by 10.7% in 2020 after declining by 12.7% in 2019. EIA expects an additional decrease of 3.4% in coal-related CO2 in 2021. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Notable forecast changes

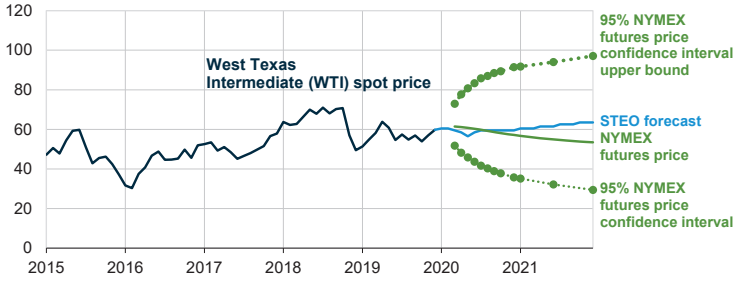
- For more information, see the detailed table of forecast changes.

This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook

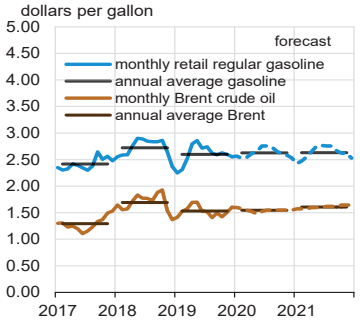
Chart Gallery for January 2020

West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



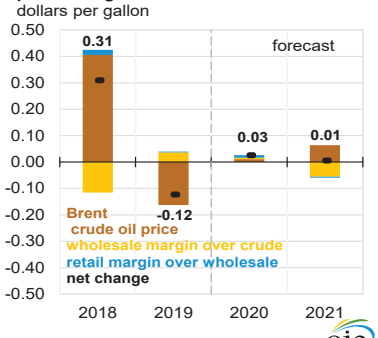
Note: Confidence interval derived from options market information for the five trading days ending Jan 9, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Sources: Short-Term Energy Outlook, January 2020, and CME Group

U.S. gasoline and crude oil prices
dollars per gallon

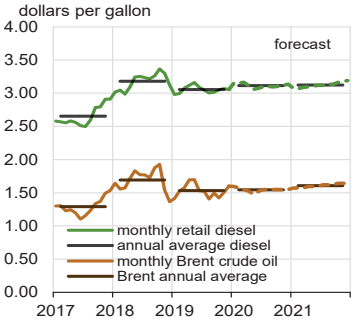


Source: Short-Term Energy Outlook, January 2020

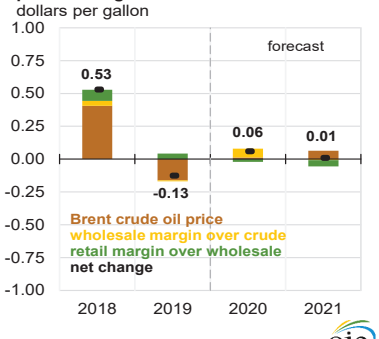
Components of annual gasoline price changes
dollars per gallon



U.S. diesel and crude oil prices

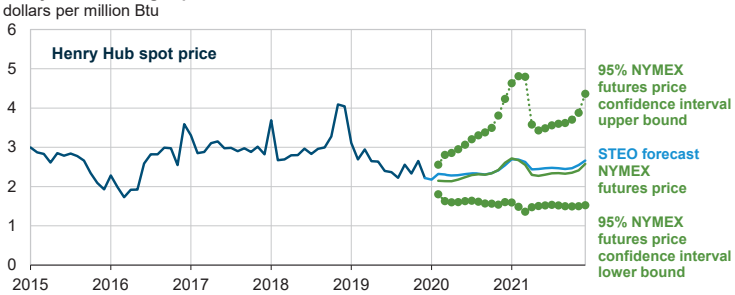


Components of annual diesel prices changes



Source: Short-Term Energy Outlook, January 2020

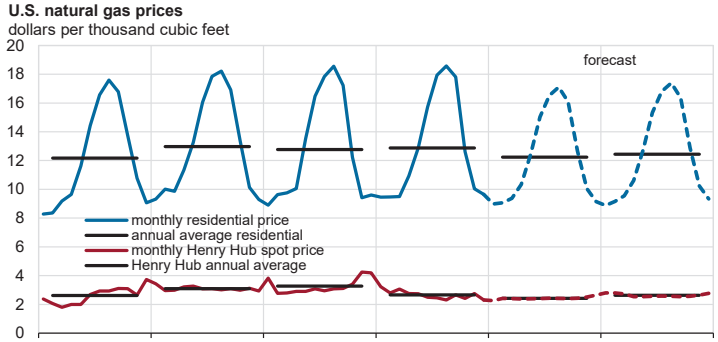
Henry Hub natural gas price and NYMEX confidence intervals



Note: Confidence interval derived from options market information for the five trading days ending Jan 9, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

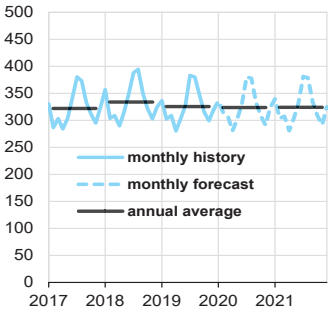
Sources: Short-Term Energy Outlook, January 2020, and CME Group

U.S. natural gas prices

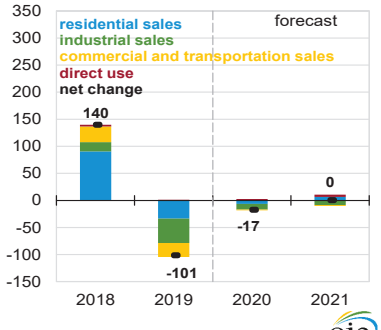


Sources: Short-Term Energy Outlook, January 2020, and Refinitiv

U.S. electricity consumption
billion kilowatthours

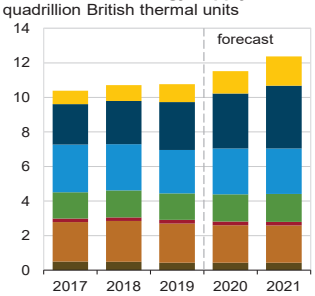


Components of annual change
billion kilowatthours

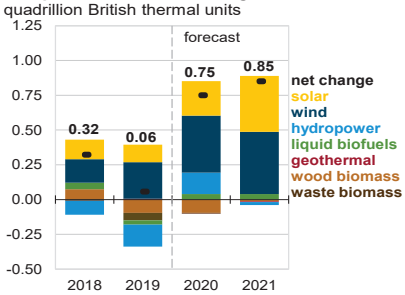


Source: Short-Term Energy Outlook, January 2020

U.S. renewable energy supply
quadrillion British thermal units

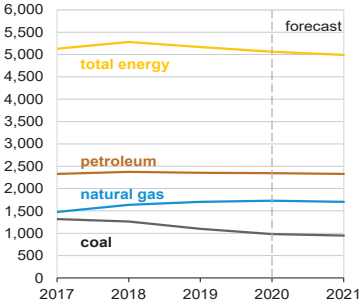


Components of annual change
quadrillion British thermal units

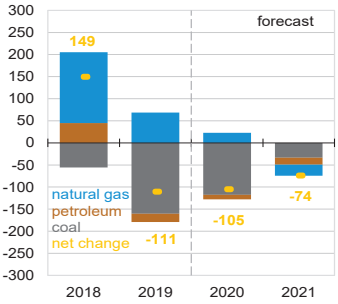


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, January 2020

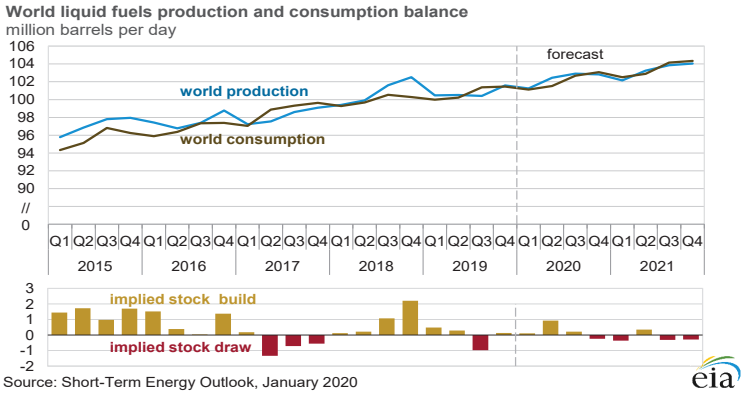
U.S. annual carbon emissions by source
million metric tons

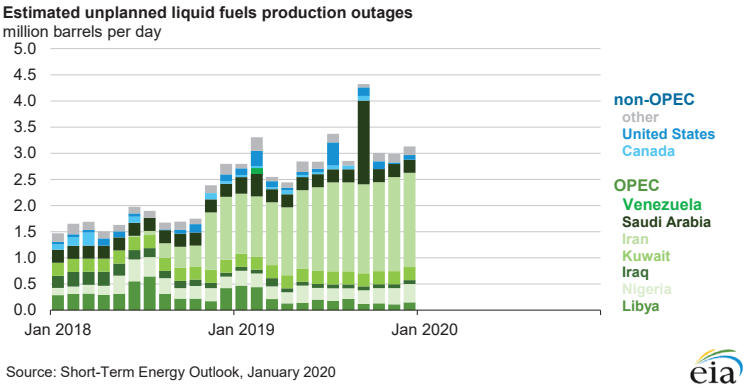


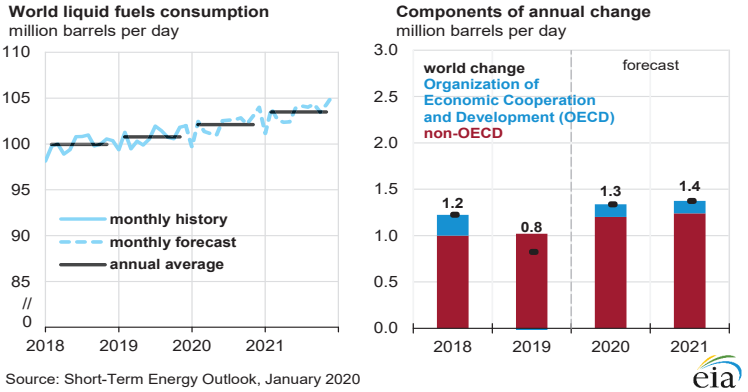
Components of annual change
million metric tons

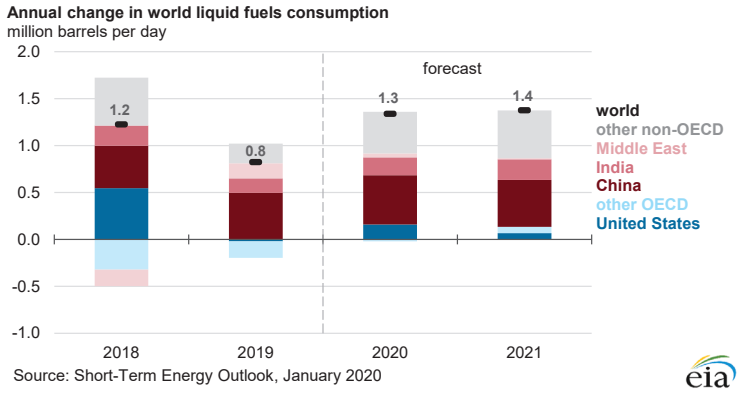


Source: Short-Term Energy Outlook, January 2020

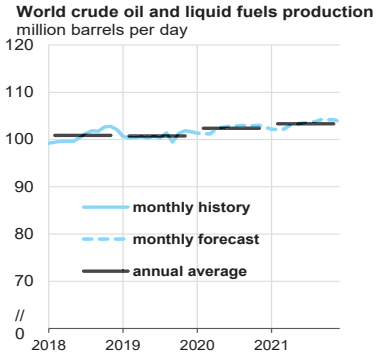

World liquid fuels production and consumption balance
million barrels per day
106
104
102
100
98
96
94
92
90
//
0
forecast
world production
world consumption
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2015
2016
2017
2018
2019
2020
2021
3
2
1
0
-1
-2
implied stock build
implied stock draw
Source: Short-Term Energy Outlook, January 2020
eia

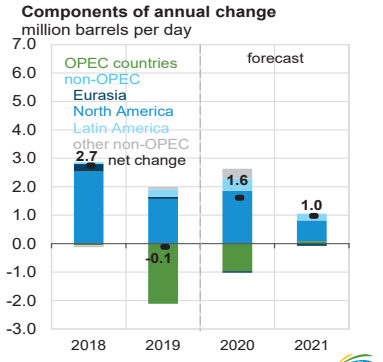

Estimated unplanned liquid fuels production outages
million barrels per day
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Jan 2018
Jan 2019
Jan 2020
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: Short-Term Energy Outlook, January 2020
eia


World liquid fuels consumption
million barrels per day
110
105
100
95
90
85
//
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
3.0
2.5
2.0
1.5
1.0
0.5
0.0
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
1.2
0.8
1.3
1.4
2018
2019
2020
2021
Source: Short-Term Energy Outlook, January 2020
eia

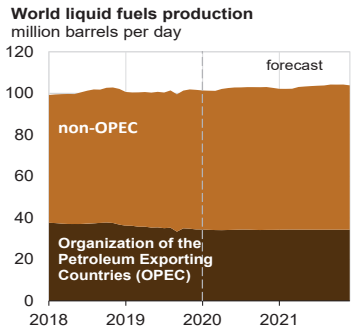


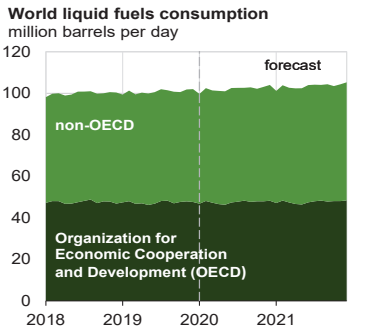
Source: Short-Term Energy Outlook, January 2020





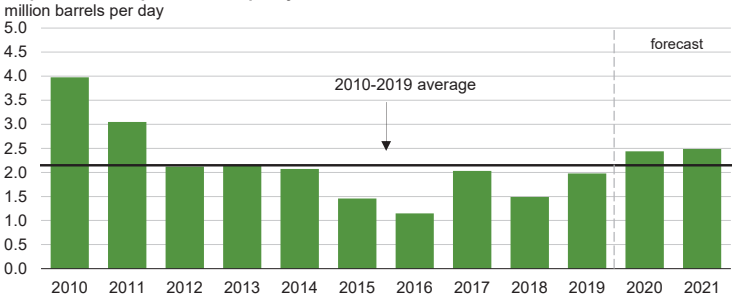
Source: Short-Term Energy Outlook, January 2020





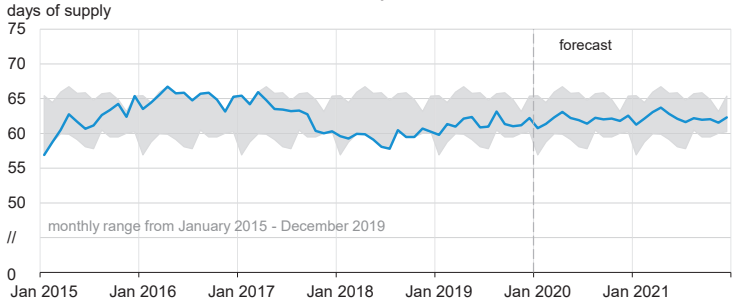
Source: Short-Term Energy Outlook, January 2020

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



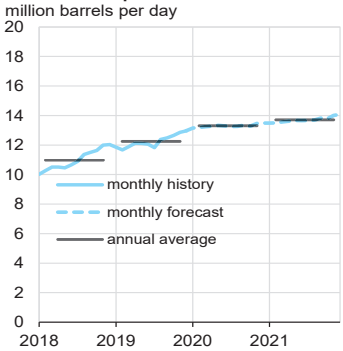
Note: Black line represents 2010-2019 average (2.1 million barrels per day).
Source: Short-Term Energy Outlook, January 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

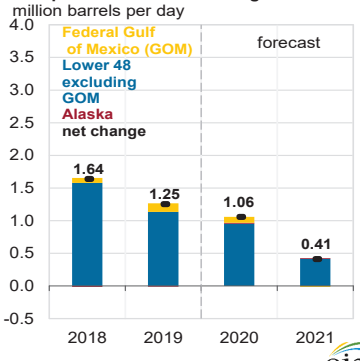


Source: Short-Term Energy Outlook, January 2020

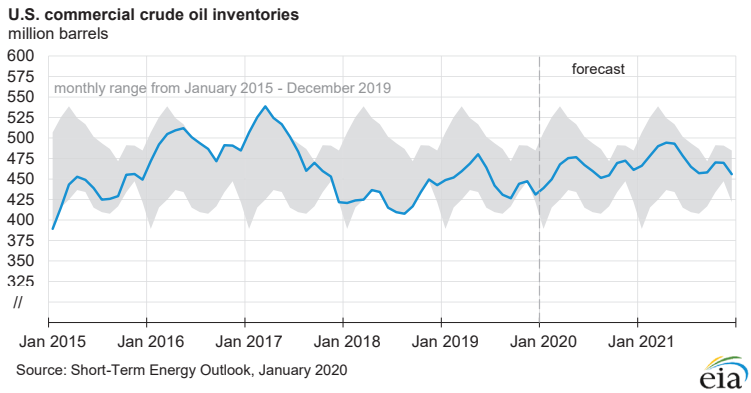
U.S. crude oil production
million barrels per day

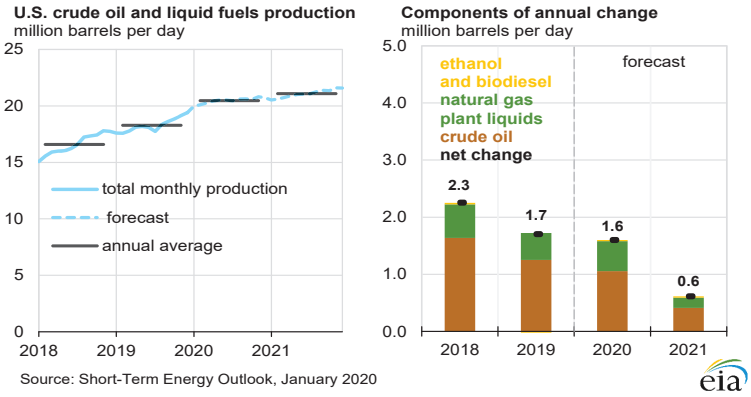


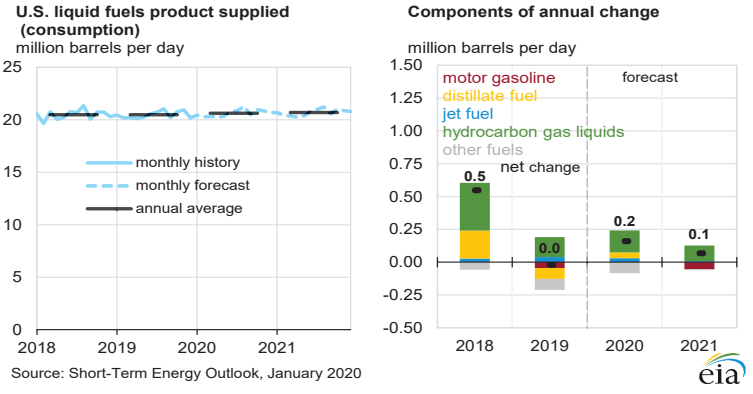
Components of annual change
million barrels per day



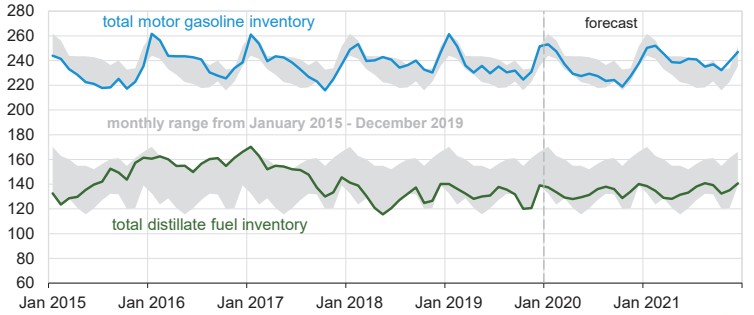
Source: Short-Term Energy Outlook, January 2020


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2015 - December 2019
forecast
Jan 2015
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Source: Short-Term Energy Outlook, January 2020
eia


U.S. crude oil and liquid fuels production
million barrels per day
25
20
15
10
5
0
total monthly production
forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
5.0
4.0
3.0
2.0
1.0
0.0
ethanol
and biodiesel
natural gas
plant liquids
crude oil
net change
forecast
2.3
1.7
1.6
0.6
2018
2019
2020
2021
Source: Short-Term Energy Outlook, January 2020
eia

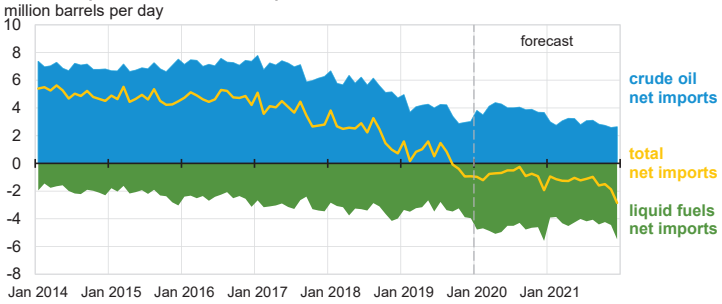

U.S. liquid fuels product supplied
(consumption)
million barrels per day
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
1.50
1.25
1.00
0.75
0.50
0.25
0.00
-0.25
-0.50
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
net change
forecast
0.5
0.0
0.2
0.1
2018
2019
2020
2021
Source: Short-Term Energy Outlook, January 2020
eia

U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, January 2020

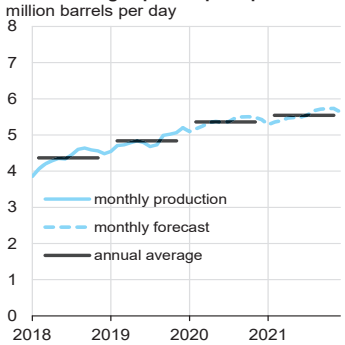
U.S. net imports of crude oil and liquid fuels
million barrels per day



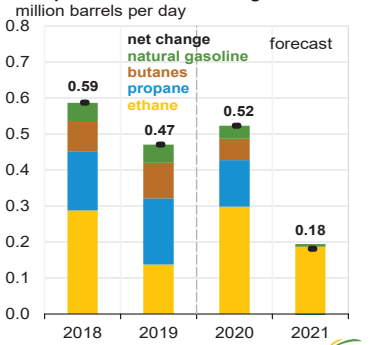
Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, January 2020

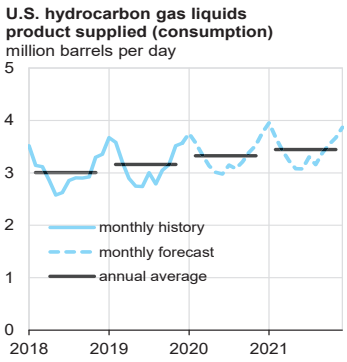
U.S. natural gas plant liquids production
million barrels per day

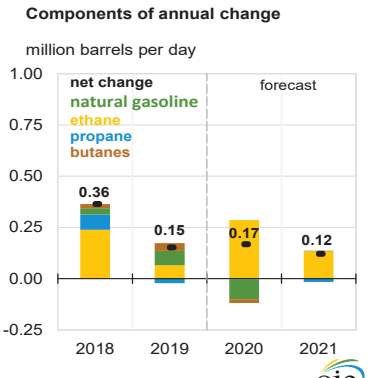


Components of annual change
million barrels per day

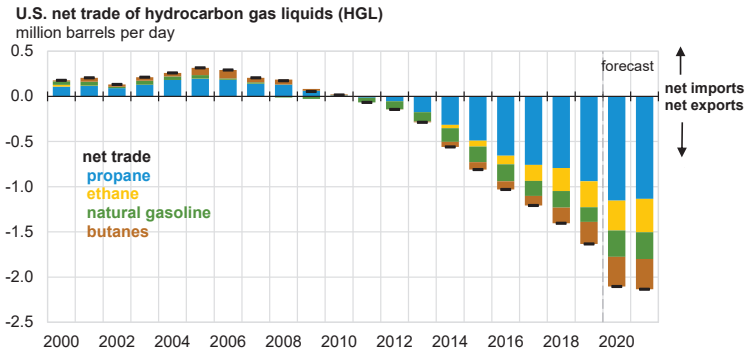


Source: Short-Term Energy Outlook, January 2020

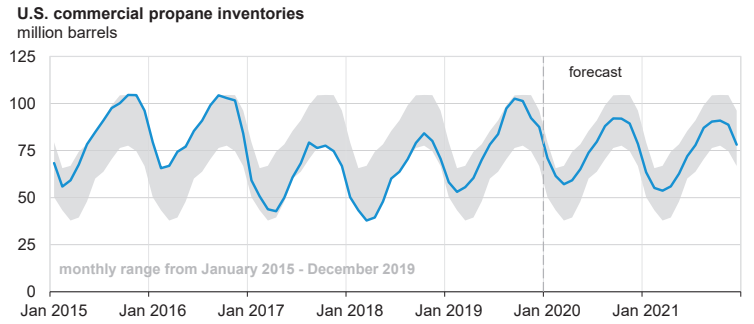




Source: Short-Term Energy Outlook, January 2020

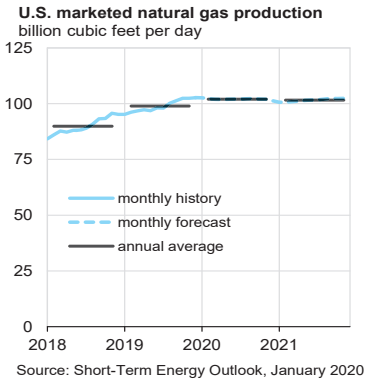


Source: Short-Term Energy Outlook, January 2020

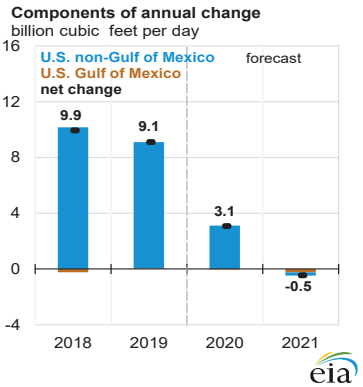


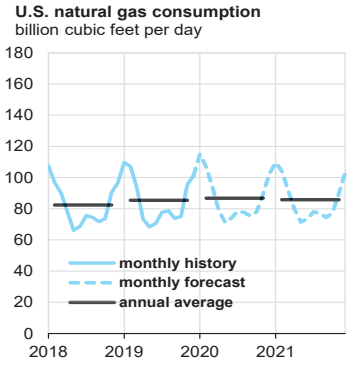
Note: Propane includes refinery propylene.

Source: Short-Term Energy Outlook, January 2020

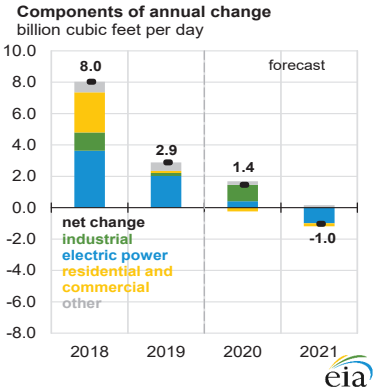


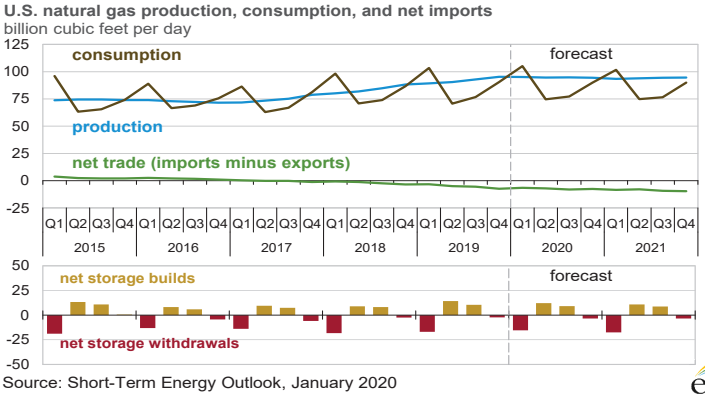
Source: Short-Term Energy Outlook, January 2020





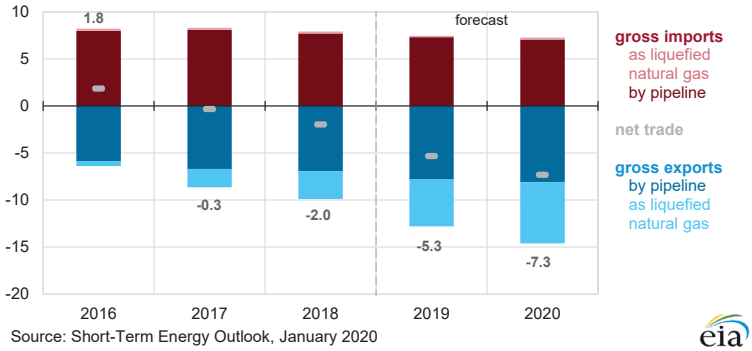
Source: Short-Term Energy Outlook, January 2020





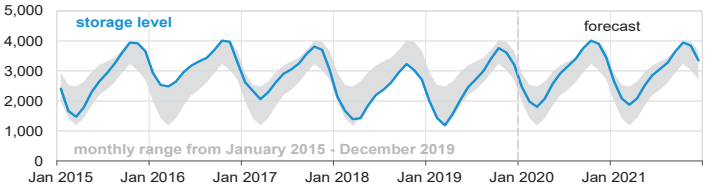
Source: Short-Term Energy Outlook, January 2020

Annual natural gas trade
billion cubic feet per day

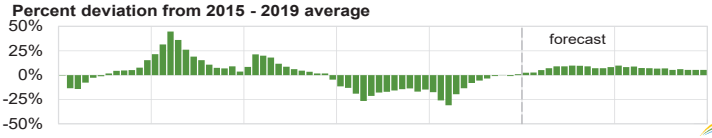


Source: Short-Term Energy Outlook, January 2020

U.S. working natural gas in storage
billion cubic feet

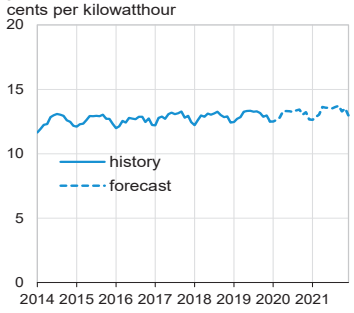


Percent deviation from 2015 - 2019 average

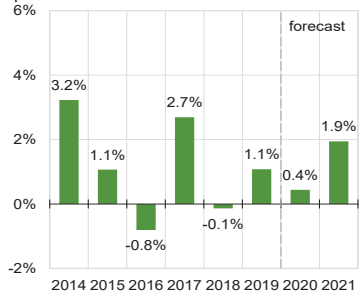


Source: Short-Term Energy Outlook, January 2020

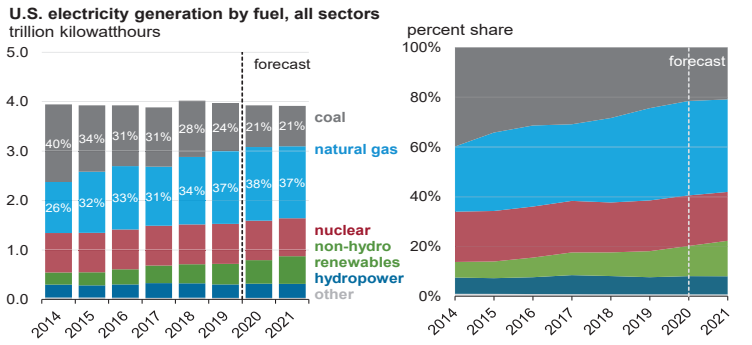
U.S. monthly residential electricity price
cents per kilowatthour



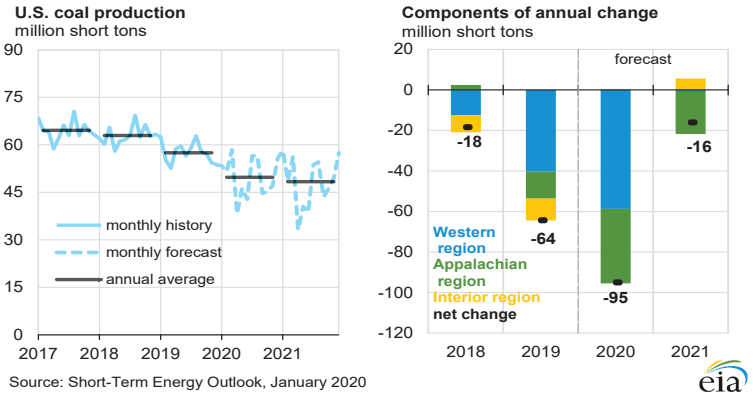
Annual growth in residential electricity prices
percent



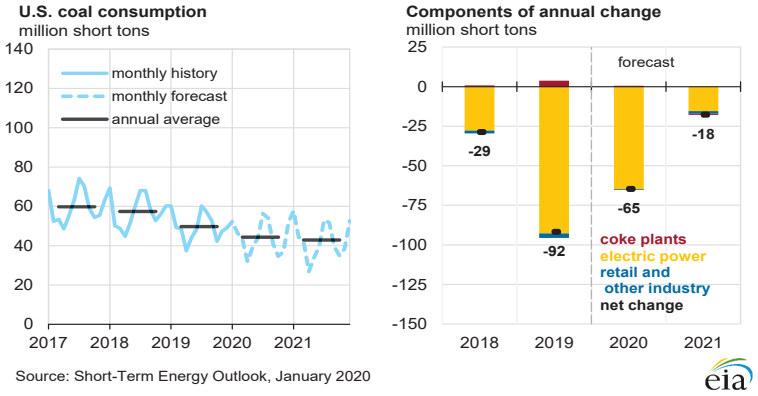
Source: Short-Term Energy Outlook, January 2020



Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: Short-Term Energy Outlook, January 2020

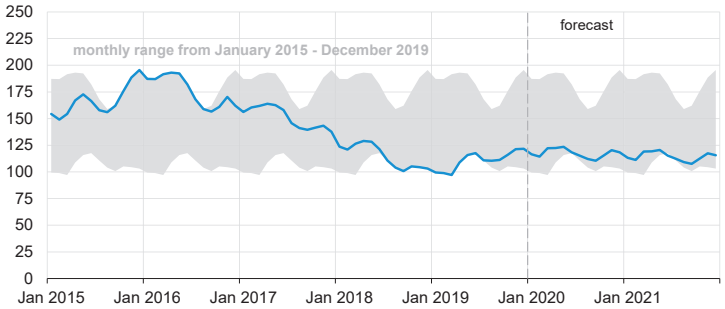


Source: Short-Term Energy Outlook, January 2020



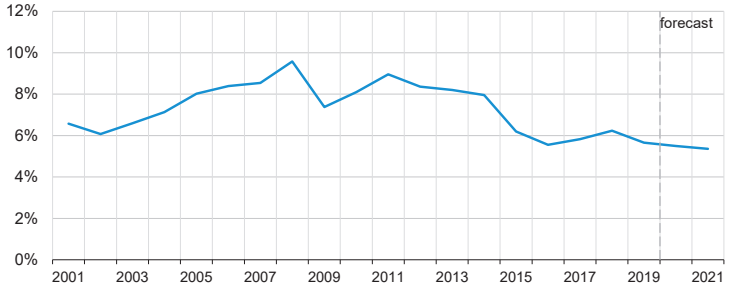
Source: Short-Term Energy Outlook, January 2020

U.S. electric power coal inventories
million short tons



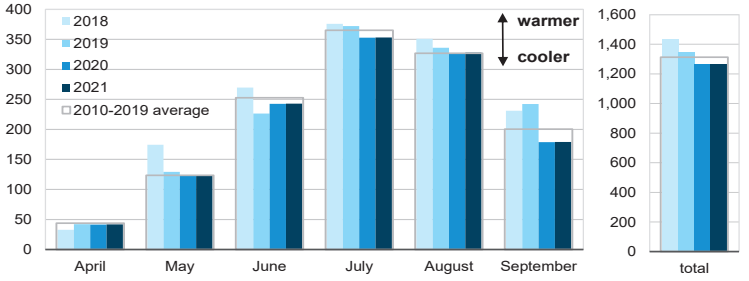
Source: Short-Term Energy Outlook, January 2020

U.S. annual energy expenditures
share of gross domestic product



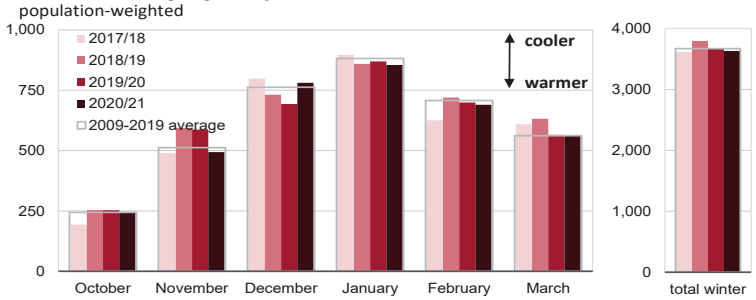
Source: Short-Term Energy Outlook, January 2020

U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.
Source: Short-Term Energy Outlook, January 2020

U.S. winter heating degree days
population-weighted

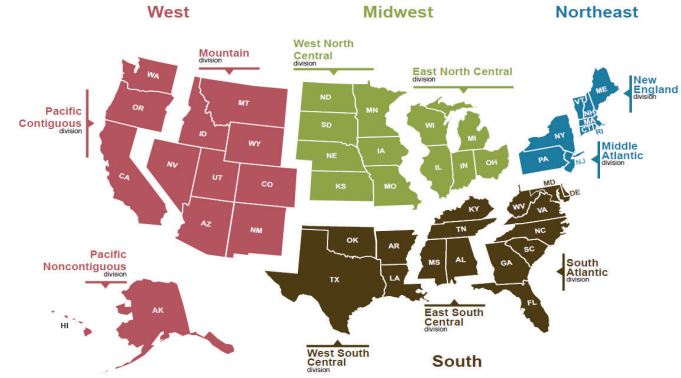


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, January 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

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Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.81**	**12.10**	**12.23**	**12.83**	*13.20*	*13.31*	*13.29*	*13.41*	*13.52*	*13.64*	*13.73*	*13.95*	**12.24**	*13.30*	*13.71*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.92**	**95.29**	*95.05*	*94.69*	*94.82*	*94.39*	*93.39*	*93.95*	*94.49*	*94.59*	**92.03**	*94.74*	*94.11*
Coal Production															
(million short tons)	**170**	**175**	**180**	**165**	*163*	*127*	*158*	*148*	*163*	*112*	*152*	*153*	**690**	*597*	*581*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.29**	**20.32**	**20.68**	**20.64**	*20.36*	*20.47*	*20.89*	*20.84*	*20.51*	*20.48*	*20.94*	*20.89*	**20.48**	*20.64*	*20.71*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.75**	**90.55**	*105.05*	*74.70*	*77.19*	*90.05*	*101.61*	*74.84*	*76.57*	*89.99*	**85.28**	*86.73*	*85.70*
Coal (b)															
(million short tons)	**158**	**130**	**170**	**139**	*142*	*115*	*151*	*123*	*143*	*100*	*144*	*126*	**596**	*532*	*514*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.01**	**12.07**	**10.15**	*10.52*	*10.05*	*11.86*	*10.03*	*10.56*	*10.07*	*11.89*	*10.06*	**10.69**	*10.62*	*10.65*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.77**	*2.98*	*3.27*	*2.96*	*3.02*	*3.21*	*3.49*	*3.21*	*3.19*	**11.46**	*12.24*	*13.10*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.53**	**23.44**	**25.00**	**25.35**	*26.44*	*23.29*	*24.48*	*25.09*	*26.13*	*23.21*	*24.45*	*25.13*	**100.32**	*99.30*	*98.92*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.84**	*60.15*	*57.88*	*59.50*	*59.50*	*60.50*	*61.50*	*62.50*	*63.50*	**57.02**	*59.25*	*62.03*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	*2.27*	*2.30*	*2.32*	*2.43*	*2.67*	*2.45*	*2.47*	*2.56*	**2.57**	*2.33*	*2.54*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**1.99**	**2.09**	*2.11*	*2.11*	*2.09*	*2.09*	*2.11*	*2.11*	*2.09*	*2.10*	**2.05**	*2.10*	*2.10*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,122**	**19,200**	*19,299*	*19,404*	*19,500*	*19,591*	*19,676*	*19,745*	*19,823*	*19,918*	**19,068**	*19,448*	*19,790*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.2**	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*1.8*	*1.7*	*1.7*	**2.3**	*2.0*	*1.8*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.1**	*113.8*	*114.3*	*115.0*	*115.7*	*116.5*	*117.2*	*117.9*	*118.5*	**112.4**	*114.7*	*117.5*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.7**	*2.1*	*1.9*	*2.0*	*2.3*	*2.4*	*2.5*	*2.5*	*2.4*	**1.8**	*2.1*	*2.5*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,042**	**15,074**	*15,149*	*15,225*	*15,286*	*15,358*	*15,447*	*15,541*	*15,627*	*15,715*	**14,982**	*15,255*	*15,582*
Percent change from prior year	**3.3**	**3.0**	**2.9**	**2.4**	*1.8*	*1.9*	*1.6*	*1.9*	*2.0*	*2.1*	*2.2*	*2.3*	**2.9**	*1.8*	*2.1*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.7**	*106.1*	*106.2*	*106.6*	*106.8*	*106.9*	*106.8*	*107.1*	*107.7*	**105.9**	*106.4*	*107.1*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.2**	*-0.3*	*0.5*	*0.7*	*1.1*	*0.7*	*0.6*	*0.5*	*0.9*	**0.0**	*0.5*	*0.7*
Weather															
U.S. Heating Degree-Days	**2,211**	**481**	**57**	**1,532**	*2,132*	*479*	*72*	*1,520*	*2,106*	*478*	*72*	*1,518*	**4,280**	*4,203*	*4,173*
U.S. Cooling Degree-Days	**45**	**398**	**951**	**104**	*45*	*407*	*859*	*93*	*43*	*408*	*860*	*93*	**1,498**	*1,405*	*1,405*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.84**	*60.15*	*57.88*	*59.50*	*59.50*	*60.50*	*61.50*	*62.50*	*63.50*	**57.02**	*59.25*	*62.03*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.27**	*65.98*	*63.38*	*65.00*	*65.00*	*66.00*	*67.00*	*68.00*	*69.00*	**64.36**	*64.83*	*67.53*
U.S. Imported Average	**55.25**	**62.98**	**57.31**	**54.94**	*56.48*	*54.16*	*56.43*	*56.43*	*58.01*	*59.01*	*60.01*	*61.01*	**57.82**	*55.84*	*59.48*
U.S. Refiner Average Acquisition Cost	**56.93**	**63.55**	**58.67**	**56.47**	*59.01*	*56.67*	*58.93*	*58.93*	*59.51*	*60.51*	*61.51*	*62.51*	**58.94**	*58.37*	*61.03*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**179**	*180*	*193*	*194*	*180*	*176*	*196*	*195*	*183*	**185**	*187*	*188*
Diesel Fuel	**192**	**203**	**192**	**199**	*209*	*201*	*204*	*204*	*206*	*209*	*211*	*213*	**196**	*204*	*210*
Heating Oil	**189**	**195**	**184**	**194**	*204*	*192*	*192*	*196*	*209*	*206*	*209*	*213*	**191**	*197*	*209*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**196**	*211*	*202*	*205*	*202*	*208*	*210*	*211*	*214*	**197**	*205*	*211*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**134**	*164*	*161*	*172*	*176*	*147*	*145*	*145*	*148*	**150**	*169*	*146*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	*254*	*268*	*272*	*258*	*248*	*273*	*273*	*259*	**260**	*263*	*263*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	*265*	*279*	*284*	*270*	*261*	*285*	*286*	*273*	**269**	*275*	*276*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	*316*	*308*	*310*	*312*	*308*	*311*	*313*	*317*	**306**	*311*	*312*
Heating Oil	**300**	**305**	**290**	**308**	*318*	*303*	*294*	*306*	*311*	*306*	*309*	*323*	**302**	*310*	*314*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	*2.35*	*2.39*	*2.41*	*2.52*	*2.77*	*2.55*	*2.56*	*2.66*	**2.66**	*2.42*	*2.63*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	*2.27*	*2.30*	*2.32*	*2.43*	*2.67*	*2.45*	*2.47*	*2.56*	**2.57**	*2.33*	*2.54*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.72**	*3.72*	*3.32*	*3.30*	*3.66*	*4.08*	*3.52*	*3.45*	*3.80*	**3.90**	*3.52*	*3.74*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.43**	*7.13*	*7.59*	*8.09*	*7.33*	*7.27*	*7.80*	*8.23*	*7.45*	**7.68**	*7.37*	*7.52*
Residential Sector	**9.47**	**12.48**	**18.10**	**10.23**	*9.11*	*11.78*	*16.55*	*10.02*	*9.16*	*12.02*	*16.82*	*10.21*	**10.66**	*10.25*	*10.39*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**1.99**	**2.09**	*2.11*	*2.11*	*2.09*	*2.09*	*2.11*	*2.11*	*2.09*	*2.10*	**2.05**	*2.10*	*2.10*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.57**	*2.65*	*2.39*	*2.34*	*2.64*	*3.17*	*2.55*	*2.51*	*2.80*	**2.83**	*2.49*	*2.72*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**11.69**	*12.72*	*13.06*	*12.33*	*12.19*	*12.59*	*13.38*	*12.82*	*12.76*	**12.53**	*12.59*	*12.85*
Distillate Fuel Oil	**14.88**	**15.75**	**15.01**	**15.53**	*16.21*	*15.69*	*15.77*	*15.83*	*16.02*	*16.20*	*16.27*	*16.54*	**15.28**	*15.90*	*16.24*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.67**	**6.72**	**7.24**	**6.74**	*6.63*	*6.76*	*7.33*	*6.81*	*6.76*	*6.85*	*7.44*	*6.90*	**6.85**	*6.89*	*7.00*
Commercial Sector	**10.41**	**10.65**	**11.00**	**10.57**	*10.31*	*10.54*	*10.99*	*10.63*	*10.40*	*10.67*	*11.15*	*10.80*	**10.67**	*10.63*	*10.77*
Residential Sector	**12.67**	**13.32**	**13.25**	**12.77**	*12.64*	*13.30*	*13.34*	*12.96*	*12.83*	*13.59*	*13.62*	*13.22*	**13.01**	*13.06*	*13.32*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.08**	**31.32**	**31.49**	**32.80**	*33.51*	*33.89*	*33.84*	*34.21*	*34.19*	*34.44*	*34.69*	*35.22*	**31.68**	*33.87*	*34.64*
U.S. (50 States)	**18.91**	**19.38**	**19.49**	**20.48**	*20.93*	*21.34*	*21.39*	*21.56*	*21.45*	*21.80*	*22.05*	*22.35*	**19.57**	*21.31*	*21.92*
Canada	**5.44**	**5.47**	**5.52**	**5.57**	*5.62*	*5.62*	*5.67*	*5.73*	*5.80*	*5.81*	*5.87*	*5.94*	**5.50**	*5.66*	*5.85*
Mexico	**1.91**	**1.91**	**1.92**	**1.89**	*1.89*	*1.89*	*1.86*	*1.81*	*1.82*	*1.80*	*1.78*	*1.77*	**1.91**	*1.86*	*1.79*
Other OECD	**4.82**	**4.56**	**4.57**	**4.86**	*5.06*	*5.04*	*4.93*	*5.12*	*5.12*	*5.04*	*4.98*	*5.16*	**4.70**	*5.03*	*5.07*
Non-OECD	**69.40**	**69.20**	**68.91**	**68.79**	*67.74*	*68.57*	*69.06*	*68.62*	*67.96*	*68.81*	*69.17*	*68.84*	**69.08**	*68.50*	*68.70*
OPEC	**36.05**	**35.50**	**34.57**	**34.73**	*34.26*	*34.17*	*34.32*	*34.20*	*34.34*	*34.33*	*34.32*	*34.31*	**35.21**	*34.24*	*34.33*
Crude Oil Portion	**30.47**	**30.00**	**29.21**	**29.47**	*29.21*	*29.14*	*29.28*	*29.15*	*29.31*	*29.28*	*29.27*	*29.26*	**29.79**	*29.19*	*29.28*
Other Liquids (b)	**5.58**	**5.50**	**5.36**	**5.26**	*5.06*	*5.03*	*5.04*	*5.05*	*5.04*	*5.04*	*5.05*	*5.06*	**5.42**	*5.05*	*5.05*
Eurasia	**14.87**	**14.47**	**14.71**	**14.65**	*14.66*	*14.56*	*14.57*	*14.64*	*14.59*	*14.45*	*14.49*	*14.56*	**14.67**	*14.61*	*14.52*
China	**4.94**	**4.96**	**4.93**	**4.89**	*4.94*	*4.97*	*4.97*	*5.01*	*4.97*	*5.00*	*5.00*	*5.04*	**4.93**	*4.97*	*5.00*
Other Non-OECD	**13.55**	**14.26**	**14.70**	**14.52**	*13.88*	*14.87*	*15.20*	*14.76*	*14.06*	*15.03*	*15.36*	*14.92*	**14.26**	*14.68*	*14.85*
Total World Supply	**100.48**	**100.52**	**100.41**	**101.59**	*101.25*	*102.46*	*102.91*	*102.84*	*102.15*	*103.25*	*103.86*	*104.06*	**100.75**	*102.37*	*103.34*
Non-OPEC Supply	**64.43**	**65.02**	**65.84**	**66.86**	*66.98*	*68.29*	*68.59*	*68.63*	*67.81*	*68.93*	*69.53*	*69.74*	**65.54**	*68.13*	*69.01*
Consumption (million barrels per day) (c)															
OECD	**47.40**	**46.69**	**47.82**	**47.76**	*47.42*	*46.79*	*47.94*	*48.07*	*47.63*	*46.87*	*48.06*	*48.19*	**47.42**	*47.56*	*47.69*
U.S. (50 States)	**20.29**	**20.32**	**20.68**	**20.64**	*20.36*	*20.47*	*20.89*	*20.84*	*20.51*	*20.48*	*20.94*	*20.89*	**20.48**	*20.64*	*20.71*
U.S. Territories	**0.12**	**0.11**	**0.12**	**0.13**	*0.12*	*0.11*	*0.12*	*0.13*	*0.16*	*0.14*	*0.14*	*0.15*	**0.12**	*0.12*	*0.15*
Canada	**2.45**	**2.44**	**2.60**	**2.56**	*2.53*	*2.47*	*2.58*	*2.55*	*2.55*	*2.49*	*2.60*	*2.57*	**2.51**	*2.53*	*2.55*
Europe	**13.91**	**14.02**	**14.51**	**14.18**	*13.79*	*13.99*	*14.50*	*14.20*	*13.78*	*13.99*	*14.49*	*14.21*	**14.16**	*14.12*	*14.12*
Japan	**4.09**	**3.41**	**3.44**	**3.85**	*4.08*	*3.34*	*3.42*	*3.76*	*4.02*	*3.29*	*3.37*	*3.70*	**3.70**	*3.65*	*3.59*
Other OECD	**6.55**	**6.39**	**6.48**	**6.40**	*6.54*	*6.41*	*6.44*	*6.59*	*6.62*	*6.49*	*6.52*	*6.67*	**6.45**	*6.50*	*6.58*
Non-OECD	**52.60**	**53.55**	**53.57**	**53.70**	*53.72*	*54.74*	*54.75*	*55.00*	*54.88*	*56.03*	*56.10*	*56.15*	**53.35**	*54.56*	*55.80*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	*4.88*	*4.96*	*5.34*	*5.24*	*4.98*	*5.04*	*5.43*	*5.28*	**5.01**	*5.11*	*5.18*
Europe	**0.76**	**0.76**	**0.78**	**0.78**	*0.77*	*0.77*	*0.79*	*0.79*	*0.78*	*0.78*	*0.80*	*0.80*	**0.77**	*0.78*	*0.79*
China	**14.38**	**14.67**	**14.39**	**14.61**	*14.98*	*15.17*	*14.88*	*15.12*	*15.47*	*15.68*	*15.38*	*15.62*	**14.51**	*15.04*	*15.54*
Other Asia	**13.95**	**13.97**	**13.62**	**13.99**	*14.25*	*14.41*	*13.99*	*14.34*	*14.74*	*14.91*	*14.47*	*14.84*	**13.88**	*14.25*	*14.74*
Other Non-OECD	**18.68**	**19.24**	**19.61**	**19.19**	*18.85*	*19.42*	*19.75*	*19.50*	*18.91*	*19.62*	*20.02*	*19.61*	**19.18**	*19.38*	*19.54*
Total World Consumption	**100.00**	**100.23**	**101.39**	**101.46**	*101.14*	*101.53*	*102.69*	*103.07*	*102.51*	*102.90*	*104.16*	*104.34*	**100.77**	*102.11*	*103.49*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.17**	**-0.62**	**0.06**	**0.42**	*0.21*	*-0.42*	*-0.16*	*0.34*	*-0.05*	*-0.35*	*-0.11*	*0.46*	**0.01**	*-0.01*	*-0.01*
Other OECD	**-0.24**	**-0.01**	**-0.03**	**-0.18**	*-0.11*	*-0.16*	*-0.02*	*-0.03*	*0.14*	*0.00*	*0.14*	*-0.06*	**-0.12**	*-0.08*	*0.05*
Other Stock Draws and Balance	**-0.41**	**0.34**	**0.95**	**-0.37**	*-0.22*	*-0.34*	*-0.04*	*-0.07*	*0.27*	*0.00*	*0.28*	*-0.11*	**0.13**	*-0.17*	*0.11*
Total Stock Draw	**-0.48**	**-0.29**	**0.98**	**-0.13**	*-0.11*	*-0.93*	*-0.22*	*0.24*	*0.36*	*-0.35*	*0.31*	*0.28*	**0.02**	*-0.25*	*0.15*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,249**	**1,310**	**1,305**	**1,276**	*1,258*	*1,297*	*1,312*	*1,283*	*1,290*	*1,326*	*1,337*	*1,297*	**1,276**	*1,283*	*1,297*
OECD Commercial Inventory	**2,867**	**2,928**	**2,925**	**2,914**	*2,905*	*2,959*	*2,976*	*2,951*	*2,946*	*2,981*	*2,979*	*2,945*	**2,914**	*2,951*	*2,945*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.26**	**26.76**	**26.93**	**27.94**	*28.45*	*28.85*	*28.92*	*29.10*	*29.07*	*29.41*	*29.71*	*30.06*	**26.98**	*28.83*	*29.56*
Canada	**5.44**	**5.47**	**5.52**	**5.57**	*5.62*	*5.62*	*5.67*	*5.73*	*5.80*	*5.81*	*5.87*	*5.94*	**5.50**	*5.66*	*5.85*
Mexico	**1.91**	**1.91**	**1.92**	**1.89**	*1.89*	*1.89*	*1.86*	*1.81*	*1.82*	*1.80*	*1.78*	*1.77*	**1.91**	*1.86*	*1.79*
United States	**18.91**	**19.38**	**19.49**	**20.48**	*20.93*	*21.34*	*21.39*	*21.56*	*21.45*	*21.80*	*22.05*	*22.35*	**19.57**	*21.31*	*21.92*
Central and South America	**4.91**	**5.68**	**6.25**	**5.86**	*5.27*	*6.30*	*6.65*	*6.22*	*5.52*	*6.53*	*6.88*	*6.44*	**5.68**	*6.11*	*6.35*
Argentina	**0.66**	**0.70**	**0.70**	**0.67**	*0.69*	*0.71*	*0.71*	*0.69*	*0.71*	*0.72*	*0.73*	*0.70*	**0.68**	*0.70*	*0.72*
Brazil	**2.90**	**3.65**	**4.22**	**3.87**	*3.21*	*4.18*	*4.52*	*4.11*	*3.39*	*4.39*	*4.73*	*4.33*	**3.67**	*4.01*	*4.22*
Colombia	**0.92**	**0.92**	**0.91**	**0.90**	*0.91*	*0.91*	*0.90*	*0.90*	*0.91*	*0.91*	*0.89*	*0.89*	**0.91**	*0.91*	*0.90*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.42**	*0.46*	*0.49*	*0.52*	*0.52*	*0.52*	*0.51*	*0.52*	*0.52*	**0.42**	*0.50*	*0.52*
Europe	**4.26**	**3.97**	**3.94**	**4.33**	*4.51*	*4.49*	*4.37*	*4.55*	*4.55*	*4.48*	*4.42*	*4.60*	**4.12**	*4.48*	*4.51*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	*2.09*	*2.08*	*2.07*	*2.17*	*2.18*	*2.12*	*2.12*	*2.19*	**1.75**	*2.10*	*2.15*
United Kingdom	**1.25**	**1.18**	**1.09**	**1.16**	*1.22*	*1.22*	*1.11*	*1.18*	*1.17*	*1.18*	*1.11*	*1.22*	**1.17**	*1.18*	*1.17*
Eurasia	**14.87**	**14.47**	**14.71**	**14.65**	*14.66*	*14.56*	*14.57*	*14.64*	*14.59*	*14.45*	*14.49*	*14.56*	**14.67**	*14.61*	*14.52*
Azerbaijan	**0.82**	**0.79**	**0.78**	**0.77**	*0.78*	*0.77*	*0.75*	*0.76*	*0.75*	*0.74*	*0.74*	*0.74*	**0.79**	*0.76*	*0.74*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.00**	*2.03*	*1.99*	*2.02*	*2.06*	*2.05*	*1.93*	*1.98*	*2.02*	**1.96**	*2.02*	*1.99*
Russia	**11.58**	**11.41**	**11.48**	**11.48**	*11.48*	*11.43*	*11.42*	*11.45*	*11.45*	*11.42*	*11.43*	*11.45*	**11.49**	*11.45*	*11.44*
Turkmenistan	**0.29**	**0.27**	**0.34**	**0.25**	*0.24*	*0.24*	*0.24*	*0.24*	*0.22*	*0.22*	*0.22*	*0.22*	**0.29**	*0.24*	*0.22*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	*0.14*	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.11**	**3.11**	**3.12**	**3.13**	*3.20*	*3.20*	*3.20*	*3.20*	*3.26*	*3.25*	*3.25*	*3.25*	**3.12**	*3.20*	*3.25*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	*0.99*	*0.99*	*0.99*	*0.99*	*1.00*	*1.00*	*1.00*	*1.00*	**0.98**	*0.99*	*1.00*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	*2.06*	*2.06*	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.51**	**9.49**	**9.34**	**9.37**	*9.41*	*9.41*	*9.40*	*9.45*	*9.41*	*9.40*	*9.38*	*9.42*	**9.43**	*9.42*	*9.40*
Australia	**0.40**	**0.44**	**0.47**	**0.48**	*0.50*	*0.50*	*0.51*	*0.52*	*0.52*	*0.51*	*0.50*	*0.50*	**0.45**	*0.51*	*0.51*
China	**4.94**	**4.96**	**4.93**	**4.89**	*4.94*	*4.97*	*4.97*	*5.01*	*4.97*	*5.00*	*5.00*	*5.04*	**4.93**	*4.97*	*5.00*
India	**1.01**	**0.99**	**0.98**	**0.94**	*0.96*	*0.94*	*0.94*	*0.95*	*0.95*	*0.94*	*0.93*	*0.94*	**0.98**	*0.95*	*0.94*
Indonesia	**0.94**	**0.90**	**0.88**	**0.87**	*0.87*	*0.86*	*0.86*	*0.85*	*0.85*	*0.84*	*0.84*	*0.84*	**0.90**	*0.86*	*0.84*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	*0.70*	*0.70*	*0.69*	*0.68*	*0.69*	*0.68*	*0.67*	*0.66*	**0.71**	*0.69*	*0.68*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	*0.22*	*0.22*	*0.22*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	**0.24**	*0.22*	*0.21*
Africa	**1.52**	**1.54**	**1.55**	**1.57**	*1.48*	*1.48*	*1.48*	*1.48*	*1.41*	*1.41*	*1.41*	*1.41*	**1.55**	*1.48*	*1.41*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	*0.60*	*0.60*	*0.60*	*0.60*	*0.56*	*0.56*	*0.56*	*0.56*	**0.65**	*0.60*	*0.56*
South Sudan	**0.17**	**0.18**	**0.18**	**0.19**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.19*	*0.19*
Total non-OPEC liquids	**64.43**	**65.02**	**65.84**	**66.86**	*66.98*	*68.29*	*68.59*	*68.63*	*67.81*	*68.93*	*69.53*	*69.74*	**65.54**	*68.13*	*69.01*
OPEC non-crude liquids	**5.58**	**5.50**	**5.36**	**5.26**	*5.06*	*5.03*	*5.04*	*5.05*	*5.04*	*5.04*	*5.05*	*5.06*	**5.42**	*5.05*	*5.05*
Non-OPEC + OPEC non-crude	**70.01**	**70.52**	**71.20**	**72.12**	*72.04*	*73.32*	*73.63*	*73.68*	*72.84*	*73.97*	*74.59*	*74.80*	**70.97**	*73.17*	*74.06*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.25**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.31**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	-	-	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	-	-	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.31**	-	-	-	-	-	-	-	-	**0.32**	-	-
Ecuador	**0.53**	**0.53**	**0.55**	**0.51**	-	-	-	-	-	-	-	-	**0.53**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	-	-	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	-	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	-	-	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	-	-	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	-	-	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	-	-	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.72**	**1.67**	-	-	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	-	-	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	-	-	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.68**	-	-	-	-	-	-	-	-	**0.81**	-	-
OPEC Total	**30.47**	**30.00**	**29.21**	**29.47**	*29.21*	*29.14*	*29.28*	*29.15*	*29.31*	*29.28*	*29.27*	*29.26*	**29.79**	*29.19*	*29.28*
Other Liquids (a)	**5.58**	**5.50**	**5.36**	**5.26**	*5.06*	*5.03*	*5.04*	*5.05*	*5.04*	*5.04*	*5.05*	*5.06*	**5.42**	*5.05*	*5.05*
Total OPEC Supply	**36.05**	**35.50**	**34.57**	**34.73**	*34.26*	*34.17*	*34.32*	*34.20*	*34.34*	*34.33*	*34.32*	*34.31*	**35.21**	*34.24*	*34.33*
Crude Oil Production Capacity															
Africa	**5.66**	**5.89**	**5.92**	**5.87**	*5.68*	*5.65*	*5.65*	*5.66*	*5.64*	*5.64*	*5.66*	*5.67*	**5.84**	*5.66*	*5.65*
Middle East	**25.31**	**24.96**	**23.96**	**24.13**	*24.78*	*24.85*	*25.03*	*25.11*	*25.15*	*25.23*	*25.26*	*25.26*	**24.59**	*24.94*	*25.22*
South America	**1.58**	**1.32**	**1.28**	**1.19**	*1.14*	*1.03*	*1.00*	*0.97*	*0.94*	*0.91*	*0.88*	*0.85*	**1.34**	*1.03*	*0.89*
OPEC Total	**32.55**	**32.18**	**31.17**	**31.18**	*31.59*	*31.53*	*31.68*	*31.73*	*31.73*	*31.78*	*31.79*	*31.78*	**31.76**	*31.63*	*31.77*
Surplus Crude Oil Production Capacity															
Africa	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Middle East	**2.08**	**2.18**	**1.95**	**1.71**	*2.39*	*2.39*	*2.40*	*2.58*	*2.42*	*2.50*	*2.52*	*2.52*	**1.98**	*2.44*	*2.49*
South America	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
OPEC Total	**2.08**	**2.18**	**1.95**	**1.71**	*2.39*	*2.39*	*2.40*	*2.58*	*2.42*	*2.50*	*2.52*	*2.52*	**1.98**	*2.44*	*2.49*
Unplanned OPEC Production Outages	**2.52**	**2.45**	**3.12**	**2.82**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.73**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.
Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.68**	**24.71**	**25.20**	**25.04**	*24.78*	*24.86*	*25.39*	*25.33*	*24.96*	*24.91*	*25.48*	*25.42*	**24.91**	*25.09*	*25.20*
Canada	**2.45**	**2.44**	**2.60**	**2.56**	*2.53*	*2.47*	*2.58*	*2.55*	*2.55*	*2.49*	*2.60*	*2.57*	**2.51**	*2.53*	*2.55*
Mexico	**1.93**	**1.93**	**1.92**	**1.83**	*1.88*	*1.91*	*1.91*	*1.93*	*1.90*	*1.93*	*1.93*	*1.95*	**1.90**	*1.91*	*1.93*
United States	**20.29**	**20.32**	**20.68**	**20.64**	*20.36*	*20.47*	*20.89*	*20.84*	*20.51*	*20.48*	*20.94*	*20.89*	**20.48**	*20.64*	*20.71*
Central and South America	**6.60**	**6.79**	**6.85**	**6.82**	*6.66*	*6.80*	*6.93*	*6.94*	*6.74*	*6.88*	*7.01*	*7.02*	**6.77**	*6.83*	*6.91*
Brazil	**3.01**	**3.14**	**3.18**	**3.11**	*3.06*	*3.13*	*3.22*	*3.23*	*3.12*	*3.19*	*3.29*	*3.29*	**3.11**	*3.16*	*3.22*
Europe	**14.68**	**14.79**	**15.29**	**14.96**	*14.56*	*14.76*	*15.28*	*14.99*	*14.56*	*14.77*	*15.29*	*15.01*	**14.93**	*14.90*	*14.91*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	*4.88*	*4.96*	*5.34*	*5.24*	*4.98*	*5.04*	*5.43*	*5.28*	**5.01**	*5.11*	*5.18*
Russia	**3.67**	**3.76**	**3.97**	**3.91**	*3.71*	*3.82*	*4.14*	*4.03*	*3.80*	*3.90*	*4.22*	*4.06*	**3.83**	*3.93*	*3.99*
Middle East	**8.27**	**8.63**	**9.02**	**8.46**	*8.28*	*8.71*	*9.01*	*8.54*	*8.20*	*8.75*	*9.14*	*8.49*	**8.60**	*8.64*	*8.65*
Asia and Oceania	**36.43**	**35.91**	**35.42**	**36.43**	*37.36*	*36.80*	*36.19*	*37.27*	*38.33*	*37.80*	*37.16*	*38.26*	**36.04**	*36.90*	*37.89*
China	**14.38**	**14.67**	**14.39**	**14.61**	*14.98*	*15.17*	*14.88*	*15.12*	*15.47*	*15.68*	*15.38*	*15.62*	**14.51**	*15.04*	*15.54*
Japan	**4.09**	**3.41**	**3.44**	**3.85**	*4.08*	*3.34*	*3.42*	*3.76*	*4.02*	*3.29*	*3.37*	*3.70*	**3.70**	*3.65*	*3.59*
India	**4.82**	**4.75**	**4.48**	**4.79**	*4.95*	*5.01*	*4.68*	*4.97*	*5.17*	*5.23*	*4.89*	*5.20*	**4.71**	*4.90*	*5.12*
Africa	**4.51**	**4.51**	**4.43**	**4.63**	*4.63*	*4.63*	*4.54*	*4.75*	*4.74*	*4.74*	*4.65*	*4.86*	**4.52**	*4.64*	*4.75*
Total OECD Liquid Fuels Consumption	**47.40**	**46.69**	**47.82**	**47.76**	*47.42*	*46.79*	*47.94*	*48.07*	*47.63*	*46.87*	*48.06*	*48.19*	**47.42**	*47.56*	*47.69*
Total non-OECD Liquid Fuels Consumption	**52.60**	**53.55**	**53.57**	**53.70**	*53.72*	*54.74*	*54.75*	*55.00*	*54.88*	*56.03*	*56.10*	*56.15*	**53.35**	*54.56*	*55.80*
Total World Liquid Fuels Consumption	**100.00**	**100.23**	**101.39**	**101.46**	*101.14*	*101.53*	*102.69*	*103.07*	*102.51*	*102.90*	*104.16*	*104.34*	**100.77**	*102.11*	*103.49*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**111.6**	**112.1**	**112.7**	**113.2**	*114.1*	*114.7*	*115.4*	*116.2*	*117.1*	*118.1*	*119.0*	*119.9*	**112.4**	*115.1*	*118.5*
Percent change from prior year	**2.1**	**1.9**	**1.9**	**1.9**	*2.2*	*2.4*	*2.5*	*2.6*	*2.7*	*2.9*	*3.1*	*3.1*	**1.9**	*2.4*	*3.0*
OECD Index, 2015 Q1 = 100	**108.9**	**109.3**	**109.8**	**110.1**	*110.5*	*110.9*	*111.3*	*111.8*	*112.2*	*112.7*	*113.2*	*113.7*	**109.5**	*111.1*	*113.0*
Percent change from prior year	**1.9**	**1.7**	**1.7**	**1.7**	*1.5*	*1.4*	*1.4*	*1.5*	*1.6*	*1.6*	*1.7*	*1.7*	**1.7**	*1.4*	*1.7*
Non-OECD Index, 2015 Q1 = 100	**114.2**	**114.7**	**115.4**	**116.3**	*117.6*	*118.5*	*119.4*	*120.6*	*121.9*	*123.4*	*124.7*	*126.0*	**115.2**	*119.0*	*124.0*
Percent change from prior year	**2.3**	**2.1**	**2.0**	**2.1**	*2.9*	*3.3*	*3.5*	*3.7*	*3.7*	*4.1*	*4.4*	*4.4*	**2.1**	*3.4*	*4.2*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.13**	**105.73**	**106.19**	**106.65**	*106.10*	*105.94*	*105.82*	*105.43*	*105.22*	*104.83*	*104.33*	*103.61*	**105.93**	*105.82*	*104.50*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.6**	*0.9*	*0.2*	*-0.4*	*-1.2*	*-0.8*	*-1.1*	*-1.4*	*-1.7*	**2.2**	*-0.1*	*-1.2*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.81**	**12.10**	**12.23**	**12.83**	*13.20*	*13.31*	*13.29*	*13.41*	*13.52*	*13.64*	*13.73*	*13.95*	**12.24**	*13.30*	*13.71*
Alaska	**0.49**	**0.47**	**0.43**	**0.49**	*0.51*	*0.49*	*0.45*	*0.49*	*0.51*	*0.50*	*0.46*	*0.50*	**0.47**	*0.48*	*0.49*
Federal Gulf of Mexico (b)	**1.85**	**1.93**	**1.82**	**1.96**	*2.04*	*2.02*	*1.93*	*1.93*	*2.01*	*1.99*	*1.92*	*1.94*	**1.89**	*1.98*	*1.96*
Lower 48 States (excl GOM)	**9.47**	**9.70**	**9.99**	**10.38**	*10.65*	*10.80*	*10.92*	*10.99*	*10.99*	*11.16*	*11.35*	*11.52*	**9.89**	*10.84*	*11.26*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.94**	*3.80*	*4.21*	*3.97*	*3.74*	*2.93*	*3.08*	*2.99*	*2.65*	**3.82**	*3.93*	*2.91*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	*0.01*	*0.01*	*0.00*	*0.03*	*0.03*	*0.03*	*0.01*	*0.03*	**0.04**	*0.01*	*0.03*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.05**	*-0.40*	*0.01*	*0.14*	*-0.07*	*-0.32*	*0.13*	*0.22*	*0.02*	**0.03**	*-0.08*	*0.01*
Crude Oil Adjustment (d)	**0.33**	**0.53**	**0.38**	**0.49**	*0.19*	*0.19*	*0.21*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.43**	*0.19*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.31**	*16.79*	*17.72*	*17.62*	*17.26*	*16.38*	*17.10*	*17.18*	*16.81*	**16.56**	*17.35*	*16.87*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.14**	*1.18*	*1.23*	*1.23*	*1.24*	*1.18*	*1.21*	*1.24*	*1.25*	**1.09**	*1.22*	*1.22*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**5.09**	*5.17*	*5.36*	*5.45*	*5.47*	*5.34*	*5.48*	*5.64*	*5.70*	**4.84**	*5.36*	*5.54*
Renewables and Oxygenate Production (e)	**1.18**	**1.23**	**1.20**	**1.21**	*1.17*	*1.22*	*1.19*	*1.21*	*1.19*	*1.23*	*1.22*	*1.23*	**1.21**	*1.20*	*1.22*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	*1.02*	*1.05*	*1.02*	*1.04*	*1.02*	*1.03*	*1.03*	*1.04*	**1.03**	*1.03*	*1.03*
Petroleum Products Adjustment (f)	**0.20**	**0.18**	**0.19**	**0.21**	*0.22*	*0.23*	*0.23*	*0.23*	*0.22*	*0.22*	*0.22*	*0.22*	**0.19**	*0.23*	*0.22*
Product Net Imports (c)	**-3.35**	**-3.10**	**-3.20**	**-3.69**	*-4.78*	*-4.85*	*-4.53*	*-4.95*	*-4.04*	*-4.26*	*-4.21*	*-4.72*	**-3.34**	*-4.78*	*-4.31*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.88**	*-2.01*	*-2.17*	*-2.14*	*-2.10*	*-1.96*	*-2.19*	*-2.21*	*-2.18*	**-1.63**	*-2.10*	*-2.14*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.38**	*0.39*	*0.55*	*0.51*	*0.39*	*0.35*	*0.46*	*0.45*	*0.31*	**0.38**	*0.46*	*0.39*
Other HC/Oxygenates	**-0.13**	**-0.13**	**-0.13**	**-0.09**	*-0.11*	*-0.11*	*-0.10*	*-0.10*	*-0.09*	*-0.09*	*-0.10*	*-0.10*	**-0.12**	*-0.10*	*-0.09*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.34**	*0.24*	*0.63*	*0.49*	*0.23*	*0.54*	*0.67*	*0.50*	*0.19*	**0.57**	*0.40*	*0.47*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.79**	*-1.03*	*-1.03*	*-0.88*	*-1.00*	*-0.81*	*-0.79*	*-0.67*	*-0.82*	**-0.72**	*-0.99*	*-0.77*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.07**	*-0.07*	*-0.08*	*-0.09*	*-0.10*	*-0.02*	*0.01*	*0.04*	*0.00*	**-0.05**	*-0.08*	*0.01*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-1.01**	*-1.24*	*-1.63*	*-1.47*	*-1.32*	*-1.08*	*-1.37*	*-1.32*	*-1.18*	**-1.13**	*-1.41*	*-1.24*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**0.02**	*-0.04*	*-0.13*	*-0.07*	*-0.04*	*-0.04*	*-0.13*	*-0.08*	*-0.02*	**-0.07**	*-0.07*	*-0.07*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.60**	*-0.92*	*-0.87*	*-0.80*	*-0.91*	*-0.92*	*-0.84*	*-0.84*	*-0.94*	**-0.56**	*-0.87*	*-0.88*
Product Inventory Net Withdrawals	**0.35**	**-0.62**	**-0.35**	**0.36**	*0.61*	*-0.44*	*-0.30*	*0.38*	*0.24*	*-0.52*	*-0.34*	*0.41*	**-0.06**	*0.06*	*-0.05*
Total Supply	**20.30**	**20.32**	**20.68**	**20.64**	*20.36*	*20.47*	*20.89*	*20.84*	*20.51*	*20.48*	*20.94*	*20.89*	**20.49**	*20.64*	*20.71*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.48**	**2.79**	**2.95**	**3.41**	*3.55*	*3.04*	*3.15*	*3.56*	*3.69*	*3.13*	*3.28*	*3.69*	**3.16**	*3.33*	*3.45*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.07**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.04**	*0.00*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.20**	*8.94*	*9.46*	*9.48*	*9.26*	*8.93*	*9.41*	*9.43*	*9.16*	**9.28**	*9.29*	*9.23*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.98**	*0.90*	*0.97*	*0.96*	*0.95*	*0.91*	*0.97*	*0.96*	*0.94*	**0.95**	*0.95*	*0.94*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.76**	*1.70*	*1.79*	*1.83*	*1.78*	*1.72*	*1.79*	*1.83*	*1.78*	**1.75**	*1.77*	*1.78*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.03**	*4.22*	*4.04*	*4.05*	*4.12*	*4.24*	*4.02*	*4.04*	*4.14*	**4.06**	*4.11*	*4.11*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.33**	*0.27*	*0.23*	*0.30*	*0.27*	*0.28*	*0.22*	*0.29*	*0.27*	**0.29**	*0.26*	*0.27*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.83**	*1.67*	*1.92*	*2.08*	*1.86*	*1.66*	*1.90*	*2.07*	*1.85*	**1.90**	*1.88*	*1.87*
Total Consumption	**20.29**	**20.32**	**20.68**	**20.64**	*20.36*	*20.47*	*20.89*	*20.84*	*20.51*	*20.48*	*20.94*	*20.89*	**20.48**	*20.64*	*20.71*
Total Petroleum and Other Liquids Net Imports	**0.89**	**1.04**	**0.75**	**-0.75**	*-0.97*	*-0.64*	*-0.55*	*-1.21*	*-1.11*	*-1.18*	*-1.22*	*-2.08*	**0.48**	*-0.84*	*-1.40*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**431.1**	*467.7*	*467.1*	*454.4*	*461.2*	*490.1*	*478.2*	*457.9*	*455.9*	**431.1**	*461.2*	*455.9*
Hydrocarbon Gas Liquids	**163.0**	**228.9**	**267.1**	**214.9**	*169.2*	*216.5*	*253.3*	*207.0*	*169.9*	*219.0*	*256.1*	*211.7*	**214.9**	*207.0*	*211.7*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.2**	*94.2*	*92.7*	*90.0*	*83.4*	*93.0*	*91.4*	*91.0*	*84.9*	**89.2**	*83.4*	*84.9*
Other HC/Oxygenates	**32.8**	**30.7**	**29.7**	**28.7**	*30.3*	*29.3*	*28.6*	*29.2*	*31.0*	*30.0*	*29.2*	*29.8*	**28.7**	*29.2*	*29.8*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**251.6**	*237.0*	*229.3*	*224.3*	*237.5*	*245.6*	*241.4*	*236.9*	*246.9*	**251.6**	*237.5*	*246.9*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.5**	*24.1*	*22.6*	*23.7*	*24.0*	*23.6*	*22.0*	*23.0*	*23.4*	**26.5**	*24.0*	*23.4*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**225.1**	*212.9*	*206.7*	*200.6*	*213.6*	*222.0*	*219.4*	*213.9*	*223.5*	**225.1**	*213.6*	*223.5*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.0**	*40.4*	*42.1*	*43.7*	*41.9*	*41.1*	*41.8*	*43.9*	*40.8*	**40.0**	*41.9*	*40.8*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**139.1**	*129.3*	*131.3*	*136.0*	*140.2*	*128.9*	*133.2*	*139.2*	*140.7*	**139.1**	*140.2*	*140.7*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**28.3**	*30.7*	*31.0*	*29.3*	*28.8*	*31.1*	*32.3*	*30.1*	*31.8*	**28.3**	*28.8*	*31.8*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**53.3**	*58.9*	*57.6*	*51.8*	*54.0*	*59.6*	*58.3*	*52.5*	*54.7*	**53.3**	*54.0*	*54.7*
Total Commercial Inventory	**1,249**	**1,310**	**1,305**	**1,276**	*1,258*	*1,297*	*1,312*	*1,283*	*1,290*	*1,326*	*1,337*	*1,297*	**1,276**	*1,283*	*1,297*
Crude Oil in SPR	**649**	**645**	**645**	**635**	*635*	*634*	*634*	*631*	*628*	*625*	*624*	*621*	**635**	*631*	*621*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.95**	*2.05*	*2.15*	*2.15*	*2.25*	*2.27*	*2.28*	*2.35*	*2.45*	**1.85**	*2.15*	*2.34*
Propane	**1.50**	**1.56**	**1.61**	**1.67**	*1.69*	*1.71*	*1.74*	*1.72*	*1.65*	*1.70*	*1.74*	*1.73*	**1.58**	*1.71*	*1.70*
Butanes	**0.79**	**0.84**	**0.87**	**0.90**	*0.88*	*0.91*	*0.93*	*0.91*	*0.87*	*0.91*	*0.93*	*0.92*	**0.85**	*0.91*	*0.90*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.57**	*0.56*	*0.59*	*0.62*	*0.60*	*0.56*	*0.60*	*0.63*	*0.60*	**0.55**	*0.59*	*0.60*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.01*	*0.01*	*0.00*	**0.01**	*0.00*	*0.00*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	*0.28*	*0.31*	*0.30*	*0.29*	*0.28*	*0.31*	*0.30*	*0.30*	**0.29**	*0.29*	*0.30*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.29**	*0.28*	*0.29*	*0.28*	*0.29*	*0.28*	*0.29*	*0.28*	*0.29*	**0.28**	*0.29*	*0.28*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.21**	*-0.08*	*0.26*	*0.19*	*-0.20*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.04**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.33**	*-0.30*	*-0.34*	*-0.33*	*-0.35*	*-0.34*	*-0.37*	*-0.37*	*-0.40*	**-0.29**	*-0.33*	*-0.37*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.05**	*-1.08*	*-1.22*	*-1.17*	*-1.14*	*-1.01*	*-1.20*	*-1.19*	*-1.15*	**-0.94**	*-1.15*	*-1.13*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.31**	*-0.33*	*-0.32*	*-0.33*	*-0.33*	*-0.32*	*-0.33*	*-0.34*	*-0.35*	**-0.24**	*-0.33*	*-0.33*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.19**	*-0.30*	*-0.28*	*-0.31*	*-0.28*	*-0.30*	*-0.29*	*-0.31*	*-0.29*	**-0.16**	*-0.29*	*-0.30*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.53**	*0.42*	*0.31*	*0.34*	*0.51*	*0.41*	*0.30*	*0.33*	*0.50*	**0.40**	*0.40*	*0.39*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	*0.16*	*0.16*	*0.17*	*0.17*	*0.16*	*0.17*	*0.18*	*0.18*	**0.17**	*0.16*	*0.17*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.62**	*1.78*	*1.79*	*1.84*	*1.91*	*1.92*	*1.88*	*2.00*	*2.05*	**1.55**	*1.83*	*1.96*
Propane	**1.20**	**0.58**	**0.65**	**1.06**	*1.20*	*0.57*	*0.65*	*1.01*	*1.19*	*0.58*	*0.62*	*1.00*	**0.87**	*0.86*	*0.85*
Propylene (refinery-grade)	**0.28**	**0.31**	**0.29**	**0.30**	*0.31*	*0.32*	*0.31*	*0.30*	*0.29*	*0.32*	*0.31*	*0.29*	**0.30**	*0.31*	*0.30*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.25**	*0.18*	*0.26*	*0.24*	*0.21*	*0.18*	*0.26*	*0.24*	*0.21*	**0.24**	*0.22*	*0.22*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.18**	*0.09*	*0.10*	*0.10*	*0.13*	*0.10*	*0.10*	*0.10*	*0.13*	**0.20**	*0.11*	*0.11*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**59.25**	*54.93*	*57.19*	*55.49*	*56.33*	*54.40*	*58.35*	*56.69*	*58.35*	**55.04**	*55.99*	*56.96*
Propane	**47.77**	**71.72**	**95.60**	**80.14**	*49.92*	*67.24*	*85.66*	*71.25*	*45.75*	*64.50*	*83.53*	*70.24*	**80.14**	*71.25*	*70.24*
Propylene (refinery-grade)	**7.82**	**6.57**	**6.95**	**7.34**	*7.20*	*6.59*	*6.41*	*7.27*	*7.91*	*7.52*	*6.91*	*7.86*	**7.34**	*7.27*	*7.86*
Butanes/Butylenes	**39.30**	**70.72**	**85.88**	**48.37**	*37.07*	*62.97*	*81.67*	*49.65*	*38.36*	*64.25*	*82.95*	*50.93*	**48.37**	*49.65*	*50.93*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.96**	*20.01*	*22.43*	*23.97*	*23.89*	*22.42*	*24.41*	*25.61*	*25.15*	**20.96**	*23.89*	*25.15*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.31**	*16.79*	*17.72*	*17.62*	*17.26*	*16.38*	*17.10*	*17.18*	*16.81*	**16.56**	*17.35*	*16.87*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	*0.58*	*0.47*	*0.51*	*0.68*	*0.57*	*0.47*	*0.50*	*0.68*	**0.57**	*0.56*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.22**	*1.22*	*1.28*	*1.24*	*1.25*	*1.25*	*1.31*	*1.26*	*1.27*	**1.20**	*1.25*	*1.27*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.34**	*0.34*	*0.57*	*0.54*	*0.46*	*0.24*	*0.48*	*0.45*	*0.38*	**0.33**	*0.48*	*0.39*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.30**	*0.50*	*0.84*	*0.66*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.66**	*0.57*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**18.90**	*19.43*	*20.87*	*20.58*	*19.91*	*19.02*	*20.20*	*20.06*	*19.39*	**19.33**	*20.20*	*19.67*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.14**	*1.18*	*1.23*	*1.23*	*1.24*	*1.18*	*1.21*	*1.24*	*1.25*	**1.09**	*1.22*	*1.22*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.37**	*0.49*	*0.87*	*0.77*	*0.39*	*0.49*	*0.86*	*0.77*	*0.39*	**0.61**	*0.63*	*0.63*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.11**	*10.04*	*10.59*	*10.45*	*10.40*	*9.83*	*10.29*	*10.17*	*10.12*	**10.08**	*10.37*	*10.10*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	*1.77*	*1.89*	*1.93*	*1.85*	*1.73*	*1.79*	*1.81*	*1.75*	**1.80**	*1.86*	*1.77*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.04**	*5.32*	*5.62*	*5.50*	*5.41*	*5.16*	*5.37*	*5.35*	*5.26*	**5.12**	*5.46*	*5.29*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.29**	*0.34*	*0.36*	*0.35*	*0.30*	*0.35*	*0.37*	*0.35*	*0.30*	**0.36**	*0.34*	*0.34*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.45**	*2.65*	*2.77*	*2.82*	*2.79*	*2.64*	*2.73*	*2.85*	*2.81*	**2.45**	*2.76*	*2.76*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.05**	*20.61*	*22.10*	*21.81*	*21.15*	*20.19*	*21.41*	*21.30*	*20.64*	**20.41**	*21.42*	*20.89*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.80**	*16.97*	*17.80*	*17.79*	*17.42*	*16.60*	*17.26*	*17.39*	*17.01*	**16.96**	*17.50*	*17.07*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.82**	*18.82*	*18.82*	*18.82*	*18.85*	*18.85*	*18.85*	*18.85*	*18.87*	**18.80**	*18.83*	*18.85*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.89**	*0.90*	*0.95*	*0.95*	*0.92*	*0.88*	*0.92*	*0.92*	*0.90*	**0.90**	*0.93*	*0.91*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**179**	*180*	*193*	*194*	*180*	*176*	*196*	*195*	*183*	**185**	*187*	*188*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	*248*	*257*	*263*	*249*	*243*	*262*	*266*	*254*	**251**	*254*	*256*
PADD 2	**223**	**269**	**257**	**244**	*241*	*258*	*264*	*245*	*235*	*266*	*263*	*247*	**249**	*252*	*253*
PADD 3	**206**	**246**	**234**	**224**	*229*	*243*	*244*	*229*	*226*	*246*	*245*	*231*	**228**	*236*	*237*
PADD 4	**226**	**285**	**270**	**276**	*252*	*261*	*268*	*253*	*244*	*267*	*271*	*254*	**265**	*259*	*259*
PADD 5	**297**	**356**	**331**	**350**	*313*	*329*	*330*	*324*	*304*	*330*	*331*	*318*	**334**	*324*	*321*
U.S. Average	**236**	**279**	**265**	**259**	*254*	*268*	*272*	*258*	*248*	*273*	*273*	*259*	**260**	*263*	*263*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	*265*	*279*	*284*	*270*	*261*	*285*	*286*	*273*	**269**	*275*	*276*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**64.6**	*60.0*	*59.9*	*57.9*	*62.0*	*66.5*	*66.5*	*61.7*	*67.3*	**64.6**	*62.0*	*67.3*
PADD 2	**53.9**	**49.6**	**51.0**	**55.1**	*54.1*	*50.2*	*49.3*	*51.4*	*54.0*	*52.5*	*52.4*	*50.3*	**55.1**	*51.4*	*50.3*
PADD 3	**82.5**	**82.4**	**81.5**	**91.0**	*84.8*	*83.0*	*81.1*	*85.1*	*87.3*	*86.0*	*86.2*	*89.6*	**91.0**	*85.1*	*89.6*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	*7.5*	*7.3*	*6.8*	*7.2*	*7.4*	*7.6*	*7.4*	*7.8*	**8.3**	*7.2*	*7.8*
PADD 5	**30.4**	**30.6**	**26.8**	**32.6**	*30.6*	*29.0*	*29.2*	*31.8*	*30.4*	*28.8*	*29.2*	*31.9*	**32.6**	*31.8*	*31.9*
U.S. Total	**236.1**	**229.7**	**231.9**	**251.6**	*237.0*	*229.3*	*224.3*	*237.5*	*245.6*	*241.4*	*236.9*	*246.9*	**251.6**	*237.5*	*246.9*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.5**	*24.1*	*22.6*	*23.7*	*24.0*	*23.6*	*22.0*	*23.0*	*23.4*	**26.5**	*24.0*	*23.4*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**225.1**	*212.9*	*206.7*	*200.6*	*213.6*	*222.0*	*219.4*	*213.9*	*223.5*	**225.1**	*213.6*	*223.5*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.85**	**102.52**	*102.31*	*101.98*	*102.17*	*101.77*	*100.74*	*101.40*	*102.04*	*102.20*	**98.99**	*102.06*	*101.60*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	*1.00*	*0.85*	*0.78*	*0.94*	*1.01*	*0.87*	*0.80*	*0.95*	**0.90**	*0.89*	*0.91*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.80**	*2.85*	*2.75*	*2.58*	*2.52*	*2.56*	*2.50*	*2.36*	*2.32*	**2.71**	*2.68*	*2.43*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.55**	**98.79**	*98.46*	*98.38*	*98.81*	*98.30*	*97.17*	*98.03*	*98.88*	*98.92*	**95.38**	*98.49*	*98.26*
Total Dry Gas Production	**89.32**	**90.50**	**92.92**	**95.29**	*95.05*	*94.69*	*94.82*	*94.39*	*93.39*	*93.95*	*94.49*	*94.59*	**92.03**	*94.74*	*94.11*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.25**	*0.32*	*0.10*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.16**	*0.20*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.96**	**6.38**	*6.25*	*5.76*	*6.58*	*7.35*	*8.23*	*6.88*	*7.56*	*8.20*	**4.98**	*6.49*	*7.72*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.06**	*7.93*	*6.53*	*6.47*	*7.33*	*7.83*	*6.46*	*6.66*	*7.54*	**7.30**	*7.06*	*7.12*
Pipeline Gross Exports	**7.86**	**7.18**	**7.79**	**8.40**	*8.55*	*7.91*	*8.11*	*7.83*	*8.40*	*7.72*	*8.62*	*9.24*	**7.81**	*8.10*	*8.50*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.17**	*0.18*	*0.18*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.40**	**2.24**	*15.40*	*-12.21*	*-9.14*	*3.40*	*17.49*	*-10.83*	*-8.74*	*3.36*	**-1.42**	*-0.65*	*0.26*
Total Supply	**103.21**	**71.52**	**77.08**	**90.22**	*104.07*	*75.62*	*77.83*	*90.31*	*102.57*	*75.34*	*76.60*	*88.44*	**85.45**	*86.94*	*85.67*
Balancing Item (b)	**0.12**	**-0.78**	**-0.33**	**0.33**	*0.97*	*-0.92*	*-0.63*	*-0.27*	*-0.96*	*-0.50*	*-0.03*	*1.56*	**-0.17**	*-0.21*	*0.02*
Total Primary Supply	**103.32**	**70.74**	**76.75**	**90.55**	*105.05*	*74.70*	*77.19*	*90.05*	*101.61*	*74.84*	*76.57*	*89.99*	**85.28**	*86.73*	*85.70*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.55**	*26.88*	*7.68*	*3.54*	*17.04*	*26.63*	*7.57*	*3.53*	*17.16*	**13.84**	*13.77*	*13.67*
Commercial	**16.19**	**6.36**	**4.68**	**11.34**	*15.63*	*6.66*	*4.91*	*10.66*	*15.33*	*6.65*	*4.90*	*10.65*	**9.62**	*9.46*	*9.36*
Industrial	**25.12**	**21.74**	**21.31**	**24.42**	*26.17*	*23.03*	*22.28*	*25.31*	*26.06*	*23.00*	*22.29*	*25.52*	**23.14**	*24.19*	*24.21*
Electric Power (c)	**26.84**	**28.14**	**39.75**	**29.29**	*28.18*	*29.78*	*38.76*	*28.99*	*25.25*	*29.94*	*38.00*	*28.48*	**31.03**	*31.44*	*30.45*
Lease and Plant Fuel	**4.93**	**5.00**	**5.12**	**5.26**	*5.25*	*5.23*	*5.24*	*5.22*	*5.17*	*5.20*	*5.24*	*5.24*	**5.08**	*5.24*	*5.21*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.54**	*2.79*	*2.15*	*2.32*	*2.67*	*3.02*	*2.32*	*2.45*	*2.80*	**2.43**	*2.48*	*2.64*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.14**	*0.15*	*0.16*
Total Consumption	**103.32**	**70.74**	**76.75**	**90.55**	*105.05*	*74.70*	*77.19*	*90.05*	*101.61*	*74.84*	*76.57*	*89.99*	**85.28**	*86.73*	*85.70*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,208**	*1,807*	*2,918*	*3,758*	*3,445*	*1,871*	*2,856*	*3,660*	*3,351*	**3,208**	*3,445*	*3,351*
East Region (d)	**216**	**537**	**845**	**765**	*352*	*673*	*971*	*840*	*322*	*641*	*924*	*781*	**765**	*840*	*781*
Midwest Region (d)	**242**	**579**	**990**	**896**	*390*	*719*	*1,064*	*956*	*338*	*606*	*970*	*870*	**896**	*956*	*870*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	*761*	*1,085*	*1,203*	*1,185*	*889*	*1,142*	*1,230*	*1,240*	**1,095**	*1,185*	*1,240*
Mountain Region (d)	**63**	**135**	**200**	**170**	*96*	*139*	*183*	*152*	*106*	*150*	*192*	*157*	**170**	*152*	*157*
Pacific Region (d)	**115**	**259**	**294**	**248**	*174*	*268*	*302*	*277*	*182*	*283*	*309*	*269*	**248**	*277*	*269*
Alaska	**30**	**33**	**37**	**34**	*34*	*34*	*34*	*34*	*34*	*34*	*34*	*34*	**34**	*34*	*34*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	*2.35*	*2.39*	*2.41*	*2.52*	*2.77*	*2.55*	*2.56*	*2.66*	**2.66**	*2.42*	*2.63*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.58**	*13.46*	*14.06*	*16.84*	*12.90*	*12.65*	*13.71*	*16.69*	*12.83*	**14.96**	*13.60*	*13.14*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.68**	*9.69*	*11.65*	*16.02*	*10.18*	*9.25*	*11.69*	*16.22*	*10.44*	**11.84**	*10.55*	*10.41*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.95**	*7.08*	*10.15*	*16.05*	*7.95*	*7.39*	*10.37*	*16.10*	*7.92*	**8.52**	*8.29*	*8.48*
W. N. Central	**7.93**	**10.67**	**18.16**	**7.99**	*6.99*	*10.09*	*16.43*	*8.56*	*7.57*	*10.55*	*16.64*	*8.65*	**8.77**	*8.37*	*8.80*
S. Atlantic	**11.63**	**18.34**	**26.03**	**15.90**	*12.53*	*16.73*	*22.36*	*12.09*	*10.67*	*15.91*	*22.07*	*12.02*	**14.68**	*13.70*	*12.57*
E. S. Central	**9.64**	**14.84**	**21.40**	**12.47**	*9.63*	*14.05*	*21.03*	*12.61*	*10.16*	*14.92*	*21.80*	*13.16*	**11.64**	*11.69*	*12.29*
W. S. Central	**8.29**	**13.38**	**21.45**	**12.15**	*8.74*	*14.07*	*20.16*	*11.54*	*8.95*	*14.74*	*20.50*	*11.73*	**10.96**	*11.26*	*11.46*
Mountain	**7.73**	**9.46**	**13.40**	**7.68**	*7.39*	*9.19*	*12.95*	*7.82*	*7.63*	*9.55*	*13.31*	*8.14*	**8.38**	*8.23*	*8.54*
Pacific	**12.44**	**12.75**	**13.50**	**11.75**	*11.96*	*12.77*	*13.53*	*12.49*	*12.80*	*13.62*	*14.31*	*13.19*	**12.42**	*12.45*	*13.25*
U.S. Average	**9.47**	**12.48**	**18.10**	**10.23**	*9.11*	*11.78*	*16.55*	*10.02*	*9.16*	*12.02*	*16.82*	*10.21*	**10.66**	*10.25*	*10.39*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**9.84**	*9.15*	*8.86*	*8.67*	*8.52*	*8.81*	*9.09*	*9.09*	*9.00*	**10.86**	*8.87*	*8.94*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.56**	*7.41*	*7.23*	*6.71*	*7.27*	*7.44*	*7.31*	*6.75*	*7.28*	**7.88**	*7.26*	*7.29*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.48**	*6.05*	*7.06*	*8.50*	*6.52*	*6.28*	*7.31*	*8.63*	*6.60*	**6.65**	*6.52*	*6.70*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.36**	*6.52*	*7.01*	*8.14*	*6.57*	*6.83*	*7.27*	*8.39*	*6.80*	**6.81**	*6.73*	*7.00*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.85**	*8.37*	*9.33*	*9.87*	*8.91*	*8.71*	*9.50*	*9.83*	*8.79*	**9.06**	*8.87*	*9.00*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.82**	*8.00*	*8.77*	*9.28*	*8.20*	*7.77*	*8.80*	*9.36*	*8.31*	**9.00**	*8.32*	*8.26*
W. S. Central	**6.02**	**6.57**	**7.42**	**7.11**	*6.47*	*6.89*	*7.57*	*6.96*	*6.60*	*7.12*	*7.73*	*7.10*	**6.57**	*6.84*	*6.99*
Mountain	**6.40**	**6.72**	**7.41**	**6.01**	*6.35*	*6.73*	*7.62*	*6.65*	*6.87*	*7.18*	*7.94*	*6.90*	**6.44**	*6.64*	*7.05*
Pacific	**9.08**	**8.82**	**9.14**	**8.56**	*8.31*	*8.25*	*8.47*	*8.12*	*8.32*	*8.47*	*8.70*	*8.31*	**8.89**	*8.26*	*8.41*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.43**	*7.13*	*7.59*	*8.09*	*7.33*	*7.27*	*7.80*	*8.23*	*7.45*	**7.68**	*7.37*	*7.52*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.64**	*8.03*	*7.41*	*6.96*	*7.95*	*8.31*	*7.54*	*6.92*	*7.86*	**8.17**	*7.69*	*7.78*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.65**	*7.12*	*6.61*	*6.73*	*7.00*	*7.44*	*6.87*	*6.90*	*7.13*	**7.75**	*6.95*	*7.20*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.37**	*5.57*	*5.18*	*5.09*	*5.03*	*5.69*	*5.44*	*5.35*	*5.27*	**5.56**	*5.28*	*5.48*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.22**	*4.56*	*3.82*	*3.65*	*4.29*	*4.83*	*4.09*	*3.95*	*4.57*	**4.25**	*4.13*	*4.41*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.47**	*4.63*	*4.31*	*4.35*	*4.67*	*5.03*	*4.48*	*4.44*	*4.75*	**4.79**	*4.50*	*4.70*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.18**	*4.16*	*3.96*	*3.96*	*4.37*	*4.66*	*4.26*	*4.14*	*4.52*	**4.23**	*4.12*	*4.41*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.77**	*2.49*	*2.50*	*2.62*	*2.70*	*2.90*	*2.66*	*2.76*	*2.84*	**2.91**	*2.58*	*2.79*
Mountain	**5.31**	**4.80**	**5.00**	**5.01**	*5.15*	*4.95*	*5.26*	*5.32*	*5.47*	*5.17*	*5.38*	*5.40*	**5.06**	*5.18*	*5.37*
Pacific	**7.68**	**6.66**	**6.49**	**6.38**	*6.39*	*5.80*	*5.95*	*6.02*	*6.52*	*6.06*	*6.17*	*6.21*	**6.83**	*6.06*	*6.25*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.72**	*3.72*	*3.32*	*3.30*	*3.66*	*4.08*	*3.52*	*3.45*	*3.80*	**3.90**	*3.52*	*3.74*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**170.3**	**174.9**	**179.7**	**165.2**	*163.3*	*127.3*	*157.8*	*148.2*	*163.1*	*112.4*	*151.9*	*153.2*	**690.1**	*596.6*	*580.6*
Appalachia	**47.4**	**49.3**	**46.6**	**44.3**	*42.6*	*36.0*	*38.1*	*34.2*	*36.3*	*27.9*	*33.3*	*32.6*	**187.6**	*150.9*	*130.1*
Interior	**31.0**	**32.2**	**32.4**	**30.6**	*34.1*	*26.5*	*32.8*	*33.1*	*37.8*	*25.5*	*33.3*	*35.6*	**126.2**	*126.5*	*132.2*
Western	**91.9**	**93.4**	**102.4**	**90.3**	*86.6*	*64.8*	*86.8*	*81.0*	*89.0*	*59.0*	*85.2*	*85.0*	**378.0**	*319.2*	*318.2*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.5**	*-0.6*	*0.9*	*1.5*	*-2.2*	*-0.5*	*1.3*	*1.7*	*-2.3*	**-2.9**	*-0.4*	*0.2*
Imports	**1.7**	**1.6**	**1.7**	**2.0**	*1.4*	*1.3*	*1.5*	*1.4*	*1.2*	*1.3*	*1.5*	*1.4*	**7.0**	*5.7*	*5.4*
Exports	**25.2**	**25.3**	**21.9**	**20.0**	*24.1*	*20.3*	*19.4*	*18.7*	*22.0*	*20.2*	*20.4*	*20.6*	**92.4**	*82.6*	*83.2*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**11.1**	*13.1*	*11.2*	*11.1*	*10.7*	*13.1*	*11.9*	*12.1*	*11.9*	**53.5**	*46.2*	*49.1*
Steam Coal	**11.3**	**10.2**	**8.4**	**8.9**	*11.0*	*9.1*	*8.3*	*8.0*	*8.9*	*8.3*	*8.3*	*8.7*	**38.9**	*36.4*	*34.1*
Total Primary Supply	**145.3**	**152.4**	**158.3**	**145.8**	*140.1*	*109.1*	*141.4*	*128.7*	*141.9*	*94.8*	*134.7*	*131.8*	**601.8**	*519.3*	*503.0*
Secondary Inventory Withdrawals	**6.2**	**-21.0**	**6.2**	**-10.5**	*-0.4*	*3.6*	*7.6*	*-7.7*	*-0.5*	*3.5*	*7.5*	*-7.8*	**-19.1**	*3.1*	*2.7*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**153.8**	**133.7**	**166.8**	**137.6**	*142.0*	*115.0*	*151.3*	*123.3*	*143.3*	*100.2*	*144.2*	*126.0*	**592.0**	*531.6*	*513.7*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**6.2**	**6.8**	*5.6*	*5.4*	*5.3*	*6.4*	*5.4*	*5.2*	*5.1*	*6.3*	**22.1**	*22.7*	*21.9*
Electric Power Sector (b)	**145.3**	**118.0**	**156.6**	**124.5**	*128.7*	*102.4*	*138.9*	*109.6*	*130.7*	*88.2*	*132.4*	*112.8*	**544.4**	*479.6*	*464.1*
Retail and Other Industry	**8.1**	**7.2**	**7.0**	**7.5**	*7.7*	*7.3*	*7.1*	*7.3*	*7.3*	*6.8*	*6.7*	*6.9*	**29.8**	*29.3*	*27.7*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.9**	*0.7*	*0.7*
Other Industrial	**7.8**	**7.0**	**6.8**	**7.2**	*7.5*	*7.1*	*7.0*	*7.1*	*7.1*	*6.7*	*6.5*	*6.7*	**28.9**	*28.6*	*27.0*
Total Consumption	**157.9**	**129.9**	**169.8**	**138.8**	*142.0*	*115.0*	*151.3*	*123.3*	*143.3*	*100.2*	*144.2*	*126.0*	**596.3**	*531.6*	*513.7*
Discrepancy (c)	**-4.0**	**3.9**	**-3.0**	**-1.1**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-4.3**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.6**	*25.1*	*24.3*	*22.8*	*25.0*	*25.5*	*24.2*	*22.5*	*24.8*	**24.6**	*25.0*	*24.8*
Secondary Inventories	**102.2**	**123.2**	**117.0**	**127.5**	*127.8*	*124.3*	*116.7*	*124.4*	*124.9*	*121.4*	*113.9*	*121.7*	**127.5**	*124.4*	*121.7*
Electric Power Sector	**97.1**	**117.7**	**111.2**	**121.8**	*122.2*	*118.3*	*110.5*	*118.4*	*119.1*	*115.2*	*107.6*	*115.5*	**121.8**	*118.4*	*115.5*
Retail and General Industry	**2.8**	**3.0**	**3.6**	**3.4**	*3.7*	*3.6*	*3.7*	*3.5*	*3.8*	*3.7*	*3.7*	*3.6*	**3.4**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.0**	**2.1**	*1.7*	*2.1*	*2.3*	*2.3*	*1.9*	*2.3*	*2.4*	*2.4*	**2.1**	*2.3*	*2.4*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	*0.261*	*0.263*	*0.256*	*0.257*	*0.255*	*0.252*	*0.245*	*0.253*	**0.268**	*0.259*	*0.251*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**1.99**	**2.09**	*2.11*	*2.11*	*2.09*	*2.09*	*2.11*	*2.11*	*2.09*	*2.10*	**2.05**	*2.10*	*2.10*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,172**	**979**	*1,000*	*973*	*1,140*	*971*	*988*	*974*	*1,142*	*974*	**4,121**	*4,084*	*4,078*
Electric Power Sector (a)	**955**	**936**	**1,130**	**938**	*959*	*933*	*1,097*	*930*	*946*	*933*	*1,098*	*931*	**3,959**	*3,919*	*3,909*
Industrial Sector (b)	**37**	**36**	**38**	**37**	*37*	*37*	*39*	*38*	*38*	*38*	*40*	*39*	**148**	*151*	*156*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**14**	*14*	*14*
Net Imports	**9**	**9**	**11**	**9**	*11*	*12*	*15*	*11*	*13*	*13*	*15*	*12*	**38**	*49*	*52*
Total Supply	**1,004**	**983**	**1,184**	**993**	*1,011*	*985*	*1,154*	*983*	*1,000*	*987*	*1,157*	*986*	**4,163**	*4,133*	*4,130*
Losses and Unaccounted for (c)	**57**	**72**	**73**	**53**	*53*	*71*	*63*	*60*	*50*	*71*	*63*	*60*	**255**	*248*	*245*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**876**	**1072**	**895**	*921*	*878*	*1053*	*885*	*913*	*879*	*1054*	*887*	**3756**	*3737*	*3733*
Residential Sector	**361**	**309**	**434**	**331**	*368*	*313*	*423*	*325*	*368*	*315*	*426*	*327*	**1436**	*1429*	*1435*
Commercial Sector	**320**	**328**	**382**	**326**	*325*	*330*	*376*	*324*	*321*	*330*	*377*	*324*	**1356**	*1355*	*1353*
Industrial Sector	**228**	**237**	**255**	**237**	*226*	*234*	*252*	*234*	*221*	*232*	*250*	*234*	**956**	*946*	*938*
Transportation Sector	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*7*	*7*
Direct Use (d)	**36**	**35**	**38**	**37**	*37*	*36*	*38*	*37*	*38*	*37*	*39*	*38*	**145**	*148*	*153*
Total Consumption	**948**	**911**	**1110**	**934**	*958*	*914*	*1091*	*923*	*951*	*916*	*1094*	*925*	**3903**	*3885*	*3886*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,469**	*2,701*	*2,294*	*3,102*	*2,383*	*2,675*	*2,286*	*3,092*	*2,375*	**10,649**	*10,480*	*10,429*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**1.99**	**2.09**	*2.11*	*2.11*	*2.09*	*2.09*	*2.11*	*2.11*	*2.09*	*2.10*	**2.05**	*2.10*	*2.10*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.57**	*2.65*	*2.39*	*2.34*	*2.64*	*3.17*	*2.55*	*2.51*	*2.80*	**2.83**	*2.49*	*2.72*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**11.69**	*12.72*	*13.06*	*12.33*	*12.19*	*12.59*	*13.38*	*12.82*	*12.76*	**12.53**	*12.59*	*12.85*
Distillate Fuel Oil	**14.88**	**15.75**	**15.01**	**15.53**	*16.21*	*15.69*	*15.77*	*15.83*	*16.02*	*16.20*	*16.27*	*16.54*	**15.28**	*15.90*	*16.24*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.67**	**13.32**	**13.25**	**12.77**	*12.64*	*13.30*	*13.34*	*12.96*	*12.83*	*13.59*	*13.62*	*13.22*	**13.01**	*13.06*	*13.32*
Commercial Sector	**10.41**	**10.65**	**11.00**	**10.57**	*10.31*	*10.54*	*10.99*	*10.63*	*10.40*	*10.67*	*11.15*	*10.80*	**10.67**	*10.63*	*10.77*
Industrial Sector	**6.67**	**6.72**	**7.24**	**6.74**	*6.63*	*6.76*	*7.33*	*6.81*	*6.76*	*6.85*	*7.44*	*6.90*	**6.85**	*6.89*	*7.00*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	*25.26*	*28.85*	*32.48*	*27.09*	*28.30*	*27.97*	*29.53*	*26.79*	**56.24**	*28.42*	*28.15*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	*36.49*	*32.69*	*35.35*	*38.45*	*37.47*	*33.17*	*38.18*	*39.54*	**38.15**	*35.74*	*37.09*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	*42.18*	*30.02*	*29.83*	*33.27*	*42.85*	*30.12*	*30.86*	*34.66*	**34.89**	*33.82*	*34.62*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	*31.24*	*27.48*	*28.12*	*27.44*	*32.39*	*27.89*	*28.87*	*28.00*	**30.56**	*28.57*	*29.29*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	*31.33*	*29.00*	*31.90*	*29.79*	*32.96*	*29.59*	*32.62*	*30.35*	**30.85**	*30.50*	*31.38*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	*29.66*	*27.52*	*30.78*	*28.93*	*29.44*	*27.60*	*30.96*	*28.78*	**29.51**	*29.22*	*29.19*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	*28.65*	*26.88*	*31.58*	*28.13*	*27.59*	*27.00*	*32.29*	*28.51*	**27.86**	*28.81*	*28.85*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	*30.25*	*29.75*	*32.07*	*28.97*	*30.19*	*28.94*	*31.97*	*29.20*	**30.25**	*30.26*	*30.08*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	*28.65*	*28.82*	*29.44*	*28.94*	*30.67*	*29.94*	*29.89*	*29.66*	**30.10**	*28.96*	*30.04*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	*34.30*	*26.62*	*31.81*	*34.82*	*32.66*	*27.12*	*34.14*	*35.43*	**36.12**	*31.89*	*32.34*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	*37.68*	*34.93*	*39.24*	*36.90*	*39.22*	*34.60*	*40.60*	*38.52*	**35.26**	*37.19*	*38.24*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**11.1**	*12.8*	*9.9*	*12.9*	*10.9*	*12.6*	*9.9*	*12.9*	*10.9*	**46.4**	*46.5*	*46.4*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**30.5**	*36.0*	*28.1*	*38.8*	*29.7*	*35.3*	*28.1*	*38.7*	*29.7*	**133.8**	*132.5*	*131.8*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.9**	*50.2*	*38.9*	*51.6*	*42.8*	*49.8*	*38.9*	*51.8*	*43.0*	**186.4**	*183.5*	*183.5*
W. N. Central	**29.9**	**21.6**	**29.0**	**25.4**	*29.6*	*22.1*	*28.9*	*24.7*	*29.5*	*22.3*	*29.2*	*25.0*	**105.9**	*105.3*	*106.0*
S. Atlantic	**88.3**	**84.5**	**111.5**	**85.7**	*92.2*	*83.2*	*108.3*	*81.7*	*92.5*	*83.7*	*109.0*	*82.2*	**370.0**	*365.5*	*367.5*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.9**	*32.3*	*25.7*	*35.8*	*26.0*	*32.7*	*25.8*	*35.9*	*26.0*	**121.3**	*119.8*	*120.4*
W. S. Central	**51.7**	**49.0**	**75.7**	**50.5**	*52.2*	*50.9*	*73.8*	*49.9*	*53.0*	*51.6*	*74.7*	*50.5*	**226.9**	*226.8*	*229.8*
Mountain	**23.1**	**22.0**	**33.0**	**22.0**	*23.3*	*23.3*	*32.8*	*22.3*	*23.2*	*23.5*	*33.2*	*22.5*	**100.1**	*101.6*	*102.5*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.1**	*38.6*	*29.6*	*38.9*	*35.6*	*38.4*	*29.7*	*39.0*	*35.8*	**142.4**	*142.7*	*142.9*
AK and HI	**1.2**	**1.1**	**1.2**	**1.2**	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	**4.7**	*4.6*	*4.6*
Total	**361.4**	**309.2**	**433.8**	**333.3**	*368.3*	*312.8*	*422.9*	*325.0*	*368.2*	*314.6*	*425.6*	*326.9*	**1,437.7**	*1,429.0*	*1,435.3*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.3**	*12.8*	*11.9*	*13.5*	*11.9*	*12.2*	*11.4*	*12.9*	*11.3*	**51.1**	*50.0*	*47.7*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**36.5**	*38.6*	*35.9*	*40.8*	*36.1*	*38.0*	*35.8*	*40.7*	*35.9*	**153.2**	*151.4*	*150.3*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.8**	*44.8*	*43.3*	*49.4*	*43.2*	*44.3*	*43.3*	*49.3*	*43.1*	**181.8**	*180.7*	*180.1*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.9**	*25.8*	*24.5*	*27.8*	*24.8*	*25.6*	*24.6*	*28.0*	*25.0*	**102.6**	*102.9*	*103.2*
S. Atlantic	**72.1**	**79.4**	**90.2**	**75.8**	*73.2*	*78.3*	*88.4*	*73.7*	*72.2*	*78.4*	*88.5*	*73.7*	**317.4**	*313.6*	*312.9*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.9**	*21.3*	*22.4*	*26.3*	*21.4*	*21.1*	*22.5*	*26.4*	*21.4*	**92.4**	*91.4*	*91.4*
W. S. Central	**43.8**	**47.5**	**57.8**	**47.8**	*45.2*	*49.0*	*57.4*	*48.6*	*45.5*	*49.7*	*58.3*	*49.4*	**196.8**	*200.3*	*203.0*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	*23.1*	*24.7*	*28.3*	*23.9*	*23.0*	*24.9*	*28.5*	*24.0*	**98.3**	*99.9*	*100.3*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.1**	*38.5*	*38.2*	*43.0*	*39.3*	*38.1*	*38.2*	*43.0*	*39.2*	**157.9**	*158.9*	*158.5*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	*1.4*	*1.4*	*1.5*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**5.7**	*5.6*	*5.6*
Total	**320.5**	**328.1**	**381.8**	**326.8**	*324.7*	*329.5*	*376.4*	*324.2*	*321.3*	*330.2*	*377.0*	*324.5*	**1,357.1**	*1,354.9*	*1,353.0*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**4.0**	*3.9*	*3.8*	*4.0*	*4.0*	*3.9*	*3.8*	*4.0*	*4.0*	**15.6**	*15.8*	*15.6*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.4**	*17.5*	*17.3*	*19.6*	*18.0*	*17.1*	*17.1*	*19.4*	*17.9*	**73.4**	*72.3*	*71.5*
E. N. Central	**44.8**	**45.4**	**47.7**	**44.9**	*44.1*	*44.4*	*46.6*	*44.2*	*42.9*	*43.7*	*45.9*	*43.8*	**182.8**	*179.3*	*176.3*
W. N. Central	**21.1**	**22.0**	**23.4**	**22.1**	*21.3*	*22.0*	*23.5*	*22.4*	*21.1*	*22.1*	*23.7*	*22.7*	**88.6**	*89.2*	*89.8*
S. Atlantic	**33.0**	**34.7**	**36.2**	**33.3**	*32.0*	*33.6*	*35.0*	*31.7*	*30.6*	*32.5*	*33.9*	*31.0*	**137.3**	*132.3*	*128.1*
E. S. Central	**23.4**	**23.9**	**24.5**	**23.0**	*22.5*	*22.9*	*23.5*	*22.3*	*21.4*	*22.1*	*22.8*	*21.8*	**94.8**	*91.2*	*88.2*
W. S. Central	**44.2**	**47.4**	**50.8**	**47.3**	*45.0*	*47.7*	*51.2*	*48.6*	*45.0*	*48.1*	*51.7*	*49.3*	**189.7**	*192.3*	*194.2*
Mountain	**19.2**	**21.1**	**23.5**	**20.4**	*19.4*	*21.2*	*23.7*	*20.6*	*19.4*	*21.4*	*23.8*	*20.8*	**84.3**	*85.0*	*85.3*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.7**	*19.1*	*20.2*	*23.3*	*21.1*	*19.0*	*20.3*	*23.4*	*21.2*	**83.5**	*83.7*	*83.9*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	**4.8**	*4.9*	*4.9*
Total	**227.5**	**237.3**	**254.7**	**235.4**	*226.0*	*234.3*	*251.5*	*234.2*	*221.5*	*232.3*	*250.0*	*233.8*	**954.9**	*946.0*	*937.6*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.6**	*29.7*	*25.7*	*30.6*	*26.9*	*28.8*	*25.3*	*30.0*	*26.3*	**113.6**	*112.9*	*110.3*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**86.3**	*93.1*	*82.2*	*100.1*	*84.6*	*91.4*	*81.8*	*99.7*	*84.4*	**364.2**	*360.0*	*357.2*
E. N. Central	**139.6**	**126.7**	**152.6**	**132.7**	*139.3*	*126.8*	*147.7*	*130.4*	*137.1*	*126.1*	*147.1*	*130.1*	**551.6**	*544.1*	*540.4*
W. N. Central	**76.7**	**67.7**	**80.4**	**72.3**	*76.7*	*68.6*	*80.2*	*72.0*	*76.2*	*69.1*	*80.9*	*72.8*	**297.1**	*297.6*	*299.0*
S. Atlantic	**193.7**	**198.9**	**238.4**	**195.1**	*197.8*	*195.5*	*232.0*	*187.4*	*195.7*	*195.0*	*231.8*	*187.2*	**826.1**	*812.7*	*809.7*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.8**	*76.0*	*70.9*	*85.7*	*69.8*	*75.2*	*70.3*	*85.2*	*69.3*	**308.4**	*302.4*	*300.0*
W. S. Central	**139.8**	**143.9**	**184.3**	**145.6**	*142.4*	*147.6*	*182.4*	*147.1*	*143.5*	*149.5*	*184.8*	*149.3*	**613.6**	*619.6*	*627.2*
Mountain	**65.0**	**67.1**	**84.8**	**65.9**	*65.8*	*69.2*	*84.7*	*66.9*	*65.6*	*69.8*	*85.5*	*67.4*	**282.9**	*286.6*	*288.3*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.1**	*96.4*	*88.2*	*105.3*	*96.2*	*95.7*	*88.4*	*105.6*	*96.4*	**384.7**	*386.2*	*386.1*
AK and HI	**3.7**	**3.6**	**4.0**	**3.9**	*3.7*	*3.6*	*4.0*	*3.9*	*3.6*	*3.6*	*4.0*	*3.9*	**15.2**	*15.1*	*15.0*
Total	**911.5**	**876.4**	**1,072.3**	**897.3**	*920.9*	*878.3*	*1,052.7*	*885.2*	*912.9*	*878.9*	*1,054.4*	*887.0*	**3,757.4**	*3,737.2*	*3,733.2*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.56**	**20.70**	**20.42**	*21.34*	*21.22*	*20.37*	*20.13*	*21.31*	*21.61*	*21.14*	*21.12*	**21.04**	*20.76*	*21.28*
Middle Atlantic	**15.20**	**16.06**	**16.16**	**15.38**	*14.76*	*15.68*	*16.06*	*15.58*	*15.01*	*16.00*	*16.39*	*15.80*	**15.71**	*15.52*	*15.81*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.36**	*13.04*	*14.06*	*13.72*	*13.87*	*13.48*	*14.47*	*14.06*	*14.20*	**13.32**	*13.64*	*14.02*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.53**	*11.00*	*13.12*	*13.46*	*12.08*	*11.43*	*13.55*	*13.84*	*12.40*	**11.94**	*12.37*	*12.77*
S. Atlantic	**11.70**	**12.17**	**12.10**	**11.58**	*11.55*	*11.99*	*11.94*	*11.53*	*11.60*	*12.14*	*12.10*	*11.69*	**11.90**	*11.76*	*11.89*
E. S. Central	**11.11**	**11.70**	**11.37**	**11.28**	*11.08*	*11.97*	*11.82*	*11.70*	*11.25*	*12.10*	*11.94*	*12.01*	**11.36**	*11.63*	*11.80*
W. S. Central	**10.79**	**11.41**	**11.26**	**10.89**	*10.70*	*11.12*	*11.13*	*10.85*	*10.69*	*11.23*	*11.29*	*11.01*	**11.10**	*10.97*	*11.08*
Mountain	**11.51**	**12.18**	**12.23**	**11.75**	*11.56*	*12.29*	*12.43*	*12.05*	*11.88*	*12.61*	*12.73*	*12.30*	**11.95**	*12.12*	*12.41*
Pacific	**14.87**	**15.87**	**17.31**	**15.09**	*15.20*	*16.34*	*17.47*	*15.24*	*15.62*	*17.13*	*18.06*	*15.60*	**15.79**	*16.07*	*16.60*
U.S. Average	**12.67**	**13.32**	**13.25**	**12.77**	*12.64*	*13.30*	*13.34*	*12.96*	*12.83*	*13.59*	*13.62*	*13.22*	**13.01**	*13.06*	*13.32*
Commercial Sector															
New England	**16.83**	**16.24**	**15.93**	**15.95**	*16.45*	*15.94*	*15.72*	*15.86*	*16.54*	*16.24*	*16.16*	*16.37*	**16.23**	*15.99*	*16.32*
Middle Atlantic	**11.56**	**12.17**	**13.02**	**11.78**	*11.11*	*11.70*	*12.66*	*11.72*	*11.13*	*11.76*	*12.75*	*11.71*	**12.16**	*11.81*	*11.86*
E. N. Central	**10.15**	**10.29**	**10.08**	**10.13**	*10.10*	*10.27*	*10.17*	*10.30*	*10.28*	*10.45*	*10.34*	*10.46*	**10.16**	*10.21*	*10.38*
W. N. Central	**8.98**	**10.04**	**10.42**	**9.37**	*9.12*	*10.27*	*10.85*	*9.82*	*9.50*	*10.63*	*11.18*	*10.09*	**9.72**	*10.03*	*10.37*
S. Atlantic	**9.44**	**9.37**	**9.33**	**9.26**	*9.29*	*9.18*	*9.17*	*9.14*	*9.26*	*9.22*	*9.25*	*9.25*	**9.35**	*9.19*	*9.24*
E. S. Central	**10.70**	**10.70**	**10.64**	**10.66**	*10.76*	*10.95*	*11.09*	*11.06*	*11.00*	*11.08*	*11.21*	*11.36*	**10.68**	*10.97*	*11.16*
W. S. Central	**8.04**	**8.05**	**8.31**	**8.10**	*7.91*	*7.83*	*8.20*	*8.08*	*7.90*	*7.84*	*8.22*	*8.05*	**8.14**	*8.02*	*8.01*
Mountain	**9.20**	**9.71**	**10.01**	**9.32**	*9.22*	*9.74*	*10.09*	*9.45*	*9.37*	*9.91*	*10.27*	*9.60*	**9.59**	*9.65*	*9.82*
Pacific	**12.98**	**14.15**	**16.37**	**14.68**	*13.20*	*14.24*	*16.40*	*14.76*	*13.40*	*14.63*	*17.01*	*15.37*	**14.60**	*14.70*	*15.16*
U.S. Average	**10.41**	**10.65**	**11.00**	**10.57**	*10.31*	*10.54*	*10.99*	*10.63*	*10.40*	*10.67*	*11.15*	*10.80*	**10.67**	*10.63*	*10.77*
Industrial Sector															
New England	**13.44**	**12.89**	**12.66**	**12.71**	*13.15*	*12.76*	*12.56*	*12.76*	*13.34*	*12.85*	*12.66*	*12.84*	**12.92**	*12.81*	*12.92*
Middle Atlantic	**6.72**	**6.51**	**6.54**	**6.30**	*6.35*	*6.33*	*6.41*	*6.25*	*6.42*	*6.31*	*6.39*	*6.22*	**6.52**	*6.34*	*6.34*
E. N. Central	**7.03**	**6.88**	**6.90**	**6.95**	*6.95*	*6.92*	*6.98*	*7.04*	*7.11*	*7.02*	*7.09*	*7.14*	**6.94**	*6.97*	*7.09*
W. N. Central	**7.13**	**7.33**	**8.02**	**7.03**	*7.34*	*7.56*	*8.29*	*7.25*	*7.58*	*7.79*	*8.55*	*7.47*	**7.39**	*7.62*	*7.86*
S. Atlantic	**6.22**	**6.29**	**6.72**	**6.20**	*6.05*	*6.20*	*6.65*	*6.19*	*6.10*	*6.21*	*6.66*	*6.19*	**6.37**	*6.28*	*6.30*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.77**	*5.63*	*5.77*	*5.98*	*5.82*	*5.73*	*5.83*	*6.04*	*5.87*	**5.80**	*5.80*	*5.87*
W. S. Central	**5.26**	**5.25**	**5.99**	**5.35**	*5.26*	*5.31*	*6.10*	*5.37*	*5.36*	*5.34*	*6.14*	*5.41*	**5.47**	*5.52*	*5.58*
Mountain	**6.14**	**6.25**	**6.77**	**5.93**	*6.04*	*6.23*	*6.78*	*5.97*	*6.13*	*6.29*	*6.85*	*6.03*	**6.29**	*6.28*	*6.34*
Pacific	**8.65**	**9.45**	**11.26**	**9.93**	*8.89*	*9.76*	*11.66*	*10.22*	*9.18*	*10.05*	*12.01*	*10.53*	**9.89**	*10.20*	*10.52*
U.S. Average	**6.67**	**6.72**	**7.24**	**6.74**	*6.63*	*6.76*	*7.33*	*6.81*	*6.76*	*6.85*	*7.44*	*6.90*	**6.85**	*6.89*	*7.00*
All Sectors (a)															
New England	**18.36**	**17.73**	**17.48**	**17.25**	*18.08*	*17.46*	*17.23*	*17.09*	*18.16*	*17.80*	*17.80*	*17.77*	**17.70**	*17.48*	*17.89*
Middle Atlantic	**12.02**	**12.27**	**12.99**	**11.93**	*11.62*	*11.93*	*12.75*	*11.91*	*11.74*	*12.08*	*12.92*	*11.98*	**12.33**	*12.07*	*12.20*
E. N. Central	**10.14**	**10.14**	**10.22**	**10.12**	*10.16*	*10.25*	*10.40*	*10.36*	*10.45*	*10.50*	*10.63*	*10.57*	**10.16**	*10.30*	*10.54*
W. N. Central	**9.15**	**10.03**	**10.63**	**9.41**	*9.35*	*10.32*	*11.04*	*9.80*	*9.71*	*10.66*	*11.37*	*10.07*	**9.81**	*10.14*	*10.47*
S. Atlantic	**9.92**	**10.02**	**10.23**	**9.76**	*9.81*	*9.86*	*10.08*	*9.68*	*9.87*	*9.97*	*10.21*	*9.82*	**10.00**	*9.87*	*9.98*
E. S. Central	**9.30**	**9.44**	**9.65**	**9.34**	*9.38*	*9.65*	*9.99*	*9.62*	*9.61*	*9.80*	*10.13*	*9.87*	**9.44**	*9.67*	*9.86*
W. S. Central	**8.17**	**8.27**	**8.88**	**8.16**	*8.09*	*8.15*	*8.80*	*8.13*	*8.13*	*8.21*	*8.88*	*8.18*	**8.40**	*8.32*	*8.38*
Mountain	**9.12**	**9.43**	**9.97**	**9.08**	*9.11*	*9.52*	*10.07*	*9.24*	*9.30*	*9.71*	*10.27*	*9.40*	**9.44**	*9.52*	*9.71*
Pacific	**12.88**	**13.63**	**15.57**	**13.77**	*13.14*	*13.90*	*15.74*	*13.93*	*13.44*	*14.40*	*16.28*	*14.38*	**14.00**	*14.22*	*14.67*
U.S. Average	**10.37**	**10.52**	**11.01**	**10.38**	*10.34*	*10.51*	*11.06*	*10.47*	*10.50*	*10.70*	*11.27*	*10.66*	**10.59**	*10.61*	*10.80*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**331.0**	**473.8**	**349.2**	*329.9*	*349.9*	*465.1*	*345.4*	*298.3*	*355.0*	*461.3*	*341.5*	**1,471.0**	*1,490.4*	*1,456.1*
Coal	**257.9**	**209.0**	**279.4**	**219.3**	*227.7*	*179.5*	*244.9*	*190.1*	*231.6*	*155.1*	*233.6*	*195.2*	**965.5**	*842.2*	*815.5*
Nuclear	**203.5**	**196.5**	**210.0**	**198.8**	*205.8*	*186.0*	*205.0*	*200.7*	*199.4*	*185.7*	*198.7*	*185.4*	**808.8**	*797.4*	*769.3*
Renewable Energy Sources:	**169.8**	**192.8**	**161.0**	**165.3**	*188.5*	*211.2*	*176.4*	*188.0*	*210.1*	*230.9*	*199.2*	*203.2*	**688.9**	*764.1*	*843.4*
Conventional Hydropower	**71.2**	**81.7**	**60.6**	**59.8**	*77.7*	*82.2*	*63.6*	*64.1*	*78.5*	*79.3*	*63.7*	*63.7*	**273.3**	*287.5*	*285.2*
Wind	**74.2**	**78.5**	**66.1**	**82.0**	*85.0*	*91.3*	*72.7*	*96.4*	*101.2*	*103.5*	*83.5*	*105.7*	**300.8**	*345.4*	*393.9*
Solar (a)	**13.2**	**21.8**	**22.5**	**13.9**	*15.8*	*26.7*	*28.5*	*18.2*	*20.9*	*37.2*	*40.2*	*24.4*	**71.4**	*89.1*	*122.8*
Biomass	**7.2**	**7.0**	**7.6**	**5.5**	*6.1*	*7.0*	*7.5*	*5.5*	*6.1*	*7.0*	*7.5*	*5.6*	**27.3**	*26.1*	*26.2*
Geothermal	**4.0**	**3.8**	**4.1**	**4.1**	*4.0*	*4.0*	*4.1*	*3.8*	*3.4*	*4.0*	*4.2*	*3.9*	**16.1**	*16.0*	*15.4*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.3**	*-1.0*	*-0.7*	*-1.8*	*-1.2*	*-1.1*	*-0.8*	*-1.8*	*-1.2*	**-5.1**	*-4.6*	*-4.9*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**4.0**	*5.2*	*4.3*	*4.4*	*3.8*	*4.4*	*4.1*	*4.3*	*4.3*	**17.9**	*17.6*	*17.2*
Other Gases	**1.1**	**1.0**	**1.2**	**1.1**	*1.1*	*1.1*	*1.1*	*1.1*	*1.3*	*1.1*	*1.1*	*0.9*	**4.4**	*4.5*	*4.4*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	*2.0*	*1.9*	*1.9*	*1.8*	*1.9*	*1.9*	*1.9*	*1.8*	**7.7**	*7.6*	*7.5*
Total Generation	**955.1**	**935.6**	**1,130.2**	**938.3**	*959.2*	*933.2*	*1,097.2*	*929.8*	*946.0*	*933.0*	*1,098.3*	*931.3*	**3,959.1**	*3,919.3*	*3,908.5*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.2**	*11.9*	*10.9*	*14.8*	*11.8*	*11.7*	*9.8*	*14.6*	*12.3*	**46.6**	*49.5*	*48.4*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	*0.3*	*0.0*	*0.1*	*0.1*	*0.3*	*0.0*	*0.1*	*0.1*	**0.5**	*0.5*	*0.5*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	*7.1*	*5.4*	*7.3*	*6.4*	*7.1*	*7.1*	*7.2*	*5.6*	**29.8**	*26.2*	*27.1*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.9**	*2.1*	*1.9*	*1.5*	*1.8*	*2.0*	*1.8*	*1.5*	*1.8*	**7.3**	*7.3*	*7.1*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.5**	**2.5**	*2.4*	*2.8*	*2.7*	*2.7*	*2.6*	*3.0*	*2.8*	*2.8*	**10.2**	*10.6*	*11.2*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.3**	*0.4*	*0.3*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.3*	**1.4**	*1.4*	*1.4*
Total generation	**24.5**	**21.7**	**26.5**	**23.1**	*24.3*	*21.4*	*26.6*	*23.2*	*24.0*	*22.1*	*26.5*	*23.0*	**95.8**	*95.5*	*95.6*
Net energy for load (f)	**29.5**	**25.8**	**31.8**	**27.9**	*29.9*	*26.7*	*31.8*	*28.2*	*29.5*	*26.8*	*31.8*	*28.1*	**115.0**	*116.7*	*116.3*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.1**	*13.2*	*17.2*	*22.4*	*15.7*	*14.3*	*17.4*	*23.4*	*17.4*	**53.4**	*68.5*	*72.5*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.2*
Nuclear	**10.4**	**10.8**	**11.6**	**11.8**	*11.7*	*8.7*	*9.1*	*9.6*	*8.9*	*7.8*	*7.4*	*7.3*	**44.7**	*39.2*	*31.4*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.1**	*7.5*	*7.3*	*7.4*	*7.2*	*6.9*	*6.8*	*7.4*	*7.2*	**29.2**	*29.5*	*28.4*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.7**	*1.6*	*1.9*	*1.6*	*1.9*	*2.2*	*2.4*	*2.2*	*3.0*	**6.6**	*7.2*	*9.7*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.1**	*0.5*	*0.1*	*0.2*	*0.1*	*0.4*	*0.1*	*0.2*	*0.1*	**0.8**	*0.9*	*0.9*
Total generation	**32.1**	**31.1**	**39.1**	**32.8**	*34.5*	*35.3*	*40.8*	*34.7*	*32.8*	*34.7*	*40.6*	*35.0*	**135.2**	*145.3*	*143.1*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.6**	*37.4*	*35.5*	*42.8*	*36.3*	*37.2*	*35.8*	*43.0*	*36.4*	**150.6**	*152.0*	*152.5*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**68.7**	*72.8*	*75.2*	*96.8*	*71.4*	*64.2*	*79.2*	*99.8*	*73.9*	**293.0**	*316.2*	*317.1*
Coal	**53.5**	**40.0**	**52.0**	**43.1**	*53.0*	*26.4*	*38.8*	*33.4*	*57.4*	*23.9*	*37.8*	*34.4*	**188.6**	*151.7*	*153.5*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	*69.4*	*65.8*	*69.7*	*70.1*	*68.7*	*63.7*	*68.3*	*65.9*	**277.9**	*275.0*	*266.5*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.4**	*3.0*	*2.5*	*1.7*	*2.3*	*2.8*	*2.3*	*1.7*	*2.3*	**10.7**	*9.5*	*9.2*
Nonhydro renewables (d)	**8.8**	**9.2**	**7.0**	**8.6**	*9.6*	*10.0*	*7.8*	*9.7*	*11.0*	*11.6*	*9.0*	*10.6*	**33.7**	*37.0*	*42.1*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.6**	*1.0*	*0.9*	*0.4*	*0.6*	*1.0*	*0.8*	*0.4*	*0.6*	**2.7**	*2.9*	*2.8*
Total generation	**205.4**	**185.6**	**224.0**	**191.4**	*208.7*	*180.8*	*215.2*	*187.7*	*205.1*	*181.4*	*217.0*	*187.7*	**806.4**	*792.4*	*791.2*
Net energy for load (f)	**195.1**	**173.1**	**212.3**	**182.5**	*194.8*	*171.1*	*203.6*	*179.5*	*193.6*	*172.5*	*204.4*	*180.0*	**763.0**	*749.0*	*750.5*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**58.0**	*59.0*	*65.1*	*75.8*	*59.3*	*55.4*	*63.9*	*75.0*	*60.1*	**251.3**	*259.2*	*254.4*
Coal	**35.1**	**38.0**	**53.3**	**37.1**	*40.5*	*37.4*	*43.8*	*30.4*	*34.1*	*31.1*	*41.7*	*30.3*	**163.5**	*152.2*	*137.1*
Nuclear	**52.3**	**52.8**	**53.7**	**52.0**	*52.1*	*49.5*	*54.1*	*53.2*	*52.7*	*52.1*	*53.5*	*51.0*	**210.8**	*208.8*	*209.4*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.3**	*10.1*	*8.1*	*6.3*	*8.3*	*9.4*	*7.5*	*6.3*	*8.3*	**35.6**	*32.9*	*31.5*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.1**	*2.9*	*4.8*	*4.7*	*2.5*	*3.6*	*5.9*	*5.8*	*3.1*	**12.4**	*15.0*	*18.4*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.1**	*0.1*	*-0.1*	*-0.6*	*-0.1*	*0.0*	*-0.2*	*-0.6*	*-0.1*	**-1.0**	*-0.7*	*-0.9*
Total generation	**157.2**	**162.9**	**195.1**	**157.3**	*164.7*	*164.9*	*184.3*	*153.6*	*155.1*	*160.4*	*181.7*	*152.7*	**672.6**	*667.4*	*649.8*
Net energy for load (f)	**168.0**	**162.2**	**200.3**	**164.1**	*177.8*	*164.8*	*189.7*	*157.1*	*163.9*	*158.2*	*185.8*	*154.7*	**694.6**	*689.4*	*662.6*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.7**	*35.3*	*43.2*	*49.4*	*36.7*	*33.5*	*42.9*	*50.9*	*38.8*	**174.3**	*164.6*	*166.1*
Coal	**3.7**	**4.8**	**5.3**	**4.9**	*3.0*	*2.8*	*3.6*	*4.0*	*2.7*	*2.4*	*1.7*	*2.4*	**18.7**	*13.4*	*9.3*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	*7.2*	*6.7*	*7.4*	*7.8*	*8.0*	*7.0*	*6.9*	*6.8*	**29.1**	*29.1*	*28.7*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.3**	*1.7*	*2.3*	*2.2*	*1.8*	*2.2*	*2.9*	*2.7*	*2.1*	**6.1**	*8.0*	*9.9*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.6**	*0.8*	*0.8*	*0.7*	*0.6*	*0.8*	*0.8*	*0.7*	*0.6*	**3.0**	*2.9*	*2.9*
Total generation	**49.3**	**60.2**	**68.1**	**53.8**	*48.1*	*55.9*	*63.3*	*50.9*	*47.2*	*56.0*	*63.0*	*50.8*	**231.4**	*218.2*	*217.0*
Net energy for load (f)	**50.3**	**61.8**	**70.8**	**54.1**	*47.8*	*57.2*	*66.0*	*51.2*	*47.6*	*57.7*	*66.4*	*51.4*	**237.0**	*222.1*	*223.1*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**41.0**	**58.1**	**44.9**	*42.2*	*44.1*	*56.8*	*48.6*	*38.1*	*46.3*	*55.6*	*46.6*	**179.8**	*191.8*	*186.6*
Coal	**77.5**	**61.2**	**76.2**	**57.0**	*62.0*	*55.3*	*70.8*	*50.6*	*65.7*	*50.0*	*71.2*	*54.0*	**271.9**	*238.7*	*241.0*
Nuclear	**25.3**	**23.2**	**27.1**	**26.6**	*26.9*	*22.2*	*26.8*	*24.9*	*25.2*	*24.2*	*26.0*	*21.9*	**102.1**	*100.7*	*97.2*
Conventional hydropower	**2.2**	**2.3**	**1.6**	**2.0**	*2.3*	*2.3*	*1.6*	*2.0*	*2.1*	*2.1*	*1.6*	*2.0*	**8.1**	*8.2*	*7.8*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**19.1**	*19.8*	*20.5*	*16.5*	*23.2*	*22.7*	*23.2*	*18.3*	*24.7*	**66.7**	*80.0*	*88.9*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**1.6**	*2.2*	*1.8*	*1.7*	*1.6*	*1.6*	*1.6*	*1.6*	*2.0*	**6.7**	*7.2*	*6.8*
Total generation	**159.5**	**146.4**	**178.2**	**151.2**	*155.3*	*146.1*	*174.2*	*150.9*	*155.5*	*147.4*	*174.3*	*151.1*	**635.3**	*626.5*	*628.3*
Net energy for load (f)	**159.6**	**151.6**	**180.6**	**154.1**	*156.6*	*150.7*	*174.9*	*154.4*	*156.4*	*152.2*	*175.9*	*155.1*	**645.8**	*636.6*	*639.6*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**14.2**	*15.3*	*15.5*	*23.9*	*14.3*	*13.5*	*17.3*	*23.3*	*13.4*	**70.1**	*69.1*	*67.4*
Coal	**27.3**	**19.1**	**27.3**	**22.0**	*25.7*	*15.1*	*27.7*	*19.6*	*26.5*	*14.6*	*28.2*	*20.5*	**95.7**	*88.2*	*89.9*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	*4.1*	*4.2*	*4.4*	*3.6*	*2.2*	*1.0*	*2.6*	*2.7*	**16.2**	*16.3*	*8.5*
Conventional hydropower	**4.0**	**4.1**	**2.6**	**2.9**	*3.4*	*3.8*	*2.4*	*2.9*	*3.1*	*3.5*	*2.4*	*2.9*	**13.6**	*12.6*	*11.8*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**21.1**	*19.2*	*20.9*	*17.4*	*23.3*	*22.6*	*23.7*	*20.0*	*24.9*	**75.1**	*80.9*	*91.3*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.2**	*0.3*	*0.3*	*0.1*	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	**0.9**	*0.7*	*0.7*
Total generation	**68.0**	**62.1**	**77.7**	**63.7**	*68.1*	*59.8*	*75.9*	*63.9*	*68.1*	*60.5*	*76.5*	*64.5*	**271.5**	*267.8*	*269.7*
Net energy for load (f)	**56.2**	**61.3**	**69.7**	**58.6**	*59.5*	*58.2*	*71.4*	*58.2*	*59.6*	*59.2*	*72.3*	*59.0*	**245.8**	*247.3*	*250.0*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**37.8**	*33.0*	*42.4*	*55.1*	*33.5*	*27.4*	*37.9*	*49.2*	*29.7*	**177.9**	*164.0*	*144.1*
Coal	**18.1**	**18.3**	**21.6**	**17.4**	*12.6*	*14.4*	*19.3*	*15.1*	*13.9*	*11.2*	*16.6*	*16.0*	**75.4**	*61.4*	*57.7*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	*11.2*	*8.8*	*11.0*	*10.4*	*11.1*	*9.8*	*11.0*	*9.2*	**41.3**	*41.5*	*41.1*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.3**	*0.4*	*0.2*	*0.1*	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	**0.9**	*0.9*	*0.8*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.4**	**21.2**	*24.4*	*28.0*	*24.6*	*28.1*	*30.4*	*35.6*	*34.3*	*33.3*	**81.3**	*105.1*	*133.6*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.6**	*1.6*	*1.6*
Total generation	**83.2**	**93.2**	**114.8**	**87.2**	*82.1*	*94.2*	*110.5*	*87.7*	*83.5*	*95.1*	*111.6*	*88.7*	**378.4**	*374.5*	*379.0*
Net energy for load (f)	**83.2**	**93.2**	**114.8**	**87.2**	*82.1*	*94.2*	*110.5*	*87.7*	*83.5*	*95.1*	*111.6*	*88.7*	**378.4**	*374.5*	*379.0*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**21.2**	*17.8*	*13.4*	*25.6*	*18.3*	*15.0*	*17.1*	*26.9*	*16.4*	**87.4**	*75.1*	*75.4*
Coal	**29.7**	**18.0**	**29.4**	**24.6**	*20.3*	*19.7*	*31.6*	*24.9*	*21.7*	*15.1*	*28.4*	*25.4*	**101.7**	*96.6*	*90.6*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	*2.5*	*2.3*	*2.3*	*2.5*	*2.4*	*1.2*	*2.3*	*2.5*	**8.9**	*9.6*	*8.5*
Conventional hydropower	**30.5**	**36.5**	**24.4**	**28.6**	*39.2*	*39.2*	*28.7*	*32.7*	*43.2*	*39.1*	*29.0*	*32.5*	**120.1**	*139.8*	*143.9*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**12.7**	*13.3*	*14.8*	*12.7*	*14.5*	*17.4*	*18.5*	*15.9*	*17.5*	**49.4**	*55.3*	*69.4*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.8*
Total generation	**94.3**	**86.2**	**97.9**	**89.8**	*93.4*	*89.6*	*101.2*	*93.1*	*99.9*	*91.4*	*102.9*	*94.4*	**368.3**	*377.3*	*388.5*
Net energy for load (f)	**89.6**	**81.5**	**89.6**	**84.8**	*87.2*	*80.3*	*90.5*	*86.5*	*88.2*	*80.8*	*91.0*	*86.9*	**345.5**	*344.5*	*346.9*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.0**	*9.2*	*13.6*	*18.9*	*12.8*	*8.7*	*14.1*	*20.0*	*11.8*	**56.2**	*54.5*	*54.7*
Coal	**9.7**	**7.9**	**11.8**	**10.1**	*7.8*	*4.9*	*6.8*	*8.8*	*6.6*	*3.3*	*5.4*	*9.0*	**39.4**	*28.2*	*24.3*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	*8.7*	*7.4*	*8.6*	*7.7*	*8.6*	*7.5*	*8.6*	*7.7*	**31.9**	*32.4*	*32.4*
Conventional hydropower	**3.0**	**4.3**	**3.9**	**2.2**	*2.8*	*4.2*	*3.9*	*2.2*	*2.5*	*3.8*	*3.9*	*2.2*	**13.5**	*13.1*	*12.4*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	*2.4*	*3.0*	*2.7*	*2.7*	*3.5*	*3.8*	*3.5*	*3.6*	**9.9**	*10.7*	*14.4*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	*-0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.0**	*0.0*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**35.8**	*30.8*	*33.0*	*40.9*	*34.2*	*29.9*	*32.5*	*41.5*	*34.2*	**151.0**	*138.9*	*138.1*
Net energy for load (f)	**22.5**	**26.2**	**35.5**	**23.2**	*22.7*	*27.3*	*34.8*	*23.7*	*22.9*	*27.5*	*35.0*	*23.9*	**107.4**	*108.4*	*109.3*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**23.8**	*19.3*	*8.7*	*24.7*	*22.1*	*15.8*	*8.4*	*22.0*	*20.4*	**75.1**	*74.9*	*66.6*
Coal	**2.2**	**1.2**	**1.9**	**2.6**	*2.0*	*2.9*	*1.9*	*2.6*	*2.2*	*3.0*	*1.9*	*2.6*	**7.8**	*9.5*	*9.6*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	*4.8*	*4.9*	*4.3*	*4.4*	*4.5*	*4.2*	*4.9*	*4.9*	**16.2**	*18.5*	*18.5*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**3.8**	*6.4*	*12.2*	*9.6*	*3.9*	*5.7*	*11.5*	*9.5*	*3.8*	**32.9**	*32.0*	*30.5*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**12.4**	*13.2*	*19.5*	*19.4*	*13.0*	*13.2*	*20.6*	*20.3*	*13.6*	**62.9**	*65.1*	*67.7*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	*-0.1*	*0.2*	*0.2*	*0.0*	*-0.1*	*0.2*	*0.2*	*0.0*	**0.3**	*0.4*	*0.3*
Total generation	**44.4**	**47.2**	**58.3**	**45.3**	*45.6*	*48.5*	*60.2*	*46.0*	*41.3*	*47.9*	*58.7*	*45.3*	**195.2**	*200.4*	*193.2*
Net energy for load (f)	**59.2**	**64.5**	**77.4**	**63.1**	*59.9*	*63.6*	*77.1*	*63.1*	*60.0*	*63.5*	*77.1*	*63.1*	**264.2**	*263.7*	*263.6*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.038**	**0.038**	*0.037*	*0.037*	*0.038*	*0.035*	*0.031*	*0.036*	*0.038*	*0.036*	**0.148**	*0.147*	*0.141*
Hydroelectric Power (a)	**0.650**	**0.745**	**0.552**	**0.549**	*0.716*	*0.757*	*0.586*	*0.590*	*0.723*	*0.730*	*0.587*	*0.587*	**2.496**	*2.649*	*2.627*
Solar (b)	**0.122**	**0.200**	**0.207**	**0.128**	*0.145*	*0.246*	*0.262*	*0.167*	*0.193*	*0.343*	*0.371*	*0.225*	**0.658**	*0.821*	*1.131*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.059**	*0.055*	*0.058*	*0.060*	*0.058*	*0.054*	*0.059*	*0.060*	*0.058*	**0.235**	*0.231*	*0.231*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.025**	*0.040*	*0.051*	*0.056*	*0.027*	*0.040*	*0.050*	*0.056*	*0.028*	**0.189**	*0.174*	*0.175*
Wind	**0.683**	**0.724**	**0.609**	**0.756**	*0.783*	*0.841*	*0.670*	*0.888*	*0.933*	*0.953*	*0.770*	*0.973*	**2.772**	*3.182*	*3.629*
Subtotal	**1.604**	**1.814**	**1.524**	**1.555**	*1.775*	*1.990*	*1.673*	*1.766*	*1.974*	*2.172*	*1.882*	*1.907*	**6.497**	*7.203*	*7.935*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.209**	*0.198*	*0.204*	*0.201*	*0.204*	*0.196*	*0.201*	*0.202*	*0.204*	**0.805**	*0.807*	*0.804*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	*0.003*	*0.003*	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.011**	*0.011*	*0.011*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	*0.006*	*0.010*	*0.010*	*0.007*	*0.008*	*0.011*	*0.011*	*0.008*	**0.029**	*0.033*	*0.038*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.042**	*0.040*	*0.039*	*0.038*	*0.041*	*0.040*	*0.039*	*0.039*	*0.041*	**0.159**	*0.158*	*0.158*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.360**	*0.344*	*0.339*	*0.350*	*0.351*	*0.339*	*0.336*	*0.347*	*0.349*	**1.465**	*1.385*	*1.371*
Subtotal	**0.617**	**0.613**	**0.614**	**0.620**	*0.591*	*0.590*	*0.597*	*0.605*	*0.583*	*0.584*	*0.596*	*0.603*	**2.463**	*2.383*	*2.366*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.023**	*0.023*	*0.023*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.023**	*0.027*	*0.039*	*0.039*	*0.028*	*0.032*	*0.046*	*0.047*	*0.034*	**0.109**	*0.132*	*0.159*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.011**	*0.010*	*0.009*	*0.009*	*0.011*	*0.010*	*0.009*	*0.009*	*0.011*	**0.039**	*0.039*	*0.039*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	*0.021*	*0.020*	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.083*	*0.083*
Subtotal	**0.065**	**0.074**	**0.075**	**0.068**	*0.070*	*0.080*	*0.083*	*0.072*	*0.075*	*0.088*	*0.091*	*0.078*	**0.282**	*0.305*	*0.332*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.054**	*0.058*	*0.090*	*0.092*	*0.064*	*0.070*	*0.108*	*0.110*	*0.077*	**0.258**	*0.304*	*0.365*
Wood Biomass	**0.131**	**0.132**	**0.134**	**0.130**	*0.131*	*0.132*	*0.134*	*0.130*	*0.131*	*0.132*	*0.134*	*0.130*	**0.527**	*0.527*	*0.527*
Subtotal	**0.190**	**0.218**	**0.221**	**0.194**	*0.198*	*0.232*	*0.235*	*0.205*	*0.210*	*0.250*	*0.254*	*0.218*	**0.824**	*0.871*	*0.932*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.079**	*0.077*	*0.086*	*0.076*	*0.082*	*0.094*	*0.103*	*0.090*	*0.098*	**0.278**	*0.321*	*0.385*
Ethanol (f)	**0.275**	**0.293**	**0.291**	**0.299**	*0.274*	*0.294*	*0.296*	*0.292*	*0.272*	*0.293*	*0.295*	*0.290*	**1.158**	*1.156*	*1.151*
Subtotal	**0.333**	**0.365**	**0.361**	**0.379**	*0.351*	*0.380*	*0.372*	*0.374*	*0.366*	*0.397*	*0.385*	*0.388*	**1.438**	*1.477*	*1.536*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.079**	*0.077*	*0.086*	*0.076*	*0.082*	*0.094*	*0.103*	*0.090*	*0.098*	**0.278**	*0.321*	*0.385*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.209**	*0.198*	*0.204*	*0.201*	*0.204*	*0.196*	*0.201*	*0.202*	*0.204*	**0.805**	*0.807*	*0.804*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.311**	*0.284*	*0.305*	*0.307*	*0.303*	*0.283*	*0.304*	*0.306*	*0.301*	**1.202**	*1.200*	*1.194*
Geothermal	**0.054**	**0.052**	**0.054**	**0.056**	*0.054*	*0.054*	*0.055*	*0.052*	*0.048*	*0.053*	*0.055*	*0.052*	**0.215**	*0.214*	*0.209*
Hydroelectric Power (a)	**0.653**	**0.748**	**0.555**	**0.553**	*0.719*	*0.760*	*0.589*	*0.594*	*0.726*	*0.734*	*0.590*	*0.590*	**2.509**	*2.662*	*2.640*
Solar (b)(e)	**0.197**	**0.315**	**0.324**	**0.207**	*0.236*	*0.384*	*0.403*	*0.267*	*0.302*	*0.508*	*0.539*	*0.344*	**1.043**	*1.291*	*1.693*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	*0.105*	*0.106*	*0.108*	*0.109*	*0.104*	*0.107*	*0.108*	*0.109*	**0.433**	*0.428*	*0.428*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.537**	*0.536*	*0.542*	*0.561*	*0.529*	*0.531*	*0.538*	*0.558*	*0.529*	**2.264**	*2.168*	*2.156*
Wind	**0.683**	**0.724**	**0.609**	**0.756**	*0.783*	*0.841*	*0.670*	*0.888*	*0.933*	*0.953*	*0.770*	*0.973*	**2.772**	*3.182*	*3.629*
Total Consumption	**2.809**	**3.084**	**2.795**	**2.773**	*2.985*	*3.273*	*2.961*	*3.021*	*3.209*	*3.490*	*3.208*	*3.193*	**11.462**	*12.239*	*13.100*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,968**	**6,934**	**6,831**	**6,946**	*6,945*	*6,911*	*6,913*	*6,957*	*6,957*	*6,976*	*6,976*	*6,976*	**6,946**	*6,957*	*6,976*
Waste	**4,133**	**4,114**	**4,100**	**4,099**	*4,098*	*4,064*	*4,066*	*4,068*	*4,068*	*4,087*	*4,087*	*4,087*	**4,099**	*4,068*	*4,087*
Wood	**2,835**	**2,820**	**2,731**	**2,847**	*2,847*	*2,847*	*2,847*	*2,889*	*2,889*	*2,889*	*2,889*	*2,889*	**2,847**	*2,889*	*2,889*
Conventional Hydroelectric	**79,471**	**79,587**	**79,478**	**79,395**	*79,551*	*79,564*	*79,682*	*79,778*	*79,787*	*79,793*	*79,793*	*79,821*	**79,395**	*79,778*	*79,821*
Geothermal	**2,398**	**2,406**	**2,406**	**2,406**	*2,406*	*2,406*	*2,406*	*2,431*	*2,431*	*2,431*	*2,431*	*2,431*	**2,406**	*2,431*	*2,431*
Large-Scale Solar (b)	**32,653**	**33,133**	**33,771**	**37,417**	*39,175*	*41,786*	*43,086*	*50,892*	*52,209*	*59,186*	*59,399*	*64,380*	**37,417**	*50,892*	*64,380*
Wind	**96,538**	**98,089**	**99,443**	**106,104**	*108,397*	*109,601*	*111,962*	*124,254*	*125,019*	*126,056*	*126,436*	*129,205*	**106,104**	*124,254*	*129,205*
Other Sectors (c)															
Biomass	**6,589**	**6,538**	**6,538**	**6,514**	*6,568*	*6,568*	*6,568*	*6,560*	*6,572*	*6,571*	*6,571*	*6,571*	**6,514**	*6,560*	*6,571*
Waste	**845**	**846**	**846**	**846**	*862*	*862*	*862*	*862*	*874*	*873*	*873*	*873*	**846**	*862*	*873*
Wood	**5,744**	**5,692**	**5,692**	**5,668**	*5,706*	*5,706*	*5,706*	*5,698*	*5,698*	*5,698*	*5,698*	*5,698*	**5,668**	*5,698*	*5,698*
Conventional Hydroelectric	**290**	**290**	**290**	**290**	*290*	*290*	*290*	*290*	*290*	*291*	*289*	*289*	**290**	*290*	*289*
Large-Scale Solar (b)	**387**	**392**	**402**	**407**	*407*	*409*	*411*	*412*	*412*	*412*	*412*	*412*	**407**	*412*	*412*
Small-Scale Solar (d)	**20,327**	**21,181**	**22,148**	**23,202**	*24,355*	*25,583*	*26,890*	*28,275*	*29,743*	*31,300*	*32,951*	*34,701*	**23,202**	*28,275*	*34,701*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,235**	*14,984*	*15,789*	*16,654*	*17,578*	*18,563*	*19,615*	*20,740*	*21,939*	**14,235**	*17,578*	*21,939*
Commercial Sector	**6,446**	**6,652**	**6,885**	**7,176**	*7,517*	*7,874*	*8,249*	*8,643*	*9,056*	*9,488*	*9,942*	*10,417*	**7,176**	*8,643*	*10,417*
Industrial Sector	**1,611**	**1,689**	**1,737**	**1,791**	*1,855*	*1,920*	*1,986*	*2,055*	*2,124*	*2,196*	*2,270*	*2,345*	**1,791**	*2,055*	*2,345*
Wind	**118**	**118**	**118**	**127**	*127*	*353*	*353*	*353*	*353*	*353*	*353*	*353*	**127**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**5.5**	*6.1*	*7.0*	*7.5*	*5.5*	*6.1*	*7.0*	*7.5*	*5.6*	**27.3**	*26.1*	*26.2*
Waste	**3.9**	**3.9**	**4.0**	**3.8**	*3.6*	*3.9*	*4.0*	*3.8*	*3.6*	*3.9*	*4.0*	*3.8*	**15.6**	*15.4*	*15.4*
Wood	**3.3**	**3.1**	**3.6**	**1.6**	*2.4*	*3.1*	*3.5*	*1.7*	*2.5*	*3.1*	*3.5*	*1.8*	**11.7**	*10.8*	*10.8*
Conventional Hydroelectric	**71.2**	**81.7**	**60.6**	**59.8**	*77.7*	*82.2*	*63.6*	*64.1*	*78.5*	*79.3*	*63.7*	*63.7*	**273.3**	*287.5*	*285.2*
Geothermal	**4.0**	**3.8**	**4.1**	**4.1**	*4.0*	*4.0*	*4.1*	*3.8*	*3.4*	*4.0*	*4.2*	*3.9*	**16.1**	*16.0*	*15.4*
Large-Scale Solar (b)	**13.2**	**21.8**	**22.5**	**13.9**	*15.8*	*26.7*	*28.5*	*18.2*	*20.9*	*37.2*	*40.2*	*24.4*	**71.4**	*89.1*	*122.8*
Wind	**74.2**	**78.5**	**66.1**	**82.0**	*85.0*	*91.3*	*72.7*	*96.4*	*101.2*	*103.5*	*83.5*	*105.7*	**300.8**	*345.4*	*393.9*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.6**	*7.5*	*7.3*	*7.6*	*7.6*	*7.4*	*7.3*	*7.6*	*7.6*	**29.9**	*29.9*	*29.9*
Waste	**0.8**	**0.7**	**0.7**	**0.8**	*0.8*	*0.7*	*0.7*	*0.8*	*0.8*	*0.7*	*0.7*	*0.8*	**2.9**	*2.9*	*2.9*
Wood	**6.7**	**6.6**	**7.0**	**6.8**	*6.7*	*6.6*	*7.0*	*6.8*	*6.7*	*6.6*	*7.0*	*6.8*	**27.0**	*27.0*	*27.0*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.3*	*0.4*	*0.3*	*0.4*	**1.4**	*1.4*	*1.4*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.2**	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**0.7**	*1.1*	*1.3*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.3**	*8.2*	*12.5*	*12.8*	*9.0*	*10.2*	*15.4*	*15.7*	*11.1*	**35.2**	*42.6*	*52.3*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	*4.9*	*7.6*	*7.8*	*5.5*	*6.1*	*9.5*	*9.8*	*6.9*	**21.0**	*25.8*	*32.2*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.3**	*2.7*	*3.9*	*4.0*	*2.8*	*3.2*	*4.7*	*4.8*	*3.3*	**11.2**	*13.3*	*16.1*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	*0.7*	*1.0*	*1.0*	*0.7*	*0.8*	*1.2*	*1.2*	*0.9*	**3.0**	*3.5*	*4.0*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.4*	*0.4*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,122**	**19,200**	*19,299*	*19,404*	*19,500*	*19,591*	*19,676*	*19,745*	*19,823*	*19,918*	**19,068**	*19,448*	*19,790*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,346**	**13,421**	*13,512*	*13,603*	*13,693*	*13,769*	*13,840*	*13,903*	*13,974*	*14,046*	**13,280**	*13,644*	*13,941*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,329**	**3,343**	*3,360*	*3,385*	*3,402*	*3,424*	*3,445*	*3,460*	*3,464*	*3,482*	**3,340**	*3,393*	*3,463*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**77**	**58**	*51*	*8*	*12*	*20*	*23*	*23*	*35*	*40*	**81**	*23*	*31*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,315**	*3,330*	*3,363*	*3,370*	*3,375*	*3,381*	*3,386*	*3,389*	*3,391*	**3,295**	*3,359*	*3,387*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,502**	*2,508*	*2,548*	*2,579*	*2,605*	*2,622*	*2,639*	*2,648*	*2,669*	**2,524**	*2,560*	*2,644*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,511**	**3,489**	*3,512*	*3,557*	*3,616*	*3,666*	*3,704*	*3,737*	*3,760*	*3,783*	**3,499**	*3,588*	*3,746*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,042**	**15,074**	*15,149*	*15,225*	*15,286*	*15,358*	*15,447*	*15,541*	*15,627*	*15,715*	**14,982**	*15,255*	*15,582*
Non-Farm Employment															
(millions)	**150.7**	**151.1**	**151.6**	**152.2**	*152.6*	*153.2*	*153.3*	*153.5*	*153.8*	*154.0*	*154.2*	*154.4*	**151.4**	*153.1*	*154.1*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	*3.5*	*3.4*	*3.5*	*3.5*	*3.5*	*3.6*	*3.7*	*3.8*	**3.7**	*3.5*	*3.6*
Housing Starts															
(millions - SAAR)	**1.21**	**1.26**	**1.28**	**1.33**	*1.30*	*1.29*	*1.29*	*1.28*	*1.26*	*1.25*	*1.24*	*1.24*	**1.27**	*1.29*	*1.25*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.2**	*109.7*	*109.5*	*109.9*	*110.1*	*110.4*	*110.5*	*110.8*	*111.4*	**109.4**	*109.8*	*110.8*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.7**	*106.1*	*106.2*	*106.6*	*106.8*	*106.9*	*106.8*	*107.1*	*107.7*	**105.9**	*106.4*	*107.1*
Food	**115.1**	**115.3**	**114.6**	**115.5**	*114.9*	*115.2*	*115.6*	*116.0*	*116.5*	*116.9*	*117.5*	*118.1*	**115.1**	*115.5*	*117.2*
Paper	**94.2**	**91.8**	**92.5**	**92.7**	*91.0*	*90.1*	*89.6*	*89.0*	*88.5*	*88.1*	*88.0*	*88.2*	**92.8**	*89.9*	*88.2*
Petroleum and Coal Products	**106.3**	**104.9**	**106.8**	**105.8**	*106.6*	*106.8*	*106.9*	*106.7*	*106.4*	*106.1*	*105.9*	*105.5*	**105.9**	*106.7*	*106.0*
Chemicals	**101.4**	**99.9**	**100.7**	**99.8**	*100.7*	*100.8*	*101.4*	*101.9*	*102.4*	*102.9*	*103.5*	*104.4*	**100.4**	*101.2*	*103.3*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.8**	**120.2**	*119.3*	*118.8*	*118.5*	*118.3*	*118.2*	*118.1*	*118.3*	*118.7*	**119.7**	*118.7*	*118.3*
Primary Metals	**97.9**	**96.7**	**96.6**	**96.2**	*94.6*	*93.0*	*92.1*	*90.7*	*89.5*	*88.3*	*88.4*	*89.1*	**96.9**	*92.6*	*88.8*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.1**	**105.8**	*105.6*	*105.3*	*105.5*	*105.5*	*105.6*	*105.6*	*106.1*	*106.9*	**106.1**	*105.5*	*106.1*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.4**	*97.9*	*97.5*	*97.4*	*97.3*	*97.1*	*96.9*	*97.1*	*97.5*	**98.3**	*97.5*	*97.2*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.7**	**105.2**	*104.9*	*104.5*	*104.5*	*104.2*	*104.0*	*103.8*	*104.3*	*105.0*	**105.7**	*104.5*	*104.3*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.1**	**107.5**	*107.3*	*107.0*	*107.2*	*107.1*	*107.0*	*107.0*	*107.6*	*108.5*	**108.0**	*107.1*	*107.5*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	*2.59*	*2.60*	*2.61*	*2.62*	*2.64*	*2.66*	*2.67*	*2.69*	**2.56**	*2.61*	*2.66*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	*2.01*	*2.01*	*2.02*	*2.03*	*2.04*	*2.04*	*2.05*	*2.06*	**2.00**	*2.02*	*2.05*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.96**	**1.94**	*2.00*	*2.04*	*2.08*	*2.03*	*1.94*	*2.03*	*2.04*	*1.99*	**1.95**	*2.04*	*2.00*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.1**	*113.8*	*114.3*	*115.0*	*115.7*	*116.5*	*117.2*	*117.9*	*118.5*	**112.4**	*114.7*	*117.5*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,240**	**9,288**	**9,241**	**8,932**	*8,357*	*9,366*	*9,317*	*9,018*	*8,452*	*9,461*	*9,402*	*9,086*	**8,928**	*9,015*	*9,103*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**707**	**657**	*638*	*673*	*684*	*661*	*642*	*676*	*685*	*663*	**673**	*664*	*666*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**410**	*397*	*433*	*440*	*419*	*400*	*435*	*441*	*421*	**411**	*422*	*424*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**264.4**	*263.1*	*289.0*	*284.2*	*287.3*	*285.8*	*312.6*	*306.3*	*308.8*	**265.6**	*280.9*	*303.4*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	*0.261*	*0.263*	*0.256*	*0.257*	*0.255*	*0.252*	*0.245*	*0.253*	**0.268**	*0.259*	*0.251*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	*576*	*579*	*595*	*594*	*570*	*575*	*592*	*591*	**2,354**	*2,344*	*2,329*
Natural Gas	**507**	**350**	**384**	**464**	*521*	*369*	*386*	*451*	*498*	*370*	*383*	*451*	**1,704**	*1,727*	*1,702*
Coal	**290**	**239**	**312**	**259**	*262*	*213*	*278*	*229*	*264*	*186*	*265*	*234*	**1,100**	*982*	*949*
Total Energy (c)	**1,374**	**1,178**	**1,296**	**1,321**	*1,362*	*1,164*	*1,262*	*1,277*	*1,335*	*1,134*	*1,243*	*1,278*	**5,169**	*5,064*	*4,990*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,005**	**1,010**	*1,015*	*1,020*	*1,024*	*1,028*	*1,032*	*1,035*	*1,039*	*1,043*	**1,003**	*1,022*	*1,037*
Middle Atlantic	**2,772**	**2,782**	**2,793**	**2,806**	*2,819*	*2,830*	*2,840*	*2,851*	*2,861*	*2,866*	*2,874*	*2,885*	**2,788**	*2,835*	*2,871*
E. N. Central	**2,528**	**2,535**	**2,542**	**2,547**	*2,563*	*2,574*	*2,581*	*2,590*	*2,598*	*2,603*	*2,609*	*2,619*	**2,538**	*2,577*	*2,607*
W. N. Central	**1,181**	**1,187**	**1,191**	**1,195**	*1,199*	*1,203*	*1,209*	*1,214*	*1,219*	*1,223*	*1,228*	*1,234*	**1,189**	*1,206*	*1,226*
S. Atlantic	**3,353**	**3,367**	**3,387**	**3,403**	*3,418*	*3,441*	*3,463*	*3,485*	*3,505*	*3,519*	*3,535*	*3,555*	**3,378**	*3,452*	*3,529*
E. S. Central	**832**	**835**	**839**	**841**	*844*	*848*	*852*	*856*	*860*	*862*	*865*	*869*	**837**	*850*	*864*
W. S. Central	**2,347**	**2,370**	**2,386**	**2,400**	*2,412*	*2,423*	*2,436*	*2,447*	*2,455*	*2,469*	*2,482*	*2,496*	**2,376**	*2,429*	*2,476*
Mountain	**1,252**	**1,261**	**1,272**	**1,278**	*1,285*	*1,292*	*1,301*	*1,309*	*1,315*	*1,322*	*1,328*	*1,334*	**1,266**	*1,296*	*1,325*
Pacific	**3,700**	**3,719**	**3,740**	**3,753**	*3,779*	*3,807*	*3,829*	*3,848*	*3,866*	*3,881*	*3,899*	*3,919*	**3,728**	*3,816*	*3,891*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**98.9**	**97.7**	**97.0**	**97.0**	*97.2*	*97.0*	*97.3*	*97.3*	*97.3*	*97.1*	*97.3*	*97.9*	**97.6**	*97.2*	*97.4*
Middle Atlantic	**98.8**	**97.5**	**97.0**	**96.8**	*97.1*	*96.9*	*97.1*	*97.2*	*97.0*	*96.9*	*97.1*	*97.5*	**97.5**	*97.1*	*97.1*
E. N. Central	**108.7**	**107.4**	**106.8**	**106.0**	*106.8*	*106.9*	*107.1*	*107.3*	*107.3*	*107.1*	*107.4*	*107.9*	**107.2**	*107.0*	*107.4*
W. N. Central	**106.1**	**105.1**	**105.2**	**105.0**	*105.5*	*105.5*	*106.0*	*106.3*	*106.4*	*106.4*	*106.8*	*107.5*	**105.4**	*105.8*	*106.8*
S. Atlantic	**110.6**	**109.9**	**110.3**	**110.1**	*110.5*	*110.5*	*111.0*	*111.1*	*111.1*	*111.0*	*111.3*	*111.9*	**110.2**	*110.8*	*111.3*
E. S. Central	**111.4**	**110.4**	**110.6**	**110.2**	*110.7*	*110.8*	*111.3*	*111.5*	*111.5*	*111.4*	*111.8*	*112.4*	**110.6**	*111.1*	*111.8*
W. S. Central	**101.5**	**100.6**	**101.7**	**101.5**	*102.0*	*101.9*	*102.3*	*102.4*	*102.5*	*102.4*	*102.8*	*103.5*	**101.4**	*102.2*	*102.8*
Mountain	**116.1**	**116.3**	**117.6**	**117.6**	*118.2*	*118.5*	*119.3*	*119.7*	*119.9*	*119.9*	*120.3*	*121.1*	**116.9**	*118.9*	*120.3*
Pacific	**105.9**	**105.2**	**105.9**	**105.7**	*106.1*	*106.1*	*106.7*	*107.0*	*107.1*	*107.1*	*107.5*	*108.3*	**105.7**	*106.4*	*107.5*
Real Personal Income (Billion $2009)															
New England	**903**	**905**	**909**	**912**	*917*	*921*	*924*	*928*	*932*	*937*	*941*	*945*	**907**	*922*	*938*
Middle Atlantic	**2,301**	**2,313**	**2,320**	**2,326**	*2,338*	*2,347*	*2,354*	*2,362*	*2,372*	*2,382*	*2,391*	*2,399*	**2,315**	*2,350*	*2,386*
E. N. Central	**2,428**	**2,435**	**2,440**	**2,448**	*2,460*	*2,471*	*2,478*	*2,487*	*2,497*	*2,508*	*2,519*	*2,530*	**2,438**	*2,474*	*2,513*
W. N. Central	**1,147**	**1,148**	**1,161**	**1,162**	*1,164*	*1,167*	*1,170*	*1,175*	*1,181*	*1,189*	*1,197*	*1,206*	**1,155**	*1,169*	*1,194*
S. Atlantic	**3,214**	**3,231**	**3,251**	**3,263**	*3,283*	*3,304*	*3,321*	*3,341*	*3,363*	*3,386*	*3,408*	*3,429*	**3,240**	*3,312*	*3,397*
E. S. Central	**887**	**890**	**895**	**897**	*901*	*905*	*909*	*912*	*917*	*921*	*925*	*930*	**892**	*907*	*923*
W. S. Central	**1,984**	**1,999**	**2,012**	**2,020**	*2,032*	*2,044*	*2,053*	*2,064*	*2,078*	*2,092*	*2,103*	*2,116*	**2,004**	*2,049*	*2,097*
Mountain	**1,168**	**1,175**	**1,184**	**1,187**	*1,194*	*1,203*	*1,209*	*1,217*	*1,225*	*1,234*	*1,242*	*1,250*	**1,178**	*1,206*	*1,238*
Pacific	**2,809**	**2,827**	**2,843**	**2,845**	*2,857*	*2,875*	*2,889*	*2,904*	*2,919*	*2,939*	*2,957*	*2,975*	**2,831**	*2,881*	*2,947*
Households (Thousands)															
New England	**5,943**	**5,951**	**5,967**	**5,975**	*5,983*	*5,989*	*5,997*	*6,005*	*6,012*	*6,020*	*6,027*	*6,035*	**5,975**	*6,005*	*6,035*
Middle Atlantic	**16,258**	**16,285**	**16,331**	**16,352**	*16,370*	*16,384*	*16,404*	*16,421*	*16,440*	*16,460*	*16,478*	*16,498*	**16,352**	*16,421*	*16,498*
E. N. Central	**19,092**	**19,122**	**19,174**	**19,198**	*19,218*	*19,240*	*19,270*	*19,298*	*19,324*	*19,353*	*19,379*	*19,404*	**19,198**	*19,298*	*19,404*
W. N. Central	**8,692**	**8,714**	**8,746**	**8,763**	*8,780*	*8,794*	*8,812*	*8,829*	*8,845*	*8,863*	*8,880*	*8,897*	**8,763**	*8,829*	*8,897*
S. Atlantic	**25,709**	**25,788**	**25,902**	**25,981**	*26,060*	*26,134*	*26,219*	*26,299*	*26,379*	*26,466*	*26,546*	*26,629*	**25,981**	*26,299*	*26,629*
E. S. Central	**7,651**	**7,664**	**7,688**	**7,702**	*7,715*	*7,727*	*7,743*	*7,758*	*7,773*	*7,789*	*7,805*	*7,821*	**7,702**	*7,758*	*7,821*
W. S. Central	**14,812**	**14,858**	**14,924**	**14,970**	*15,017*	*15,061*	*15,112*	*15,160*	*15,210*	*15,262*	*15,314*	*15,366*	**14,970**	*15,160*	*15,366*
Mountain	**9,403**	**9,445**	**9,499**	**9,538**	*9,575*	*9,610*	*9,649*	*9,687*	*9,723*	*9,760*	*9,795*	*9,831*	**9,538**	*9,687*	*9,831*
Pacific	**18,939**	**18,984**	**19,055**	**19,100**	*19,145*	*19,187*	*19,238*	*19,287*	*19,336*	*19,384*	*19,431*	*19,479*	**19,100**	*19,287*	*19,479*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.6**	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	**7.5**	*7.6*	*7.6*
Middle Atlantic	**20.0**	**20.0**	**20.0**	**20.1**	*20.1*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	**20.1**	*20.2*	*20.2*
E. N. Central	**22.4**	**22.4**	**22.4**	**22.4**	*22.5*	*22.5*	*22.5*	*22.5*	*22.6*	*22.6*	*22.6*	*22.6*	**22.4**	*22.5*	*22.6*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.9**	*10.9*	*10.9*	*10.9*	*10.9*	*11.0*	*11.0*	*11.0*	*11.0*	**10.8**	*10.9*	*11.0*
S. Atlantic	**29.1**	**29.1**	**29.2**	**29.4**	*29.5*	*29.6*	*29.7*	*29.7*	*29.8*	*29.9*	*30.0*	*30.0*	**29.2**	*29.6*	*29.9*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.4**	*8.4*	*8.4*	*8.4*	*8.4*	*8.4*	*8.5*	*8.5*	*8.5*	**8.3**	*8.4*	*8.5*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	*18.0*	*18.1*	*18.1*	*18.1*	*18.2*	*18.2*	*18.3*	*18.3*	**17.8**	*18.1*	*18.2*
Mountain	**11.0**	**11.1**	**11.1**	**11.2**	*11.2*	*11.3*	*11.3*	*11.4*	*11.4*	*11.4*	*11.5*	*11.5*	**11.1**	*11.3*	*11.5*
Pacific	**23.7**	**23.9**	**24.0**	**24.1**	*24.1*	*24.2*	*24.3*	*24.3*	*24.3*	*24.4*	*24.4*	*24.5*	**23.9**	*24.2*	*24.4*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,219**	**893**	**135**	**2,253**	*3,214*	*874*	*127*	*2,163*	*3,115*	*874*	*127*	*2,163*	**6,499**	*6,378*	*6,279*
Middle Atlantic	**2,988**	**634**	**68**	**2,040**	*2,970*	*702*	*76*	*1,990*	*2,916*	*702*	*76*	*1,990*	**5,730**	*5,738*	*5,684*
E. N. Central	**3,328**	**762**	**65**	**2,266**	*3,195*	*740*	*122*	*2,237*	*3,156*	*740*	*122*	*2,237*	**6,421**	*6,294*	*6,255*
W. N. Central	**3,647**	**772**	**107**	**2,527**	*3,291*	*707*	*159*	*2,414*	*3,233*	*707*	*159*	*2,414*	**7,053**	*6,571*	*6,514*
South Atlantic	**1,334**	**128**	**2**	**907**	*1,416*	*190*	*12*	*966*	*1,416*	*190*	*12*	*965*	**2,371**	*2,584*	*2,582*
E. S. Central	**1,716**	**194**	**1**	**1,265**	*1,842*	*243*	*19*	*1,305*	*1,837*	*244*	*19*	*1,305*	**3,177**	*3,409*	*3,405*
W. S. Central	**1,210**	**90**	**0**	**828**	*1,152*	*75*	*4*	*799*	*1,148*	*75*	*4*	*798*	**2,128**	*2,031*	*2,026*
Mountain	**2,430**	**787**	**126**	**1,923**	*2,207*	*661*	*144*	*1,804*	*2,182*	*661*	*144*	*1,803*	**5,266**	*4,817*	*4,789*
Pacific	**1,689**	**577**	**96**	**1,125**	*1,501*	*542*	*85*	*1,183*	*1,496*	*542*	*85*	*1,184*	**3,487**	*3,311*	*3,306*
U.S. Average	**2,211**	**481**	**57**	**1,532**	*2,132*	*479*	*72*	*1,520*	*2,106*	*478*	*72*	*1,518*	**4,280**	*4,203*	*4,173*
Heating Degree Days, Prior 10-year Average															
New England	**3,165**	**820**	**111**	**2,122**	*3,152*	*822*	*105*	*2,125*	*3,180*	*845*	*108*	*2,113*	**6,218**	*6,203*	*6,247*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	*2,949*	*644*	*69*	*1,942*	*2,963*	*664*	*71*	*1,925*	**5,623**	*5,604*	*5,622*
E. N. Central	**3,196**	**697**	**112**	**2,198**	*3,198*	*698*	*102*	*2,196*	*3,198*	*720*	*104*	*2,182*	**6,203**	*6,194*	*6,205*
W. N. Central	**3,255**	**702**	**140**	**2,380**	*3,287*	*702*	*131*	*2,377*	*3,272*	*719*	*132*	*2,375*	**6,477**	*6,498*	*6,498*
South Atlantic	**1,480**	**176**	**11**	**963**	*1,459*	*169*	*10*	*950*	*1,423*	*174*	*10*	*922*	**2,631**	*2,587*	*2,530*
E. S. Central	**1,862**	**222**	**17**	**1,292**	*1,850*	*215*	*15*	*1,277*	*1,808*	*222*	*16*	*1,256*	**3,392**	*3,356*	*3,302*
W. S. Central	**1,183**	**85**	**4**	**807**	*1,199*	*83*	*3*	*791*	*1,158*	*83*	*3*	*790*	**2,079**	*2,076*	*2,034*
Mountain	**2,164**	**714**	**139**	**1,855**	*2,192*	*718*	*135*	*1,839*	*2,181*	*700*	*135*	*1,842*	**4,873**	*4,885*	*4,859*
Pacific	**1,444**	**582**	**83**	**1,175**	*1,456*	*580*	*85*	*1,156*	*1,459*	*554*	*82*	*1,151*	**3,283**	*3,278*	*3,246*
U.S. Average	**2,150**	**475**	**68**	**1,518**	*2,149*	*472*	*64*	*1,506*	*2,134*	*475*	*65*	*1,492*	**4,211**	*4,191*	*4,165*
Cooling Degree Days															
New England	**0**	**66**	**467**	**0**	*0*	*84*	*419*	*1*	*0*	*84*	*419*	*1*	**534**	*504*	*504*
Middle Atlantic	**0**	**145**	**630**	**8**	*0*	*154*	*549*	*4*	*0*	*154*	*549*	*4*	**782**	*707*	*707*
E. N. Central	**0**	**175**	**649**	**6**	*0*	*212*	*532*	*7*	*0*	*211*	*532*	*7*	**830**	*751*	*751*
W. N. Central	**0**	**222**	**728**	**2**	*3*	*262*	*659*	*10*	*3*	*261*	*659*	*10*	**952**	*934*	*933*
South Atlantic	**153**	**755**	**1,298**	**307**	*132*	*665*	*1,175*	*232*	*120*	*666*	*1,176*	*233*	**2,513**	*2,205*	*2,195*
E. S. Central	**28**	**549**	**1,215**	**82**	*27*	*518*	*1,052*	*66*	*27*	*518*	*1,052*	*66*	**1,873**	*1,664*	*1,663*
W. S. Central	**72**	**818**	**1,688**	**166**	*90*	*900*	*1,507*	*199*	*89*	*901*	*1,507*	*199*	**2,743**	*2,696*	*2,696*
Mountain	**10**	**342**	**985**	**60**	*18*	*440*	*939*	*79*	*18*	*440*	*941*	*79*	**1,397**	*1,476*	*1,478*
Pacific	**21**	**164**	**587**	**66**	*27*	*173*	*591*	*58*	*27*	*172*	*591*	*58*	**839**	*849*	*848*
U.S. Average	**45**	**398**	**951**	**104**	*45*	*407*	*859*	*93*	*43*	*408*	*860*	*93*	**1,498**	*1,405*	*1,405*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	*0*	*83*	*470*	*1*	*0*	*79*	*461*	*1*	**536**	*554*	*541*
Middle Atlantic	**0**	**165**	**588**	**6**	*0*	*170*	*609*	*6*	*0*	*163*	*596*	*6*	**760**	*785*	*765*
E. N. Central	**3**	**242**	**548**	**7**	*3*	*240*	*579*	*8*	*3*	*233*	*564*	*7*	**800**	*829*	*808*
W. N. Central	**7**	**298**	**669**	**11**	*7*	*296*	*696*	*11*	*7*	*291*	*686*	*11*	**985**	*1,011*	*994*
South Atlantic	**120**	**684**	**1,180**	**239**	*127*	*696*	*1,202*	*247*	*137*	*684*	*1,190*	*254*	**2,224**	*2,272*	*2,265*
E. S. Central	**36**	**555**	**1,049**	**67**	*36*	*557*	*1,082*	*72*	*38*	*541*	*1,064*	*73*	**1,707**	*1,746*	*1,715*
W. S. Central	**103**	**897**	**1,552**	**205**	*100*	*892*	*1,575*	*207*	*106*	*886*	*1,567*	*209*	**2,758**	*2,774*	*2,768*
Mountain	**25**	**438**	**932**	**81**	*24*	*433*	*939*	*81*	*25*	*442*	*939*	*82*	**1,476**	*1,477*	*1,489*
Pacific	**31**	**185**	**631**	**76**	*31*	*185*	*624*	*78*	*31*	*190*	*635*	*79*	**923**	*917*	*935*
U.S. Average	**46**	**417**	**873**	**97**	*47*	*420*	*892*	*100*	*50*	*416*	*886*	*102*	**1,433**	*1,459*	*1,453*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

February 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- EIA expects global petroleum and liquid fuels demand will average 100.3 million barrels per day (b/d) in the first quarter of 2020. This demand level is 0.9 million b/d less than forecast in the January STEO and reflects both the effects of the coronavirus and warmer-than-normal January temperatures across much of the northern hemisphere. EIA now expects global petroleum and liquid fuels demand will rise by 1.0 million b/d in 2020, which is lower than the forecast increase in the January STEO of 1.3 million b/d in 2020, and by 1.5 million b/d in 2021.

- EIA's global petroleum and liquid fuels supply forecast assumes that the Organization of the Petroleum Exporting Countries (OPEC) will reduce crude oil production by 0.5 million b/d from March through May because of lower expected global oil demand in early 2020. This OPEC reduction is in addition to the cuts announced at the group's December 2019 meeting. EIA now forecasts OPEC crude oil production will average 28.9 million b/d in 2020, which is 0.3 million less than forecast in the January STEO. In addition to these production cuts, EIA's lower forecast OPEC production reflects ongoing crude oil production outages in Libya during the first quarter. In general, EIA assumes that OPEC will limit production through all of 2020 and 2021 to target relatively balanced global oil markets.

- Global liquid fuels inventories fell by roughly 0.1 million b/d in 2019, and EIA expects they will grow by 0.2 million b/d in 2020. Although EIA expects inventories to rise overall in 2020, EIA forecasts inventories will build by 0.6 million b/d in the first half of the year because of slow oil demand growth and strong non-OPEC oil supply growth. Firmer demand growth as the global economy strengthens and slower supply growth later in the year contribute to forecast inventory draws of 0.1 million b/d in the second half of 2020. EIA expects global liquid fuels inventories will decline by 0.2 million b/d in 2021.

- Brent crude oil spot prices averaged $64 per barrel (b) in January, down $4/b from December. Brent prices fell steadily through January and into the first week of February, closing at less than $54/b on February 4, the lowest price since December 2018, reflecting market concerns about oil demand. EIA forecasts Brent prices will average $61/b in 2020; with prices averaging $58/b during the first half of the year and $64/b

during the second half of the year. EIA forecasts the average Brent prices will rise to an average of $68/b in 2021.

- EIA forecasts U.S. crude oil production will average 13.2 million b/d in 2020, up 1.0 million b/d from 2019, and then rise to 13.6 million b/d in 2021. Most of the production growth in the forecast occurs in the Permian region of Texas and New Mexico.

Natural gas

- In January, the Henry Hub natural gas spot price averaged $2.02 per million British thermal units (MMBtu), as warm weather contributed to below-average inventory withdrawals and put downward pressure on natural gas prices. As of February 6, the Henry Hub spot price had fallen to $1.86/MMBtu, and EIA expects prices will remain below $2.00/MMBtu in February and March. EIA forecasts that prices will rise in the second quarter of 2020, as U.S. natural gas production declines and natural gas use for power generation increases the demand for gas. EIA expects prices to average $2.36/MMBtu in the third quarter of 2020. EIA forecasts that Henry Hub natural gas spot prices will average $2.21/MMBtu in 2020. EIA expects that natural gas prices will then increase in 2021, reaching an annual average of $2.53/MMBtu.

- U.S. dry natural gas production set a record in 2019, averaging 92.1 billion cubic feet per day (Bcf/d). Although EIA forecasts dry natural gas production will average 94.2 Bcf/d in 2020, a 2% increase from 2019, EIA expects monthly production to generally decline through 2020, falling from an estimated 95.4 Bcf/d in January to 92.5 Bcf/d in December. The falling production mostly occurs in the Appalachian and Permian regions. In the Appalachia region, low natural gas prices are discouraging natural gas-directed drilling, and in the Permian, low oil prices are expected to reduce associated gas output from oil-directed wells. In 2021, EIA forecasts dry natural gas production to stabilize near December 2020 levels at an annual average of 92.6 Bcf/d, a 2% decline from 2020, which would be the first decline in annual average natural gas production since 2016.

- EIA estimates that U.S. working natural gas inventories ended January at more than 2.6 trillion cubic feet (Tcf), 9% higher than the five-year (2015–19) average. EIA forecasts that total working inventories will end March at almost 2.0 Tcf, 14% higher than the five-year average. In the forecast, inventories rise by a total of 2.1 Tcf during the April through October injection season to reach almost 4.1 Tcf on October 31, which would be the highest end-of-October inventory level on record.

Electricity, coal, renewables, and emissions

- EIA expects the share of U.S. utility-scale electricity generation from natural gas-fired power plants will remain relatively steady; it was 37% in 2019, and EIA forecasts it will be 38% in 2020 and 37% in 2021. Electricity generation from renewable energy sources will rise from a share of 17% last year to 20% in 2020 and 21% in 2021. The increase in

the renewables share is the result of expected use of additions to wind and solar generating capacity. Coal's forecast share of electricity generation will fall from 24% in 2019 to 21% in both 2020 and 2021. The nuclear share of generation, which averaged slightly more than 20% in 2019 will be slightly lower than 20% by 2021, consistent with upcoming reactor retirements.

- EIA forecasts that U.S. coal production will total 595 million short tons (MMst) in 2020, down 95 MMst (14%) from 2019. Lower production reflects declining demand for coal in the electric power sector and lower demand for U.S. exports. EIA forecasts that electric power sector demand for coal will fall by 81 MMst (15%) in 2020. EIA expects that coal production will stabilize in 2021 as export demand stabilizes and U.S. power sector demand for coal increases because of rising natural gas prices.

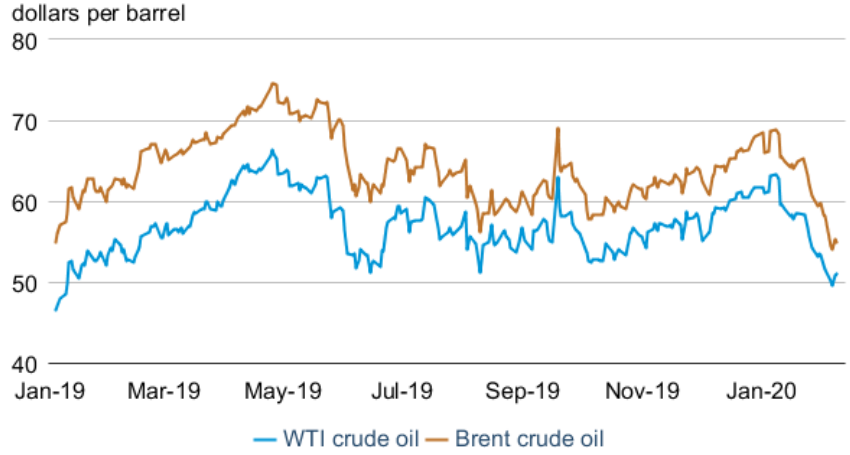
- After decreasing by 2.3% in 2019, EIA forecasts that energy-related carbon dioxide (CO2) emissions will decrease by 2.7% in 2020 and by 0.5% in 2021. Declining emissions in 2020 reflect forecast declines in total U.S. energy consumption because of increases in energy efficiency and weather effects, particularly as a result of warmer-than-normal January temperatures. A forecast return to normal temperatures in 2021 results in a slowing decline in emissions. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $54.93 per barrel (b) on February 6, 2020, a decrease of $11.32/b from January 2, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $10.23/b during the same period, settling at $50.95/b on February 6 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

Several events in January contributed to significant uncertainty in crude oil markets and the world economy in general. Early in the month, geopolitical developments drove oil prices. Brent spot prices closed at $70/b on January 6, the highest level since May 2019, following U.S. military operations in Iraq. However, as tensions in the Middle East deescalated and market concerns over any related oil supply disruptions faded, crude oil prices fell. The price declines accelerated with concerns about economic growth as a result of the outbreak of coronavirus. Oil prices declined for five consecutive days starting on January 21. Further reducing demand in January were the warmer-than-normal temperatures across much of the northern hemisphere, which EIA estimates reduced heating oil consumption.

The magnitude and duration of the coronavirus's effects remain highly uncertain, but EIA is reducing its estimates for Chinese and global oil consumption for 2020 as a result of the events. Travel restrictions in China that began in mid-January are disrupting petroleum demand in not only China but also in other countries. EIA expects liquid fuels consumption in China to average 14.8 million barrels per day (b/d) from February through April, when EIA assumes the effects of travel restrictions will be most acute. That level of consumption is 0.4 million b/d less than forecast in last month's STEO. Jet fuel demand is likely to fall because of travel restrictions and demand for other oil products is likely to fall because of lower economic growth.

EIA has also lowered its expected liquid fuels consumption for the rest of Asia (excluding China) by 0.1 million b/d for the February through April period compared with last month's STEO.

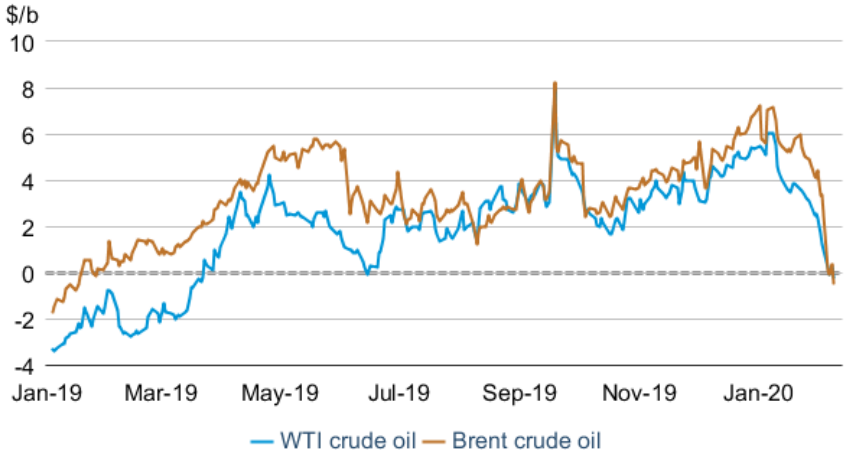
In addition to demand disruptions, oil markets faced renewed supply disruptions from Libya, where unrest in the country led to force majeure events at its main export terminals. EIA estimates that the export terminal disruptions caused Libya's crude oil production to average 0.8 million b/d in January, down from 1.2 million b/d in December. The outages became more severe later in the month, and by the first week of February, EIA estimates Libya was producing less than 0.2 million b/d.

EIA acknowledges significant uncertainty in forecasting global oil inventory and crude oil price changes amid both ongoing disruptions in crude oil supply and reductions in oil demand. EIA estimates global inventories increased by 2.5 million b/d in January and will rise by an average of 0.6 million b/d during the first half of 2020, 0.1 million b/d more than expected in last month's STEO. The higher expected inventory builds primarily reflect a downward adjustment to the global liquid fuels consumption forecast. EIA now forecasts consumption will rise by 1.0 million b/d in 2020, compared with forecast growth of 1.3 million b/d in the January STEO. EIA expects that most of the decrease stems from decreased liquid fuels consumption in China during the first half of 2020. EIA expects that some of the effects of lower oil consumption early in 2020 will be offset by reduced production from the Organization of the Petroleum Exporting Countries (OPEC). EIA assumes that OPEC will reduce crude oil production by 0.5 million b/d from March through May in response to concerns over oil demand growth. This cut would be in addition to existing OPEC cuts.

EIA forecasts global oil inventories will begin drawing by the fourth quarter of 2020, which EIA forecasts will provide upward price pressure in the second half of the year. EIA expects the Brent crude oil price will average $58/b in the first half of 2020 before rising to average $64/b during the final six months of the year. Brent crude oil prices are forecast to average $61/b for all of 2020, a decrease of $4/b from the January STEO.

Changes in the shapes of the Brent and WTI futures curves supports EIA's estimates of a looser global oil balance in 2020, reversing the market tightness that developed in the fourth quarter of 2019. Prices for both crude oils now exhibit slight contango (when near-term prices are lower than longer-dated ones) in the 1st–13th month spread. The Brent and WTI 1st–13th spread declined $6.07/b and $5.27/b, respectively, since January 2, 2020. The Brent 1st–13th spread settled at -46 cents/b on February 6, 2020, and the WTI 1st–13th spread settled at -20 cents/b **(Figure 2)**. The contango in the WTI futures curve that developed in January are consistent with increases in U.S. crude oil and other liquids inventories, which—averaging 0.3 million b/d—increased at the fastest pace for the month of January since 2017. In addition, trade press reports a significant decline in China's refinery intake, which is likely contributing to builds in crude oil inventories in Asia.

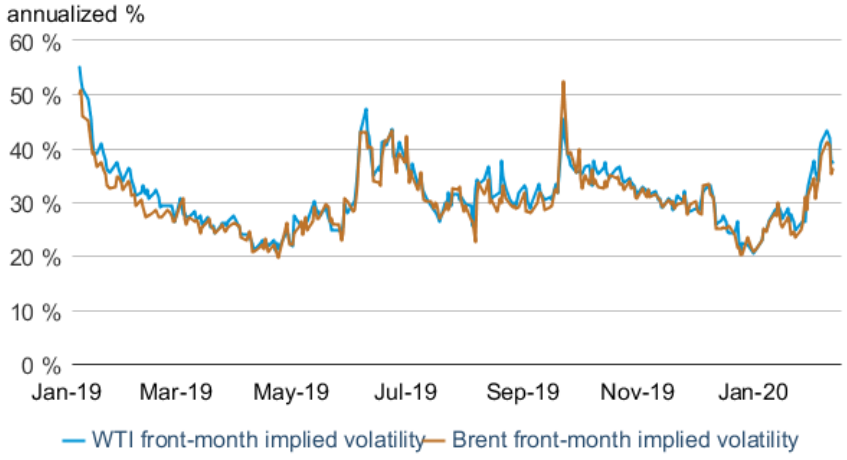
Figure 2. Crude oil front-month to 13th month futures price spread



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

Implied volatility: Implied volatility of crude oil prices increased to the highest levels since September 2019 by early February, as illustrated in higher premiums for options contracts amid the uncertainty surrounding global economic growth and supply disruptions in Libya. The implied volatility of Brent prices increased by 9 percentage points from January 2 to settle at 36.0% on February 6. WTI implied volatility increased by 13 percentage points to settle at 37.5% over the same period **(Figure 3)**.

Figure 3. Crude oil implied volatility

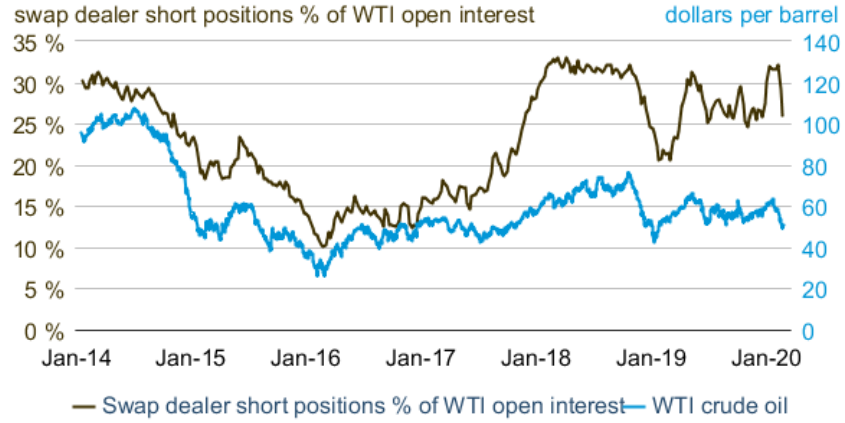


eia CME Group, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

Swap dealer positions: Short positions held by swap dealers accounted for 32% of the open interest for the WTI futures contract as of January 21, 2020, slightly less than the all-time high of 33%, reached in 2018 **(Figure 4)**. Initiating a short position, or selling a futures contract, enables the holder to lock in a price today for the physical delivery of a commodity at some future date. Oil producers commonly use swap dealers to hedge their future production. Swap dealer short positions increased to 30% of the WTI open interest in mid-December, when WTI prices

increased to more than $60/b. This price level, according to a survey of U.S. exploration and production companies conducted by the Federal Reserve Bank of Dallas, is sufficient to generate enough cash flow from operations for the majority of firms to cover capital expenditures. The increase in swap dealer short may have increased, in part, because U.S. producers hedged some of their expected 2020 production at about $60/b.

Figure 4. Swap dealer short positions as a percentage of total WTI open interest and prices

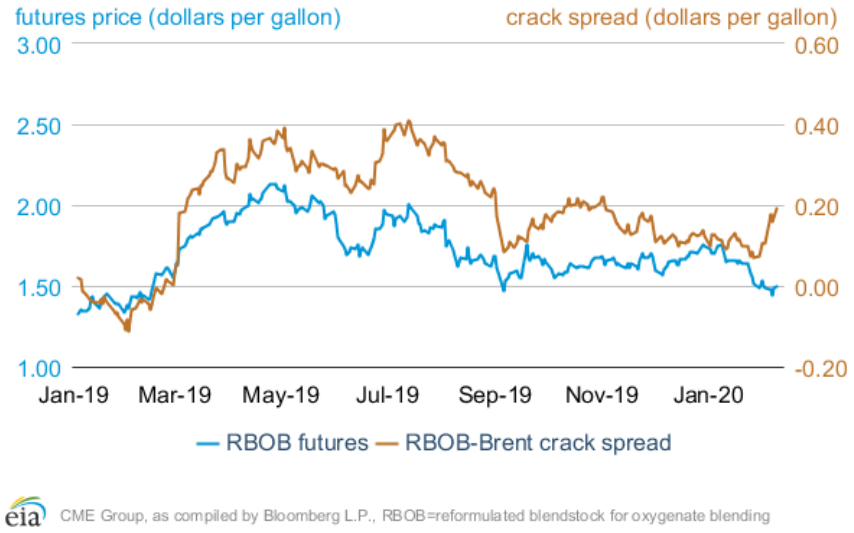


eia CFTC Commitment of Traders Report, CME Group; WTI=West Texas Intermediate

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.50 per gallon (gal) on February 6, down 21 cents/gal from January 2, 2020 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 6 cents/gal to settle at 19 cents/gal during the same period. Almost all of this increase was in the first week of February, when RBOB crack spreads rose after the RBOB and Brent contracts rolled to the next contract month. Despite the recent increase, monthly average RBOB crack spreads were lower in January compared with December, likely because of low U.S. gasoline demand.

Figure 5. Historical RBOB front-month futures prices and crack spread

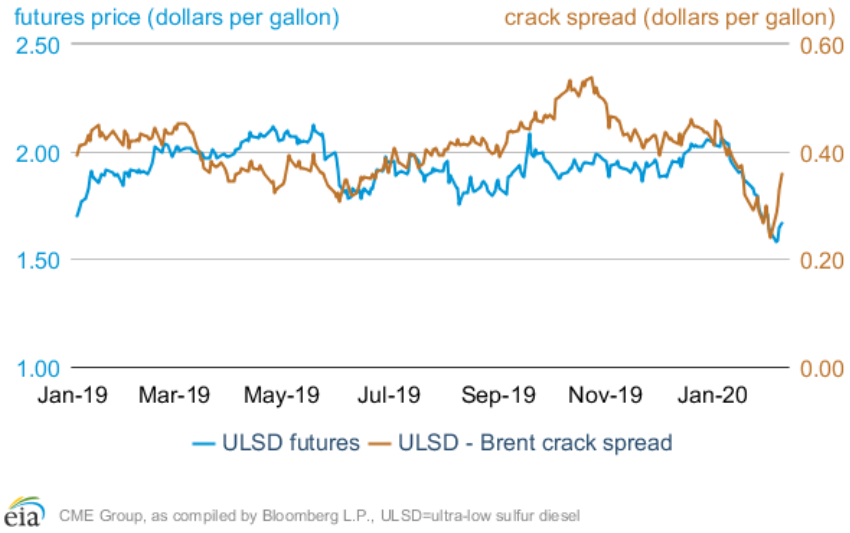


eia CME Group, as compiled by Bloomberg L.P., RBOB=reformulated blendstock for oxygenate blending

RBOB prices and crack spreads tend to be at their lowest during November and December, and they usually begin increasing in January. However, January 2020 deviated from this trend as monthly average RBOB prices and RBOB crack spreads fell by 5 cents/gal and 2 cents/gal, respectively, relative to December. The decline in RBOB crack spreads is the third consecutive month of month-on-month declines, the longest such streak since November 2018. The downward pressure on prices is supported by record inventory levels. Stocks of motor gasoline for the week ending January 24 reached the highest level ever recorded in EIA weekly data going back to 1990. Both the increase in gasoline inventories and the decline in RBOB prices and crack spreads likely stem from a broader decline in gasoline demand. According to EIA estimates, U.S. consumption of motor gasoline in January declined 5% from the previous month to reach a 36-month low of 8.6 million barrels per day (b/d).

***Ultra-low sulfur diesel prices*:** The ultra-low sulfur diesel (ULSD) front-month futures price settled at $1.67/gal on February 6, 2020, a decrease of 36 cents/gal from January 2, 2020. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased 9 cents/gal to settle at 36 cents/gal during the same period **(Figure 6)**. The decline in crack spreads likely reflects low heating oil demand because of warmer-than-expected weather and market concerns over global economic growth.

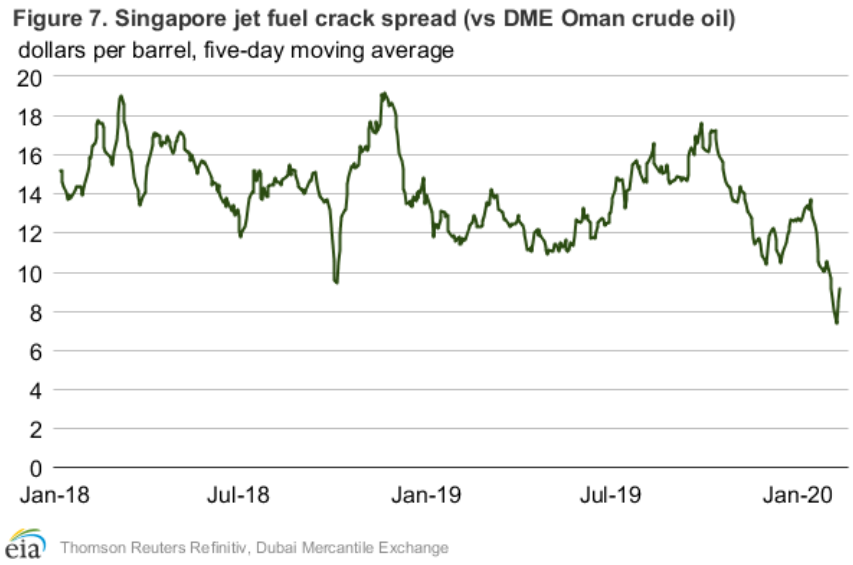
Figure 6. Historical ULSD front-month futures price and crack spread



eia CME Group, as compiled by Bloomberg L.P., ULSD=ultra-low sulfur diesel

U.S. distillate inventories recorded a 4.1 million barrel month-on-month increase in January, a rarity for a month in which inventories typically fall. The increase likely reflects the warmer-than-normal U.S. winter. Based on data from the National Oceanic and Atmospheric Administration (NOAA), EIA estimates that U.S. heating degree days (HDD) in January were 18% lower than the 10-year (2010–19) average. However, at 143.2 million barrels, U.S. distillate inventories remain lower than the five-year (2015–19) average of 149.0 million barrels, suggesting some possible tightness in distillate markets. U.S. distillate inventories have not exceeded the previous five-year average since February 2018, and January 2020 retail prices for on-highway diesel fuel were the highest of any January since 2014. EIA, however, forecasts that prices for on-highway diesel fuel will decline by 19 cents/gal in February, following the recent decline in crude oil prices and ULSD crack spreads.

Jet fuel prices: Prices for jet fuel sold in key Asian markets fell sharply in January. The five-day moving average Singapore crack spread for jet fuel against the DME Oman crude oil price declined to $9.11 per barrel (b) on February 6, 2020, a decrease of $3.90/b barrel from January 2, 2020 **(Figure 7)**. The decline in jet fuel crack spreads likely reflects the large increase in flight cancellations in East Asia's economies—most notably China—in the wake of the coronavirus.

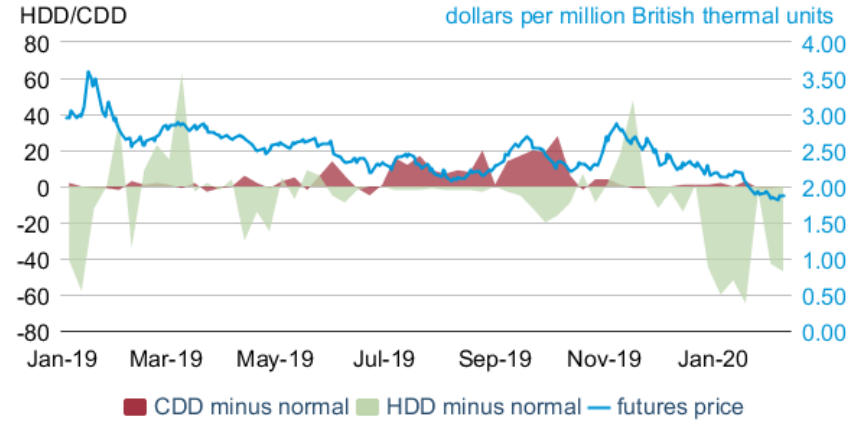


Based on an analysis of publicly available flight data, EIA estimates about 12,000 flights departing from airports located in China, Hong Kong, Taiwan, and Macau were cancelled in January. After factoring in each cancelled flight's distance and adjusting for an estimate of the fuel efficiency of each route's assigned aircraft, EIA estimates that cancellations in these four countries reduced demand for jet fuel by approximately 16,000 b/d during January. According to data from the International Energy Agency, China consumed 860,000 b/d of jet fuel and kerosene in 2019, making this loss equivalent to about 2% of 2019 China's average daily jet fuel consumption. EIA anticipates larger declines during the coming months, assuming the rate of flight cancellations intensifies.

Natural Gas

Prices: The front-month natural gas futures contract for March delivery at the Henry Hub settled at $1.86 per million British thermal units (MMBtu) on February 6, down 26 cents/MMBtu from January 2 **(Figure 8)**. Warmer-than-normal temperatures helped send natural gas front-month futures prices to their lowest level in many years. Typically, January natural gas prices are among the highest of the year. Based on NOAA data, EIA estimates that U.S. heating degree days (HDD) were 18% lower than the 10-year (2010–19) average during January.

Figure 8. Natural gas front-month futures prices and actual minus historical average HDD and CDD



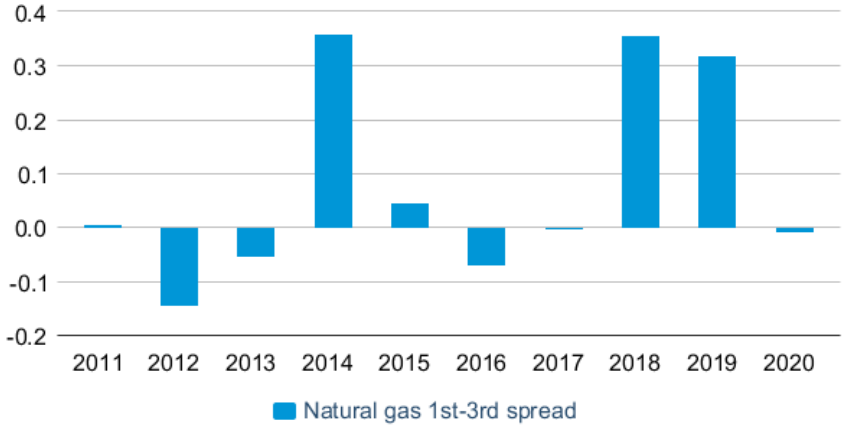
Note: HDD stands for heating degree days, CDD stands for cooling degree days

eia CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.

Natural gas 1st-3rd spread: The spread between the 1st-month and 3rd-month delivery futures contracts averaged -1 cents/MMBtu in January (**Figure 9**).The spread represents price differences between natural gas delivered in the winter compared with natural gas delivered in the spring, which is typically a seasonally-low consumption period. The spread between the two values can be wide in winters with cold temperatures (as defined by HDD) in January. The difference between the 1st and 3rd month contracts averaged more than 30 cents/MMBtu during January of 2014, 2018, and 2019. Both 2014 and 2018 had more HDD than the 10-year average. However, in years with milder-than-normal weather in January, the spread is generally far smaller or even negative.

Figure 9. Natural gas front-month to third-month average January spread

dollars per million British thermal units

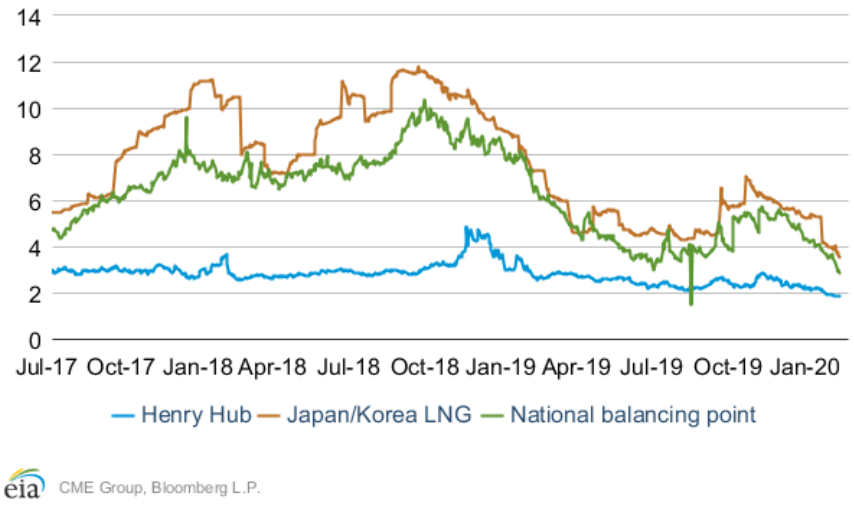


eia U.S. Energy Information Administration; CME Group, as compiled by Bloomberg, L.P.

International natural gas prices: Asia and Europe have also experienced mild temperatures, which has reduced international natural gas and liquefied natural gas (LNG) prices to their lowest average January prices on record in markets like the National Balancing Point in the

United Kingdom and the Japan-Korea Marker (JKM) (**Figure 10**). Likewise, concerns about the effects on economic activity stemming from the current coronavirus outbreak have also likely had a dampening effect on natural gas prices across markets. Lower LNG prices could reduce the competitiveness of U.S. LNG exports if current price levels persist. However, EIA's forecast for LNG exports in 2020 currently remains relatively unchanged from the January STEO.

Figure 10. International natural gas prices



Notable forecast changes

- EIA forecasts Brent crude oil spot prices will average $61 per barrel (b) in 2020 compared with $65/b in the January STEO. The lower price forecast reflects EIA's expectations of slower growth in global petroleum and liquid fuels consumption in 2020. EIA now expects Brent prices to be $7/b lower than previously forecast during the first six months of 2020. During the second half of the year, EIA now expects prices to be $1/b lower than previously forecast.

- The global oil consumption growth forecast for 2020 in this month's STEO is 1.0 million barrels per day (b/d), down from a forecast of 1.3 million b/d in the January STEO. The lower global oil demand growth forecast is mostly related to the effects of the coronavirus. EIA expects these oil consumption effects will be concentrated in China but some effects will show up in other countries as well. EIA forecasts that liquid fuels consumption in China will average 14.7 million b/d in the first quarter of 2020 and 15.0 million b/d in the second quarter of 2020, down by 0.3 million b/d and 0.2 million b/d, respectively, from last month's STEO.

- EIA revised diesel fuel wholesale margins downward to reflect recent supply trends and weaker-than-anticipated global diesel demand in tandem with the new International Maritime Organization (IMO) Marine Regulations that were enacted on January 1, 2020.

EIA now forecasts diesel wholesale margins to average 41 cents per gallon (gal) in 2020 (9 cents/gal lower than previously forecast) with a forecast peak of 46 cents/gal in March 2020 (7 cents/gal lower than in the previous forecast). Although diesel wholesale margins began the year much lower than initially forecast, EIA assumes that IMO-driven effects will still put upward pressure on diesel prices in the near future as the global market adjusts to the new regulations and as the more stringent carriage ban on non-compliant marine fuel begins on March 1, 2020.

- Henry Hub natural gas spot prices averaged $2.02 per million British thermal units (MMBtu) in January, which is 16 cents/MMBtu lower than EIA expected in the January STEO. Warmer-than-normal January temperatures reduced space heating demand and left natural gas working inventories 9% higher than the five-year average at the end of the month. With inventories levels expected to remain elevated as the winter heating season winds down, EIA now expects natural gas prices to be lower than previously forecast in the coming months. On average, the EIA forecast Henry Hub spot price will be $2.21/MMBtu in 2020, compared with a forecast of $2.33/MMBtu in the January STEO.

- EIA forecasts U.S. total liquid fuels production will average 21.7 million b/d in 2021, which is 240,000 b/d less than EIA had forecast in the January STEO. The lower forecast liquid fuels production reflects both lower crude oil production and hydrocarbon gas liquids production (HGL). EIA reduced its forecast for U.S. crude oil production in 2021 by 160,000 b/d from the January STEO as a result of lower expected crude oil prices in 2020. There is a lagged effect between changes in crude oil prices and changes in crude oil production. EIA reduced its forecast for U.S. HGL production in 2021 by 80,000 b/d as result of lower expected natural gas prices. Although HGLs are included in the liquid fuels category, their production growth is largely the result of natural gas production.

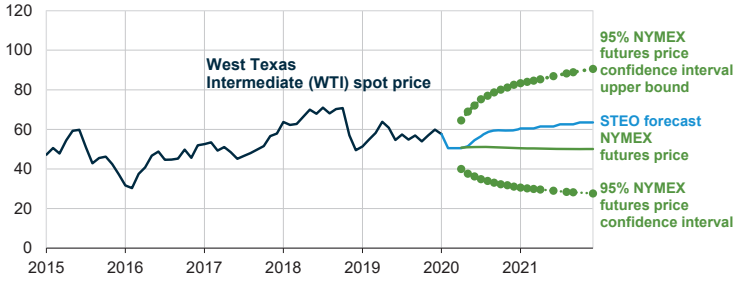
- For more information, see the detailed table of STEO forecast changes.

This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook

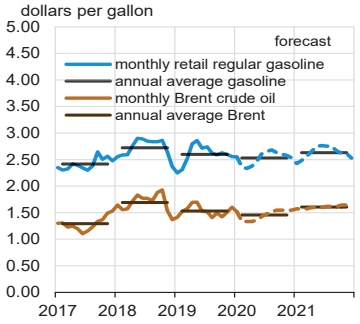
Chart Gallery for February 2020

West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



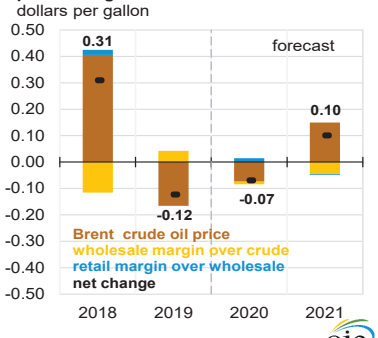
Note: Confidence interval derived from options market information for the five trading days ending Feb 6, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Sources: Short-Term Energy Outlook, February 2020, and CME Group

U.S. gasoline and crude oil prices
dollars per gallon

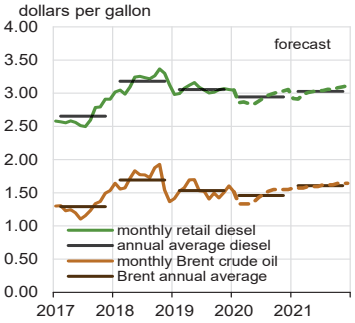


Source: Short-Term Energy Outlook, February 2020

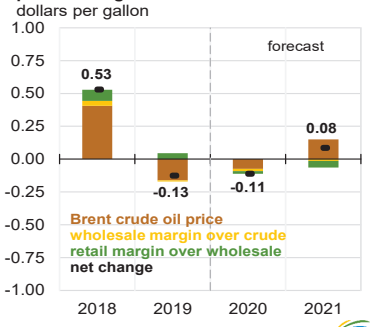
Components of annual gasoline price changes
dollars per gallon



U.S. diesel and crude oil prices

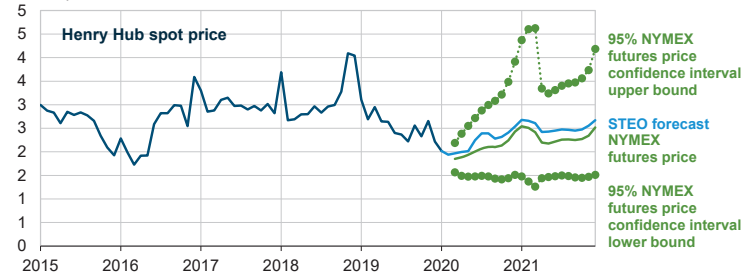


Components of annual diesel prices changes



Source: Short-Term Energy Outlook, February 2020

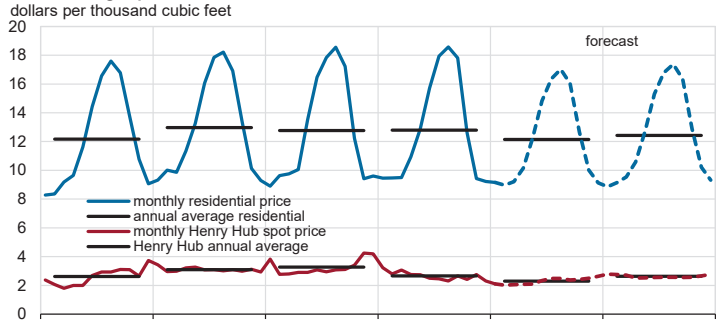
Henry Hub natural gas price and NYMEX confidence intervals



Note: Confidence interval derived from options market information for the five trading days ending Feb 6, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

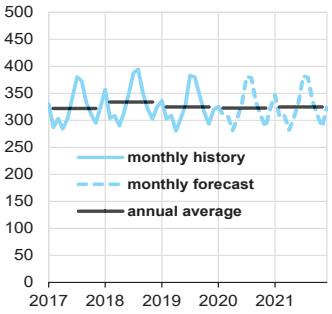
Sources: Short-Term Energy Outlook, February 2020, and CME Group

U.S. natural gas prices

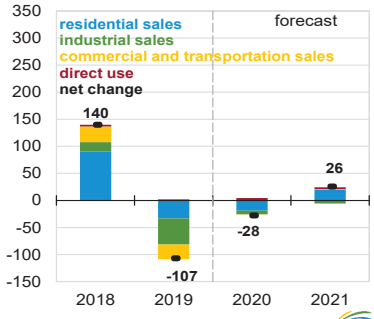


Sources: Short-Term Energy Outlook, February 2020, and Refinitiv

U.S. electricity consumption
billion kilowatthours

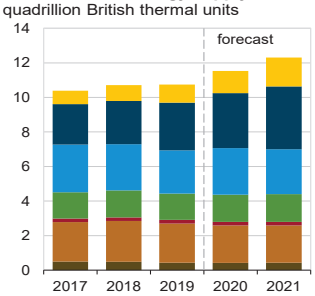


Components of annual change
billion kilowatthours

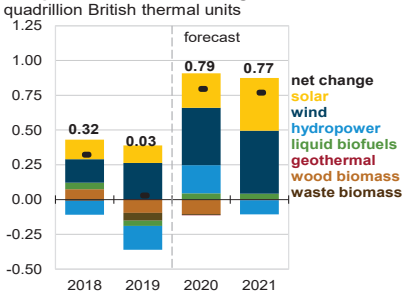


Source: Short-Term Energy Outlook, February 2020

U.S. renewable energy supply
quadrillion British thermal units

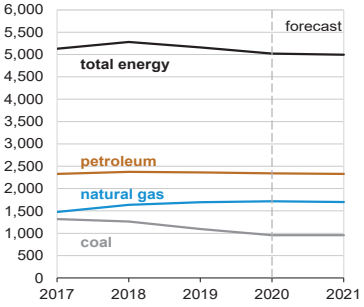


Components of annual change
quadrillion British thermal units

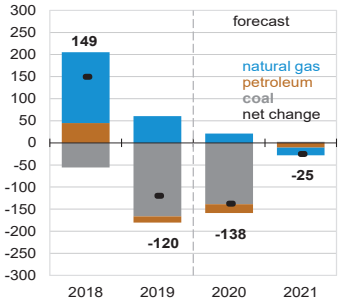


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, February 2020

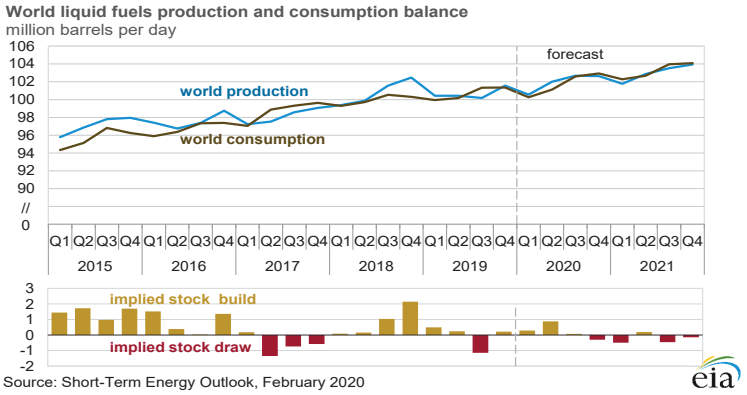
U.S. annual carbon emissions by source
million metric tons

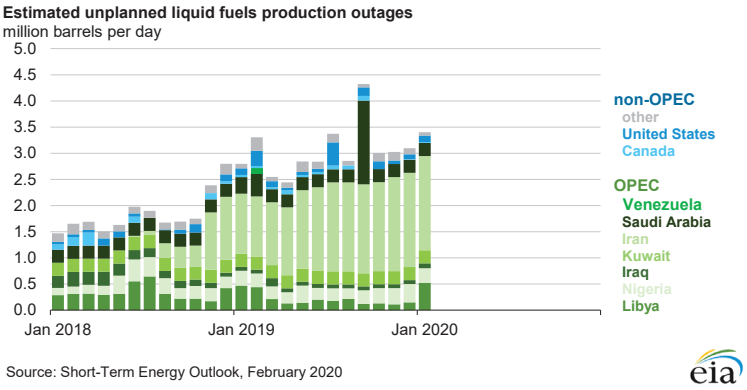


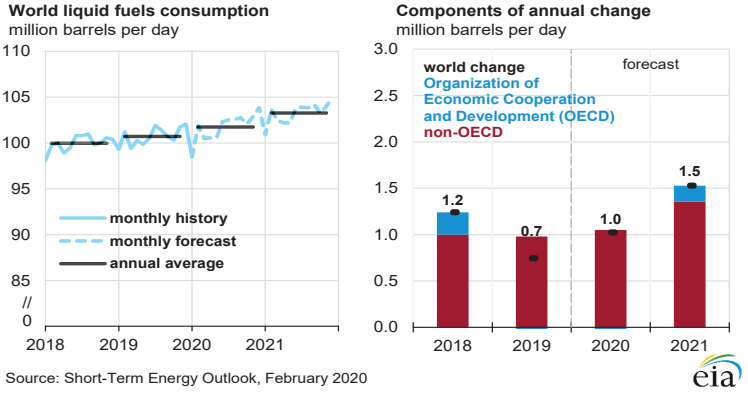
Components of annual change
million metric tons

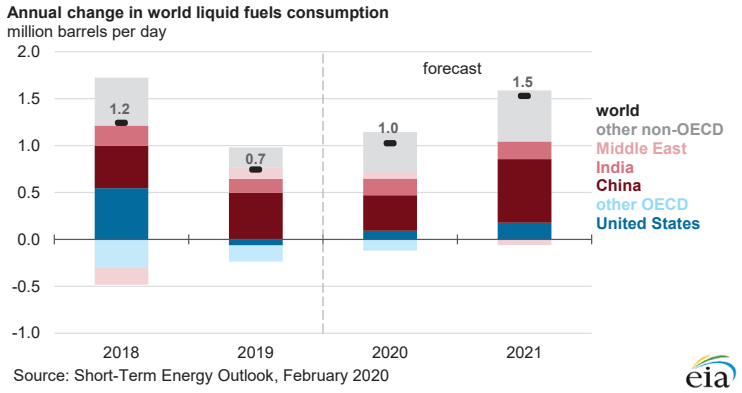


Source: Short-Term Energy Outlook, February 2020

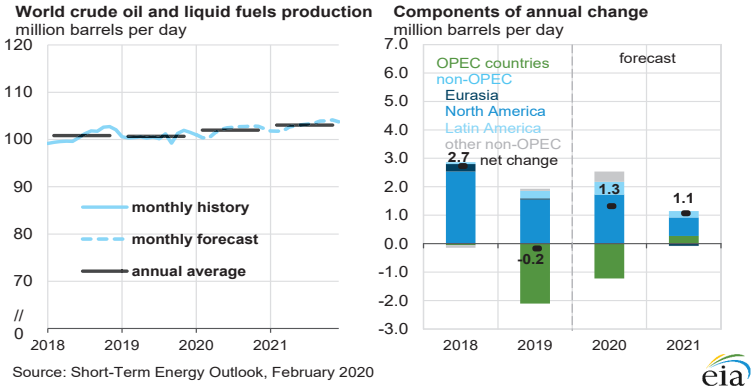

World liquid fuels production and consumption balance
million barrels per day
106
104
102
100
98
96
94
92
90
//
0
forecast
world production
world consumption
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2015
2016
2017
2018
2019
2020
2021
3
2
1
0
-1
-2
implied stock build
implied stock draw
Source: Short-Term Energy Outlook, February 2020
eia


Estimated unplanned liquid fuels production outages
million barrels per day
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Jan 2018
Jan 2019
Jan 2020
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: Short-Term Energy Outlook, February 2020
eia

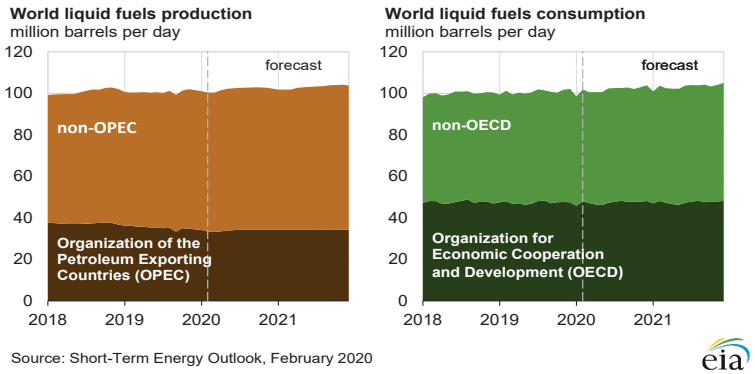

World liquid fuels consumption
million barrels per day
110
105
100
95
90
85
//
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
3.0
2.5
2.0
1.5
1.0
0.5
0.0
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
1.2
0.7
1.0
1.5
2018
2019
2020
2021
Source: Short-Term Energy Outlook, February 2020
eia



Source: Short-Term Energy Outlook, February 2020

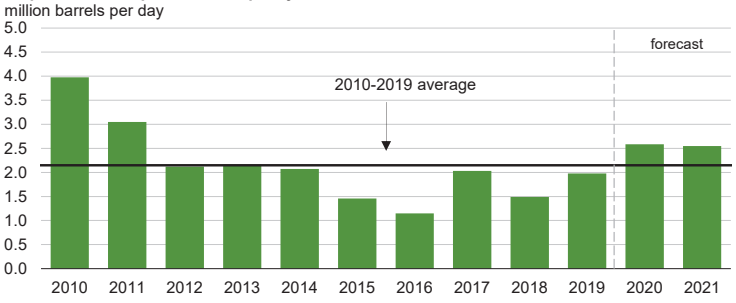


Source: Short-Term Energy Outlook, February 2020



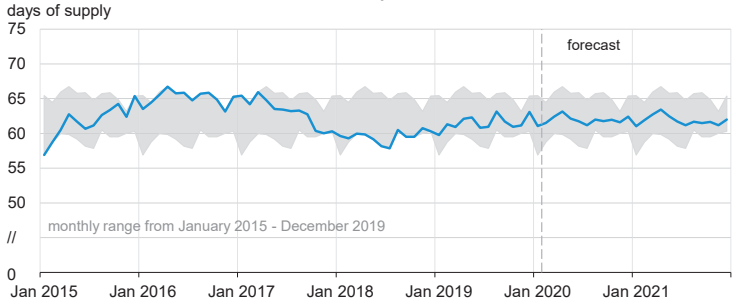
Source: Short-Term Energy Outlook, February 2020

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



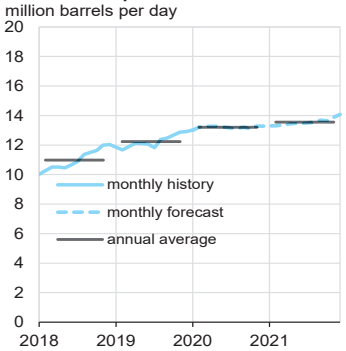
Note: Black line represents 2010-2019 average (2.1 million barrels per day).
Source: Short-Term Energy Outlook, February 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

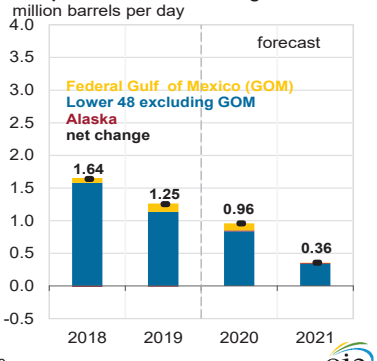


Source: Short-Term Energy Outlook, February 2020

U.S. crude oil production
million barrels per day

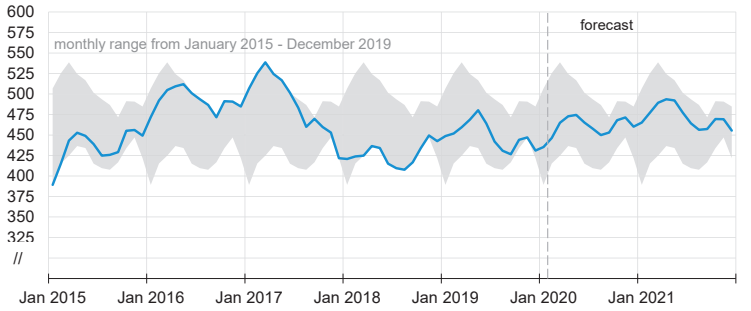


Components of annual change
million barrels per day



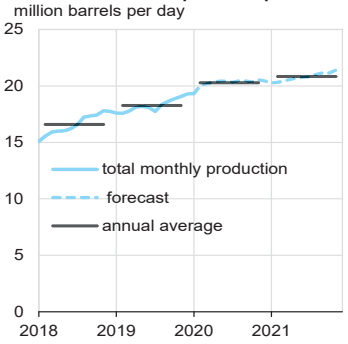
Source: Short-Term Energy Outlook, February 2020

U.S. commercial crude oil inventories
million barrels

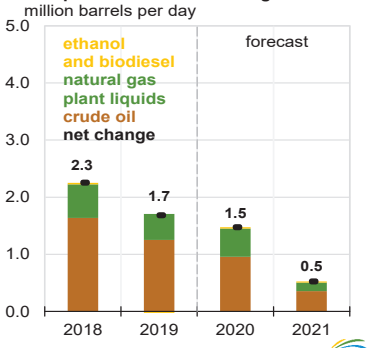


Source: Short-Term Energy Outlook, February 2020

U.S. crude oil and liquid fuels production
million barrels per day

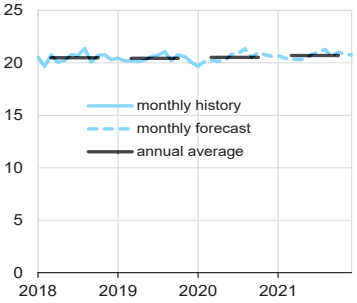


Components of annual change
million barrels per day

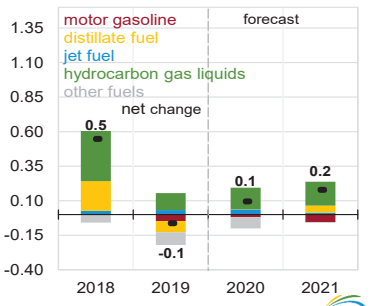


Source: Short-Term Energy Outlook, February 2020

U.S. liquid fuels product supplied (consumption)
million barrels per day

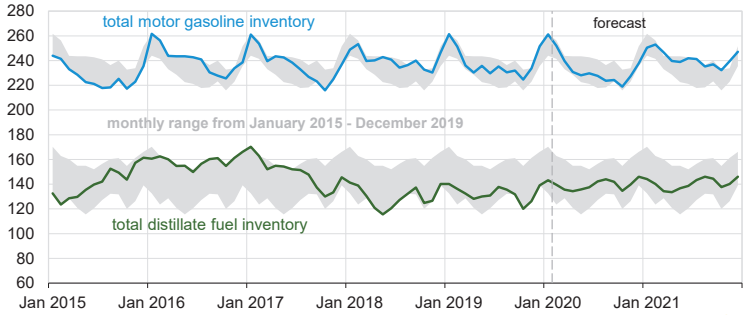


Components of annual change
million barrels per day



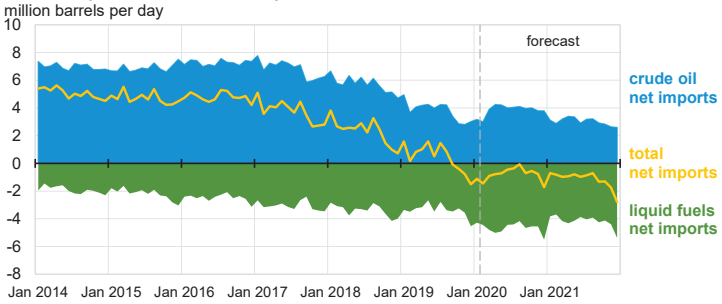
Source: Short-Term Energy Outlook, February 2020

U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, February 2020

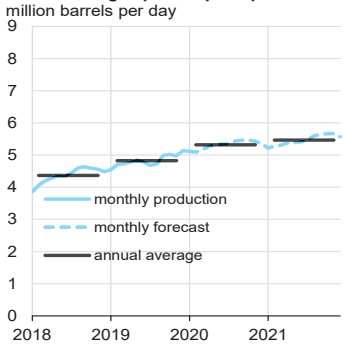
U.S. net imports of crude oil and liquid fuels
million barrels per day



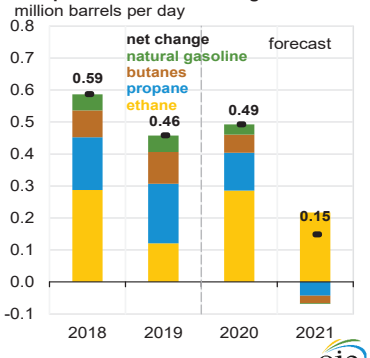
Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, February 2020

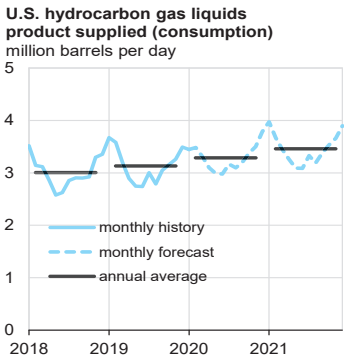
U.S. natural gas plant liquids production
million barrels per day

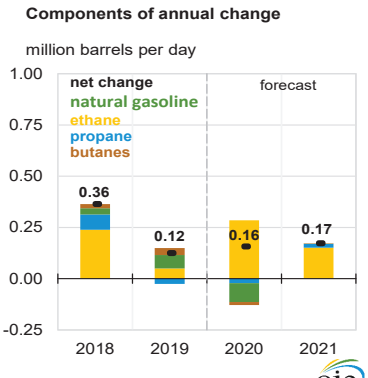


Components of annual change
million barrels per day

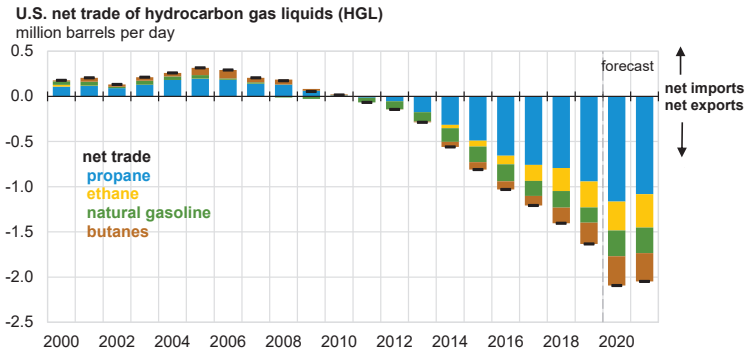


Source: Short-Term Energy Outlook, February 2020

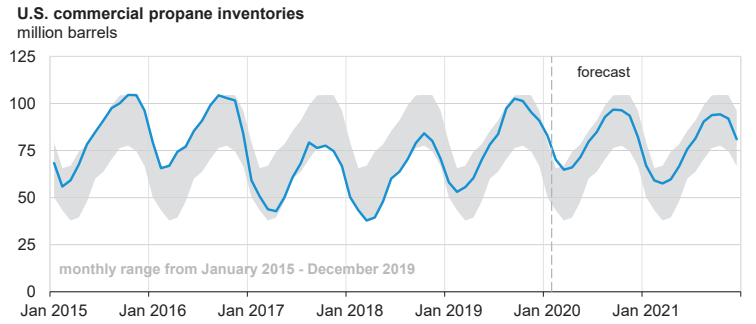




Source: Short-Term Energy Outlook, February 2020

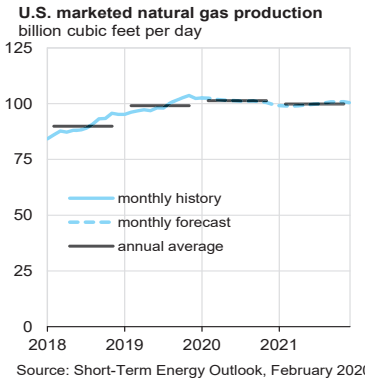


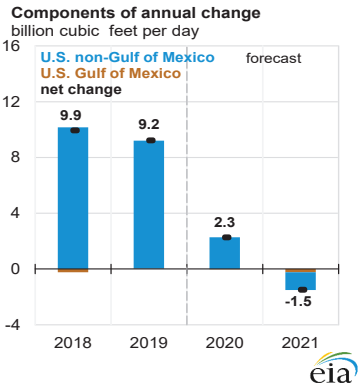
Source: Short-Term Energy Outlook, February 2020



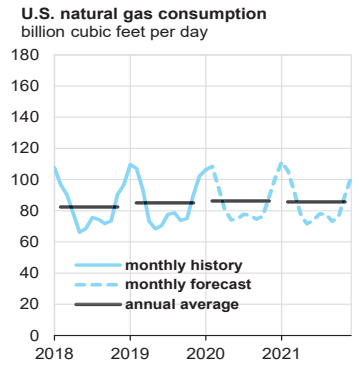
Note: Propane includes refinery propylene.

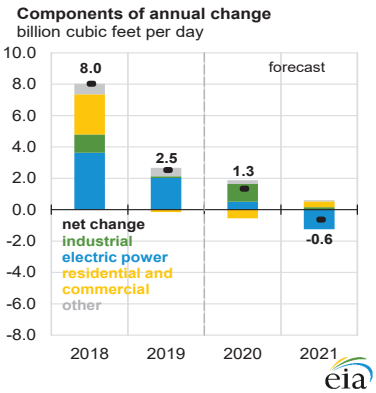
Source: Short-Term Energy Outlook, February 2020



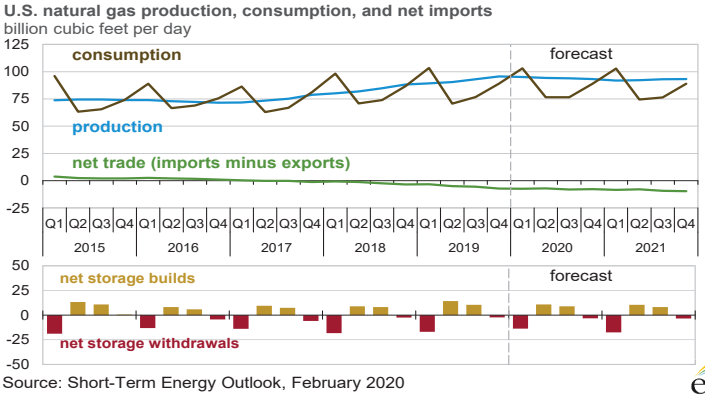


Source: Short-Term Energy Outlook, February 2020



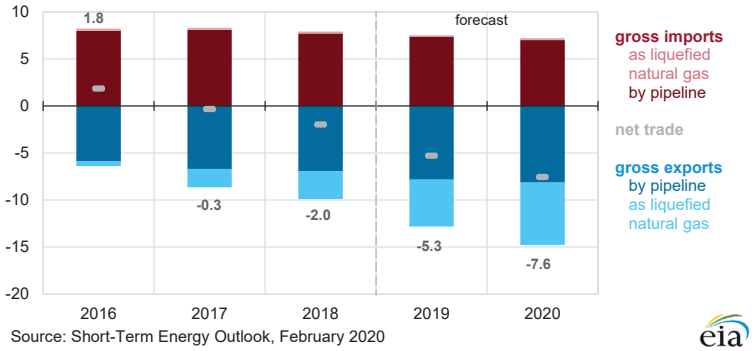


Source: Short-Term Energy Outlook, February 2020



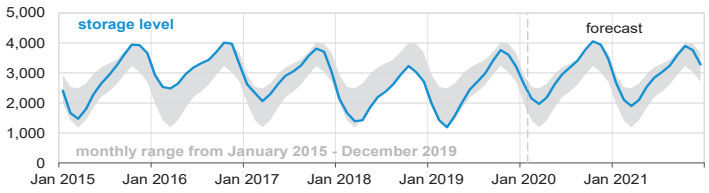
Source: Short-Term Energy Outlook, February 2020

Annual natural gas trade
billion cubic feet per day

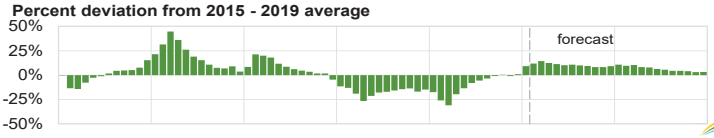


Source: Short-Term Energy Outlook, February 2020

U.S. working natural gas in storage
billion cubic feet

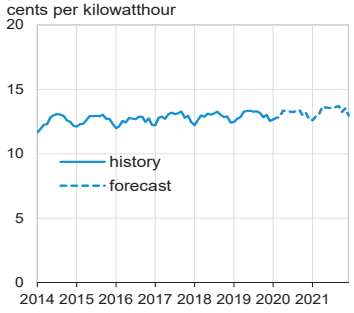


Percent deviation from 2015 - 2019 average

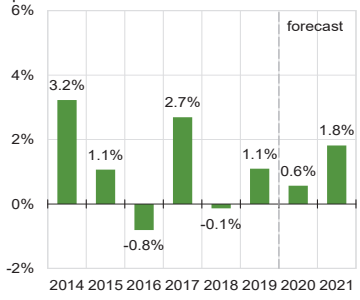


Source: Short-Term Energy Outlook, February 2020

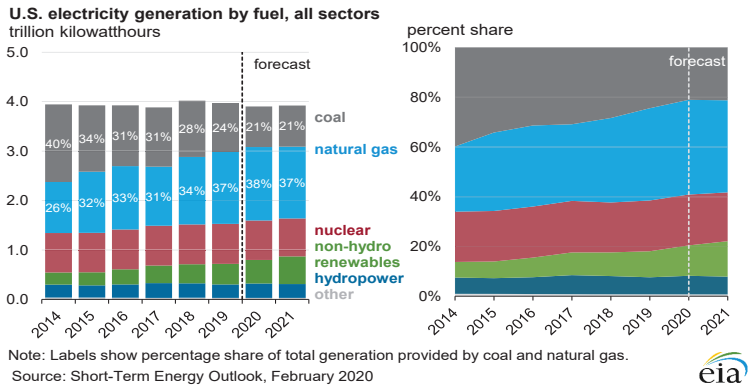
U.S. monthly residential electricity price
cents per kilowatthour



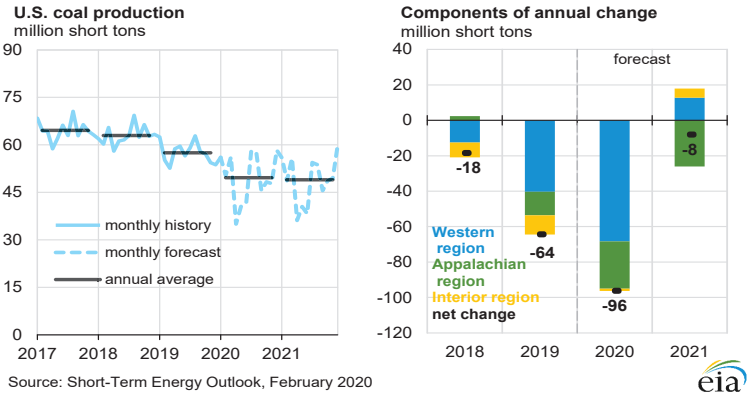
Annual growth in residential electricity prices
percent



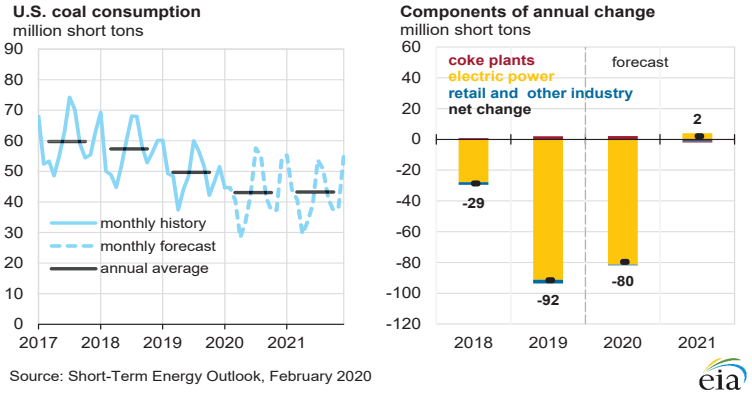
Source: Short-Term Energy Outlook, February 2020



Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: Short-Term Energy Outlook, February 2020

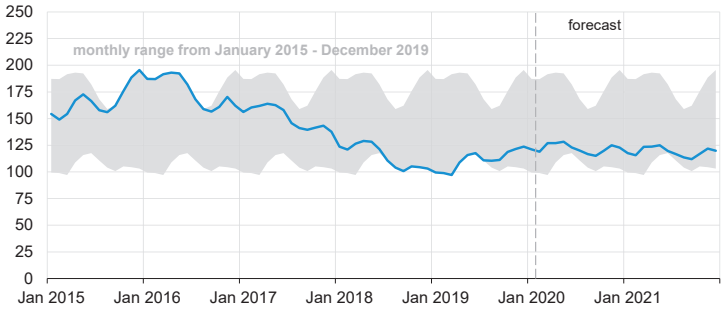


Source: Short-Term Energy Outlook, February 2020



Source: Short-Term Energy Outlook, February 2020

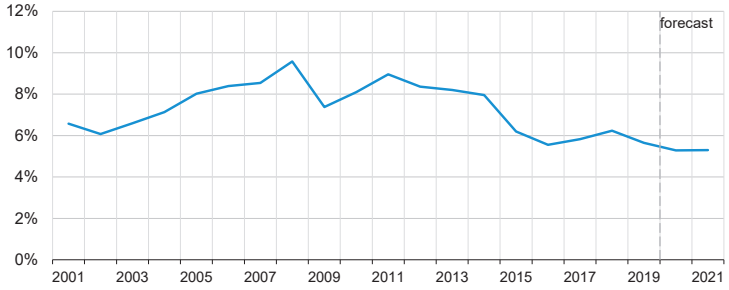
U.S. electric power coal inventories
million short tons



Source: Short-Term Energy Outlook, February 2020

eia

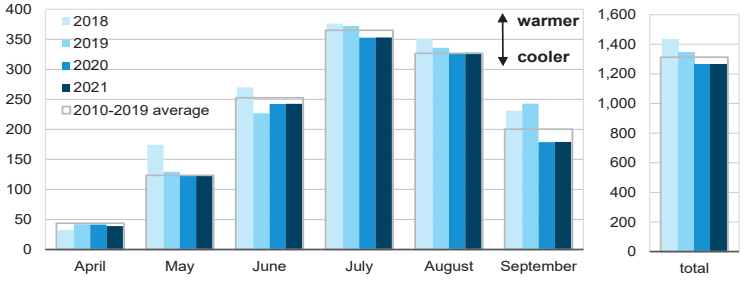
U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, February 2020

eia

U.S. summer cooling degree days
population-weighted

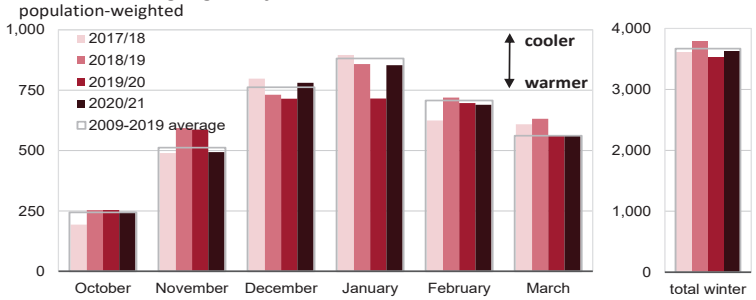


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, February 2020

eia

U.S. winter heating degree days
population-weighted

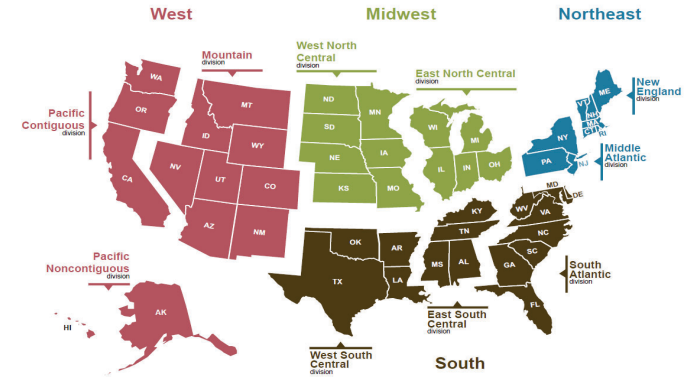


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, February 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.81**	**12.10**	**12.23**	**12.82**	*13.16*	*13.25*	*13.17*	*13.22*	*13.32*	*13.46*	*13.57*	*13.86*	**12.24**	*13.20*	*13.56*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**95.70**	*95.15*	*94.34*	*93.98*	*93.17*	*91.85*	*92.16*	*92.99*	*93.27*	**92.15**	*94.16*	*92.57*
Coal Production															
(million short tons)	**170**	**175**	**180**	**165**	*163*	*117*	*161*	*154*	*160*	*115*	*154*	*158*	**690**	*595*	*587*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.29**	**20.32**	**20.68**	**20.47**	*20.03*	*20.39*	*20.92*	*20.79*	*20.50*	*20.49*	*20.98*	*20.86*	**20.44**	*20.53*	*20.71*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.75**	**89.09**	*103.11*	*76.52*	*76.47*	*88.95*	*102.88*	*74.45*	*76.35*	*88.98*	**84.91**	*86.24*	*85.60*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**140**	*130*	*104*	*154*	*129*	*140*	*102*	*146*	*131*	**596**	*517*	*519*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.01**	**12.07**	**10.09**	*10.36*	*10.07*	*11.87*	*9.98*	*10.67*	*10.09*	*11.90*	*10.01*	**10.68**	*10.57*	*10.67*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.79**	*2.96*	*3.30*	*2.97*	*3.01*	*3.14*	*3.51*	*3.21*	*3.18*	**11.47**	*12.25*	*13.04*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.53**	**23.44**	**24.97**	**25.36**	*25.97*	*23.27*	*24.50*	*25.07*	*26.13*	*23.24*	*24.48*	*25.11*	**100.30**	*98.81*	*98.96*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.86**	*52.89*	*52.19*	*58.12*	*59.50*	*60.50*	*61.50*	*62.50*	*63.50*	**57.02**	*55.71*	*62.03*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	*1.98*	*2.09*	*2.36*	*2.42*	*2.65*	*2.43*	*2.46*	*2.57*	**2.57**	*2.21*	*2.53*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**1.99**	**2.06**	*2.09*	*2.09*	*2.08*	*2.08*	*2.09*	*2.10*	*2.09*	*2.09*	**2.05**	*2.09*	*2.09*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,207**	*19,288*	*19,399*	*19,513*	*19,604*	*19,699*	*19,778*	*19,865*	*19,967*	**19,069**	*19,451*	*19,827*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.3**	*1.9*	*2.0*	*2.0*	*2.1*	*2.1*	*2.0*	*1.8*	*1.8*	**2.3**	*2.0*	*1.9*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.1**	*113.8*	*114.3*	*115.1*	*115.8*	*116.5*	*117.2*	*118.0*	*118.7*	**112.4**	*114.7*	*117.6*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.7**	*2.0*	*1.9*	*2.1*	*2.3*	*2.4*	*2.5*	*2.5*	*2.5*	**1.8**	*2.1*	*2.5*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,043**	**15,116**	*15,184*	*15,259*	*15,331*	*15,415*	*15,532*	*15,620*	*15,706*	*15,796*	**14,993**	*15,297*	*15,663*
Percent change from prior year	**3.3**	**3.0**	**2.9**	**2.7**	*2.1*	*2.2*	*1.9*	*2.0*	*2.3*	*2.4*	*2.4*	*2.5*	**3.0**	*2.0*	*2.4*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.6**	*105.4*	*105.8*	*106.5*	*106.7*	*106.8*	*107.1*	*107.4*	*108.0*	**105.9**	*106.1*	*107.3*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.3**	*-1.1*	*0.2*	*0.5*	*1.0*	*1.4*	*1.1*	*0.9*	*1.3*	**0.0**	*0.2*	*1.2*
Weather															
U.S. Heating Degree-Days	**2,210**	**481**	**57**	**1,556**	*1,973*	*480*	*72*	*1,520*	*2,105*	*483*	*72*	*1,518*	**4,303**	*4,046*	*4,179*
U.S. Cooling Degree-Days	**46**	**398**	**951**	**105**	*47*	*407*	*859*	*93*	*43*	*405*	*860*	*93*	**1,499**	*1,406*	*1,401*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.86**	*52.89*	*52.19*	*58.12*	*59.50*	*60.50*	*61.50*	*62.50*	*63.50*	**57.02**	*55.71*	*62.03*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.30**	*58.59*	*57.69*	*63.62*	*65.00*	*66.00*	*67.00*	*68.00*	*69.00*	**64.37**	*61.25*	*67.53*
U.S. Imported Average	**55.25**	**62.98**	**57.30**	**55.09**	*49.12*	*48.47*	*55.07*	*56.43*	*58.01*	*59.01*	*60.01*	*61.01*	**57.86**	*52.35*	*59.47*
U.S. Refiner Average Acquisition Cost	**56.93**	**63.55**	**58.67**	**56.84**	*51.77*	*51.02*	*57.57*	*58.93*	*59.51*	*60.51*	*61.51*	*62.51*	**59.03**	*54.87*	*61.03*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	*165*	*175*	*189*	*180*	*177*	*196*	*195*	*183*	**186**	*177*	*188*
Diesel Fuel	**192**	**203**	**192**	**198**	*180*	*180*	*192*	*196*	*192*	*201*	*203*	*206*	**196**	*187*	*201*
Heating Oil	**189**	**195**	**184**	**192**	*178*	*169*	*180*	*188*	*194*	*198*	*201*	*205*	**190**	*180*	*197*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**198**	*177*	*179*	*191*	*192*	*192*	*201*	*202*	*205*	**197**	*185*	*200*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**155**	*152*	*146*	*167*	*176*	*147*	*145*	*145*	*148*	**156**	*161*	*146*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	*241*	*249*	*266*	*257*	*249*	*272*	*272*	*259*	**260**	*253*	*263*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	*251*	*260*	*278*	*270*	*262*	*285*	*285*	*272*	**269**	*265*	*276*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	*292*	*285*	*297*	*304*	*294*	*302*	*305*	*310*	**306**	*294*	*303*
Heating Oil	**300**	**305**	**290**	**307**	*296*	*280*	*280*	*297*	*298*	*297*	*301*	*315*	**302**	*293*	*304*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	*2.05*	*2.17*	*2.45*	*2.51*	*2.75*	*2.53*	*2.56*	*2.66*	**2.66**	*2.29*	*2.62*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	*1.98*	*2.09*	*2.36*	*2.42*	*2.65*	*2.43*	*2.46*	*2.57*	**2.57**	*2.21*	*2.53*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.89**	*3.54*	*3.05*	*3.31*	*3.66*	*4.07*	*3.50*	*3.45*	*3.84*	**3.95**	*3.40*	*3.74*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.29**	*7.08*	*7.39*	*7.98*	*7.28*	*7.25*	*7.77*	*8.21*	*7.43*	**7.65**	*7.30*	*7.50*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.81**	*9.11*	*11.60*	*16.45*	*10.00*	*9.14*	*12.01*	*16.80*	*10.21*	**10.54**	*10.25*	*10.39*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**1.99**	**2.06**	*2.09*	*2.09*	*2.08*	*2.08*	*2.09*	*2.10*	*2.09*	*2.09*	**2.05**	*2.09*	*2.09*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.92**	*2.47*	*2.12*	*2.39*	*2.67*	*3.10*	*2.55*	*2.51*	*2.85*	**2.91**	*2.40*	*2.73*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.29**	*11.98*	*11.74*	*11.59*	*11.95*	*12.28*	*13.19*	*12.64*	*12.61*	**12.67**	*11.81*	*12.64*
Distillate Fuel Oil	**14.88**	**15.75**	**15.01**	**15.50**	*14.38*	*14.03*	*14.80*	*15.22*	*14.92*	*15.60*	*15.68*	*15.95*	**15.27**	*14.62*	*15.50*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.67**	**6.72**	**7.24**	**6.76**	*6.57*	*6.69*	*7.33*	*6.78*	*6.73*	*6.84*	*7.43*	*6.87*	**6.85**	*6.86*	*6.98*
Commercial Sector	**10.41**	**10.65**	**11.00**	**10.52**	*10.33*	*10.53*	*10.95*	*10.52*	*10.38*	*10.67*	*11.14*	*10.73*	**10.66**	*10.60*	*10.75*
Residential Sector	**12.67**	**13.32**	**13.25**	**12.78**	*12.77*	*13.31*	*13.31*	*12.91*	*12.84*	*13.60*	*13.61*	*13.22*	**13.01**	*13.08*	*13.32*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.08**	**31.32**	**31.44**	**32.80**	*33.42*	*33.78*	*33.67*	*33.96*	*33.90*	*34.16*	*34.44*	*35.05*	**31.66**	*33.71*	*34.39*
U.S. (50 States)	**18.91**	**19.38**	**19.49**	**20.41**	*20.83*	*21.23*	*21.23*	*21.31*	*21.17*	*21.52*	*21.82*	*22.19*	**19.55**	*21.15*	*21.68*
Canada	**5.44**	**5.47**	**5.46**	**5.59**	*5.62*	*5.62*	*5.67*	*5.73*	*5.80*	*5.80*	*5.87*	*5.94*	**5.49**	*5.66*	*5.85*
Mexico	**1.91**	**1.91**	**1.92**	**1.92**	*1.90*	*1.89*	*1.86*	*1.81*	*1.82*	*1.80*	*1.78*	*1.77*	**1.91**	*1.86*	*1.79*
Other OECD	**4.82**	**4.56**	**4.57**	**4.89**	*5.07*	*5.03*	*4.92*	*5.11*	*5.11*	*5.03*	*4.97*	*5.15*	**4.71**	*5.03*	*5.07*
Non-OECD	**69.36**	**69.12**	**68.75**	**68.77**	*67.13*	*68.24*	*69.01*	*68.68*	*67.88*	*68.72*	*69.08*	*68.89*	**69.00**	*68.27*	*68.65*
OPEC	**36.05**	**35.50**	**34.56**	**34.76**	*33.62*	*33.82*	*34.26*	*34.25*	*34.26*	*34.24*	*34.23*	*34.32*	**35.21**	*33.99*	*34.26*
Crude Oil Portion	**30.47**	**30.00**	**29.20**	**29.48**	*28.55*	*28.77*	*29.21*	*29.19*	*29.22*	*29.19*	*29.17*	*29.25*	**29.78**	*28.93*	*29.21*
Other Liquids (b)	**5.58**	**5.50**	**5.36**	**5.28**	*5.07*	*5.05*	*5.06*	*5.06*	*5.04*	*5.05*	*5.06*	*5.07*	**5.43**	*5.06*	*5.06*
Eurasia	**14.87**	**14.43**	**14.59**	**14.68**	*14.71*	*14.57*	*14.59*	*14.66*	*14.61*	*14.47*	*14.51*	*14.59*	**14.64**	*14.63*	*14.55*
China	**4.89**	**4.92**	**4.89**	**4.88**	*4.92*	*4.95*	*4.96*	*5.00*	*4.98*	*5.01*	*5.01*	*5.05*	**4.89**	*4.96*	*5.01*
Other Non-OECD	**13.55**	**14.26**	**14.72**	**14.45**	*13.88*	*14.89*	*15.20*	*14.77*	*14.03*	*15.00*	*15.33*	*14.93*	**14.25**	*14.69*	*14.83*
Total World Supply	**100.43**	**100.43**	**100.19**	**101.58**	*100.55*	*102.01*	*102.68*	*102.63*	*101.78*	*102.88*	*103.52*	*103.94*	**100.66**	*101.97*	*103.04*
Non-OPEC Supply	**64.38**	**64.93**	**65.63**	**66.81**	*66.93*	*68.19*	*68.42*	*68.38*	*67.52*	*68.64*	*69.29*	*69.62*	**65.45**	*67.98*	*68.78*
Consumption (million barrels per day) (c)															
OECD	**47.42**	**46.72**	**47.85**	**47.58**	*46.96*	*46.64*	*47.91*	*47.96*	*47.47*	*46.74*	*47.95*	*48.01*	**47.40**	*47.37*	*47.54*
U.S. (50 States)	**20.29**	**20.32**	**20.68**	**20.47**	*20.03*	*20.39*	*20.92*	*20.79*	*20.50*	*20.49*	*20.98*	*20.86*	**20.44**	*20.53*	*20.71*
U.S. Territories	**0.12**	**0.11**	**0.12**	**0.13**	*0.12*	*0.11*	*0.12*	*0.13*	*0.16*	*0.14*	*0.14*	*0.15*	**0.12**	*0.12*	*0.15*
Canada	**2.45**	**2.44**	**2.60**	**2.58**	*2.52*	*2.46*	*2.57*	*2.54*	*2.52*	*2.46*	*2.57*	*2.54*	**2.52**	*2.52*	*2.52*
Europe	**13.93**	**14.04**	**14.53**	**14.16**	*13.75*	*13.99*	*14.50*	*14.20*	*13.78*	*13.99*	*14.49*	*14.21*	**14.17**	*14.11*	*14.12*
Japan	**4.09**	**3.41**	**3.44**	**3.81**	*4.05*	*3.32*	*3.40*	*3.74*	*4.00*	*3.28*	*3.36*	*3.69*	**3.68**	*3.63*	*3.58*
Other OECD	**6.55**	**6.40**	**6.49**	**6.45**	*6.50*	*6.38*	*6.41*	*6.56*	*6.51*	*6.38*	*6.41*	*6.56*	**6.47**	*6.46*	*6.46*
Non-OECD	**52.52**	**53.47**	**53.49**	**53.77**	*53.30*	*54.49*	*54.70*	*54.97*	*54.81*	*55.95*	*56.02*	*56.08*	**53.31**	*54.36*	*55.72*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	*4.84*	*4.96*	*5.34*	*5.24*	*4.98*	*5.04*	*5.43*	*5.28*	**5.01**	*5.10*	*5.18*
Europe	**0.76**	**0.76**	**0.78**	**0.78**	*0.77*	*0.77*	*0.79*	*0.79*	*0.78*	*0.78*	*0.80*	*0.80*	**0.77**	*0.78*	*0.79*
China	**14.38**	**14.67**	**14.39**	**14.61**	*14.66*	*14.97*	*14.83*	*15.09*	*15.50*	*15.71*	*15.41*	*15.65*	**14.51**	*14.89*	*15.57*
Other Asia	**13.95**	**13.97**	**13.62**	**13.97**	*14.18*	*14.35*	*13.97*	*14.32*	*14.69*	*14.86*	*14.42*	*14.79*	**13.88**	*14.21*	*14.69*
Other Non-OECD	**18.60**	**19.16**	**19.53**	**19.29**	*18.85*	*19.43*	*19.76*	*19.51*	*18.86*	*19.56*	*19.96*	*19.56*	**19.15**	*19.39*	*19.49*
Total World Consumption	**99.94**	**100.19**	**101.34**	**101.36**	*100.26*	*101.13*	*102.60*	*102.93*	*102.28*	*102.69*	*103.97*	*104.08*	**100.71**	*101.74*	*103.26*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.17**	**-0.62**	**0.06**	**0.37**	*0.08*	*-0.38*	*-0.14*	*0.34*	*-0.05*	*-0.35*	*-0.10*	*0.45*	**0.00**	*-0.02*	*-0.01*
Other OECD	**-0.21**	**-0.01**	**-0.12**	**0.17**	*-0.12*	*-0.16*	*0.02*	*-0.02*	*0.18*	*0.05*	*0.18*	*-0.10*	**-0.04**	*-0.07*	*0.08*
Other Stock Draws and Balance	**-0.45**	**0.38**	**1.21**	**-0.76**	*-0.25*	*-0.34*	*0.04*	*-0.03*	*0.37*	*0.11*	*0.38*	*-0.21*	**0.10**	*-0.14*	*0.16*
Total Stock Draw	**-0.49**	**-0.25**	**1.15**	**-0.22**	*-0.29*	*-0.88*	*-0.08*	*0.30*	*0.49*	*-0.19*	*0.45*	*0.14*	**0.05**	*-0.24*	*0.23*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,249**	**1,310**	**1,305**	**1,280**	*1,273*	*1,308*	*1,321*	*1,293*	*1,301*	*1,335*	*1,346*	*1,306*	**1,280**	*1,293*	*1,306*
OECD Commercial Inventory	**2,867**	**2,928**	**2,934**	**2,894**	*2,899*	*2,948*	*2,960*	*2,933*	*2,924*	*2,954*	*2,948*	*2,918*	**2,894**	*2,933*	*2,918*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Supply (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.26**	**26.76**	**26.87**	**27.92**	*28.35*	*28.74*	*28.76*	*28.84*	*28.79*	*29.13*	*29.47*	*29.90*	**26.96**	*28.67*	*29.32*
Canada	**5.44**	**5.47**	**5.46**	**5.59**	*5.62*	*5.62*	*5.67*	*5.73*	*5.80*	*5.80*	*5.87*	*5.94*	**5.49**	*5.66*	*5.85*
Mexico	**1.91**	**1.91**	**1.92**	**1.92**	*1.90*	*1.89*	*1.86*	*1.81*	*1.82*	*1.80*	*1.78*	*1.77*	**1.91**	*1.86*	*1.79*
United States	**18.91**	**19.38**	**19.49**	**20.41**	*20.83*	*21.23*	*21.23*	*21.31*	*21.17*	*21.52*	*21.82*	*22.19*	**19.55**	*21.15*	*21.68*
Central and South America	**4.91**	**5.68**	**6.25**	**5.85**	*5.29*	*6.32*	*6.65*	*6.25*	*5.52*	*6.53*	*6.87*	*6.49*	**5.68**	*6.13*	*6.36*
Argentina	**0.66**	**0.70**	**0.70**	**0.67**	*0.69*	*0.71*	*0.71*	*0.70*	*0.71*	*0.72*	*0.73*	*0.71*	**0.68**	*0.70*	*0.72*
Brazil	**2.90**	**3.65**	**4.22**	**3.86**	*3.21*	*4.18*	*4.51*	*4.12*	*3.39*	*4.39*	*4.73*	*4.36*	**3.66**	*4.01*	*4.22*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	*0.91*	*0.91*	*0.90*	*0.90*	*0.91*	*0.91*	*0.89*	*0.90*	**0.91**	*0.91*	*0.90*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.42**	*0.48*	*0.51*	*0.52*	*0.53*	*0.52*	*0.51*	*0.52*	*0.52*	**0.42**	*0.51*	*0.52*
Europe	**4.26**	**3.97**	**3.94**	**4.32**	*4.52*	*4.48*	*4.36*	*4.54*	*4.54*	*4.47*	*4.41*	*4.60*	**4.12**	*4.47*	*4.50*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	*2.11*	*2.08*	*2.07*	*2.17*	*2.18*	*2.12*	*2.13*	*2.19*	**1.75**	*2.11*	*2.16*
United Kingdom	**1.25**	**1.17**	**1.09**	**1.16**	*1.21*	*1.21*	*1.10*	*1.17*	*1.16*	*1.17*	*1.10*	*1.21*	**1.17**	*1.17*	*1.16*
Eurasia	**14.87**	**14.43**	**14.59**	**14.68**	*14.71*	*14.57*	*14.59*	*14.66*	*14.61*	*14.47*	*14.51*	*14.59*	**14.64**	*14.63*	*14.55*
Azerbaijan	**0.82**	**0.79**	**0.78**	**0.77**	*0.78*	*0.77*	*0.75*	*0.76*	*0.74*	*0.74*	*0.73*	*0.74*	**0.79**	*0.76*	*0.74*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	*2.03*	*1.99*	*2.03*	*2.06*	*2.05*	*1.94*	*1.98*	*2.02*	**1.97**	*2.03*	*2.00*
Russia	**11.58**	**11.41**	**11.48**	**11.49**	*11.51*	*11.43*	*11.42*	*11.45*	*11.45*	*11.42*	*11.43*	*11.47*	**11.49**	*11.45*	*11.44*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.25**	*0.25*	*0.25*	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.25**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	*0.14*	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.11**	**3.11**	**3.12**	**3.13**	*3.20*	*3.20*	*3.20*	*3.20*	*3.26*	*3.25*	*3.25*	*3.25*	**3.12**	*3.20*	*3.25*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	*0.99*	*0.99*	*0.99*	*0.99*	*1.00*	*1.00*	*1.00*	*1.00*	**0.98**	*0.99*	*1.00*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	*2.06*	*2.06*	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.46**	**9.44**	**9.31**	**9.35**	*9.38*	*9.40*	*9.39*	*9.42*	*9.40*	*9.39*	*9.37*	*9.39*	**9.39**	*9.39*	*9.39*
Australia	**0.40**	**0.44**	**0.47**	**0.49**	*0.50*	*0.50*	*0.51*	*0.52*	*0.52*	*0.51*	*0.50*	*0.50*	**0.45**	*0.51*	*0.51*
China	**4.89**	**4.92**	**4.89**	**4.88**	*4.92*	*4.95*	*4.96*	*5.00*	*4.98*	*5.01*	*5.01*	*5.05*	**4.89**	*4.96*	*5.01*
India	**1.01**	**0.99**	**0.98**	**0.95**	*0.95*	*0.93*	*0.93*	*0.92*	*0.94*	*0.93*	*0.92*	*0.92*	**0.98**	*0.93*	*0.93*
Indonesia	**0.94**	**0.90**	**0.90**	**0.85**	*0.86*	*0.85*	*0.84*	*0.83*	*0.82*	*0.81*	*0.81*	*0.80*	**0.90**	*0.84*	*0.81*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	*0.72*	*0.73*	*0.73*	*0.72*	*0.72*	*0.72*	*0.71*	*0.70*	**0.71**	*0.72*	*0.71*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	*0.21*	*0.21*	*0.21*	*0.21*	*0.20*	*0.20*	*0.20*	*0.20*	**0.24**	*0.21*	*0.20*
Africa	**1.52**	**1.54**	**1.55**	**1.56**	*1.48*	*1.48*	*1.48*	*1.48*	*1.41*	*1.41*	*1.41*	*1.41*	**1.54**	*1.48*	*1.41*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	*0.60*	*0.60*	*0.60*	*0.60*	*0.56*	*0.56*	*0.56*	*0.56*	**0.65**	*0.60*	*0.56*
South Sudan	**0.17**	**0.18**	**0.18**	**0.18**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.19*	*0.19*
Total non-OPEC liquids	**64.38**	**64.93**	**65.63**	**66.81**	*66.93*	*68.19*	*68.42*	*68.38*	*67.52*	*68.64*	*69.29*	*69.62*	**65.45**	*67.98*	*68.78*
OPEC non-crude liquids	**5.58**	**5.50**	**5.36**	**5.28**	*5.07*	*5.05*	*5.06*	*5.06*	*5.04*	*5.05*	*5.06*	*5.07*	**5.43**	*5.06*	*5.06*
Non-OPEC + OPEC non-crude	**69.96**	**70.43**	**70.99**	**72.10**	*72.00*	*73.24*	*73.47*	*73.45*	*72.57*	*73.69*	*74.35*	*74.69*	**70.88**	*73.04*	*73.83*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.25**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.31**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	-	-	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	-	-	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.31**	-	-	-	-	-	-	-	-	**0.32**	-	-
Ecuador	**0.53**	**0.53**	**0.55**	**0.51**	-	-	-	-	-	-	-	-	**0.53**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	-	-	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	-	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	-	-	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	-	-	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	-	-	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	-	-	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	-	-	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	-	-	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	-	-	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.68**	-	-	-	-	-	-	-	-	**0.81**	-	-
OPEC Total	**30.47**	**30.00**	**29.20**	**29.48**	*28.55*	*28.77*	*29.21*	*29.19*	*29.22*	*29.19*	*29.17*	*29.25*	**29.78**	*28.93*	*29.21*
Other Liquids (a)	**5.58**	**5.50**	**5.36**	**5.28**	*5.07*	*5.05*	*5.06*	*5.06*	*5.04*	*5.05*	*5.06*	*5.07*	**5.43**	*5.06*	*5.06*
Total OPEC Supply	**36.05**	**35.50**	**34.56**	**34.76**	*33.62*	*33.82*	*34.26*	*34.25*	*34.26*	*34.24*	*34.23*	*34.32*	**35.21**	*33.99*	*34.26*
Crude Oil Production Capacity															
Africa	**5.66**	**5.89**	**5.91**	**5.87**	*5.25*	*5.65*	*5.65*	*5.66*	*5.64*	*5.64*	*5.66*	*5.67*	**5.83**	*5.56*	*5.65*
Middle East	**25.31**	**24.96**	**23.96**	**24.13**	*24.68*	*24.85*	*25.03*	*25.11*	*25.12*	*25.20*	*25.22*	*25.31*	**24.59**	*24.92*	*25.21*
South America	**1.58**	**1.32**	**1.28**	**1.20**	*1.19*	*1.03*	*1.00*	*0.97*	*0.94*	*0.91*	*0.88*	*0.85*	**1.34**	*1.04*	*0.89*
OPEC Total	**32.55**	**32.18**	**31.16**	**31.19**	*31.12*	*31.53*	*31.68*	*31.73*	*31.70*	*31.74*	*31.75*	*31.83*	**31.76**	*31.51*	*31.76*
Surplus Crude Oil Production Capacity															
Africa	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Middle East	**2.08**	**2.18**	**1.95**	**1.71**	*2.57*	*2.75*	*2.47*	*2.55*	*2.48*	*2.56*	*2.58*	*2.58*	**1.98**	*2.58*	*2.55*
South America	**0.00**	**0.00**	**0.00**	**0.01**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
OPEC Total	**2.08**	**2.18**	**1.95**	**1.71**	*2.57*	*2.75*	*2.47*	*2.55*	*2.48*	*2.56*	*2.58*	*2.58*	**1.98**	*2.58*	*2.55*
Unplanned OPEC Production Outages	**2.52**	**2.45**	**3.12**	**2.82**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.73**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.
Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.68**	**24.72**	**25.22**	**24.90**	*24.43*	*24.78*	*25.41*	*25.27*	*24.91*	*24.87*	*25.47*	*25.34*	**24.88**	*24.97*	*25.15*
Canada	**2.45**	**2.44**	**2.60**	**2.58**	*2.52*	*2.46*	*2.57*	*2.54*	*2.52*	*2.46*	*2.57*	*2.54*	**2.52**	*2.52*	*2.52*
Mexico	**1.93**	**1.94**	**1.93**	**1.85**	*1.88*	*1.91*	*1.91*	*1.93*	*1.88*	*1.91*	*1.91*	*1.93*	**1.91**	*1.91*	*1.91*
United States	**20.29**	**20.32**	**20.68**	**20.47**	*20.03*	*20.39*	*20.92*	*20.79*	*20.50*	*20.49*	*20.98*	*20.86*	**20.44**	*20.53*	*20.71*
Central and South America	**6.60**	**6.79**	**6.85**	**6.85**	*6.63*	*6.78*	*6.91*	*6.92*	*6.68*	*6.82*	*6.95*	*6.96*	**6.78**	*6.81*	*6.86*
Brazil	**3.01**	**3.14**	**3.18**	**3.15**	*3.08*	*3.15*	*3.24*	*3.25*	*3.12*	*3.19*	*3.29*	*3.29*	**3.12**	*3.18*	*3.22*
Europe	**14.70**	**14.81**	**15.31**	**14.94**	*14.52*	*14.76*	*15.28*	*14.99*	*14.56*	*14.77*	*15.29*	*15.01*	**14.94**	*14.89*	*14.91*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	*4.84*	*4.96*	*5.34*	*5.24*	*4.98*	*5.04*	*5.43*	*5.28*	**5.01**	*5.10*	*5.18*
Russia	**3.67**	**3.76**	**3.97**	**3.91**	*3.67*	*3.82*	*4.14*	*4.03*	*3.80*	*3.90*	*4.22*	*4.06*	**3.83**	*3.92*	*3.99*
Middle East	**8.19**	**8.55**	**8.94**	**8.53**	*8.27*	*8.71*	*9.01*	*8.54*	*8.14*	*8.68*	*9.06*	*8.43*	**8.55**	*8.64*	*8.58*
Asia and Oceania	**36.43**	**35.91**	**35.42**	**36.39**	*36.93*	*36.51*	*36.10*	*37.21*	*38.27*	*37.74*	*37.10*	*38.20*	**36.03**	*36.69*	*37.83*
China	**14.38**	**14.67**	**14.39**	**14.61**	*14.66*	*14.97*	*14.83*	*15.09*	*15.50*	*15.71*	*15.41*	*15.65*	**14.51**	*14.89*	*15.57*
Japan	**4.09**	**3.41**	**3.44**	**3.81**	*4.05*	*3.32*	*3.40*	*3.74*	*4.00*	*3.28*	*3.36*	*3.69*	**3.68**	*3.63*	*3.58*
India	**4.82**	**4.75**	**4.48**	**4.77**	*4.93*	*4.99*	*4.66*	*4.95*	*5.12*	*5.18*	*4.84*	*5.14*	**4.70**	*4.88*	*5.07*
Africa	**4.51**	**4.51**	**4.43**	**4.63**	*4.63*	*4.63*	*4.54*	*4.75*	*4.75*	*4.75*	*4.66*	*4.87*	**4.52**	*4.64*	*4.76*
Total OECD Liquid Fuels Consumption	**47.42**	**46.72**	**47.85**	**47.58**	*46.96*	*46.64*	*47.91*	*47.96*	*47.47*	*46.74*	*47.95*	*48.01*	**47.40**	*47.37*	*47.54*
Total non-OECD Liquid Fuels Consumption	**52.52**	**53.47**	**53.49**	**53.77**	*53.30*	*54.49*	*54.70*	*54.97*	*54.81*	*55.95*	*56.02*	*56.08*	**53.31**	*54.36*	*55.72*
Total World Liquid Fuels Consumption	**99.94**	**100.19**	**101.34**	**101.36**	*100.26*	*101.13*	*102.60*	*102.93*	*102.28*	*102.69*	*103.97*	*104.08*	**100.71**	*101.74*	*103.26*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**111.6**	**112.2**	**112.8**	**113.4**	*113.8*	*114.7*	*115.6*	*116.4*	*117.4*	*118.2*	*118.8*	*119.6*	**112.5**	*115.1*	*118.5*
Percent change from prior year	**2.1**	**1.9**	**1.9**	**1.9**	*1.9*	*2.2*	*2.5*	*2.7*	*3.2*	*3.0*	*2.8*	*2.8*	**2.0**	*2.3*	*2.9*
OECD Index, 2015 Q1 = 100	**108.9**	**109.3**	**109.8**	**110.1**	*110.5*	*110.9*	*111.4*	*111.8*	*112.3*	*112.8*	*113.3*	*113.8*	**109.5**	*111.2*	*113.1*
Percent change from prior year	**1.8**	**1.7**	**1.7**	**1.7**	*1.5*	*1.5*	*1.4*	*1.5*	*1.7*	*1.7*	*1.7*	*1.7*	**1.7**	*1.5*	*1.7*
Non-OECD Index, 2015 Q1 = 100	**114.3**	**114.9**	**115.6**	**116.5**	*117.0*	*118.3*	*119.7*	*120.9*	*122.4*	*123.5*	*124.3*	*125.4*	**115.3**	*119.0*	*123.9*
Percent change from prior year	**2.3**	**2.2**	**2.1**	**2.1**	*2.3*	*3.0*	*3.5*	*3.8*	*4.6*	*4.3*	*3.8*	*3.7*	**2.2**	*3.2*	*4.1*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.14**	**105.73**	**106.20**	**106.04**	*105.15*	*105.33*	*105.30*	*104.92*	*104.74*	*104.43*	*104.05*	*103.40*	**105.78**	*105.17*	*104.15*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.0**	*0.0*	*-0.4*	*-0.8*	*-1.1*	*-0.4*	*-0.9*	*-1.2*	*-1.4*	**2.1**	*-0.6*	*-1.0*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.81**	**12.10**	**12.23**	**12.82**	*13.16*	*13.25*	*13.17*	*13.22*	*13.32*	*13.46*	*13.57*	*13.86*	**12.24**	*13.20*	*13.56*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	*0.51*	*0.49*	*0.45*	*0.49*	*0.51*	*0.50*	*0.46*	*0.50*	**0.47**	*0.48*	*0.49*
Federal Gulf of Mexico (b)	**1.85**	**1.93**	**1.82**	**1.95**	*2.02*	*2.05*	*1.96*	*1.96*	*2.04*	*2.02*	*1.94*	*2.00*	**1.89**	*2.00*	*2.00*
Lower 48 States (excl GOM)	**9.47**	**9.70**	**9.98**	**10.38**	*10.64*	*10.72*	*10.76*	*10.78*	*10.77*	*10.94*	*11.17*	*11.37*	**9.89**	*10.72*	*11.06*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.89**	*3.36*	*4.15*	*4.03*	*3.86*	*3.07*	*3.21*	*3.10*	*2.69*	**3.81**	*3.85*	*3.02*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	*0.01*	*0.01*	*0.00*	*0.03*	*0.03*	*0.03*	*0.01*	*0.03*	**0.04**	*0.01*	*0.03*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.05**	*-0.37*	*0.00*	*0.13*	*-0.08*	*-0.32*	*0.13*	*0.22*	*0.02*	**0.03**	*-0.08*	*0.01*
Crude Oil Adjustment (d)	**0.33**	**0.53**	**0.38**	**0.58**	*0.27*	*0.19*	*0.21*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.45**	*0.20*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.35**	*16.43*	*17.59*	*17.55*	*17.19*	*16.32*	*17.05*	*17.13*	*16.76*	**16.57**	*17.19*	*16.82*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.13**	*1.14*	*1.22*	*1.23*	*1.24*	*1.17*	*1.21*	*1.24*	*1.25*	**1.08**	*1.21*	*1.22*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**5.04**	*5.13*	*5.31*	*5.42*	*5.42*	*5.27*	*5.39*	*5.57*	*5.63*	**4.83**	*5.32*	*5.47*
Renewables and Oxygenate Production (e)	**1.18**	**1.23**	**1.20**	**1.21**	*1.18*	*1.22*	*1.19*	*1.20*	*1.19*	*1.23*	*1.22*	*1.23*	**1.21**	*1.20*	*1.22*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	*1.03*	*1.04*	*1.02*	*1.03*	*1.02*	*1.03*	*1.03*	*1.04*	**1.03**	*1.03*	*1.03*
Petroleum Products Adjustment (f)	**0.20**	**0.18**	**0.19**	**0.20**	*0.21*	*0.23*	*0.23*	*0.23*	*0.22*	*0.22*	*0.22*	*0.22*	**0.19**	*0.22*	*0.22*
Product Net Imports (c)	**-3.35**	**-3.10**	**-3.20**	**-3.78**	*-4.51*	*-4.79*	*-4.41*	*-4.87*	*-3.90*	*-4.11*	*-4.06*	*-4.63*	**-3.36**	*-4.65*	*-4.18*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.89**	*-2.04*	*-2.16*	*-2.11*	*-2.06*	*-1.87*	*-2.09*	*-2.12*	*-2.11*	**-1.63**	*-2.09*	*-2.05*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.43**	*0.36*	*0.55*	*0.51*	*0.39*	*0.35*	*0.46*	*0.45*	*0.32*	**0.40**	*0.45*	*0.39*
Other HC/Oxygenates	**-0.13**	**-0.13**	**-0.13**	**-0.09**	*-0.11*	*-0.11*	*-0.10*	*-0.10*	*-0.09*	*-0.09*	*-0.10*	*-0.10*	**-0.12**	*-0.10*	*-0.09*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.38**	*0.23*	*0.60*	*0.49*	*0.23*	*0.55*	*0.66*	*0.50*	*0.20*	**0.57**	*0.39*	*0.47*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.85**	*-0.86*	*-1.04*	*-0.88*	*-1.05*	*-0.90*	*-0.83*	*-0.68*	*-0.88*	**-0.73**	*-0.96*	*-0.82*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.10**	*-0.09*	*-0.06*	*-0.06*	*-0.07*	*0.01*	*0.03*	*0.06*	*0.02*	**-0.06**	*-0.07*	*0.03*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-1.04**	*-1.09*	*-1.58*	*-1.41*	*-1.27*	*-0.98*	*-1.30*	*-1.26*	*-1.13*	**-1.14**	*-1.34*	*-1.17*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**-0.03**	*0.04*	*-0.13*	*-0.07*	*-0.04*	*-0.05*	*-0.13*	*-0.08*	*-0.02*	**-0.08**	*-0.05*	*-0.07*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.57**	*-0.96*	*-0.86*	*-0.79*	*-0.89*	*-0.91*	*-0.83*	*-0.83*	*-0.93*	**-0.56**	*-0.88*	*-0.87*
Product Inventory Net Withdrawals	**0.35**	**-0.62**	**-0.35**	**0.32**	*0.44*	*-0.38*	*-0.27*	*0.39*	*0.24*	*-0.51*	*-0.33*	*0.41*	**-0.07**	*0.04*	*-0.05*
Total Supply	**20.30**	**20.32**	**20.68**	**20.47**	*20.03*	*20.39*	*20.92*	*20.79*	*20.50*	*20.49*	*20.98*	*20.86*	**20.44**	*20.53*	*20.71*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.48**	**2.79**	**2.95**	**3.30**	*3.41*	*3.02*	*3.16*	*3.56*	*3.70*	*3.15*	*3.30*	*3.70*	**3.13**	*3.29*	*3.46*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.09**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.05**	*0.00*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.19**	*8.91*	*9.43*	*9.49*	*9.22*	*8.88*	*9.39*	*9.44*	*9.12*	**9.28**	*9.26*	*9.21*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.98**	*0.91*	*0.96*	*0.96*	*0.94*	*0.90*	*0.96*	*0.96*	*0.94*	**0.95**	*0.95*	*0.94*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.74**	*1.70*	*1.79*	*1.83*	*1.78*	*1.73*	*1.80*	*1.84*	*1.79*	**1.74**	*1.78*	*1.79*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.03**	*4.08*	*4.01*	*4.06*	*4.11*	*4.26*	*4.03*	*4.05*	*4.14*	**4.06**	*4.07*	*4.12*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.29**	*0.27*	*0.22*	*0.30*	*0.27*	*0.27*	*0.22*	*0.30*	*0.27*	**0.28**	*0.26*	*0.27*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.83**	*1.66*	*1.91*	*2.08*	*1.86*	*1.66*	*1.90*	*2.07*	*1.85*	**1.90**	*1.88*	*1.87*
Total Consumption	**20.29**	**20.32**	**20.68**	**20.47**	*20.03*	*20.39*	*20.92*	*20.79*	*20.50*	*20.49*	*20.98*	*20.86*	**20.44**	*20.53*	*20.71*
Total Petroleum and Other Liquids Net Imports	**0.89**	**1.04**	**0.75**	**-0.89**	*-1.15*	*-0.65*	*-0.38*	*-1.01*	*-0.83*	*-0.90*	*-0.96*	*-1.95*	**0.44**	*-0.79*	*-1.16*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**431.1**	*464.9*	*465.1*	*453.0*	*460.2*	*489.2*	*477.4*	*457.2*	*455.3*	**431.1**	*460.2*	*455.3*
Hydrocarbon Gas Liquids	**163.0**	**228.9**	**267.1**	**218.3**	*178.3*	*223.5*	*259.2*	*212.0*	*175.2*	*224.1*	*260.9*	*216.2*	**218.3**	*212.0*	*216.2*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.2**	*94.2*	*92.7*	*90.0*	*83.6*	*93.1*	*91.4*	*91.1*	*85.1*	**89.2**	*83.6*	*85.1*
Other HC/Oxygenates	**32.8**	**30.7**	**29.7**	**28.8**	*30.6*	*29.5*	*28.8*	*29.4*	*31.2*	*30.2*	*29.4*	*30.1*	**28.8**	*29.4*	*30.1*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**251.6**	*239.6*	*229.7*	*224.3*	*237.8*	*246.6*	*241.9*	*237.0*	*247.2*	**251.6**	*237.8*	*247.2*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.5**	*24.4*	*22.7*	*23.7*	*24.1*	*23.7*	*22.0*	*23.0*	*23.4*	**26.5**	*24.1*	*23.4*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**225.1**	*215.2*	*207.0*	*200.6*	*213.7*	*222.9*	*219.9*	*214.0*	*223.7*	**225.1**	*213.7*	*223.7*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.0**	*41.9*	*43.2*	*44.6*	*42.6*	*41.7*	*42.4*	*44.4*	*41.3*	**40.0**	*42.6*	*41.3*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**139.1**	*135.6*	*137.5*	*142.0*	*146.0*	*134.3*	*138.5*	*144.4*	*146.0*	**139.1**	*146.0*	*146.0*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**28.3**	*31.8*	*31.6*	*29.7*	*29.1*	*31.4*	*32.5*	*30.3*	*32.0*	**28.3**	*29.1*	*32.0*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**53.7**	*56.5*	*55.4*	*49.9*	*52.2*	*57.9*	*56.7*	*51.0*	*53.3*	**53.7**	*52.2*	*53.3*
Total Commercial Inventory	**1,249**	**1,310**	**1,305**	**1,280**	*1,273*	*1,308*	*1,321*	*1,293*	*1,301*	*1,335*	*1,346*	*1,306*	**1,280**	*1,293*	*1,306*
Crude Oil in SPR	**649**	**645**	**645**	**635**	*635*	*634*	*634*	*631*	*628*	*625*	*624*	*621*	**635**	*631*	*621*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.89**	*1.98*	*2.10*	*2.15*	*2.25*	*2.27*	*2.28*	*2.35*	*2.45*	**1.83**	*2.12*	*2.34*
Propane	**1.50**	**1.56**	**1.61**	**1.68**	*1.69*	*1.71*	*1.73*	*1.69*	*1.61*	*1.65*	*1.70*	*1.69*	**1.59**	*1.71*	*1.66*
Butanes	**0.79**	**0.84**	**0.87**	**0.90**	*0.89*	*0.91*	*0.92*	*0.90*	*0.85*	*0.88*	*0.91*	*0.90*	**0.85**	*0.91*	*0.88*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.58**	*0.56*	*0.59*	*0.61*	*0.59*	*0.55*	*0.59*	*0.62*	*0.59*	**0.56**	*0.59*	*0.59*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.01*	*0.01*	*0.00*	**0.01**	*0.00*	*0.00*
Propane	**0.28**	**0.30**	**0.29**	**0.30**	*0.28*	*0.30*	*0.30*	*0.29*	*0.28*	*0.31*	*0.30*	*0.30*	**0.29**	*0.29*	*0.30*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.29**	*0.28*	*0.29*	*0.29*	*0.29*	*0.28*	*0.29*	*0.28*	*0.29*	**0.28**	*0.29*	*0.28*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	*-0.08*	*0.26*	*0.19*	*-0.20*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.03**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.34**	*-0.27*	*-0.32*	*-0.34*	*-0.35*	*-0.34*	*-0.37*	*-0.37*	*-0.40*	**-0.29**	*-0.32*	*-0.37*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.05**	*-1.14*	*-1.24*	*-1.15*	*-1.13*	*-0.95*	*-1.14*	*-1.13*	*-1.11*	**-0.94**	*-1.17*	*-1.08*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.28**	*-0.34*	*-0.32*	*-0.32*	*-0.32*	*-0.29*	*-0.30*	*-0.32*	*-0.33*	**-0.24**	*-0.32*	*-0.31*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.22**	*-0.30*	*-0.28*	*-0.30*	*-0.27*	*-0.28*	*-0.28*	*-0.30*	*-0.27*	**-0.17**	*-0.29*	*-0.28*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	*0.42*	*0.31*	*0.34*	*0.51*	*0.42*	*0.30*	*0.33*	*0.50*	**0.40**	*0.40*	*0.39*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	*0.16*	*0.16*	*0.17*	*0.17*	*0.16*	*0.17*	*0.18*	*0.18*	**0.17**	*0.17*	*0.17*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.55**	*1.75*	*1.76*	*1.84*	*1.91*	*1.92*	*1.88*	*2.00*	*2.05*	**1.53**	*1.81*	*1.96*
Propane	**1.20**	**0.58**	**0.65**	**1.05**	*1.09*	*0.59*	*0.66*	*1.00*	*1.20*	*0.59*	*0.64*	*1.01*	**0.87**	*0.84*	*0.86*
Propylene (refinery-grade)	**0.28**	**0.31**	**0.29**	**0.30**	*0.30*	*0.32*	*0.31*	*0.30*	*0.29*	*0.32*	*0.31*	*0.29*	**0.30**	*0.31*	*0.30*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.24**	*0.18*	*0.26*	*0.24*	*0.21*	*0.18*	*0.26*	*0.24*	*0.21*	**0.24**	*0.22*	*0.22*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.17**	*0.09*	*0.10*	*0.11*	*0.13*	*0.10*	*0.10*	*0.10*	*0.13*	**0.20**	*0.11*	*0.11*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**58.93**	*54.85*	*57.08*	*55.15*	*55.99*	*54.09*	*58.04*	*56.43*	*58.12*	**54.96**	*55.77*	*56.68*
Propane	**47.77**	**71.72**	**95.60**	**83.01**	*56.88*	*72.30*	*89.53*	*74.12*	*48.61*	*67.16*	*85.86*	*72.11*	**83.01**	*74.12*	*72.11*
Propylene (refinery-grade)	**7.82**	**6.57**	**6.95**	**7.87**	*7.98*	*7.39*	*7.22*	*8.10*	*8.93*	*8.59*	*7.99*	*8.95*	**7.87**	*8.10*	*8.95*
Butanes/Butylenes	**39.30**	**70.72**	**85.88**	**49.50**	*39.04*	*64.94*	*83.64*	*51.62*	*40.32*	*66.22*	*84.92*	*52.90*	**49.50**	*51.62*	*52.90*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.30**	*19.44*	*21.97*	*23.60*	*23.57*	*22.13*	*24.15*	*25.38*	*24.94*	**20.30**	*23.57*	*24.94*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.35**	*16.43*	*17.59*	*17.55*	*17.19*	*16.32*	*17.05*	*17.13*	*16.76*	**16.57**	*17.19*	*16.82*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	*0.58*	*0.47*	*0.51*	*0.68*	*0.58*	*0.47*	*0.50*	*0.68*	**0.57**	*0.56*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.21**	*1.22*	*1.27*	*1.24*	*1.24*	*1.24*	*1.30*	*1.26*	*1.26*	**1.20**	*1.24*	*1.27*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.38**	*0.31*	*0.56*	*0.54*	*0.46*	*0.24*	*0.48*	*0.45*	*0.38*	**0.34**	*0.47*	*0.39*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.31**	*0.49*	*0.84*	*0.66*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.66**	*0.56*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**18.96**	*19.02*	*20.73*	*20.50*	*19.83*	*18.95*	*20.14*	*20.02*	*19.34*	**19.34**	*20.02*	*19.61*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.13**	*1.14*	*1.22*	*1.23*	*1.24*	*1.17*	*1.21*	*1.24*	*1.25*	**1.08**	*1.21*	*1.22*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.36**	*0.48*	*0.86*	*0.77*	*0.39*	*0.49*	*0.87*	*0.77*	*0.39*	**0.61**	*0.63*	*0.63*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.12**	*9.86*	*10.57*	*10.46*	*10.41*	*9.88*	*10.31*	*10.20*	*10.14*	**10.08**	*10.33*	*10.13*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	*1.81*	*1.86*	*1.91*	*1.83*	*1.71*	*1.78*	*1.80*	*1.73*	**1.80**	*1.85*	*1.75*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.08**	*5.09*	*5.55*	*5.44*	*5.36*	*5.07*	*5.31*	*5.30*	*5.21*	**5.13**	*5.36*	*5.23*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.31**	*0.26*	*0.35*	*0.34*	*0.30*	*0.35*	*0.36*	*0.35*	*0.30*	**0.36**	*0.31*	*0.34*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.43**	*2.65*	*2.76*	*2.81*	*2.78*	*2.63*	*2.72*	*2.84*	*2.80*	**2.45**	*2.75*	*2.75*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.10**	*20.16*	*21.96*	*21.73*	*21.07*	*20.12*	*21.35*	*21.25*	*20.58*	**20.43**	*21.23*	*20.83*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.86**	*16.68*	*17.69*	*17.73*	*17.36*	*16.54*	*17.21*	*17.35*	*16.97*	**16.98**	*17.36*	*17.02*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.81**	*18.81*	*18.81*	*18.81*	*18.84*	*18.84*	*18.84*	*18.84*	*18.86*	**18.80**	*18.82*	*18.84*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	*0.89*	*0.94*	*0.94*	*0.92*	*0.88*	*0.91*	*0.92*	*0.90*	**0.90**	*0.92*	*0.90*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	*165*	*175*	*189*	*180*	*177*	*196*	*195*	*183*	**186**	*177*	*188*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	*234*	*238*	*256*	*248*	*244*	*262*	*265*	*253*	**251**	*244*	*256*
PADD 2	**223**	**269**	**257**	**244**	*227*	*239*	*258*	*245*	*236*	*266*	*263*	*247*	**249**	*243*	*253*
PADD 3	**206**	**246**	**234**	**224**	*216*	*224*	*238*	*229*	*227*	*246*	*244*	*231*	**228**	*227*	*237*
PADD 4	**226**	**285**	**270**	**276**	*242*	*241*	*260*	*252*	*244*	*267*	*270*	*254*	**265**	*249*	*259*
PADD 5	**297**	**356**	**331**	**350**	*304*	*312*	*324*	*324*	*304*	*330*	*330*	*318*	**334**	*316*	*321*
U.S. Average	**236**	**279**	**265**	**259**	*241*	*249*	*266*	*257*	*249*	*272*	*272*	*259*	**260**	*253*	*263*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	*251*	*260*	*278*	*270*	*262*	*285*	*285*	*272*	**269**	*265*	*276*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**64.6**	*60.3*	*59.9*	*57.9*	*62.1*	*66.6*	*66.5*	*61.7*	*67.3*	**64.6**	*62.1*	*67.3*
PADD 2	**53.9**	**49.6**	**51.0**	**55.1**	*54.7*	*50.3*	*49.4*	*51.4*	*54.2*	*52.6*	*52.5*	*50.3*	**55.1**	*51.4*	*50.3*
PADD 3	**82.5**	**82.4**	**81.5**	**91.0**	*86.8*	*83.3*	*81.1*	*85.3*	*88.0*	*86.3*	*86.3*	*89.8*	**91.0**	*85.3*	*89.8*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	*8.0*	*7.4*	*6.9*	*7.2*	*7.6*	*7.7*	*7.4*	*7.8*	**8.3**	*7.2*	*7.8*
PADD 5	**30.4**	**30.6**	**26.8**	**32.6**	*29.8*	*28.7*	*29.1*	*31.8*	*30.3*	*28.7*	*29.1*	*31.9*	**32.6**	*31.8*	*31.9*
U.S. Total	**236.1**	**229.7**	**231.9**	**251.6**	*239.6*	*229.7*	*224.3*	*237.8*	*246.6*	*241.9*	*237.0*	*247.2*	**251.6**	*237.8*	*247.2*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.5**	*24.4*	*22.7*	*23.7*	*24.1*	*23.7*	*22.0*	*23.0*	*23.4*	**26.5**	*24.1*	*23.4*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**225.1**	*215.2*	*207.0*	*200.6*	*213.7*	*222.9*	*219.9*	*214.0*	*223.7*	**225.1**	*213.7*	*223.7*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**102.90**	*102.34*	*101.53*	*101.19*	*100.38*	*99.01*	*99.39*	*100.34*	*100.70*	**99.10**	*101.36*	*99.87*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	*1.00*	*0.85*	*0.78*	*0.94*	*1.01*	*0.87*	*0.80*	*0.95*	**0.90**	*0.89*	*0.91*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.75**	*2.82*	*2.77*	*2.60*	*2.55*	*2.58*	*2.52*	*2.38*	*2.35*	**2.70**	*2.68*	*2.45*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.22**	*98.52*	*97.91*	*97.81*	*96.89*	*95.42*	*96.01*	*97.17*	*97.40*	**95.50**	*97.78*	*96.51*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**95.70**	*95.15*	*94.34*	*93.98*	*93.17*	*91.85*	*92.16*	*92.99*	*93.27*	**92.15**	*94.16*	*92.57*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.21**	*0.32*	*0.10*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.15**	*0.20*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.96**	**6.37**	*6.80*	*5.76*	*6.58*	*7.35*	*8.23*	*6.88*	*7.56*	*8.20*	**4.98**	*6.63*	*7.72*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.33**	*7.70*	*6.53*	*6.47*	*7.33*	*7.83*	*6.46*	*6.66*	*7.54*	**7.37**	*7.01*	*7.12*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.46**	*8.63*	*7.95*	*8.13*	*7.84*	*8.41*	*7.72*	*8.62*	*9.24*	**7.83**	*8.14*	*8.50*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.16**	*0.18*	*0.18*	*0.18*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.18*	*0.17*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.40**	**2.23**	*13.65*	*-10.84*	*-8.88*	*3.19*	*17.56*	*-10.46*	*-8.21*	*3.50*	**-1.42**	*-0.73*	*0.54*
Total Supply	**103.21**	**71.52**	**77.13**	**90.81**	*101.55*	*76.59*	*77.21*	*88.86*	*101.10*	*73.91*	*75.62*	*87.24*	**85.61**	*86.04*	*84.41*
Balancing Item (b)	**0.12**	**-0.78**	**-0.38**	**-1.72**	*1.55*	*-0.08*	*-0.74*	*0.09*	*1.78*	*0.54*	*0.73*	*1.74*	**-0.70**	*0.20*	*1.20*
Total Primary Supply	**103.32**	**70.74**	**76.75**	**89.09**	*103.11*	*76.52*	*76.47*	*88.95*	*102.88*	*74.45*	*76.35*	*88.98*	**84.91**	*86.24*	*85.60*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**16.68**	*25.27*	*7.74*	*3.64*	*16.87*	*26.52*	*7.62*	*3.62*	*16.92*	**13.62**	*13.36*	*13.62*
Commercial	**16.19**	**6.36**	**4.68**	**11.06**	*14.78*	*6.67*	*4.89*	*10.70*	*15.33*	*6.67*	*4.88*	*10.68*	**9.55**	*9.25*	*9.36*
Industrial	**25.12**	**21.74**	**21.31**	**24.08**	*25.96*	*23.14*	*22.29*	*25.34*	*26.15*	*23.18*	*22.44*	*25.62*	**23.05**	*24.18*	*24.34*
Electric Power (c)	**26.84**	**28.14**	**39.75**	**29.29**	*28.79*	*31.37*	*37.96*	*28.02*	*26.53*	*29.37*	*37.61*	*27.60*	**31.03**	*31.54*	*30.30*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.28**	*5.25*	*5.21*	*5.19*	*5.15*	*5.08*	*5.10*	*5.15*	*5.17*	**5.09**	*5.20*	*5.12*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.55**	*2.91*	*2.24*	*2.35*	*2.71*	*3.12*	*2.36*	*2.50*	*2.84*	**2.44**	*2.55*	*2.70*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.14**	*0.15*	*0.16*
Total Consumption	**103.32**	**70.74**	**76.75**	**89.09**	*103.11*	*76.52*	*76.47*	*88.95*	*102.88*	*74.45*	*76.35*	*88.98*	**84.91**	*86.24*	*85.60*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,207**	*1,965*	*2,952*	*3,769*	*3,476*	*1,895*	*2,847*	*3,602*	*3,281*	**3,207**	*3,476*	*3,281*
East Region (d)	**216**	**537**	**845**	**765**	*370*	*653*	*943*	*837*	*321*	*627*	*887*	*758*	**765**	*837*	*758*
Midwest Region (d)	**242**	**579**	**990**	**896**	*450*	*732*	*1,085*	*979*	*353*	*607*	*955*	*846*	**896**	*979*	*846*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	*819*	*1,111*	*1,213*	*1,192*	*896*	*1,144*	*1,225*	*1,218*	**1,095**	*1,192*	*1,218*
Mountain Region (d)	**63**	**135**	**200**	**170**	*100*	*141*	*185*	*153*	*107*	*150*	*193*	*158*	**170**	*153*	*158*
Pacific Region (d)	**115**	**259**	**294**	**248**	*196*	*284*	*313*	*284*	*187*	*288*	*313*	*272*	**248**	*284*	*272*
Alaska	**30**	**33**	**37**	**34**	*30*	*30*	*30*	*30*	*30*	*30*	*30*	*30*	**34**	*30*	*30*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	*2.05*	*2.17*	*2.45*	*2.51*	*2.75*	*2.53*	*2.56*	*2.66*	**2.66**	*2.29*	*2.62*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**13.91**	*13.08*	*13.67*	*16.57*	*12.76*	*12.56*	*13.66*	*16.64*	*12.80*	**14.79**	*13.31*	*13.07*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.41**	*9.91*	*11.58*	*15.98*	*10.19*	*9.25*	*11.70*	*16.22*	*10.48*	**11.77**	*10.68*	*10.42*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.85**	*7.14*	*9.93*	*15.95*	*7.91*	*7.38*	*10.36*	*16.08*	*7.88*	**8.48**	*8.35*	*8.46*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.14**	*7.18*	*10.04*	*16.36*	*8.55*	*7.56*	*10.54*	*16.62*	*8.63*	**8.81**	*8.51*	*8.79*
S. Atlantic	**11.63**	**18.34**	**26.03**	**13.14**	*11.45*	*15.86*	*21.92*	*11.87*	*10.54*	*15.78*	*22.03*	*11.98*	**13.94**	*13.00*	*12.47*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.33**	*9.29*	*13.78*	*20.94*	*12.56*	*10.13*	*14.86*	*21.79*	*13.07*	**11.02**	*11.53*	*12.25*
W. S. Central	**8.29**	**13.38**	**21.45**	**9.77**	*8.56*	*13.87*	*20.11*	*11.55*	*8.93*	*14.68*	*20.47*	*11.69*	**10.31**	*11.09*	*11.44*
Mountain	**7.73**	**9.46**	**13.40**	**7.70**	*7.55*	*9.12*	*12.86*	*7.78*	*7.61*	*9.48*	*13.27*	*8.12*	**8.38**	*8.28*	*8.50*
Pacific	**12.44**	**12.75**	**13.50**	**11.89**	*12.09*	*12.70*	*13.51*	*12.51*	*12.82*	*13.60*	*14.30*	*13.19*	**12.44**	*12.49*	*13.25*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.81**	*9.11*	*11.60*	*16.45*	*10.00*	*9.14*	*12.01*	*16.80*	*10.21*	**10.54**	*10.25*	*10.39*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**9.93**	*9.30*	*8.77*	*8.68*	*8.57*	*8.84*	*9.12*	*9.12*	*9.09*	**10.90**	*8.93*	*8.99*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.56**	*7.43*	*7.11*	*6.62*	*7.20*	*7.39*	*7.27*	*6.72*	*7.24*	**7.89**	*7.20*	*7.24*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.23**	*5.69*	*6.67*	*8.31*	*6.46*	*6.26*	*7.29*	*8.62*	*6.58*	**6.57**	*6.29*	*6.68*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.36**	*6.51*	*6.76*	*8.04*	*6.53*	*6.79*	*7.25*	*8.38*	*6.81*	**6.80**	*6.67*	*6.98*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.75**	*8.45*	*9.14*	*9.73*	*8.83*	*8.66*	*9.45*	*9.80*	*8.72*	**9.03**	*8.84*	*8.94*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.33**	*7.87*	*8.50*	*9.11*	*8.14*	*7.74*	*8.76*	*9.34*	*8.32*	**8.85**	*8.20*	*8.24*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.51**	*6.32*	*6.58*	*7.46*	*6.94*	*6.59*	*7.10*	*7.72*	*7.10*	**6.44**	*6.70*	*6.98*
Mountain	**6.40**	**6.72**	**7.41**	**6.15**	*6.50*	*6.71*	*7.56*	*6.62*	*6.85*	*7.13*	*7.91*	*6.88*	**6.47**	*6.69*	*7.02*
Pacific	**9.08**	**8.82**	**9.14**	**8.78**	*8.47*	*8.17*	*8.43*	*8.12*	*8.33*	*8.44*	*8.68*	*8.31*	**8.95**	*8.30*	*8.40*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.29**	*7.08*	*7.39*	*7.98*	*7.28*	*7.25*	*7.77*	*8.21*	*7.43*	**7.65**	*7.30*	*7.50*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.34**	*7.55*	*7.07*	*6.79*	*7.87*	*8.26*	*7.48*	*6.88*	*7.79*	**8.09**	*7.40*	*7.72*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.83**	*7.04*	*6.39*	*6.61*	*6.95*	*7.40*	*6.84*	*6.89*	*7.12*	**7.81**	*6.85*	*7.17*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.32**	*5.57*	*4.94*	*5.04*	*5.03*	*5.68*	*5.43*	*5.34*	*5.30*	**5.54**	*5.24*	*5.48*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.35**	*4.56*	*3.54*	*3.57*	*4.24*	*4.79*	*4.07*	*3.95*	*4.60*	**4.28**	*4.04*	*4.40*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.57**	*4.44*	*4.03*	*4.34*	*4.65*	*5.01*	*4.46*	*4.43*	*4.74*	**4.81**	*4.37*	*4.68*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.21**	*3.98*	*3.69*	*3.98*	*4.36*	*4.64*	*4.24*	*4.13*	*4.51*	**4.24**	*4.01*	*4.40*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.93**	*2.27*	*2.23*	*2.65*	*2.69*	*2.88*	*2.64*	*2.76*	*2.85*	**2.96**	*2.46*	*2.78*
Mountain	**5.31**	**4.80**	**5.00**	**4.86**	*5.00*	*4.70*	*5.13*	*5.25*	*5.43*	*5.13*	*5.36*	*5.39*	**5.01**	*5.03*	*5.34*
Pacific	**7.68**	**6.66**	**6.49**	**6.69**	*6.51*	*5.64*	*5.89*	*6.02*	*6.52*	*6.04*	*6.15*	*6.20*	**6.92**	*6.05*	*6.24*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.89**	*3.54*	*3.05*	*3.31*	*3.66*	*4.07*	*3.50*	*3.45*	*3.84*	**3.95**	*3.40*	*3.74*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**170.3**	**174.9**	**179.7**	**165.2**	*162.7*	*117.1*	*161.3*	*154.4*	*160.4*	*114.9*	*153.7*	*158.4*	**690.1**	*595.5*	*587.4*
Appalachia	**47.4**	**49.3**	**46.6**	**44.3**	*47.6*	*35.8*	*40.8*	*36.7*	*36.6*	*29.4*	*34.6*	*34.3*	**187.6**	*160.9*	*134.9*
Interior	**31.0**	**32.2**	**32.4**	**30.6**	*32.3*	*24.9*	*33.5*	*34.3*	*36.1*	*25.2*	*32.7*	*36.2*	**126.2**	*124.9*	*130.1*
Western	**91.9**	**93.4**	**102.4**	**90.3**	*82.7*	*56.4*	*87.0*	*83.4*	*87.7*	*60.4*	*86.4*	*87.9*	**378.0**	*309.6*	*322.4*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	*-0.5*	*0.9*	*1.4*	*-2.4*	*-0.4*	*1.2*	*1.7*	*-2.4*	**-2.7**	*-0.7*	*0.1*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	*1.2*	*1.3*	*1.5*	*1.4*	*1.2*	*1.3*	*1.5*	*1.4*	**6.6**	*5.4*	*5.4*
Exports	**25.2**	**25.3**	**21.9**	**21.8**	*25.5*	*21.1*	*20.1*	*19.4*	*22.7*	*20.8*	*20.8*	*20.8*	**94.2**	*86.1*	*85.1*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.4**	*14.0*	*11.8*	*11.6*	*11.1*	*13.5*	*12.2*	*12.3*	*12.1*	**54.9**	*48.4*	*50.1*
Steam Coal	**11.3**	**10.2**	**8.4**	**9.3**	*11.5*	*9.3*	*8.5*	*8.3*	*9.1*	*8.5*	*8.5*	*8.8*	**39.3**	*37.7*	*34.9*
Total Primary Supply	**145.3**	**152.4**	**158.3**	**143.8**	*137.8*	*98.2*	*144.0*	*134.0*	*138.5*	*96.6*	*136.1*	*136.6*	**599.8**	*514.0*	*507.9*
Secondary Inventory Withdrawals	**6.2**	**-21.0**	**6.1**	**-12.3**	*-3.2*	*3.7*	*7.6*	*-7.6*	*-0.4*	*3.4*	*7.5*	*-7.7*	**-21.0**	*0.5*	*2.8*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**153.8**	**133.7**	**166.7**	**133.8**	*136.9*	*104.1*	*154.0*	*128.7*	*140.1*	*102.1*	*145.7*	*130.9*	**588.2**	*523.7*	*518.7*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**6.8**	*5.6*	*5.3*	*5.2*	*6.3*	*5.3*	*5.2*	*5.1*	*6.2*	**20.4**	*22.5*	*21.8*
Electric Power Sector (b)	**145.3**	**118.0**	**156.6**	**126.2**	*116.6*	*91.5*	*141.6*	*115.0*	*127.4*	*89.9*	*133.8*	*117.7*	**546.1**	*464.7*	*468.8*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	*7.7*	*7.3*	*7.2*	*7.3*	*7.3*	*7.0*	*6.8*	*7.0*	**30.0**	*29.4*	*28.1*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.9**	*0.7*	*0.6*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	*7.5*	*7.1*	*7.0*	*7.1*	*7.2*	*6.8*	*6.7*	*6.8*	**29.1**	*28.8*	*27.5*
Total Consumption	**157.9**	**129.9**	**168.2**	**140.5**	*129.9*	*104.1*	*154.0*	*128.7*	*140.1*	*102.1*	*145.7*	*130.9*	**596.4**	*516.7*	*518.7*
Discrepancy (c)	**-4.0**	**3.9**	**-1.4**	**-6.6**	*7.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-8.3**	*7.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	*25.0*	*24.0*	*22.7*	*25.1*	*25.5*	*24.3*	*22.6*	*25.0*	**24.4**	*25.1*	*25.0*
Secondary Inventories	**102.2**	**123.2**	**117.1**	**129.3**	*132.5*	*128.9*	*121.2*	*128.8*	*129.3*	*125.9*	*118.3*	*126.0*	**129.3**	*128.8*	*126.0*
Electric Power Sector	**97.1**	**117.7**	**111.2**	**123.6**	*126.9*	*122.9*	*115.1*	*122.9*	*123.5*	*119.7*	*112.0*	*119.9*	**123.6**	*122.9*	*119.9*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.4**	*3.7*	*3.6*	*3.7*	*3.5*	*3.8*	*3.7*	*3.8*	*3.6*	**3.4**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.1**	*1.7*	*2.1*	*2.3*	*2.3*	*1.9*	*2.3*	*2.4*	*2.4*	**2.1**	*2.3*	*2.4*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	*0.279*	*0.271*	*0.258*	*0.257*	*0.255*	*0.254*	*0.247*	*0.253*	**0.268**	*0.266*	*0.252*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**1.99**	**2.06**	*2.09*	*2.09*	*2.08*	*2.08*	*2.09*	*2.10*	*2.09*	*2.09*	**2.05**	*2.09*	*2.09*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,172**	**978**	*982*	*975*	*1,141*	*966*	*998*	*977*	*1,144*	*969*	**4,120**	*4,065*	*4,087*
Electric Power Sector (a)	**955**	**936**	**1,130**	**937**	*941*	*934*	*1,098*	*924*	*956*	*935*	*1,100*	*926*	**3,958**	*3,897*	*3,916*
Industrial Sector (b)	**37**	**36**	**38**	**38**	*38*	*38*	*39*	*39*	*39*	*38*	*40*	*40*	**149**	*154*	*157*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**14**	*14*	*14*
Net Imports	**9**	**9**	**11**	**10**	*11*	*12*	*15*	*11*	*13*	*13*	*15*	*12*	**40**	*50*	*52*
Total Supply	**1,004**	**983**	**1,184**	**989**	*994*	*987*	*1,156*	*978*	*1,011*	*990*	*1,159*	*980*	**4,160**	*4,114*	*4,140*
Losses and Unaccounted for (c)	**57**	**72**	**73**	**55**	*51*	*71*	*63*	*60*	*50*	*71*	*63*	*60*	**257**	*245*	*245*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**876**	**1072**	**891**	*912*	*879*	*1054*	*880*	*922*	*881*	*1056*	*882*	**3751**	*3726*	*3741*
Residential Sector	**361**	**309**	**434**	**331**	*356*	*313*	*423*	*324*	*371*	*314*	*425*	*326*	**1436**	*1417*	*1436*
Commercial Sector	**320**	**328**	**382**	**324**	*325*	*330*	*377*	*323*	*325*	*331*	*377*	*323*	**1355**	*1355*	*1356*
Industrial Sector	**228**	**237**	**255**	**234**	*229*	*235*	*252*	*231*	*225*	*234*	*251*	*231*	**953**	*947*	*941*
Transportation Sector	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*7*	*7*
Direct Use (d)	**36**	**35**	**38**	**37**	*38*	*37*	*39*	*38*	*38*	*38*	*40*	*39*	**146**	*151*	*154*
Total Consumption	**948**	**911**	**1110**	**928**	*943*	*916*	*1092*	*918*	*960*	*918*	*1095*	*921*	**3897**	*3869*	*3895*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,460**	*2,594*	*2,294*	*3,102*	*2,379*	*2,694*	*2,284*	*3,089*	*2,368*	**10,640**	*10,368*	*10,435*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**1.99**	**2.06**	*2.09*	*2.09*	*2.08*	*2.08*	*2.09*	*2.10*	*2.09*	*2.09*	**2.05**	*2.09*	*2.09*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.92**	*2.47*	*2.12*	*2.39*	*2.67*	*3.10*	*2.55*	*2.51*	*2.85*	**2.91**	*2.40*	*2.73*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.29**	*11.98*	*11.74*	*11.59*	*11.95*	*12.28*	*13.19*	*12.64*	*12.61*	**12.67**	*11.81*	*12.64*
Distillate Fuel Oil	**14.88**	**15.75**	**15.01**	**15.50**	*14.38*	*14.03*	*14.80*	*15.22*	*14.92*	*15.60*	*15.68*	*15.95*	**15.27**	*14.62*	*15.50*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.67**	**13.32**	**13.25**	**12.78**	*12.77*	*13.31*	*13.31*	*12.91*	*12.84*	*13.60*	*13.61*	*13.22*	**13.01**	*13.08*	*13.32*
Commercial Sector	**10.41**	**10.65**	**11.00**	**10.52**	*10.33*	*10.53*	*10.95*	*10.52*	*10.38*	*10.67*	*11.14*	*10.73*	**10.66**	*10.60*	*10.75*
Industrial Sector	**6.67**	**6.72**	**7.24**	**6.76**	*6.57*	*6.69*	*7.33*	*6.78*	*6.73*	*6.84*	*7.43*	*6.87*	**6.85**	*6.86*	*6.98*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	*21.73*	*27.38*	*32.28*	*28.45*	*28.09*	*28.91*	*29.46*	*28.02*	**56.24**	*27.46*	*28.62*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	*32.90*	*29.55*	*36.37*	*37.41*	*37.71*	*31.27*	*38.03*	*37.59*	**38.15**	*34.06*	*36.15*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	*33.01*	*27.12*	*29.63*	*32.38*	*40.03*	*27.90*	*29.40*	*33.91*	**34.89**	*30.53*	*32.81*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	*28.70*	*26.96*	*29.21*	*28.40*	*32.61*	*27.74*	*29.26*	*28.95*	**30.56**	*28.32*	*29.64*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	*28.01*	*28.16*	*31.15*	*28.19*	*31.97*	*28.51*	*31.32*	*29.15*	**30.85**	*28.88*	*30.24*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	*27.61*	*26.62*	*28.92*	*26.50*	*28.47*	*26.49*	*29.12*	*26.77*	**29.51**	*27.41*	*27.71*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	*24.45*	*24.38*	*28.93*	*24.75*	*25.15*	*24.42*	*28.99*	*24.86*	**27.86**	*25.63*	*25.86*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	*28.60*	*29.11*	*32.34*	*29.05*	*31.20*	*29.67*	*32.33*	*29.34*	**30.25**	*29.77*	*30.63*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	*27.15*	*28.20*	*31.29*	*31.08*	*32.01*	*30.90*	*31.66*	*31.95*	**30.10**	*29.43*	*31.63*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	*28.08*	*23.90*	*33.04*	*34.13*	*33.93*	*25.16*	*34.33*	*34.28*	**36.12**	*29.79*	*31.92*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	*27.57*	*28.72*	*36.05*	*34.12*	*35.35*	*30.51*	*37.21*	*34.41*	**35.26**	*31.61*	*34.37*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.8**	*12.4*	*9.9*	*12.9*	*10.7*	*12.5*	*9.9*	*12.9*	*10.7*	**46.0**	*45.9*	*46.0*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**30.2**	*34.7*	*28.1*	*38.7*	*29.5*	*35.4*	*28.0*	*38.7*	*29.5*	**133.4**	*131.1*	*131.6*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.7**	*48.4*	*38.9*	*51.6*	*42.9*	*50.3*	*38.9*	*51.7*	*43.0*	**186.2**	*181.8*	*183.9*
W. N. Central	**29.9**	**21.6**	**29.0**	**25.1**	*29.0*	*22.1*	*29.0*	*24.7*	*29.4*	*22.2*	*29.2*	*24.9*	**105.7**	*104.8*	*105.7*
S. Atlantic	**88.3**	**84.5**	**111.5**	**85.2**	*86.6*	*83.2*	*108.4*	*81.8*	*93.3*	*83.7*	*109.0*	*82.2*	**369.5**	*359.9*	*368.2*
E. S. Central	**30.6**	**25.9**	**36.9**	**28.0**	*30.2*	*25.7*	*35.8*	*26.3*	*33.0*	*25.8*	*35.9*	*26.3*	**121.4**	*118.1*	*121.0*
W. S. Central	**51.7**	**49.0**	**75.7**	**50.8**	*49.7*	*50.9*	*73.7*	*49.8*	*53.8*	*51.5*	*74.6*	*50.4*	**227.1**	*224.0*	*230.2*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	*23.2*	*23.3*	*32.8*	*22.2*	*23.4*	*23.5*	*33.1*	*22.4*	**100.2**	*101.4*	*102.5*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.0**	*38.3*	*29.7*	*38.9*	*35.3*	*38.4*	*29.7*	*39.0*	*35.4*	**142.3**	*142.2*	*142.6*
AK and HI	**1.2**	**1.1**	**1.2**	**1.2**	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	**4.7**	*4.7*	*4.6*
Total	**361.4**	**309.2**	**433.8**	**332.1**	*353.6*	*312.8*	*423.0*	*324.4*	*370.8*	*314.4*	*425.2*	*326.0*	**1,436.5**	*1,413.8*	*1,436.4*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	*12.7*	*11.9*	*13.6*	*12.0*	*12.2*	*11.5*	*13.0*	*11.4*	**51.1**	*50.2*	*48.2*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**36.2**	*38.4*	*35.9*	*40.8*	*35.8*	*38.2*	*35.8*	*40.6*	*35.6*	**152.9**	*150.9*	*150.3*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.7**	*44.4*	*43.4*	*49.4*	*43.5*	*44.8*	*43.4*	*49.4*	*43.4*	**181.8**	*180.6*	*181.0*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	*25.7*	*24.5*	*27.8*	*24.9*	*25.7*	*24.6*	*28.0*	*25.1*	**102.5**	*103.0*	*103.4*
S. Atlantic	**72.1**	**79.4**	**90.2**	**75.3**	*72.3*	*78.4*	*88.5*	*73.6*	*72.8*	*78.4*	*88.6*	*73.7*	**316.9**	*312.8*	*313.5*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.9**	*21.5*	*22.7*	*26.5*	*21.5*	*22.0*	*22.7*	*26.6*	*21.5*	**92.4**	*92.1*	*92.7*
W. S. Central	**43.8**	**47.5**	**57.8**	**47.0**	*44.7*	*49.0*	*57.5*	*47.7*	*46.2*	*49.6*	*58.3*	*48.5*	**196.0**	*198.9*	*202.5*
Mountain	**22.6**	**23.9**	**28.3**	**23.5**	*23.0*	*24.7*	*28.2*	*23.8*	*23.2*	*24.9*	*28.5*	*24.0*	**98.3**	*99.7*	*100.5*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**38.5**	*38.5*	*38.2*	*43.0*	*38.5*	*38.2*	*38.2*	*43.0*	*38.5*	**157.4**	*158.2*	*157.9*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	*1.4*	*1.4*	*1.5*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**5.7**	*5.6*	*5.6*
Total	**320.5**	**328.1**	**381.8**	**324.7**	*322.6*	*330.0*	*376.7*	*322.7*	*324.5*	*330.6*	*377.4*	*323.1*	**1,355.0**	*1,352.1*	*1,355.7*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	*4.0*	*3.8*	*4.1*	*3.8*	*3.8*	*3.8*	*4.0*	*3.8*	**15.4**	*15.7*	*15.4*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.7**	*17.5*	*17.3*	*19.6*	*18.3*	*17.2*	*17.1*	*19.4*	*18.3*	**73.7**	*72.7*	*72.1*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.9**	*44.5*	*44.5*	*46.6*	*43.4*	*43.9*	*44.0*	*46.0*	*43.1*	**181.8**	*179.0*	*177.0*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	*21.3*	*22.0*	*23.5*	*22.2*	*21.2*	*22.2*	*23.8*	*22.5*	**88.4**	*89.0*	*89.8*
S. Atlantic	**33.0**	**34.7**	**36.2**	**33.2**	*32.0*	*33.5*	*35.0*	*31.8*	*31.0*	*32.6*	*34.0*	*31.1*	**137.2**	*132.3*	*128.7*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.7**	*23.1*	*23.6*	*23.9*	*22.3*	*22.7*	*22.9*	*23.3*	*21.9*	**94.5**	*92.9*	*90.8*
W. S. Central	**44.2**	**47.4**	**50.8**	**46.6**	*45.0*	*47.6*	*51.2*	*47.6*	*45.7*	*48.4*	*51.9*	*48.4*	**189.0**	*191.5*	*194.4*
Mountain	**19.2**	**21.1**	**23.5**	**20.1**	*19.4*	*21.2*	*23.6*	*20.4*	*19.6*	*21.4*	*23.8*	*20.6*	**84.0**	*84.6*	*85.3*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**19.9**	*19.1*	*20.2*	*23.2*	*20.2*	*18.9*	*20.3*	*23.4*	*20.3*	**82.7**	*82.7*	*83.0*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**227.5**	**237.3**	**254.7**	**232.0**	*226.9*	*234.9*	*252.0*	*231.3*	*225.1*	*234.0*	*251.1*	*231.2*	**951.5**	*945.1*	*941.4*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.1**	*29.2*	*25.8*	*30.7*	*26.7*	*28.7*	*25.4*	*30.1*	*26.1*	**113.1**	*112.3*	*110.2*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**85.9**	*91.6*	*82.2*	*100.0*	*84.5*	*91.8*	*81.9*	*99.7*	*84.3*	**363.9**	*358.3*	*357.6*
E. N. Central	**139.6**	**126.7**	**152.6**	**131.5**	*137.4*	*126.9*	*147.8*	*129.9*	*139.2*	*126.4*	*147.3*	*129.6*	**550.4**	*541.9*	*542.6*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.8**	*76.0*	*68.6*	*80.3*	*71.8*	*76.3*	*69.1*	*81.0*	*72.6*	**296.6**	*296.8*	*298.9*
S. Atlantic	**193.7**	**198.9**	**238.4**	**194.0**	*191.2*	*195.4*	*232.2*	*187.5*	*197.4*	*195.1*	*231.9*	*187.3*	**825.0**	*806.4*	*811.7*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.7**	*74.8*	*71.9*	*86.2*	*70.1*	*77.7*	*71.4*	*85.7*	*69.7*	**308.3**	*303.0*	*304.6*
W. S. Central	**139.8**	**143.9**	**184.3**	**144.3**	*139.5*	*147.5*	*182.5*	*145.2*	*145.8*	*149.5*	*184.8*	*147.2*	**612.3**	*614.7*	*627.3*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	*65.7*	*69.2*	*84.7*	*66.4*	*66.2*	*69.9*	*85.5*	*67.0*	**282.7**	*285.9*	*288.6*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**93.7**	*96.1*	*88.2*	*105.4*	*94.2*	*95.7*	*88.5*	*105.6*	*94.4*	**383.3**	*383.9*	*384.3*
AK and HI	**3.7**	**3.6**	**4.0**	**3.9**	*3.7*	*3.6*	*4.0*	*3.9*	*3.6*	*3.6*	*4.0*	*3.9*	**15.2**	*15.2*	*15.0*
Total	**911.5**	**876.4**	**1,072.3**	**890.6**	*905.2*	*879.4*	*1,053.6*	*880.2*	*922.3*	*880.8*	*1,055.5*	*882.1*	**3,750.7**	*3,718.4*	*3,740.8*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.56**	**20.70**	**20.68**	*21.54*	*21.28*	*20.37*	*20.32*	*21.29*	*21.52*	*21.04*	*21.36*	**21.10**	*20.87*	*21.29*
Middle Atlantic	**15.20**	**16.06**	**16.16**	**15.49**	*14.88*	*15.69*	*15.96*	*15.54*	*15.09*	*16.06*	*16.38*	*15.89*	**15.74**	*15.52*	*15.86*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.31**	*13.08*	*14.02*	*13.65*	*13.76*	*13.49*	*14.47*	*14.04*	*14.15*	**13.31**	*13.60*	*14.01*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.33**	*11.01*	*13.08*	*13.40*	*11.84*	*11.43*	*13.57*	*13.83*	*12.18*	**11.89**	*12.30*	*12.72*
S. Atlantic	**11.70**	**12.17**	**12.10**	**11.66**	*11.70*	*12.02*	*11.94*	*11.56*	*11.57*	*12.13*	*12.11*	*11.75*	**11.92**	*11.81*	*11.90*
E. S. Central	**11.11**	**11.70**	**11.37**	**11.27**	*11.25*	*11.97*	*11.83*	*11.73*	*11.35*	*12.17*	*11.97*	*12.04*	**11.35**	*11.69*	*11.86*
W. S. Central	**10.79**	**11.41**	**11.26**	**11.12**	*10.93*	*11.18*	*11.11*	*11.04*	*10.79*	*11.29*	*11.31*	*11.26*	**11.15**	*11.07*	*11.17*
Mountain	**11.51**	**12.18**	**12.23**	**11.65**	*11.52*	*12.24*	*12.37*	*11.89*	*11.82*	*12.58*	*12.70*	*12.18*	**11.92**	*12.04*	*12.36*
Pacific	**14.87**	**15.87**	**17.31**	**14.86**	*15.25*	*16.38*	*17.49*	*14.93*	*15.61*	*17.11*	*18.05*	*15.30*	**15.74**	*16.02*	*16.51*
U.S. Average	**12.67**	**13.32**	**13.25**	**12.78**	*12.77*	*13.31*	*13.31*	*12.91*	*12.84*	*13.60*	*13.61*	*13.22*	**13.01**	*13.08*	*13.32*
Commercial Sector															
New England	**16.83**	**16.24**	**15.93**	**15.95**	*16.48*	*15.94*	*15.70*	*15.81*	*16.47*	*16.16*	*16.11*	*16.34*	**16.23**	*15.98*	*16.27*
Middle Atlantic	**11.56**	**12.17**	**13.02**	**11.82**	*11.16*	*11.69*	*12.57*	*11.63*	*11.16*	*11.79*	*12.73*	*11.73*	**12.17**	*11.78*	*11.87*
E. N. Central	**10.15**	**10.29**	**10.08**	**10.07**	*10.11*	*10.26*	*10.13*	*10.19*	*10.28*	*10.46*	*10.33*	*10.40*	**10.14**	*10.17*	*10.37*
W. N. Central	**8.98**	**10.04**	**10.42**	**9.12**	*9.04*	*10.21*	*10.78*	*9.50*	*9.44*	*10.61*	*11.15*	*9.81*	**9.65**	*9.90*	*10.27*
S. Atlantic	**9.44**	**9.37**	**9.33**	**9.28**	*9.31*	*9.18*	*9.16*	*9.14*	*9.22*	*9.21*	*9.24*	*9.27*	**9.35**	*9.20*	*9.24*
E. S. Central	**10.70**	**10.70**	**10.64**	**10.65**	*10.77*	*10.91*	*11.08*	*11.06*	*11.05*	*11.12*	*11.22*	*11.37*	**10.67**	*10.96*	*11.19*
W. S. Central	**8.04**	**8.05**	**8.31**	**8.10**	*7.95*	*7.83*	*8.16*	*8.03*	*7.92*	*7.87*	*8.21*	*8.05*	**8.14**	*8.00*	*8.02*
Mountain	**9.20**	**9.71**	**10.01**	**9.16**	*9.17*	*9.71*	*10.05*	*9.25*	*9.31*	*9.90*	*10.25*	*9.43*	**9.55**	*9.57*	*9.75*
Pacific	**12.98**	**14.15**	**16.37**	**14.49**	*13.23*	*14.25*	*16.39*	*14.53*	*13.36*	*14.58*	*16.98*	*15.16*	**14.56**	*14.65*	*15.08*
U.S. Average	**10.41**	**10.65**	**11.00**	**10.52**	*10.33*	*10.53*	*10.95*	*10.52*	*10.38*	*10.67*	*11.14*	*10.73*	**10.66**	*10.60*	*10.75*
Industrial Sector															
New England	**13.44**	**12.89**	**12.66**	**12.67**	*13.04*	*12.65*	*12.58*	*12.60*	*13.26*	*12.83*	*12.65*	*12.68*	**12.91**	*12.72*	*12.85*
Middle Atlantic	**6.72**	**6.51**	**6.54**	**6.39**	*6.29*	*6.23*	*6.43*	*6.25*	*6.40*	*6.30*	*6.39*	*6.23*	**6.54**	*6.30*	*6.33*
E. N. Central	**7.03**	**6.88**	**6.90**	**6.91**	*6.89*	*6.85*	*6.99*	*6.96*	*7.07*	*7.01*	*7.09*	*7.06*	**6.93**	*6.92*	*7.06*
W. N. Central	**7.13**	**7.33**	**8.02**	**7.01**	*7.32*	*7.54*	*8.29*	*7.22*	*7.57*	*7.79*	*8.54*	*7.44*	**7.39**	*7.61*	*7.85*
S. Atlantic	**6.22**	**6.29**	**6.72**	**6.34**	*6.02*	*6.15*	*6.66*	*6.28*	*6.09*	*6.21*	*6.67*	*6.29*	**6.40**	*6.28*	*6.32*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.70**	*5.55*	*5.69*	*5.97*	*5.70*	*5.67*	*5.80*	*6.02*	*5.75*	**5.78**	*5.73*	*5.81*
W. S. Central	**5.26**	**5.25**	**5.99**	**5.41**	*5.20*	*5.21*	*6.10*	*5.39*	*5.34*	*5.34*	*6.14*	*5.43*	**5.49**	*5.49*	*5.58*
Mountain	**6.14**	**6.25**	**6.77**	**5.88**	*5.98*	*6.18*	*6.78*	*5.89*	*6.09*	*6.27*	*6.84*	*5.95*	**6.28**	*6.23*	*6.31*
Pacific	**8.65**	**9.45**	**11.26**	**10.13**	*8.94*	*9.74*	*11.68*	*10.43*	*9.26*	*10.09*	*12.03*	*10.75*	**9.94**	*10.27*	*10.61*
U.S. Average	**6.67**	**6.72**	**7.24**	**6.76**	*6.57*	*6.69*	*7.33*	*6.78*	*6.73*	*6.84*	*7.43*	*6.87*	**6.85**	*6.86*	*6.98*
All Sectors (a)															
New England	**18.36**	**17.73**	**17.48**	**17.35**	*18.12*	*17.46*	*17.22*	*17.12*	*18.11*	*17.72*	*17.73*	*17.83*	**17.73**	*17.48*	*17.85*
Middle Atlantic	**12.02**	**12.27**	**12.99**	**11.95**	*11.64*	*11.91*	*12.68*	*11.83*	*11.78*	*12.10*	*12.90*	*11.99*	**12.33**	*12.03*	*12.22*
E. N. Central	**10.14**	**10.14**	**10.22**	**10.08**	*10.11*	*10.21*	*10.36*	*10.28*	*10.43*	*10.49*	*10.61*	*10.53*	**10.15**	*10.24*	*10.52*
W. N. Central	**9.15**	**10.03**	**10.63**	**9.25**	*9.31*	*10.28*	*10.99*	*9.60*	*9.69*	*10.65*	*11.35*	*9.89*	**9.77**	*10.06*	*10.41*
S. Atlantic	**9.92**	**10.02**	**10.23**	**9.82**	*9.84*	*9.87*	*10.08*	*9.71*	*9.84*	*9.96*	*10.21*	*9.86*	**10.01**	*9.88*	*9.98*
E. S. Central	**9.30**	**9.44**	**9.65**	**9.34**	*9.35*	*9.58*	*9.97*	*9.61*	*9.61*	*9.79*	*10.12*	*9.86*	**9.44**	*9.64*	*9.85*
W. S. Central	**8.17**	**8.27**	**8.88**	**8.28**	*8.12*	*8.14*	*8.78*	*8.20*	*8.17*	*8.23*	*8.88*	*8.28*	**8.43**	*8.34*	*8.42*
Mountain	**9.12**	**9.43**	**9.97**	**8.98**	*9.05*	*9.48*	*10.04*	*9.10*	*9.25*	*9.69*	*10.25*	*9.28*	**9.42**	*9.46*	*9.66*
Pacific	**12.88**	**13.63**	**15.57**	**13.68**	*13.17*	*13.92*	*15.74*	*13.79*	*13.44*	*14.39*	*16.27*	*14.25*	**13.99**	*14.20*	*14.63*
U.S. Average	**10.37**	**10.52**	**11.01**	**10.38**	*10.34*	*10.49*	*11.03*	*10.42*	*10.48*	*10.70*	*11.25*	*10.64*	**10.59**	*10.59*	*10.79*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**331.0**	**473.8**	**347.7**	*334.6*	*364.7*	*455.9*	*330.7*	*319.2*	*348.7*	*456.1*	*327.9*	**1,469.6**	*1,485.9*	*1,451.9*
Coal	**257.9**	**209.0**	**279.4**	**220.6**	*206.1*	*161.3*	*252.8*	*200.0*	*227.1*	*160.6*	*239.1*	*204.6*	**966.8**	*820.1*	*831.5*
Nuclear	**203.5**	**196.5**	**210.0**	**199.1**	*206.1*	*186.1*	*205.1*	*200.8*	*199.5*	*185.8*	*198.8*	*185.5*	**809.1**	*798.1*	*769.6*
Renewable Energy Sources:	**169.8**	**192.8**	**161.0**	**163.9**	*186.7*	*215.3*	*178.5*	*187.9*	*203.7*	*233.5*	*199.9*	*202.4*	**687.5**	*768.4*	*839.6*
Conventional Hydropower	**71.2**	**81.7**	**60.6**	**58.8**	*76.4*	*86.9*	*64.6*	*63.7*	*72.1*	*82.1*	*63.8*	*62.5*	**272.3**	*291.5*	*280.5*
Wind	**74.2**	**78.5**	**66.1**	**81.8**	*85.2*	*90.6*	*73.2*	*96.4*	*100.9*	*103.5*	*84.4*	*105.9*	**300.6**	*345.4*	*394.6*
Solar (a)	**13.2**	**21.8**	**22.5**	**13.9**	*15.9*	*26.9*	*29.1*	*18.4*	*21.2*	*36.9*	*40.0*	*24.5*	**71.3**	*90.2*	*122.5*
Biomass	**7.2**	**7.0**	**7.6**	**5.9**	*5.3*	*7.0*	*7.5*	*6.0*	*6.2*	*7.2*	*7.6*	*6.0*	**27.7**	*25.9*	*27.0*
Geothermal	**4.0**	**3.8**	**4.1**	**3.6**	*3.9*	*3.9*	*4.2*	*3.5*	*3.3*	*3.9*	*4.2*	*3.5*	**15.6**	*15.5*	*14.9*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	*-1.1*	*-0.6*	*-1.7*	*-1.3*	*-1.1*	*-0.7*	*-1.8*	*-1.3*	**-5.3**	*-4.7*	*-4.9*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.9**	*5.2*	*4.3*	*4.5*	*3.5*	*4.5*	*4.1*	*4.4*	*4.1*	**17.8**	*17.4*	*17.0*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	*1.1*	*1.1*	*1.1*	*1.0*	*1.2*	*1.0*	*1.1*	*1.0*	**4.3**	*4.3*	*4.2*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	*2.0*	*2.0*	*2.0*	*1.9*	*1.9*	*1.9*	*1.9*	*1.8*	**7.7**	*7.8*	*7.6*
Total Generation	**955.1**	**935.6**	**1,130.2**	**936.7**	*940.7*	*934.2*	*1,098.1*	*924.4*	*956.0*	*934.9*	*1,099.5*	*926.0*	**3,957.6**	*3,897.4*	*3,916.4*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.7**	*13.5*	*11.7*	*14.7*	*11.6*	*11.7*	*10.0*	*14.2*	*11.9*	**47.1**	*51.5*	*47.8*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	*0.3*	*0.0*	*0.1*	*0.1*	*0.3*	*0.0*	*0.1*	*0.1*	**0.5**	*0.5*	*0.5*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	*7.2*	*5.4*	*7.3*	*6.4*	*7.1*	*7.1*	*7.2*	*5.6*	**29.8**	*26.2*	*27.1*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.7**	*2.1*	*1.9*	*1.5*	*1.7*	*1.9*	*1.8*	*1.5*	*1.6*	**7.1**	*7.2*	*6.9*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.5**	**2.5**	*2.0*	*2.8*	*2.7*	*2.7*	*2.6*	*3.0*	*2.8*	*2.8*	**10.3**	*10.2*	*11.1*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.3*	**1.5**	*1.5*	*1.4*
Total generation	**24.5**	**21.7**	**26.5**	**23.5**	*25.5*	*22.2*	*26.5*	*22.8*	*24.0*	*22.3*	*26.1*	*22.3*	**96.3**	*97.1*	*94.8*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**28.1**	*30.5*	*27.2*	*32.1*	*28.2*	*29.9*	*26.8*	*31.7*	*27.8*	**115.2**	*118.0*	*116.3*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.8**	*15.1*	*18.3*	*22.5*	*17.3*	*14.8*	*17.6*	*23.3*	*18.7*	**54.2**	*73.3*	*74.5*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.2*
Nuclear	**10.4**	**10.8**	**11.6**	**11.8**	*11.6*	*8.7*	*9.1*	*9.6*	*8.9*	*7.9*	*7.4*	*7.3*	**44.7**	*39.1*	*31.4*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.2**	*7.6*	*7.3*	*7.4*	*7.3*	*6.9*	*6.8*	*7.4*	*7.1*	**29.3**	*29.6*	*28.2*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	*1.7*	*2.0*	*1.6*	*1.9*	*2.1*	*2.4*	*2.2*	*2.9*	**6.5**	*7.1*	*9.6*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.1**	*0.5*	*0.1*	*0.2*	*0.1*	*0.5*	*0.1*	*0.2*	*0.1*	**0.8**	*0.9*	*0.9*
Total generation	**32.1**	**31.1**	**39.1**	**33.6**	*36.5*	*36.5*	*41.0*	*36.3*	*33.2*	*34.8*	*40.5*	*36.2*	**135.9**	*150.2*	*144.8*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**36.0**	*38.6*	*36.3*	*43.5*	*36.6*	*38.0*	*36.0*	*43.2*	*36.5*	**151.0**	*155.0*	*153.7*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**64.4**	*75.7*	*77.4*	*93.1*	*66.5*	*72.7*	*74.7*	*96.0*	*68.5*	**288.7**	*312.7*	*311.9*
Coal	**53.5**	**40.0**	**52.0**	**41.4**	*53.3*	*27.7*	*46.5*	*36.9*	*53.2*	*31.0*	*43.9*	*37.1*	**186.9**	*164.5*	*165.2*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	*69.5*	*65.8*	*69.7*	*70.2*	*68.7*	*63.7*	*68.3*	*65.9*	**277.9**	*275.2*	*266.6*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	*2.9*	*2.5*	*1.7*	*2.2*	*2.7*	*2.3*	*1.7*	*2.2*	**10.5**	*9.3*	*8.9*
Nonhydro renewables (d)	**8.8**	**9.2**	**7.0**	**8.5**	*9.3*	*10.1*	*7.8*	*9.7*	*10.6*	*11.6*	*9.0*	*10.5*	**33.6**	*36.8*	*41.7*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.5**	*0.9*	*0.9*	*0.5*	*0.5*	*1.0*	*0.8*	*0.5*	*0.5*	**2.6**	*2.8*	*2.7*
Total generation	**205.4**	**185.6**	**224.0**	**185.1**	*211.6*	*184.5*	*219.3*	*185.9*	*208.7*	*184.1*	*219.5*	*184.7*	**800.2**	*801.3*	*797.0*
Net energy for load (f)	**195.1**	**173.1**	**212.3**	**181.2**	*197.8*	*176.7*	*207.7*	*181.9*	*198.7*	*175.3*	*206.5*	*181.1*	**761.7**	*764.1*	*761.6*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.5**	*59.2*	*65.8*	*74.7*	*58.2*	*56.3*	*63.6*	*74.4*	*58.6*	**252.8**	*257.9*	*253.0*
Coal	**35.1**	**38.0**	**53.3**	**33.4**	*31.2*	*34.4*	*44.6*	*29.8*	*37.7*	*34.1*	*44.4*	*31.9*	**159.8**	*139.9*	*148.1*
Nuclear	**52.3**	**52.8**	**53.7**	**52.1**	*52.0*	*49.5*	*54.2*	*53.2*	*52.8*	*52.1*	*53.6*	*51.1*	**210.9**	*209.0*	*209.6*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.0**	*10.3*	*8.1*	*6.4*	*8.1*	*9.5*	*7.5*	*6.3*	*7.9*	**35.3**	*32.9*	*31.2*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.3**	*2.7*	*4.9*	*4.7*	*2.9*	*3.7*	*6.2*	*5.9*	*3.5*	**12.6**	*15.2*	*19.3*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.3**	*0.0*	*0.1*	*-0.6*	*-0.3*	*0.0*	*-0.1*	*-0.6*	*-0.2*	**-1.1**	*-0.7*	*-1.0*
Total generation	**157.2**	**162.9**	**195.1**	**155.1**	*155.4*	*162.8*	*184.0*	*151.9*	*160.0*	*163.4*	*184.0*	*152.8*	**670.3**	*654.1*	*660.2*
Net energy for load (f)	**163.9**	**158.5**	**197.9**	**161.6**	*156.6*	*156.7*	*185.4*	*154.4*	*165.0*	*158.4*	*186.3*	*154.8*	**681.9**	*653.2*	*664.6*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.3**	*38.6*	*49.2*	*50.3*	*38.8*	*36.2*	*47.8*	*52.3*	*38.8*	**173.8**	*176.9*	*175.2*
Coal	**3.7**	**4.8**	**5.3**	**5.2**	*2.7*	*1.7*	*4.8*	*3.9*	*2.7*	*1.1*	*2.0*	*3.7*	**19.1**	*13.1*	*9.5*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	*7.2*	*6.7*	*7.4*	*7.8*	*8.0*	*7.0*	*6.9*	*6.8*	**29.1**	*29.1*	*28.7*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.3**	*1.7*	*2.3*	*2.3*	*1.8*	*2.2*	*3.0*	*2.8*	*2.2*	**6.1**	*8.2*	*10.2*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	*0.9*	*0.9*	*0.7*	*0.7*	*0.8*	*0.8*	*0.7*	*0.7*	**3.1**	*3.1*	*3.1*
Total generation	**49.3**	**60.2**	**68.1**	**53.9**	*51.2*	*60.8*	*65.6*	*53.0*	*50.0*	*59.7*	*64.8*	*52.3*	**231.4**	*230.6*	*226.8*
Net energy for load (f)	**48.0**	**58.4**	**69.4**	**53.1**	*48.7*	*58.8*	*67.3*	*51.9*	*48.7*	*58.2*	*67.0*	*51.7*	**229.0**	*226.7*	*225.6*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**41.0**	**58.1**	**42.1**	*40.1*	*48.0*	*55.8*	*44.3*	*38.9*	*45.0*	*55.2*	*43.1*	**177.0**	*188.2*	*182.2*
Coal	**77.5**	**61.2**	**76.2**	**61.2**	*62.1*	*51.2*	*71.7*	*54.4*	*69.3*	*51.5*	*72.0*	*57.5*	**276.1**	*239.5*	*250.3*
Nuclear	**25.3**	**23.2**	**27.1**	**26.6**	*27.2*	*22.2*	*26.8*	*24.9*	*25.2*	*24.2*	*26.0*	*21.9*	**102.2**	*101.2*	*97.3*
Conventional hydropower	**2.2**	**2.3**	**1.6**	**1.9**	*2.3*	*2.3*	*1.6*	*2.0*	*2.1*	*2.1*	*1.6*	*1.9*	**8.1**	*8.2*	*7.8*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.9**	*20.1*	*20.4*	*16.5*	*23.2*	*23.1*	*23.4*	*18.6*	*24.9*	**66.5**	*80.2*	*90.0*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**1.3**	*2.2*	*1.8*	*1.6*	*1.2*	*1.5*	*1.6*	*1.5*	*1.8*	**6.3**	*6.8*	*6.5*
Total generation	**159.5**	**146.4**	**178.2**	**152.1**	*154.0*	*145.9*	*174.1*	*150.0*	*160.2*	*147.8*	*174.9*	*151.2*	**636.2**	*624.0*	*634.1*
Net energy for load (f)	**159.6**	**151.6**	**180.6**	**155.0**	*156.9*	*151.9*	*175.3*	*153.4*	*158.7*	*152.4*	*175.9*	*154.0*	**646.7**	*637.6*	*641.0*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**14.4**	*15.3*	*15.4*	*23.6*	*14.0*	*13.8*	*16.1*	*22.8*	*12.9*	**70.3**	*68.2*	*65.6*
Coal	**27.3**	**19.1**	**27.3**	**21.6**	*21.6*	*11.4*	*25.9*	*20.4*	*22.2*	*11.0*	*25.9*	*21.0*	**95.3**	*79.3*	*80.0*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	*4.1*	*4.2*	*4.4*	*3.6*	*2.2*	*1.0*	*2.6*	*2.7*	**16.2**	*16.3*	*8.5*
Conventional hydropower	**4.0**	**4.1**	**2.6**	**3.1**	*3.5*	*3.7*	*2.4*	*3.1*	*3.1*	*3.5*	*2.4*	*3.0*	**13.8**	*12.8*	*12.0*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**21.8**	*19.1*	*20.3*	*17.6*	*24.6*	*22.8*	*23.2*	*20.4*	*26.4*	**75.8**	*81.7*	*92.9*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	**0.8**	*0.7*	*0.7*
Total generation	**68.0**	**62.1**	**77.7**	**64.4**	*64.0*	*55.2*	*73.9*	*65.9*	*64.3*	*55.1*	*74.1*	*66.2*	**272.2**	*259.0*	*259.7*
Net energy for load (f)	**62.5**	**68.4**	**73.6**	**58.5**	*61.9*	*60.2*	*72.9*	*59.4*	*61.5*	*60.2*	*73.1*	*59.7*	**262.9**	*254.4*	*254.5*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**39.5**	*32.5*	*41.2*	*51.8*	*29.4*	*30.0*	*35.8*	*47.7*	*27.2*	**179.6**	*154.8*	*140.7*
Coal	**18.1**	**18.3**	**21.6**	**17.5**	*8.2*	*12.1*	*19.1*	*15.9*	*9.9*	*10.1*	*15.5*	*15.5*	**75.6**	*55.3*	*51.0*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	*11.1*	*8.8*	*11.0*	*10.4*	*11.1*	*9.8*	*11.0*	*9.2*	**41.3**	*41.4*	*41.1*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.2**	*0.4*	*0.2*	*0.1*	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	**0.8**	*0.9*	*0.8*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.4**	**21.0**	*24.5*	*28.1*	*24.9*	*26.9*	*29.7*	*35.5*	*33.8*	*31.9*	**81.1**	*104.4*	*130.9*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	**1.6**	*1.5*	*1.5*
Total generation	**83.2**	**93.2**	**114.8**	**88.8**	*77.0*	*90.8*	*107.3*	*83.2*	*81.4*	*91.8*	*108.5*	*84.3*	**380.0**	*358.3*	*366.0*
Net energy for load (f)	**83.2**	**93.2**	**114.8**	**88.8**	*77.0*	*90.8*	*107.3*	*83.2*	*81.4*	*91.8*	*108.5*	*84.3*	**380.0**	*358.3*	*366.0*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**21.5**	*20.3*	*14.3*	*23.9*	*15.7*	*17.1*	*17.0*	*28.2*	*15.7*	**87.7**	*74.3*	*78.0*
Coal	**29.7**	**18.0**	**29.4**	**27.8**	*17.5*	*13.7*	*29.7*	*27.6*	*22.2*	*11.1*	*24.9*	*26.8*	**104.9**	*88.4*	*85.0*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	*2.5*	*2.3*	*2.3*	*2.5*	*2.5*	*1.2*	*2.3*	*2.5*	**8.9**	*9.6*	*8.5*
Conventional hydropower	**30.5**	**36.5**	**24.4**	**27.5**	*37.6*	*44.2*	*29.6*	*31.9*	*36.9*	*42.3*	*29.1*	*31.4*	**119.0**	*143.2*	*139.7*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**12.3**	*13.4*	*14.7*	*13.0*	*14.5*	*17.7*	*18.4*	*16.1*	*17.4*	**49.0**	*55.5*	*69.7*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.8*
Total generation	**94.3**	**86.2**	**97.9**	**92.0**	*91.5*	*89.4*	*98.7*	*92.2*	*96.6*	*90.3*	*100.9*	*93.9*	**370.4**	*371.9*	*381.7*
Net energy for load (f)	**93.8**	**84.4**	**91.4**	**86.5**	*87.7*	*81.7*	*91.2*	*86.1*	*88.4*	*81.9*	*91.5*	*86.4*	**356.0**	*346.7*	*348.1*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**13.6**	*9.9*	*13.4*	*18.5*	*11.7*	*9.4*	*12.7*	*18.2*	*11.3*	**55.8**	*53.5*	*51.6*
Coal	**9.7**	**7.9**	**11.8**	**9.5**	*6.7*	*7.1*	*7.9*	*8.1*	*7.1*	*7.2*	*7.9*	*8.1*	**38.8**	*29.8*	*30.3*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	*8.7*	*7.4*	*8.6*	*7.7*	*8.6*	*7.5*	*8.6*	*7.7*	**31.9**	*32.4*	*32.4*
Conventional hydropower	**3.0**	**4.3**	**3.9**	**2.4**	*2.8*	*4.1*	*3.9*	*2.4*	*2.5*	*3.7*	*3.9*	*2.3*	**13.7**	*13.2*	*12.4*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.3**	*2.4*	*3.1*	*2.7*	*2.6*	*3.4*	*3.9*	*3.5*	*3.4*	**9.8**	*10.7*	*14.2*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	*-0.1*	*0.0*	*0.0*	*0.0*	*-0.1*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**34.9**	*30.4*	*35.2*	*41.5*	*32.4*	*30.9*	*35.2*	*42.1*	*32.7*	**150.1**	*139.5*	*140.9*
Net energy for load (f)	**18.0**	**23.4**	**33.8**	**22.2**	*21.9*	*26.8*	*34.4*	*23.3*	*22.7*	*27.3*	*34.8*	*23.6*	**97.3**	*106.4*	*108.4*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**23.2**	*20.8*	*9.2*	*26.3*	*22.5*	*17.4*	*7.7*	*23.1*	*20.3*	**74.5**	*78.9*	*68.4*
Coal	**2.2**	**1.2**	**1.9**	**2.4**	*2.1*	*1.5*	*1.9*	*2.4*	*2.3*	*2.9*	*1.9*	*2.4*	**7.6**	*7.9*	*9.5*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	*4.9*	*4.9*	*4.3*	*4.4*	*4.5*	*4.2*	*4.9*	*4.9*	**16.2**	*18.6*	*18.5*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.2**	*6.4*	*12.0*	*9.7*	*4.4*	*5.7*	*11.4*	*9.6*	*4.2*	**33.3**	*32.5*	*30.9*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**12.2**	*13.2*	*19.3*	*19.7*	*13.0*	*13.2*	*20.5*	*20.5*	*13.6*	**62.7**	*65.2*	*67.8*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	*-0.1*	*0.2*	*0.2*	*0.0*	*-0.1*	*0.2*	*0.2*	*0.0*	**0.2**	*0.4*	*0.3*
Total generation	**44.4**	**47.2**	**58.3**	**44.7**	*47.3*	*47.2*	*62.2*	*46.7*	*43.0*	*46.8*	*60.2*	*45.4*	**194.6**	*203.4*	*195.4*
Net energy for load (f)	**59.6**	**64.4**	**77.3**	**62.3**	*59.6*	*63.3*	*76.9*	*62.0*	*59.4*	*63.1*	*76.9*	*62.0*	**263.6**	*261.8*	*261.5*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.038**	**0.033**	*0.036*	*0.036*	*0.038*	*0.032*	*0.031*	*0.035*	*0.039*	*0.032*	**0.143**	*0.142*	*0.137*
Hydroelectric Power (a)	**0.650**	**0.745**	**0.552**	**0.536**	*0.704*	*0.800*	*0.595*	*0.587*	*0.664*	*0.756*	*0.588*	*0.575*	**2.483**	*2.685*	*2.584*
Solar (b)	**0.122**	**0.200**	**0.207**	**0.128**	*0.146*	*0.248*	*0.268*	*0.169*	*0.195*	*0.340*	*0.368*	*0.225*	**0.657**	*0.831*	*1.129*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.058**	*0.053*	*0.058*	*0.060*	*0.057*	*0.054*	*0.059*	*0.060*	*0.057*	**0.234**	*0.228*	*0.230*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.025**	*0.028*	*0.047*	*0.052*	*0.031*	*0.039*	*0.048*	*0.053*	*0.033*	**0.188**	*0.159*	*0.173*
Wind	**0.683**	**0.724**	**0.609**	**0.754**	*0.785*	*0.835*	*0.674*	*0.888*	*0.929*	*0.953*	*0.777*	*0.976*	**2.770**	*3.182*	*3.636*
Subtotal	**1.604**	**1.814**	**1.524**	**1.533**	*1.752*	*2.024*	*1.687*	*1.765*	*1.912*	*2.193*	*1.885*	*1.899*	**6.475**	*7.228*	*7.889*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.209**	*0.200*	*0.202*	*0.200*	*0.202*	*0.195*	*0.200*	*0.202*	*0.203*	**0.805**	*0.804*	*0.801*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	*0.003*	*0.003*	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.011**	*0.011*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	*0.006*	*0.009*	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.029**	*0.032*	*0.036*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.042**	*0.040*	*0.039*	*0.039*	*0.041*	*0.040*	*0.039*	*0.039*	*0.041*	**0.160**	*0.158*	*0.158*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.359**	*0.345*	*0.341*	*0.351*	*0.352*	*0.340*	*0.337*	*0.349*	*0.351*	**1.463**	*1.389*	*1.377*
Subtotal	**0.617**	**0.613**	**0.614**	**0.618**	*0.593*	*0.590*	*0.598*	*0.604*	*0.584*	*0.585*	*0.598*	*0.603*	**2.462**	*2.385*	*2.370*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.022**	*0.025*	*0.037*	*0.037*	*0.026*	*0.029*	*0.041*	*0.041*	*0.029*	**0.108**	*0.125*	*0.141*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.010**	*0.010*	*0.009*	*0.009*	*0.010*	*0.010*	*0.009*	*0.009*	*0.010*	**0.038**	*0.038*	*0.038*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	*0.021*	*0.020*	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.084*	*0.084*
Subtotal	**0.065**	**0.074**	**0.075**	**0.066**	*0.069*	*0.078*	*0.080*	*0.069*	*0.072*	*0.083*	*0.085*	*0.073*	**0.281**	*0.297*	*0.313*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.053**	*0.058*	*0.090*	*0.092*	*0.064*	*0.069*	*0.107*	*0.110*	*0.077*	**0.257**	*0.303*	*0.363*
Wood Biomass	**0.131**	**0.132**	**0.134**	**0.131**	*0.131*	*0.132*	*0.134*	*0.131*	*0.131*	*0.132*	*0.134*	*0.131*	**0.528**	*0.528*	*0.528*
Subtotal	**0.190**	**0.218**	**0.221**	**0.194**	*0.198*	*0.231*	*0.235*	*0.205*	*0.210*	*0.249*	*0.253*	*0.218*	**0.824**	*0.870*	*0.930*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.068**	*0.076*	*0.086*	*0.076*	*0.082*	*0.094*	*0.103*	*0.090*	*0.098*	**0.267**	*0.320*	*0.385*
Ethanol (f)	**0.275**	**0.293**	**0.291**	**0.303**	*0.276*	*0.292*	*0.296*	*0.290*	*0.271*	*0.293*	*0.296*	*0.288*	**1.162**	*1.154*	*1.148*
Subtotal	**0.333**	**0.365**	**0.361**	**0.375**	*0.352*	*0.378*	*0.372*	*0.371*	*0.365*	*0.396*	*0.385*	*0.386*	**1.433**	*1.474*	*1.533*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.068**	*0.076*	*0.086*	*0.076*	*0.082*	*0.094*	*0.103*	*0.090*	*0.098*	**0.267**	*0.320*	*0.385*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.209**	*0.200*	*0.202*	*0.200*	*0.202*	*0.195*	*0.200*	*0.202*	*0.203*	**0.805**	*0.804*	*0.801*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.313**	*0.287*	*0.303*	*0.307*	*0.300*	*0.282*	*0.304*	*0.307*	*0.299*	**1.204**	*1.198*	*1.191*
Geothermal	**0.054**	**0.052**	**0.054**	**0.053**	*0.053*	*0.053*	*0.055*	*0.049*	*0.047*	*0.052*	*0.056*	*0.049*	**0.212**	*0.210*	*0.205*
Hydroelectric Power (a)	**0.653**	**0.748**	**0.555**	**0.540**	*0.707*	*0.804*	*0.598*	*0.590*	*0.667*	*0.760*	*0.591*	*0.579*	**2.496**	*2.698*	*2.596*
Solar (b)(e)	**0.197**	**0.315**	**0.324**	**0.207**	*0.236*	*0.383*	*0.406*	*0.266*	*0.301*	*0.499*	*0.530*	*0.339*	**1.042**	*1.290*	*1.669*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.110**	*0.103*	*0.106*	*0.108*	*0.108*	*0.104*	*0.107*	*0.108*	*0.108*	**0.431**	*0.424*	*0.427*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.536**	*0.525*	*0.540*	*0.559*	*0.536*	*0.531*	*0.538*	*0.556*	*0.536*	**2.264**	*2.160*	*2.161*
Wind	**0.683**	**0.724**	**0.609**	**0.754**	*0.785*	*0.835*	*0.674*	*0.888*	*0.929*	*0.953*	*0.777*	*0.976*	**2.770**	*3.182*	*3.636*
Total Consumption	**2.809**	**3.084**	**2.795**	**2.786**	*2.963*	*3.303*	*2.973*	*3.014*	*3.143*	*3.506*	*3.206*	*3.179*	**11.475**	*12.253*	*13.035*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,970**	**6,936**	**6,834**	**6,929**	*6,928*	*6,894*	*6,897*	*6,941*	*6,941*	*6,960*	*6,960*	*6,960*	**6,929**	*6,941*	*6,960*
Waste	**4,135**	**4,116**	**4,103**	**4,101**	*4,101*	*4,067*	*4,069*	*4,072*	*4,072*	*4,091*	*4,091*	*4,091*	**4,101**	*4,072*	*4,091*
Wood	**2,835**	**2,820**	**2,731**	**2,828**	*2,828*	*2,828*	*2,828*	*2,870*	*2,870*	*2,870*	*2,870*	*2,870*	**2,828**	*2,870*	*2,870*
Conventional Hydroelectric	**79,606**	**79,587**	**79,478**	**79,330**	*79,537*	*79,536*	*79,673*	*79,766*	*79,785*	*79,791*	*79,791*	*79,819*	**79,330**	*79,766*	*79,819*
Geothermal	**2,354**	**2,406**	**2,406**	**2,406**	*2,406*	*2,406*	*2,406*	*2,431*	*2,431*	*2,431*	*2,431*	*2,431*	**2,406**	*2,431*	*2,431*
Large-Scale Solar (b)	**32,699**	**33,184**	**33,830**	**37,458**	*39,304*	*42,165*	*43,567*	*51,202*	*52,194*	*58,646*	*60,022*	*64,419*	**37,458**	*51,202*	*64,419*
Wind	**96,620**	**98,096**	**99,674**	**105,081**	*108,237*	*109,654*	*112,663*	*125,792*	*126,557*	*127,594*	*127,974*	*130,749*	**105,081**	*125,792*	*130,749*
Other Sectors (c)															
Biomass	**6,589**	**6,538**	**6,538**	**6,544**	*6,568*	*6,568*	*6,568*	*6,560*	*6,572*	*6,571*	*6,571*	*6,571*	**6,544**	*6,560*	*6,571*
Waste	**845**	**846**	**846**	**846**	*862*	*862*	*862*	*862*	*874*	*873*	*873*	*873*	**846**	*862*	*873*
Wood	**5,744**	**5,692**	**5,692**	**5,698**	*5,706*	*5,706*	*5,706*	*5,698*	*5,698*	*5,698*	*5,698*	*5,698*	**5,698**	*5,698*	*5,698*
Conventional Hydroelectric	**290**	**290**	**290**	**290**	*290*	*290*	*290*	*290*	*290*	*291*	*289*	*289*	**290**	*290*	*289*
Large-Scale Solar (b)	**409**	**415**	**425**	**429**	*429*	*432*	*433*	*434*	*434*	*434*	*434*	*434*	**429**	*434*	*434*
Small-Scale Solar (d)	**20,327**	**21,181**	**22,148**	**23,028**	*24,027*	*25,087*	*26,213*	*27,403*	*28,662*	*30,000*	*31,417*	*32,915*	**23,028**	*27,403*	*32,915*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,223**	*14,964*	*15,760*	*16,612*	*17,522*	*18,492*	*19,533*	*20,643*	*21,827*	**14,223**	*17,522*	*21,827*
Commercial Sector	**6,446**	**6,652**	**6,885**	**7,025**	*7,231*	*7,444*	*7,664*	*7,892*	*8,127*	*8,369*	*8,620*	*8,879*	**7,025**	*7,892*	*8,879*
Industrial Sector	**1,611**	**1,689**	**1,737**	**1,780**	*1,832*	*1,884*	*1,936*	*1,989*	*2,043*	*2,098*	*2,153*	*2,209*	**1,780**	*1,989*	*2,209*
Wind	**118**	**118**	**118**	**127**	*127*	*353*	*353*	*353*	*353*	*353*	*353*	*353*	**127**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**5.9**	*5.3*	*7.0*	*7.5*	*6.0*	*6.2*	*7.2*	*7.6*	*6.0*	**27.7**	*25.9*	*27.0*
Waste	**3.9**	**3.9**	**4.0**	**3.8**	*3.5*	*3.9*	*4.0*	*3.8*	*3.6*	*3.9*	*4.0*	*3.8*	**15.6**	*15.3*	*15.4*
Wood	**3.3**	**3.1**	**3.6**	**2.0**	*1.8*	*3.1*	*3.5*	*2.1*	*2.6*	*3.2*	*3.5*	*2.2*	**12.1**	*10.6*	*11.6*
Conventional Hydroelectric	**71.2**	**81.7**	**60.6**	**58.8**	*76.4*	*86.9*	*64.6*	*63.7*	*72.1*	*82.1*	*63.8*	*62.5*	**272.3**	*291.5*	*280.5*
Geothermal	**4.0**	**3.8**	**4.1**	**3.6**	*3.9*	*3.9*	*4.2*	*3.5*	*3.3*	*3.9*	*4.2*	*3.5*	**15.6**	*15.5*	*14.9*
Large-Scale Solar (b)	**13.2**	**21.8**	**22.5**	**13.9**	*15.9*	*26.9*	*29.1*	*18.4*	*21.2*	*36.9*	*40.0*	*24.5*	**71.3**	*90.2*	*122.5*
Wind	**74.2**	**78.5**	**66.1**	**81.8**	*85.2*	*90.6*	*73.2*	*96.4*	*100.9*	*103.5*	*84.4*	*105.9*	**300.6**	*345.4*	*394.6*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.5**	*7.5*	*7.3*	*7.6*	*7.5*	*7.4*	*7.3*	*7.6*	*7.5*	**29.8**	*29.9*	*29.8*
Waste	**0.8**	**0.7**	**0.7**	**0.8**	*0.8*	*0.7*	*0.7*	*0.8*	*0.8*	*0.7*	*0.7*	*0.8*	**2.9**	*2.9*	*2.9*
Wood	**6.7**	**6.6**	**7.0**	**6.7**	*6.7*	*6.6*	*7.0*	*6.7*	*6.7*	*6.6*	*7.0*	*6.7*	**26.9**	*27.0*	*26.9*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	*0.3*	*0.3*	**1.4**	*1.4*	*1.4*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**0.6**	*1.1*	*1.3*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.2**	*8.1*	*12.3*	*12.5*	*8.7*	*9.7*	*14.7*	*15.0*	*10.4*	**35.1**	*41.5*	*49.9*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	*4.8*	*7.6*	*7.8*	*5.4*	*6.1*	*9.4*	*9.7*	*6.8*	**20.9**	*25.6*	*32.0*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	*2.6*	*3.7*	*3.7*	*2.5*	*2.9*	*4.2*	*4.2*	*2.9*	**11.2**	*12.5*	*14.1*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	*0.7*	*1.0*	*1.0*	*0.7*	*0.8*	*1.1*	*1.1*	*0.8*	**3.0**	*3.4*	*3.8*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.4*	*0.4*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,207**	*19,288*	*19,399*	*19,513*	*19,604*	*19,699*	*19,778*	*19,865*	*19,967*	**19,069**	*19,451*	*19,827*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,353**	**13,428**	*13,524*	*13,608*	*13,698*	*13,773*	*13,851*	*13,925*	*13,999*	*14,078*	**13,284**	*13,651*	*13,963*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,330**	**3,338**	*3,358*	*3,385*	*3,408*	*3,431*	*3,452*	*3,468*	*3,476*	*3,498*	**3,339**	*3,396*	*3,474*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**67**	**57**	*26*	*-3*	*15*	*23*	*29*	*28*	*45*	*51*	**78**	*15*	*38*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,314**	*3,327*	*3,359*	*3,366*	*3,371*	*3,378*	*3,382*	*3,385*	*3,387*	**3,295**	*3,356*	*3,383*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,507**	*2,514*	*2,555*	*2,588*	*2,614*	*2,632*	*2,650*	*2,661*	*2,682*	**2,526**	*2,568*	*2,656*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,514**	**3,484**	*3,511*	*3,559*	*3,622*	*3,672*	*3,710*	*3,744*	*3,771*	*3,800*	**3,498**	*3,591*	*3,756*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,043**	**15,116**	*15,184*	*15,259*	*15,331*	*15,415*	*15,532*	*15,620*	*15,706*	*15,796*	**14,993**	*15,297*	*15,663*
Non-Farm Employment															
(millions)	**150.7**	**151.1**	**151.6**	**152.2**	*152.7*	*153.3*	*153.4*	*153.6*	*153.9*	*154.2*	*154.4*	*154.6*	**151.4**	*153.3*	*154.3*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	*3.5*	*3.4*	*3.5*	*3.5*	*3.5*	*3.6*	*3.6*	*3.7*	**3.7**	*3.5*	*3.6*
Housing Starts															
(millions - SAAR)	**1.21**	**1.26**	**1.28**	**1.35**	*1.35*	*1.31*	*1.30*	*1.29*	*1.27*	*1.26*	*1.25*	*1.26*	**1.27**	*1.31*	*1.26*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.1**	*109.0*	*109.3*	*109.8*	*110.0*	*110.5*	*110.9*	*111.2*	*111.8*	**109.4**	*109.5*	*111.1*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.6**	*105.4*	*105.8*	*106.5*	*106.7*	*106.8*	*107.1*	*107.4*	*108.0*	**105.9**	*106.1*	*107.3*
Food	**115.1**	**115.3**	**114.6**	**115.9**	*116.0*	*116.3*	*116.7*	*117.0*	*117.3*	*117.8*	*118.3*	*118.8*	**115.2**	*116.5*	*118.0*
Paper	**94.2**	**91.8**	**92.5**	**93.1**	*92.0*	*91.1*	*90.4*	*89.8*	*89.4*	*89.2*	*89.2*	*89.3*	**92.9**	*90.8*	*89.3*
Petroleum and Coal Products	**106.3**	**104.9**	**106.8**	**105.4**	*105.5*	*105.6*	*105.6*	*105.4*	*105.2*	*105.0*	*104.9*	*104.5*	**105.8**	*105.5*	*104.9*
Chemicals	**101.4**	**99.9**	**100.7**	**99.3**	*99.8*	*100.2*	*100.7*	*101.2*	*101.8*	*102.4*	*103.1*	*103.9*	**100.3**	*100.5*	*102.8*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.8**	**120.0**	*119.2*	*118.7*	*118.4*	*118.2*	*118.1*	*118.1*	*118.3*	*118.7*	**119.6**	*118.6*	*118.3*
Primary Metals	**97.9**	**96.7**	**96.6**	**96.2**	*94.5*	*93.3*	*92.3*	*91.0*	*90.0*	*89.4*	*89.5*	*90.0*	**96.9**	*92.8*	*89.7*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.1**	**105.8**	*105.4*	*105.3*	*105.5*	*105.5*	*105.8*	*106.0*	*106.5*	*107.2*	**106.1**	*105.4*	*106.4*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.5**	*98.0*	*97.8*	*97.7*	*97.5*	*97.4*	*97.3*	*97.5*	*97.8*	**98.3**	*97.7*	*97.5*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.7**	**105.3**	*104.7*	*104.5*	*104.6*	*104.4*	*104.3*	*104.4*	*104.8*	*105.4*	**105.7**	*104.5*	*104.7*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.1**	**107.5**	*107.1*	*107.1*	*107.2*	*107.2*	*107.3*	*107.6*	*108.2*	*108.9*	**108.0**	*107.1*	*108.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	*2.59*	*2.60*	*2.62*	*2.63*	*2.64*	*2.66*	*2.67*	*2.69*	**2.56**	*2.61*	*2.66*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.98**	**2.00**	*2.01*	*2.01*	*2.02*	*2.03*	*2.04*	*2.05*	*2.06*	*2.07*	**2.00**	*2.02*	*2.05*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.96**	**1.95**	*1.84*	*1.85*	*2.01*	*2.01*	*1.91*	*2.01*	*2.01*	*1.97*	**1.95**	*1.93*	*1.98*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.1**	*113.8*	*114.3*	*115.1*	*115.8*	*116.5*	*117.2*	*118.0*	*118.7*	**112.4**	*114.7*	*117.6*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,298**	**9,333**	**9,289**	**8,889**	*8,401*	*9,415*	*9,353*	*9,011*	*8,481*	*9,490*	*9,432*	*9,078*	**8,955**	*9,046*	*9,123*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**707**	**674**	*640*	*676*	*686*	*664*	*645*	*678*	*687*	*665*	**677**	*667*	*669*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**410**	*398*	*435*	*442*	*422*	*403*	*437*	*443*	*423*	**411**	*424*	*427*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	*255.1*	*275.5*	*272.4*	*282.6*	*278.0*	*300.3*	*295.9*	*306.0*	**265.4**	*271.4*	*295.1*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	*0.279*	*0.271*	*0.258*	*0.257*	*0.255*	*0.254*	*0.247*	*0.253*	**0.268**	*0.266*	*0.252*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**600**	*573*	*577*	*596*	*592*	*570*	*576*	*593*	*590*	**2,359**	*2,339*	*2,328*
Natural Gas	**507**	**350**	**384**	**456**	*511*	*378*	*382*	*445*	*505*	*368*	*382*	*446*	**1,696**	*1,717*	*1,700*
Coal	**290**	**239**	**308**	**257**	*240*	*193*	*283*	*239*	*258*	*189*	*268*	*242*	**1,094**	*955*	*957*
Total Energy (c)	**1,374**	**1,178**	**1,292**	**1,316**	*1,327*	*1,151*	*1,264*	*1,279*	*1,335*	*1,136*	*1,245*	*1,281*	**5,160**	*5,022*	*4,997*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,005**	**1,011**	*1,014*	*1,019*	*1,025*	*1,029*	*1,033*	*1,037*	*1,041*	*1,045*	**1,003**	*1,022*	*1,039*
Middle Atlantic	**2,772**	**2,782**	**2,793**	**2,807**	*2,817*	*2,830*	*2,842*	*2,853*	*2,864*	*2,871*	*2,880*	*2,892*	**2,789**	*2,835*	*2,877*
E. N. Central	**2,528**	**2,535**	**2,542**	**2,548**	*2,562*	*2,574*	*2,583*	*2,591*	*2,601*	*2,607*	*2,615*	*2,625*	**2,538**	*2,577*	*2,612*
W. N. Central	**1,181**	**1,187**	**1,191**	**1,196**	*1,198*	*1,203*	*1,210*	*1,215*	*1,220*	*1,225*	*1,231*	*1,237*	**1,189**	*1,206*	*1,228*
S. Atlantic	**3,353**	**3,367**	**3,387**	**3,405**	*3,416*	*3,440*	*3,466*	*3,488*	*3,509*	*3,525*	*3,543*	*3,564*	**3,378**	*3,452*	*3,535*
E. S. Central	**832**	**835**	**839**	**842**	*844*	*848*	*852*	*856*	*861*	*864*	*867*	*871*	**837**	*850*	*866*
W. S. Central	**2,347**	**2,370**	**2,386**	**2,401**	*2,410*	*2,423*	*2,438*	*2,449*	*2,458*	*2,473*	*2,487*	*2,502*	**2,376**	*2,430*	*2,480*
Mountain	**1,252**	**1,261**	**1,272**	**1,279**	*1,284*	*1,292*	*1,301*	*1,310*	*1,317*	*1,324*	*1,330*	*1,338*	**1,266**	*1,297*	*1,327*
Pacific	**3,700**	**3,719**	**3,740**	**3,754**	*3,777*	*3,806*	*3,831*	*3,850*	*3,871*	*3,888*	*3,907*	*3,929*	**3,728**	*3,816*	*3,899*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**98.9**	**97.7**	**97.0**	**96.9**	*96.5*	*96.7*	*97.1*	*97.2*	*97.2*	*97.4*	*97.6*	*98.1*	**97.6**	*96.9*	*97.6*
Middle Atlantic	**98.8**	**97.5**	**97.0**	**96.7**	*96.4*	*96.6*	*97.0*	*97.0*	*97.0*	*97.1*	*97.3*	*97.8*	**97.5**	*96.7*	*97.3*
E. N. Central	**108.7**	**107.4**	**106.8**	**105.9**	*106.0*	*106.6*	*107.0*	*107.1*	*107.2*	*107.4*	*107.6*	*108.2*	**107.2**	*106.7*	*107.6*
W. N. Central	**106.1**	**105.1**	**105.2**	**104.9**	*104.7*	*105.2*	*105.9*	*106.1*	*106.4*	*106.7*	*107.1*	*107.8*	**105.3**	*105.5*	*107.0*
S. Atlantic	**110.6**	**109.9**	**110.3**	**110.0**	*109.7*	*110.2*	*110.8*	*111.0*	*111.1*	*111.3*	*111.6*	*112.2*	**110.2**	*110.4*	*111.5*
E. S. Central	**111.4**	**110.4**	**110.6**	**110.0**	*109.9*	*110.5*	*111.1*	*111.3*	*111.5*	*111.7*	*112.1*	*112.7*	**110.6**	*110.7*	*112.0*
W. S. Central	**101.5**	**100.6**	**101.7**	**101.4**	*101.3*	*101.6*	*102.1*	*102.3*	*102.4*	*102.6*	*103.0*	*103.8*	**101.3**	*101.8*	*103.0*
Mountain	**116.1**	**116.3**	**117.6**	**117.5**	*117.3*	*118.2*	*119.1*	*119.5*	*119.8*	*120.2*	*120.6*	*121.4*	**116.9**	*118.5*	*120.5*
Pacific	**105.9**	**105.2**	**105.9**	**105.6**	*105.3*	*105.8*	*106.5*	*106.8*	*107.1*	*107.4*	*107.8*	*108.5*	**105.6**	*106.1*	*107.7*
Real Personal Income (Billion $2009)															
New England	**903**	**905**	**909**	**914**	*919*	*923*	*927*	*931*	*937*	*941*	*945*	*949*	**908**	*925*	*943*
Middle Atlantic	**2,301**	**2,313**	**2,319**	**2,331**	*2,342*	*2,351*	*2,360*	*2,370*	*2,384*	*2,393*	*2,402*	*2,411*	**2,316**	*2,356*	*2,398*
E. N. Central	**2,428**	**2,435**	**2,439**	**2,454**	*2,465*	*2,476*	*2,485*	*2,495*	*2,510*	*2,520*	*2,531*	*2,542*	**2,439**	*2,480*	*2,526*
W. N. Central	**1,147**	**1,148**	**1,161**	**1,164**	*1,166*	*1,169*	*1,173*	*1,179*	*1,188*	*1,195*	*1,203*	*1,212*	**1,155**	*1,172*	*1,199*
S. Atlantic	**3,214**	**3,231**	**3,250**	**3,270**	*3,290*	*3,310*	*3,330*	*3,352*	*3,381*	*3,402*	*3,424*	*3,446*	**3,241**	*3,320*	*3,413*
E. S. Central	**887**	**890**	**895**	**899**	*903*	*907*	*911*	*915*	*921*	*925*	*929*	*934*	**893**	*909*	*928*
W. S. Central	**1,984**	**1,999**	**2,012**	**2,025**	*2,037*	*2,048*	*2,059*	*2,071*	*2,089*	*2,102*	*2,113*	*2,126*	**2,005**	*2,054*	*2,108*
Mountain	**1,168**	**1,175**	**1,183**	**1,190**	*1,197*	*1,205*	*1,212*	*1,221*	*1,231*	*1,240*	*1,248*	*1,256*	**1,179**	*1,209*	*1,244*
Pacific	**2,809**	**2,827**	**2,842**	**2,851**	*2,863*	*2,880*	*2,897*	*2,914*	*2,934*	*2,953*	*2,971*	*2,989*	**2,832**	*2,888*	*2,962*
Households (Thousands)															
New England	**5,943**	**5,951**	**5,968**	**5,976**	*5,983*	*5,990*	*5,998*	*6,005*	*6,013*	*6,021*	*6,028*	*6,036*	**5,976**	*6,005*	*6,036*
Middle Atlantic	**16,258**	**16,285**	**16,331**	**16,353**	*16,371*	*16,385*	*16,404*	*16,423*	*16,443*	*16,462*	*16,481*	*16,501*	**16,353**	*16,423*	*16,501*
E. N. Central	**19,092**	**19,122**	**19,174**	**19,199**	*19,219*	*19,241*	*19,271*	*19,300*	*19,328*	*19,355*	*19,382*	*19,408*	**19,199**	*19,300*	*19,408*
W. N. Central	**8,692**	**8,714**	**8,746**	**8,764**	*8,780*	*8,794*	*8,813*	*8,830*	*8,846*	*8,864*	*8,882*	*8,899*	**8,764**	*8,830*	*8,899*
S. Atlantic	**25,709**	**25,788**	**25,902**	**25,982**	*26,062*	*26,136*	*26,220*	*26,302*	*26,384*	*26,470*	*26,551*	*26,634*	**25,982**	*26,302*	*26,634*
E. S. Central	**7,651**	**7,664**	**7,688**	**7,702**	*7,716*	*7,728*	*7,744*	*7,759*	*7,775*	*7,790*	*7,806*	*7,823*	**7,702**	*7,759*	*7,823*
W. S. Central	**14,812**	**14,858**	**14,924**	**14,971**	*15,018*	*15,062*	*15,112*	*15,162*	*15,213*	*15,265*	*15,317*	*15,369*	**14,971**	*15,162*	*15,369*
Mountain	**9,403**	**9,445**	**9,499**	**9,538**	*9,576*	*9,611*	*9,650*	*9,688*	*9,725*	*9,762*	*9,797*	*9,833*	**9,538**	*9,688*	*9,833*
Pacific	**18,939**	**18,984**	**19,055**	**19,101**	*19,146*	*19,188*	*19,239*	*19,289*	*19,340*	*19,387*	*19,435*	*19,483*	**19,101**	*19,289*	*19,483*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.6**	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	**7.5**	*7.6*	*7.6*
Middle Atlantic	**20.0**	**20.0**	**20.0**	**20.1**	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	*20.3*	**20.1**	*20.2*	*20.2*
E. N. Central	**22.4**	**22.4**	**22.4**	**22.4**	*22.5*	*22.6*	*22.5*	*22.6*	*22.6*	*22.6*	*22.6*	*22.6*	**22.4**	*22.5*	*22.6*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.9**	*10.9*	*10.9*	*10.9*	*10.9*	*11.0*	*11.0*	*11.0*	*11.0*	**10.8**	*10.9*	*11.0*
S. Atlantic	**29.1**	**29.1**	**29.2**	**29.4**	*29.5*	*29.6*	*29.7*	*29.8*	*29.9*	*29.9*	*30.0*	*30.1*	**29.2**	*29.7*	*30.0*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.4**	*8.4*	*8.4*	*8.4*	*8.4*	*8.4*	*8.5*	*8.5*	*8.5*	**8.3**	*8.4*	*8.5*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	*18.0*	*18.1*	*18.1*	*18.1*	*18.2*	*18.2*	*18.3*	*18.3*	**17.8**	*18.1*	*18.3*
Mountain	**11.0**	**11.1**	**11.1**	**11.2**	*11.2*	*11.3*	*11.3*	*11.4*	*11.4*	*11.5*	*11.5*	*11.5*	**11.1**	*11.3*	*11.5*
Pacific	**23.7**	**23.9**	**24.0**	**24.1**	*24.2*	*24.3*	*24.3*	*24.3*	*24.4*	*24.4*	*24.5*	*24.5*	**23.9**	*24.3*	*24.4*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,220**	**892**	**135**	**2,273**	*2,985*	*869*	*127*	*2,162*	*3,116*	*856*	*127*	*2,162*	**6,520**	*6,142*	*6,260*
Middle Atlantic	**2,983**	**632**	**67**	**2,058**	*2,742*	*699*	*76*	*1,990*	*2,915*	*696*	*76*	*1,990*	**5,740**	*5,507*	*5,676*
E. N. Central	**3,328**	**763**	**65**	**2,279**	*2,935*	*743*	*123*	*2,238*	*3,157*	*743*	*123*	*2,238*	**6,436**	*6,038*	*6,260*
W. N. Central	**3,646**	**772**	**108**	**2,547**	*3,142*	*712*	*159*	*2,414*	*3,235*	*709*	*159*	*2,415*	**7,073**	*6,428*	*6,518*
South Atlantic	**1,335**	**128**	**2**	**916**	*1,250*	*189*	*12*	*966*	*1,416*	*198*	*12*	*965*	**2,381**	*2,418*	*2,591*
E. S. Central	**1,713**	**194**	**1**	**1,274**	*1,647*	*246*	*19*	*1,305*	*1,834*	*256*	*19*	*1,306*	**3,182**	*3,217*	*3,414*
W. S. Central	**1,208**	**90**	**0**	**849**	*1,008*	*75*	*4*	*799*	*1,147*	*82*	*4*	*799*	**2,147**	*1,888*	*2,031*
Mountain	**2,429**	**786**	**127**	**1,960**	*2,149*	*663*	*144*	*1,804*	*2,182*	*673*	*143*	*1,803*	**5,302**	*4,761*	*4,802*
Pacific	**1,690**	**577**	**97**	**1,184**	*1,461*	*548*	*86*	*1,184*	*1,495*	*555*	*86*	*1,184*	**3,548**	*3,278*	*3,320*
U.S. Average	**2,210**	**481**	**57**	**1,556**	*1,973*	*480*	*72*	*1,520*	*2,105*	*483*	*72*	*1,518*	**4,303**	*4,046*	*4,179*
Heating Degree Days, Prior 10-year Average															
New England	**3,166**	**820**	**111**	**2,122**	*3,152*	*822*	*105*	*2,127*	*3,158*	*845*	*108*	*2,115*	**6,218**	*6,205*	*6,226*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	*2,948*	*644*	*69*	*1,944*	*2,940*	*663*	*71*	*1,926*	**5,623**	*5,605*	*5,600*
E. N. Central	**3,196**	**697**	**112**	**2,198**	*3,198*	*698*	*102*	*2,198*	*3,172*	*721*	*104*	*2,184*	**6,203**	*6,196*	*6,181*
W. N. Central	**3,255**	**702**	**140**	**2,380**	*3,287*	*702*	*132*	*2,379*	*3,257*	*719*	*132*	*2,377*	**6,477**	*6,500*	*6,486*
South Atlantic	**1,480**	**176**	**11**	**963**	*1,459*	*169*	*10*	*951*	*1,407*	*174*	*10*	*923*	**2,631**	*2,588*	*2,514*
E. S. Central	**1,861**	**222**	**17**	**1,292**	*1,850*	*214*	*15*	*1,277*	*1,788*	*222*	*16*	*1,257*	**3,392**	*3,357*	*3,283*
W. S. Central	**1,183**	**85**	**4**	**807**	*1,199*	*83*	*3*	*794*	*1,144*	*83*	*3*	*792*	**2,079**	*2,078*	*2,022*
Mountain	**2,164**	**714**	**139**	**1,855**	*2,192*	*718*	*135*	*1,843*	*2,175*	*700*	*135*	*1,846*	**4,873**	*4,889*	*4,857*
Pacific	**1,444**	**582**	**83**	**1,175**	*1,456*	*580*	*85*	*1,162*	*1,454*	*555*	*83*	*1,157*	**3,283**	*3,284*	*3,249*
U.S. Average	**2,150**	**475**	**68**	**1,518**	*2,149*	*472*	*64*	*1,508*	*2,118*	*476*	*65*	*1,494*	**4,211**	*4,194*	*4,152*
Cooling Degree Days															
New England	**0**	**66**	**468**	**0**	*0*	*85*	*419*	*1*	*0*	*85*	*419*	*1*	**535**	*505*	*505*
Middle Atlantic	**0**	**145**	**632**	**8**	*0*	*153*	*549*	*4*	*0*	*153*	*549*	*4*	**785**	*707*	*707*
E. N. Central	**0**	**174**	**647**	**6**	*0*	*210*	*531*	*7*	*0*	*210*	*531*	*7*	**828**	*748*	*748*
W. N. Central	**0**	**223**	**727**	**2**	*3*	*259*	*658*	*10*	*3*	*259*	*658*	*10*	**952**	*930*	*930*
South Atlantic	**153**	**754**	**1,297**	**309**	*141*	*666*	*1,175*	*231*	*119*	*660*	*1,176*	*232*	**2,513**	*2,213*	*2,187*
E. S. Central	**29**	**548**	**1,212**	**86**	*24*	*517*	*1,050*	*66*	*27*	*514*	*1,050*	*66*	**1,875**	*1,657*	*1,657*
W. S. Central	**73**	**819**	**1,694**	**169**	*94*	*899*	*1,506*	*199*	*89*	*890*	*1,506*	*199*	**2,754**	*2,697*	*2,684*
Mountain	**10**	**343**	**988**	**60**	*18*	*439*	*940*	*79*	*18*	*439*	*941*	*79*	**1,400**	*1,476*	*1,477*
Pacific	**21**	**166**	**587**	**61**	*27*	*173*	*592*	*58*	*27*	*172*	*591*	*58*	**835**	*849*	*849*
U.S. Average	**46**	**398**	**951**	**105**	*47*	*407*	*859*	*93*	*43*	*405*	*860*	*93*	**1,499**	*1,406*	*1,401*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	*0*	*83*	*470*	*1*	*0*	*79*	*461*	*1*	**536**	*554*	*541*
Middle Atlantic	**0**	**165**	**589**	**6**	*0*	*170*	*609*	*6*	*0*	*163*	*597*	*6*	**760**	*786*	*766*
E. N. Central	**3**	**242**	**548**	**7**	*3*	*240*	*578*	*8*	*3*	*233*	*564*	*7*	**799**	*829*	*807*
W. N. Central	**7**	**298**	**669**	**11**	*7*	*296*	*696*	*11*	*7*	*291*	*686*	*11*	**985**	*1,010*	*994*
South Atlantic	**120**	**684**	**1,180**	**239**	*127*	*696*	*1,202*	*247*	*138*	*685*	*1,190*	*254*	**2,224**	*2,272*	*2,266*
E. S. Central	**36**	**555**	**1,049**	**67**	*36*	*557*	*1,082*	*72*	*37*	*541*	*1,063*	*73*	**1,706**	*1,746*	*1,714*
W. S. Central	**103**	**897**	**1,552**	**205**	*100*	*892*	*1,576*	*207*	*106*	*886*	*1,568*	*209*	**2,758**	*2,775*	*2,769*
Mountain	**25**	**438**	**932**	**81**	*24*	*433*	*939*	*81*	*25*	*442*	*940*	*82*	**1,476**	*1,477*	*1,489*
Pacific	**31**	**185**	**631**	**76**	*31*	*185*	*624*	*77*	*31*	*190*	*635*	*78*	**923**	*917*	*935*
U.S. Average	**46**	**417**	**873**	**97**	*47*	*420*	*892*	*100*	*50*	*416*	*886*	*102*	**1,433**	*1,459*	*1,454*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the February 2020 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Dec 2019	Jan 2020	Dec 19-Jan 2020 Average	Dec 18-Jan 2019 Average	2016- 2018 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	101.5	101.0	101.2	101.3	98.8
Global Petroleum and Other Liquids Consumption (b)	102.1	98.5	100.3	99.8	98.5
Biofuels Production (c)	2.2	2.0	2.1	2.1	2.4
Biofuels Consumption (c)	2.4	2.3	2.3	2.3	2.3
Iran Liquid Fuels Production	2.6	2.5	2.5	3.6	4.5
Iran Liquid Fuels Consumption	2.1	2.0	2.0	1.9	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	96.8	96.5	96.6	95.7	91.9
Consumption (d)	97.6	94.2	95.9	95.7	94.4
Production minus Consumption	-0.8	2.3	0.7	0.0	-2.5
World Inventory Net Withdrawals Including Iran	0.6	-2.5	-1.0	-1.5	-0.4
Estimated OECD Inventory Level (e) (million barrels)	2,894	2,926	2,910	2,867	2,963
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	2.1	2.2	2.1	1.6	1.6

Note: The term “petroleum and other liquids” encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.
(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
(b) Consumption of petroleum by the OECD countries is synonymous with “products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Dec 2019	Jan 2020	Dec 19-Jan 2020 Average	Dec 18-Jan 2019 Average	2016-2018 Average
Brent Front Month Futures Price ($ per barrel)	65.17	63.67	64.42	58.99	57.19
WTI Front Month Futures Price ($ per barrel)	59.80	57.53	58.67	50.30	53.07
Dubai Front Month Futures Price ($ per barrel)	65.77	64.46	65.12	58.34	55.04
Brent 1st - 13th Month Futures Spread ($ per barrel)	5.48	5.27	5.38	-0.70	-0.56
WTI 1st - 13th Month Futures Spread ($ per barrel)	4.61	3.69	4.15	-2.30	-0.92
RBOB Front Month Futures Price ($ per gallon)	1.67	1.62	1.64	1.39	1.65
Heating Oil Front Month Futures Price ($ per gallon)	1.99	1.85	1.92	1.83	1.71
RBOB - Brent Futures Crack Spread ($ per gallon)	0.12	0.10	0.11	-0.02	0.29
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.43	0.34	0.39	0.42	0.35

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

March 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- EIA delayed the release of the March STEO update by one day to incorporate recent significant global oil market developments. On March 9, Brent crude oil front-month futures prices fell below $35/b, a 24% daily decline and the second largest daily price decline on record. Prices fell following the March 6 meeting between members of the Organization of the Petroleum Exporting Countries (OPEC) and its partner countries, which ended without an agreement on production levels amid market expectations for declining global oil demand growth in the coming months. In addition to the following highlights, EIA has provided a short summary of the March STEO forecast in the crude oil section of the *Petroleum and Natural Gas Markets Review* (PNGMR).

- As a result of the outcome of the March 6 OPEC meeting, EIA's forecast assumes that OPEC will target market share instead of a balanced global oil market. EIA forecasts OPEC crude oil production will average 29.2 million barrels per day (b/d) from April through December 2020, up from an average of 28.7 million b/d in the first quarter of 2020. EIA forecasts OPEC crude oil production will rise to an average of 29.4 million b/d in 2021. The OPEC production data in the March STEO include Ecuador, which finalized its withdrawal from OPEC at the March 6 meeting. Beginning with the April 2020 STEO, EIA will include Ecuador's production volumes in non-OPEC data.

- EIA expects global petroleum and liquid fuels consumption will average 99.1 million b/d in the first quarter of 2020, a decline of 0.9 million b/d from the same period in 2019. EIA expects global petroleum and liquid fuels demand will rise by less than 0.4 million b/d in 2020 and by 1.7 million b/d in 2021. Lower global oil demand growth for 2020 in the March STEO reflects a reduced assumption for global economic growth along with reduced expected travel globally because of the 2019 novel coronavirus disease (COVID-19).

- EIA expects that global liquid fuels inventories will grow by an average of 1.0 million b/d in 2020 after falling by about 0.1 million b/d in 2019. EIA expects inventory builds will be largest in the first half of 2020, rising at a rate of 1.7 million b/d because of slow oil demand growth. Firmer demand growth as the global economy strengthens and slower supply growth will contribute to balanced markets in the fourth quarter of 2020 and

global oil inventory draws in 2021. EIA expects global liquid fuels inventories will decline by 0.4 million b/d in 2021.

- EIA forecasts Brent crude oil prices will average $43/b in 2020, down from an average of $64/b in 2019. For 2020, EIA expects prices will average $37/b during the second quarter and then rise to $42/b during the second half of the year. EIA forecasts that average Brent prices will rise to an average of $55/b in 2021, as declining global oil inventories put upward pressure on prices.

- EIA forecasts U.S. crude oil production will average 13.0 million b/d in 2020, up 0.8 million b/d from 2019, but then fall to 12.7 million b/d in 2021. The forecast decline in 2021 is in response to lower oil prices and would mark the first annual U.S. crude oil production decline since 2016. EIA models show oil prices affect production after about a six-month lag. Despite forecast annual average growth of 0.8 million b/d in 2020, EIA expects monthly U.S. crude oil production to begin declining around May, with production falling from 13.2 million b/d in May to 12.8 million b/d in December 2020.

- Based on the lower crude oil price forecast, EIA expects U.S. retail prices for regular grade gasoline to average $2.14 per gallon (gal) in 2020, down from $2.60/gal in 2019. EIA expects retail gasoline prices to fall to a monthly average of $1.97/gal in April before rising to an average of $2.13/gal from June through August.

Natural gas

- In February, the Henry Hub natural gas spot price averaged $1.91 per million British thermal units (MMBtu). Warmer-than-normal temperatures in February reduced demand for space heating and put downward pressure on prices. EIA forecasts that prices will begin to rise in the second quarter of 2020 as U.S. natural gas production declines and natural gas use for power generation increases the demand for natural gas. EIA expects prices to average $2.22/MMBtu in the third quarter of 2020. EIA forecasts that Henry Hub natural gas spot prices will average $2.11/MMBtu in 2020. EIA expects that natural gas prices will then increase in 2021, reaching an annual average of $2.51/MMBtu.

- U.S. dry natural gas production set a record in 2019, averaging 92.2 billion cubic feet per day (Bcf/d). Although EIA forecasts dry natural gas production will average 95.3 Bcf/d in 2020, a 3% increase from 2019, EIA expects monthly production to generally decline through 2020, falling from an estimated 96.5 Bcf/d in February to 92.3 Bcf/d in December. The falling production mostly occurs in the Appalachian and Permian regions. In the Appalachian region, low natural gas prices are discouraging producers from engaging in natural gas-directed drilling, and in the Permian region, low oil prices reduce associated gas output from oil-directed wells. In 2021, EIA forecasts dry natural gas production will rise from December 2020 levels in response to higher prices. Forecast dry natural gas production for 2021 averages 92.6 Bcf/d.

- EIA estimates that total U.S. working natural gas in storage ended February at 2.1 trillion cubic feet (Tcf), 9% more than the five-year (2015–19) average. EIA forecasts that total working inventories will end March at 1.9 Tcf, 12% more than the five-year average. In the forecast, inventories rise by almost 2.1 Tcf during the April through October injection season to reach almost 4.0 Tcf on October 31.

Electricity, coal, renewables, and emissions

- EIA expects the annual share of U.S. utility-scale electricity generation from natural gas-fired power plants will remain relatively steady through the forecast; it was 37% in 2019, and EIA forecasts it will average 39% in 2020 and 37% in 2021. Coal's forecast share of electricity generation falls from 24% in 2019 to 21% in both 2020 and 2021. Electricity generation from renewable energy sources rises from a share of 17% last year to 19% in 2020 and to 21% in 2021. The increase in the renewables share is the result of additions to wind and solar generating capacity. The nuclear share of generation averaged 20% in 2019 and is expected to remain about the same in 2020 and 2021.

- EIA forecasts that U.S. coal production will total 573 million short tons (MMst) in 2020, down 117 MMst (17%) from 2019. Lower production reflects declining demand for coal in the electric power sector and lower demand for U.S. exports. EIA forecasts that electric power sector demand for coal will fall by 86 MMst (16%) in 2020. EIA expects that U.S. coal production will stabilize in 2021 as export demand rises and U.S. power sector demand for coal increases slightly because natural gas prices increase.

- After decreasing by 2.8% in 2019, EIA forecasts that energy-related carbon dioxide (CO2) emissions will decrease by 2.2% in 2020 and by 0.4% in 2021. Declining emissions in 2020 reflect forecast declines in total U.S. energy consumption because of energy efficiency and weather effects, particularly as a result of warmer-than-normal temperatures in January and February. A forecast return to normal temperatures in 2021 results in a slowing decline in emissions. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

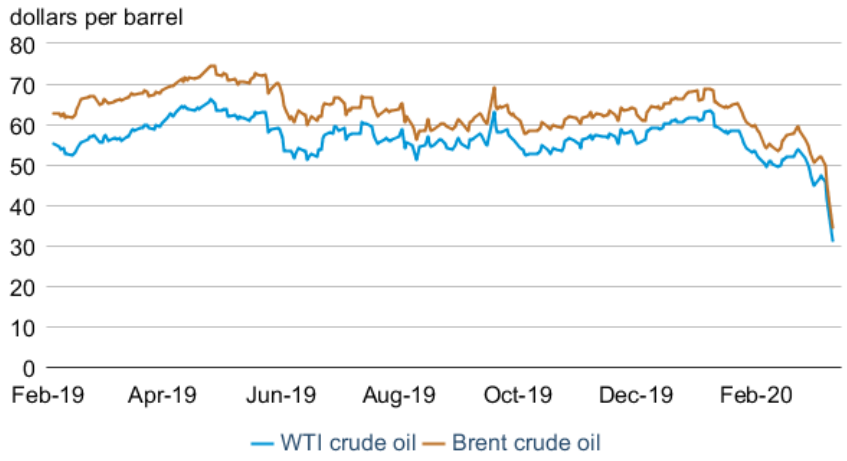
Petroleum and natural gas markets review

Crude oil

Markets for oil, as well as other commodities and equities, have experienced significant volatility and price declines since the final week in February amid concerns over the economic effects of the 2019 novel coronavirus disease (COVID-19). In addition, oil markets, in particular, have responded more recently to the outcome of the OPEC and partners meeting on March 6 with decreased oil prices that affected financial markets.

Brent and West Texas Intermediate (WTI) crude oil prices settled at $34.36 per barrel (b) and $31.13/b on March 9, respectively, declines of $20.09/b and $18.98/b from February 3, 2020 **(Figure 1)**. On March 9, Brent and WTI front-month futures prices declined by 24% and 25%, respectively, the second largest one-day decline in each of their respective futures price histories.

Figure 1. Crude oil front-month futures prices



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

EIA acknowledges significant uncertainty amid a highly volatile market environment. Several recent developments have contributed to significant revisions in EIA's outlook for global oil demand and supply:

- Slowing forecasts for global economic growth, primarily as a result of COVID-19, have led to significant downward revisions in EIA's global oil demand forecast. Reports of new cases of the virus in countries outside of China have led to restrictions on international and domestic travel as well as reduced activity among global manufacturers.
- As a result of the March 6 OPEC and partners meeting, EIA no longer assumes production management from OPEC members or partner countries that were previously voluntarily reducing production. Previously, EIA assumed OPEC would limit production in 2020 and 2021 to target relatively balanced global oil markets.

- Lower forecast crude oil prices lead to lower U.S. crude oil production, as a result of a price-induced reduction in drilling and completion activity.

Demand: Both lower assumed global economic growth and reduced global travel contribute to EIA's forecast of 0.4 million barrels per day (b/d) for global oil demand growth in 2020, a reduction from the January STEO forecast of 1.3 million b/d (EIA's January STEO did not include COVID-19-related demand effects). Most of the reduction is in China, where EIA lowered expected growth for 2020 to 0.1 million b/d, down from a forecast of 0.5 million b/d in the January STEO. EIA also made significant downward revisions to the demand forecasts for Japan, South Korea, and Italy.

The reduced demand forecast has three main drivers: lower assumptions of economic growth, less expected air travel, and other reductions in demand not captured by these two categories. Based on forecasts from Oxford Economics, EIA reduced its assumption for 2020 global oil-weighted growth in gross domestic product (GDP) to 2.1% from the assumption of 2.4% in the January STEO. Updated information on flight cancellations also led EIA to revise its assumptions for the direct loss of jet fuel consumption from reduced air travel in the first and second quarters of 2020. Finally, EIA assumes additional lost oil demand not captured by GDP and air travel. Notable among these factors are more lost demand in China's petrochemical sector and more lost demand from road travel in China. However, these estimates are based on preliminary data, along with assumptions about the severity and duration of effects on oil demand, in the absence of actual data.

This forecast assumes the demand effects from COVID-19 will diminish by the third quarter of 2020, with demand growth resuming its previous trend through the remainder of the forecast.

OPEC supply: The outcome of the March 6 OPEC meeting has caused EIA to revise its OPEC crude oil production forecast. After the March 6 meeting, OPEC and partner countries did not agree to further production cuts beyond those currently expiring March 31, 2020. In contrast to the February STEO, EIA no longer expects active production management to target balanced global oil markets among OPEC members or partner countries. These countries had been limiting production under the Declaration of Cooperation, initially agreed to in December 2016.

EIA expects OPEC crude oil production will average 29.1 million b/d in the second and third quarters 2020, up from 28.7 million b/d in the first quarter of 2020. However, production levels targeted by OPEC amid low oil demand are uncertain, and realized levels will have a significant effect on crude oil prices. Unplanned supply outages in Libya add additional uncertainty to the OPEC forecast. Crude oil production in Libya has declined by 1.0 million b/d since December 2019, and EIA estimates February production in Libya averaged 150,000 b/d.

Prices and inventories: EIA forecasts Brent crude oil prices will average $43/b in 2020, down from a forecast of $65/b in the January STEO, and then increase to an average of $55/b in 2021. EIA forecasts the decline in liquid fuels demand combined with an increase in OPEC production during the next two quarters will contribute to significant increases in global liquid fuels

inventories. EIA forecasts global oil inventory builds in the first half of 2020 to average 1.7 million b/d before moving to a balanced market in the fourth quarter.

With demand growth accelerating and U.S. crude oil production declining in 2021, EIA forecasts inventory withdrawals to average 0.4 million b/d for the year. EIA expects these consistent inventory withdrawals will put upward pressure on crude oil prices and bring Brent crude oil prices to $60 by the end of next year. However, the recovery of global oil demand in late 2020 and 2021, the response of U.S. crude oil production to low prices, and the production decisions of OPEC amid these factors are all highly uncertain.

U.S. crude oil production: EIA forecasts U.S. crude oil production will average 13.0 million b/d in 2020 and fall to 12.7 million b/d in 2021. These estimates are 0.3 million b/d and 1.1 million b/d lower than in the January STEO. If realized, a production decline next year would be the first year-on-year decline in production since 2016.

Lower crude oil output in the forecast results from lower crude oil prices leading to a reduction in drilling and completion activity. For 2020, EIA's WTI crude oil price forecast averages $38/b for the year, a decline of $19/b from 2019 levels, and $21/b lower than forecast in the January STEO. EIA models show about a six-month lag between changes in crude oil price and changes in wellhead production. Given that lag, EIA expects recent declines in price to lower production beginning in the third quarter of 2020.

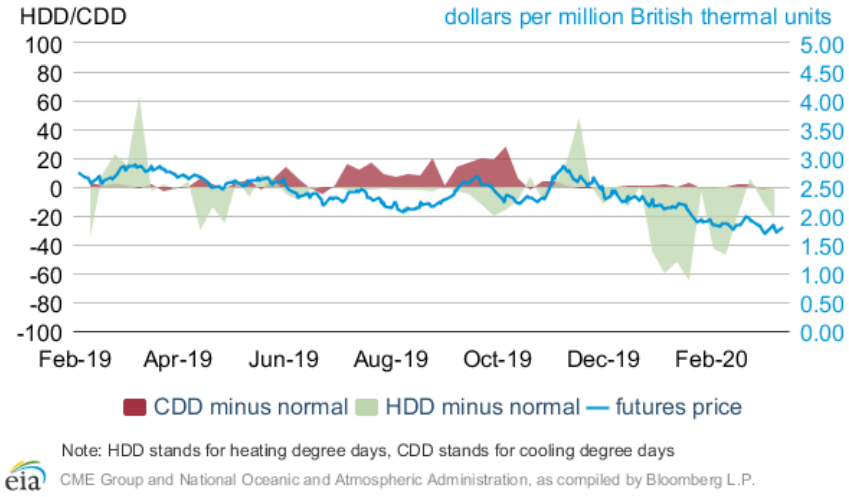
For 2021, EIA expects WTI prices will rise to an average of $50/b, which EIA expects will contribute to U.S. crude oil production rising again by the fourth quarter of 2020.

EIA estimates that onshore crude oil production in the Lower 48 states will average 10.6 million b/d in 2020, an increase of 0.7 million b/d from 2019 levels, and then fall by 0.4 million b/d to average 10.2 million b/d in 2021. In 2020, production growth comes largely from the Permian region. In 2021, the production declines are mostly attributed to the Bakken and Eagle Ford regions, with the Permian region expected to see flat growth.

Natural Gas

Prices: The front-month natural gas futures contract for April delivery at the Henry Hub settled at $1.78 per million British thermal units (MMBtu) on March 9, down 4 cents/MMBtu from February 3 **(Figure 2)**. Warmer-than-normal weather patterns continued to keep prices at historically low levels.

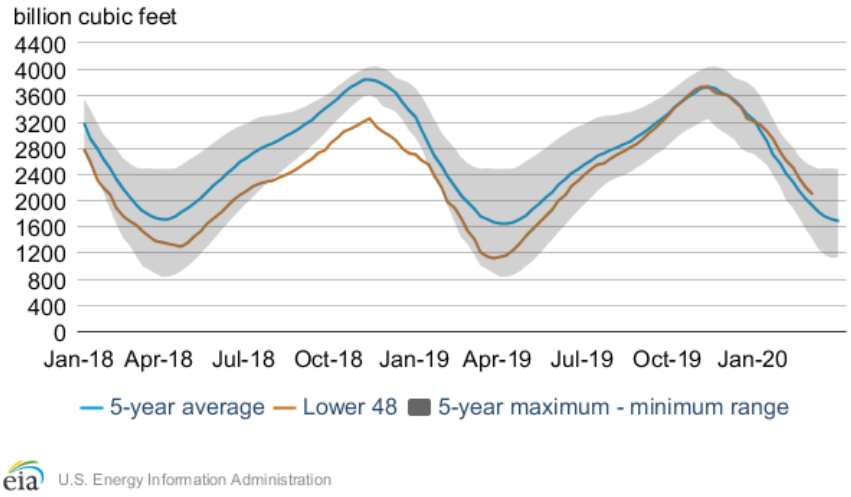
Figure 2. Natural gas front-month futures prices and actual minus historical average HDD and CDD



Note: HDD stands for heating degree days, CDD stands for cooling degree days
CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.

Natural gas stocks: Despite warmer-than-normal temperatures during February, 5% more natural gas was withdrawn from underground storage during the four weeks ending February 28, 2020 than the five-year (2015–19) average, which likely reflected growth in natural gas consumption for power generation. However, there was more natural gas in underground storage at the end of February than the five-year average (**Figure 3**). This February contrasts with the relatively cold conditions during February 2019, when storage levels at the end of the month fell 24% lower than the five-year (2014–18) average. More natural gas in storage this year relative to both the five-year average and year-ago levels contributed to 78 cents/MMBtu lower Henry Hub spot prices in February 2020 compared with February 2019. EIA expects natural gas in storage to build at a rate close to the five-year average during the upcoming April–October injection season, and forecasts that natural gas in storage will end October at almost 4.0 trillion cubic feet, 6% more than the five-year average. With rising temperatures in the coming months causing increased use of natural gas for power generation, EIA expects Henry Hub prices to rise to an average of $2.22/MMBtu in the third quarter of 2020. Although that level would be an increase from current levels, it would be 16 cents/MMBtu lower than in the third quarter of 2019.

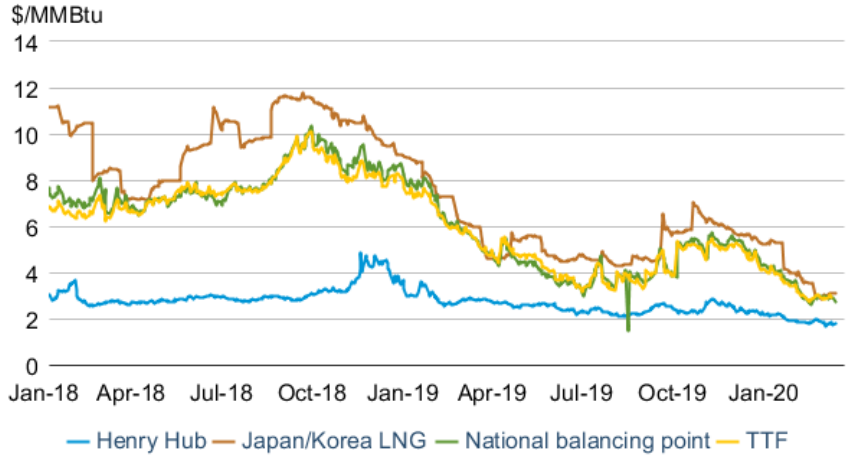
Figure 3. Working gas in underground storage compared with the 5-year maximum and minimum



eia U.S. Energy Information Administration

International natural gas prices: Europe and Asia have also experienced warmer-than-normal winter weather. As a result, natural gas benchmarks for Europe (the Title Transfer Facility, or TTF, and the National Balancing Point, or NBP) and Asia (Japan-Korea Marker, or JKM) have followed an even steeper downward trend compared with the Henry Hub contract **(Figure 4).** At the end of February, the JKM price reached near parity with TTF, although it typically trades at a premium. The decline of global natural gas prices and narrowing of spreads between markets likely reflects lower demand levels and reduced need for imports in European and Asian markets. EIA expects U.S. LNG exports will average 5.3 Bcf/d in the second quarter of 2020, down by 0.5 Bcf/d from the February STEO.

Figure 4. International natural gas prices



eia CME Group, Bloomberg L.P.

Notable forecast changes

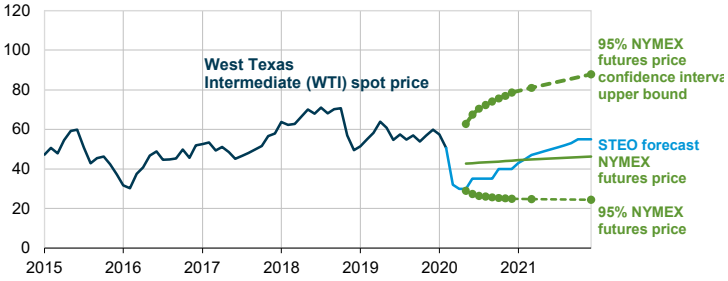
- EIA significantly revised its short-term outlooks for global oil supply, demand, and prices compared with the February STEO. These updates largely resulted from updated data and assumptions about the effects of the 2019 novel coronavirus disease (COVID-19) on global oil demand and assumptions regarding OPEC's crude oil production following its March 6 meeting. In order to incorporate changed assumptions regarding the OPEC meeting, EIA is releasing this STEO update one day later than scheduled. These changes in global oil assumptions are wide ranging and are summarized in EIA's forecast changes table.
- EIA expects Henry Hub natural gas spot prices to average $2.11 per million British thermal units in 2020, 10 cents/MMBtu lower than last month's forecast.
- EIA forecasts that U.S. liquefied natural gas exports will average 5.3 billion cubic feet per day (Bcf/d) in the second quarter of 2020 and 6.3 Bcf/d in the third quarter of 2020. These forecasts are 0.5 Bcf/d and 0.2 Bcf/d lower, respectively, than forecast in the February STEO because of less expected global demand for natural gas.
- EIA expects U.S. coal exports in 2020 to average 78 million short tons, which is 9% lower than forecast in the February STEO. The lower forecast reflects less expected global demand for U.S. coal in this forecast compared with last month.
- For more information, see the detailed table of STEO forecast changes.

This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook

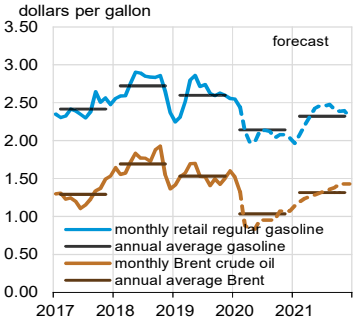
Chart Gallery for March 2020

West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



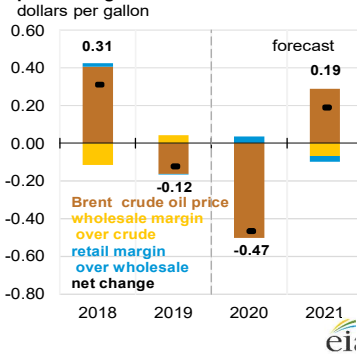
Note: Confidence interval derived from options market information for the five trading days ending Mar 9, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Sources: Short-Term Energy Outlook, March 2020, and CME Group

U.S. gasoline and crude oil prices
dollars per gallon

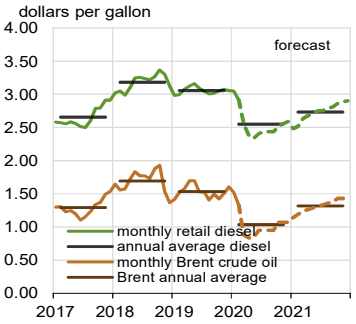


Source: Short-Term Energy Outlook, March 2020

Components of annual gasoline price changes
dollars per gallon

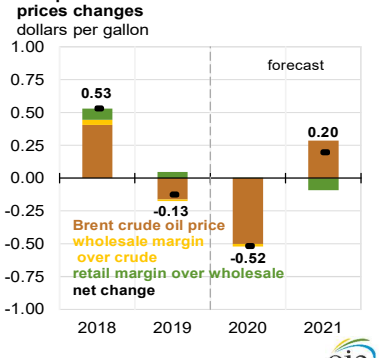


U.S. diesel and crude oil prices



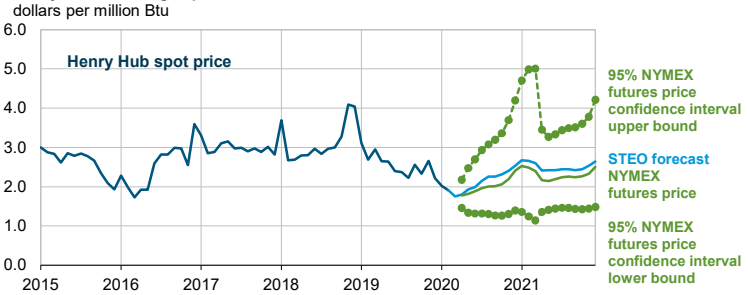
Source: Short-Term Energy Outlook, March 2020

Components of annual diesel prices changes



Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

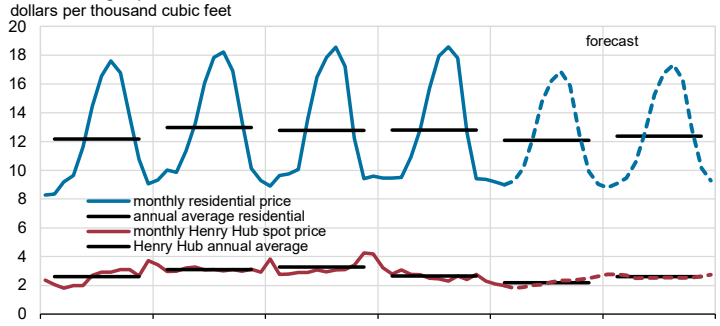


Note: Confidence interval derived from options market information for the five trading days ending Mar 9, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

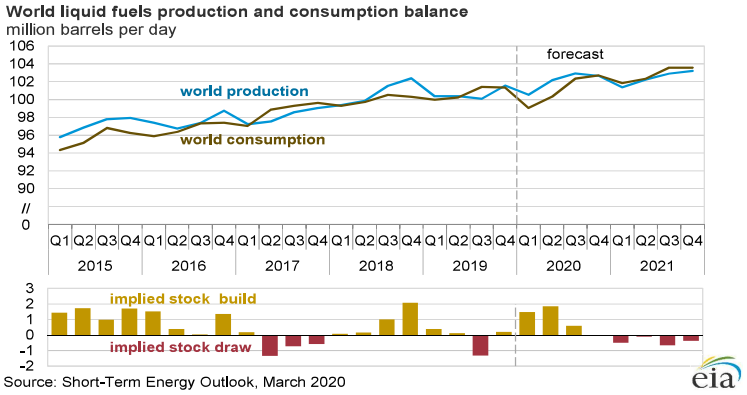
Sources: Short-Term Energy Outlook, March 2020, and CME Group

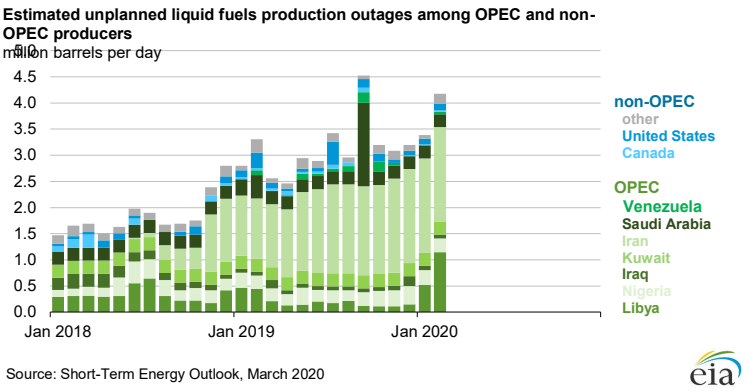
U.S. natural gas prices

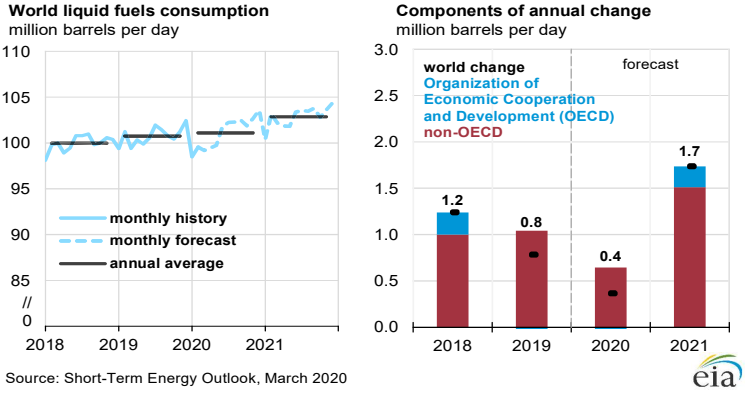
dollars per thousand cubic feet

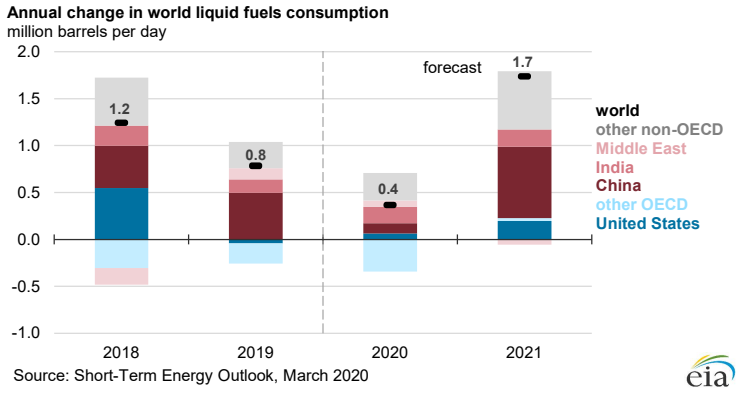


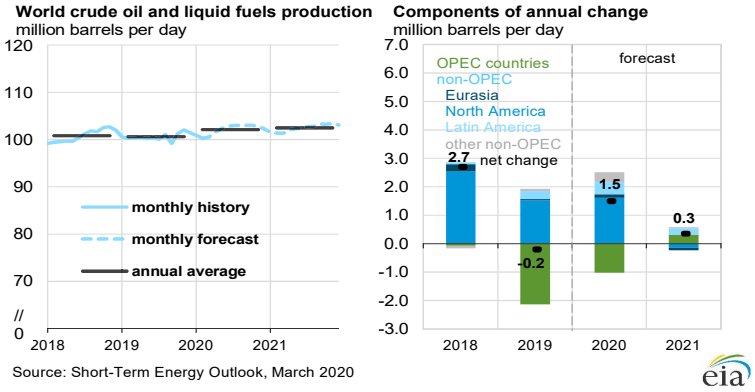
Sources: Short-Term Energy Outlook, March 2020, and Refinitiv

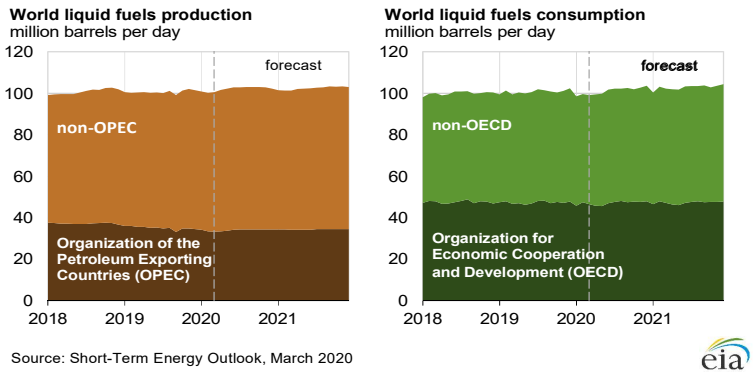

World liquid fuels production and consumption balance
million barrels per day
forecast
world production
world consumption
implied stock build
implied stock draw
2015
2016
2017
2018
2019
2020
2021
Source: Short-Term Energy Outlook, March 2020
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Jan 2018
Jan 2019
Jan 2020
Source: Short-Term Energy Outlook, March 2020
eia

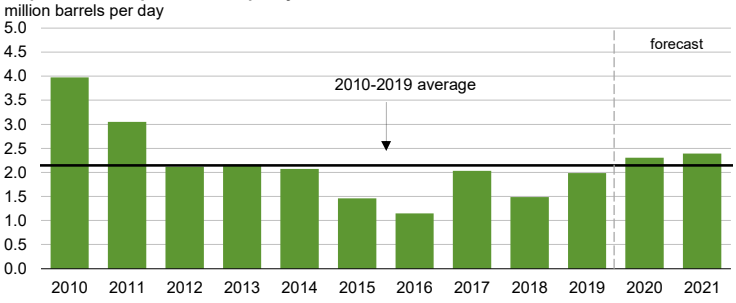

World liquid fuels consumption
million barrels per day
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
1.2
0.8
0.4
1.7
Source: Short-Term Energy Outlook, March 2020
eia


Annual change in world liquid fuels consumption
million barrels per day
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
forecast
1.2
0.8
0.4
1.7
2018
2019
2020
2021
world
other non-OECD
Middle East
India
China
other OECD
United States
Source: Short-Term Energy Outlook, March 2020
eia


World crude oil and liquid fuels production
million barrels per day
120
110
100
90
80
70
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
OPEC countries
non-OPEC
Eurasia
North America
Latin America
other non-OPEC
forecast
2.7
net change
-0.2
1.5
0.3
2018
2019
2020
2021
Source: Short-Term Energy Outlook, March 2020
eia

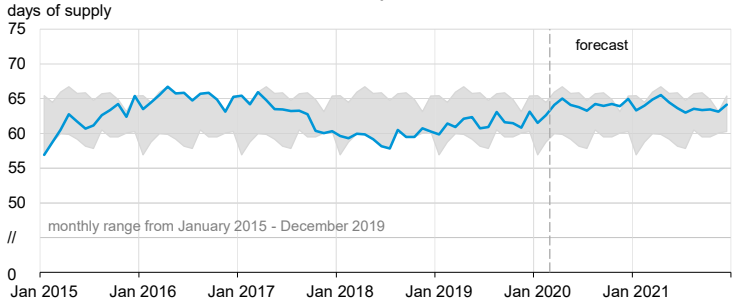

World liquid fuels production
million barrels per day
120
100
80
60
40
20
0
forecast
non-OPEC
Organization of the Petroleum Exporting Countries (OPEC)
2018
2019
2020
2021
World liquid fuels consumption
million barrels per day
120
100
80
60
40
20
0
forecast
non-OECD
Organization for Economic Cooperation and Development (OECD)
2018
2019
2020
2021
Source: Short-Term Energy Outlook, March 2020
eia

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



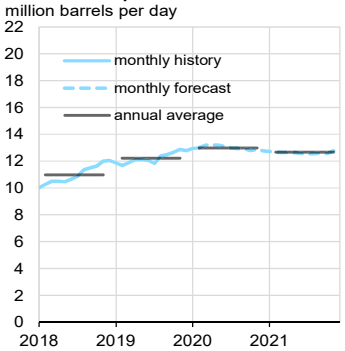
Note: Black line represents 2010-2019 average (2.1 million barrels per day).
Source: Short-Term Energy Outlook, March 2020

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

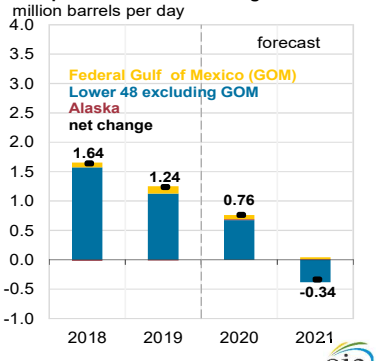


Source: Short-Term Energy Outlook, March 2020

U.S. crude oil production
million barrels per day

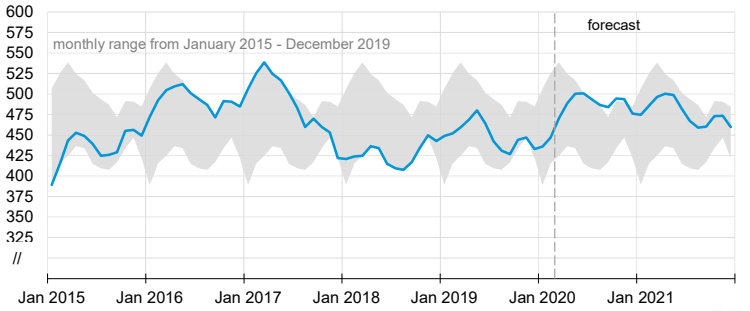


Components of annual change
million barrels per day



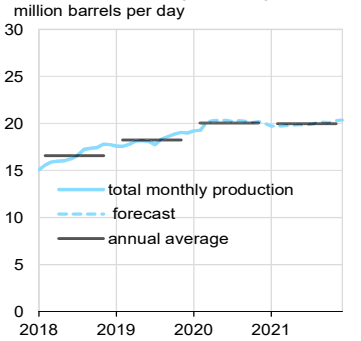
Source: Short-Term Energy Outlook, March 2020

U.S. commercial crude oil inventories
million barrels



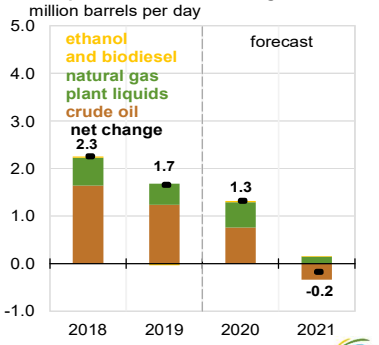
Source: Short-Term Energy Outlook, March 2020

U.S. crude oil and liquid fuels production
million barrels per day

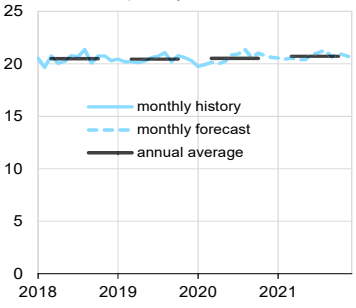


Source: Short-Term Energy Outlook, March 2020

Components of annual change
million barrels per day

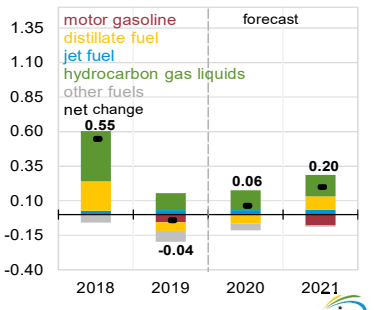


U.S. liquid fuels product supplied (consumption)
million barrels per day

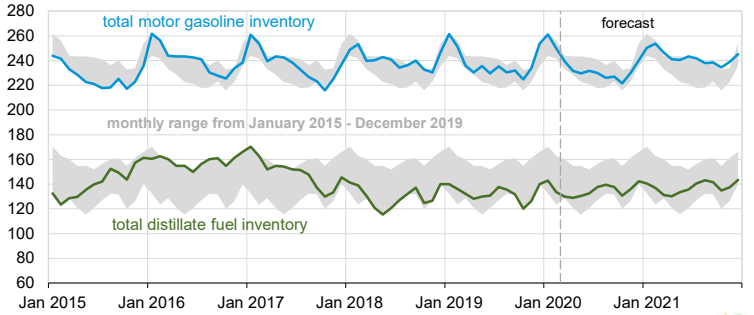


Source: Short-Term Energy Outlook, March 2020

Components of annual change
million barrels per day

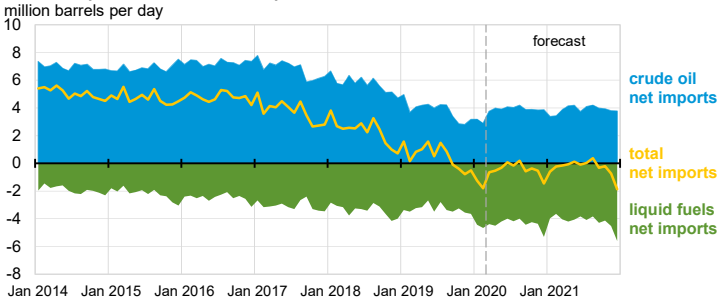


U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, March 2020

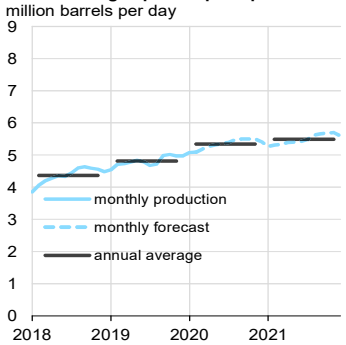
U.S. net imports of crude oil and liquid fuels
million barrels per day



Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

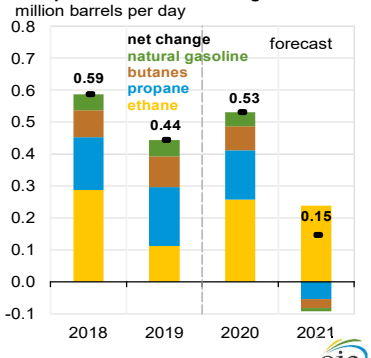
Source: Short-Term Energy Outlook, March 2020

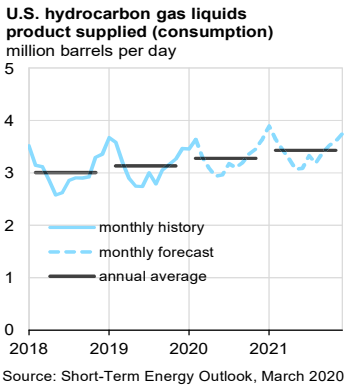
U.S. natural gas plant liquids production
million barrels per day

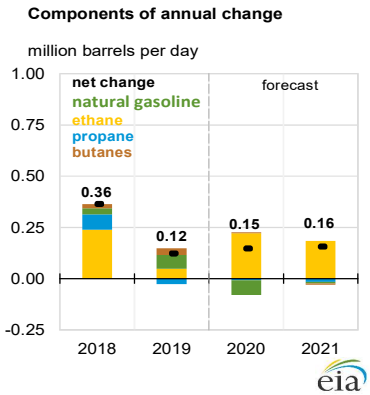


Source: Short-Term Energy Outlook, March 2020

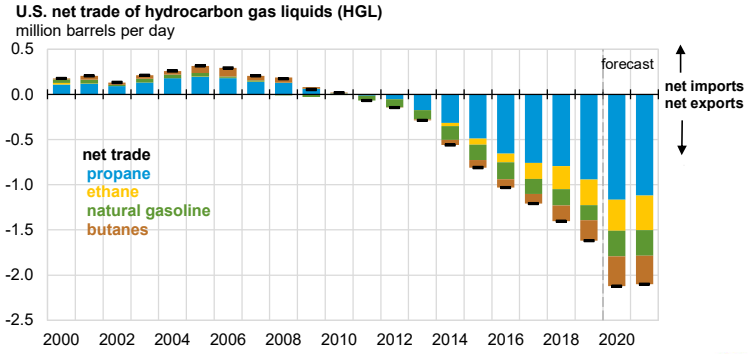
Components of annual change
million barrels per day



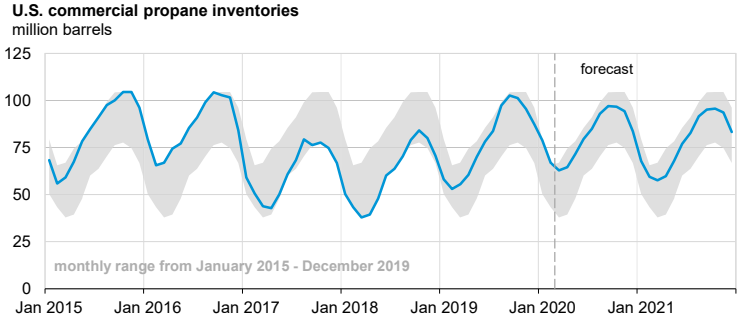




Source: Short-Term Energy Outlook, March 2020

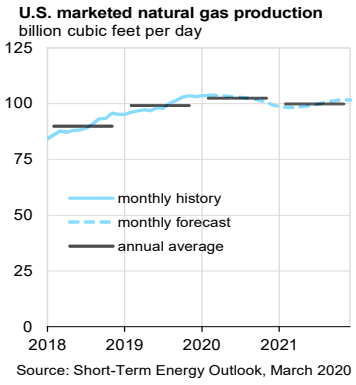


Source: Short-Term Energy Outlook, March 2020

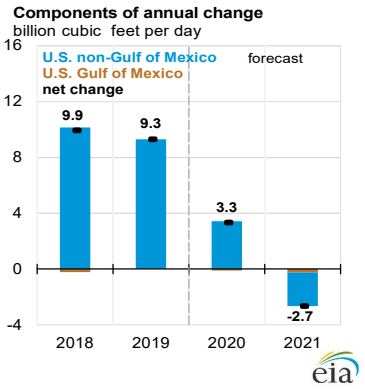


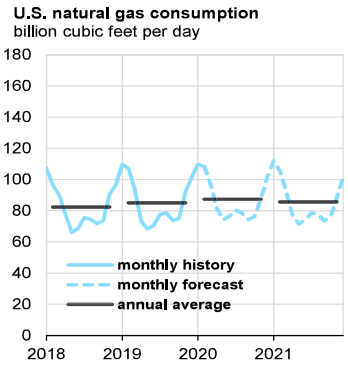
Note: Propane includes refinery propylene.

Source: Short-Term Energy Outlook, March 2020

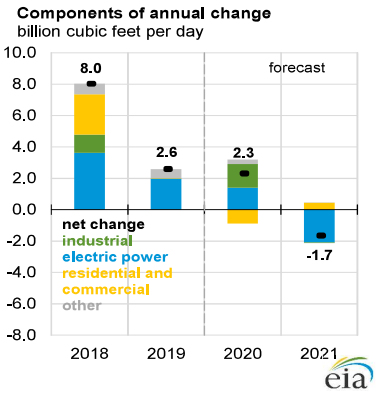


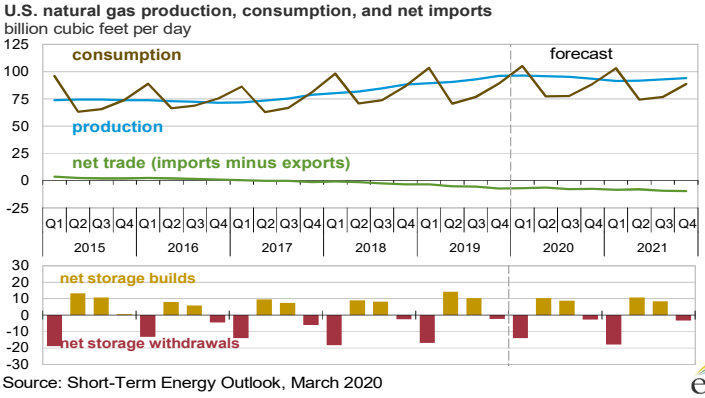
Source: Short-Term Energy Outlook, March 2020





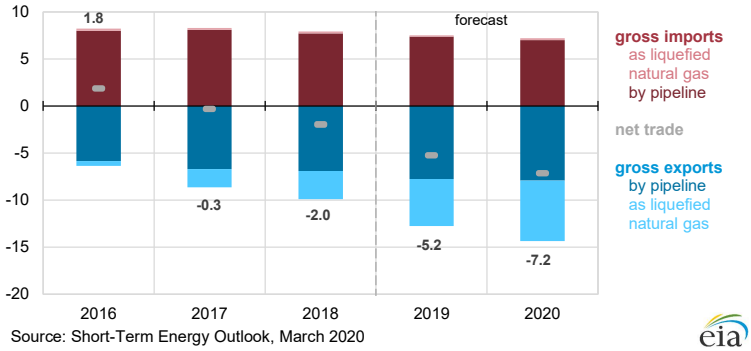
Source: Short-Term Energy Outlook, March 2020





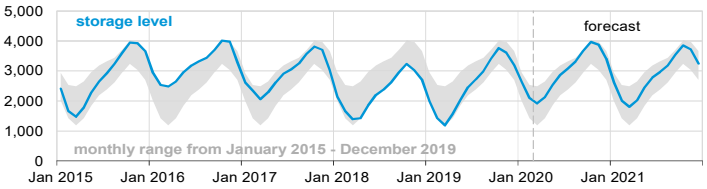
Source: Short-Term Energy Outlook, March 2020

U.S. annual natural gas trade
billion cubic feet per day

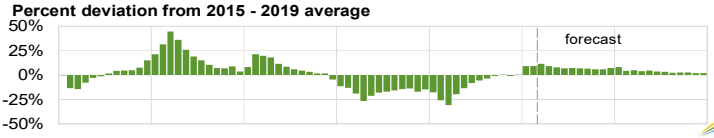


Source: Short-Term Energy Outlook, March 2020

U.S. working natural gas in storage
billion cubic feet

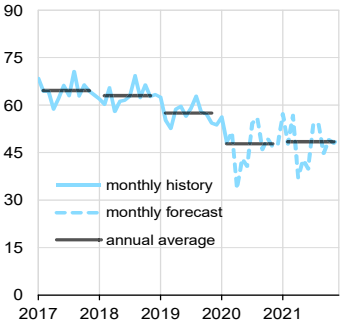


Percent deviation from 2015 - 2019 average



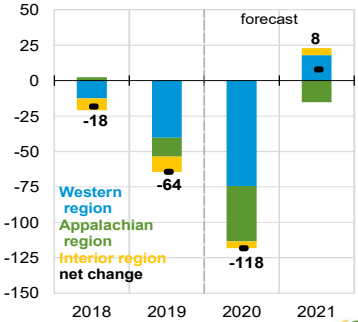
Source: Short-Term Energy Outlook, March 2020

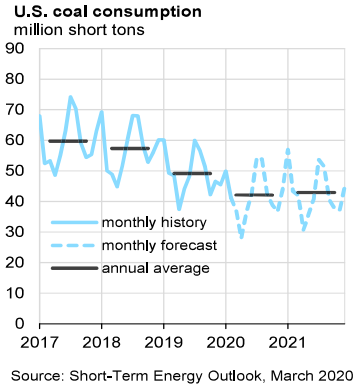
U.S. coal production
million short tons

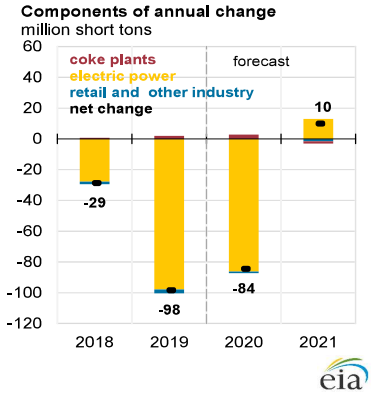


Source: Short-Term Energy Outlook, March 2020

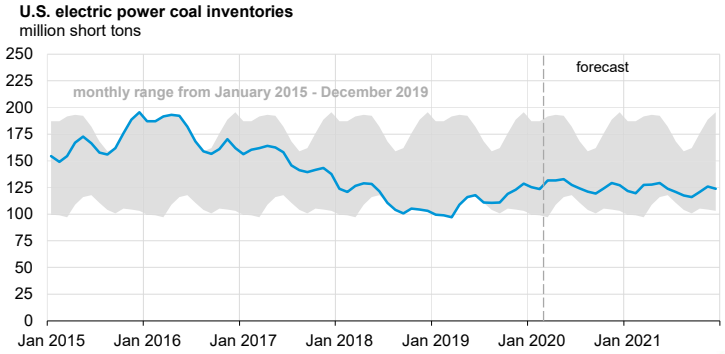
Components of annual change
million short tons



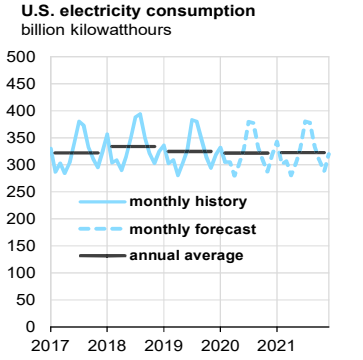


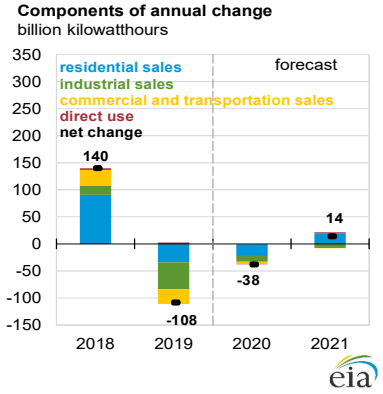


Source: Short-Term Energy Outlook, March 2020



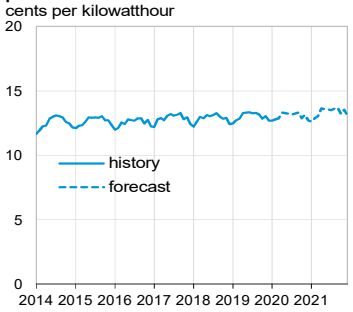
Source: Short-Term Energy Outlook, March 2020



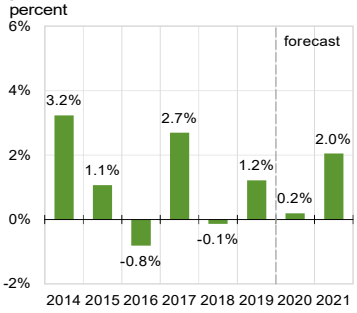


Source: Short-Term Energy Outlook, March 2020

U.S. monthly residential electricity price
cents per kilowatthour

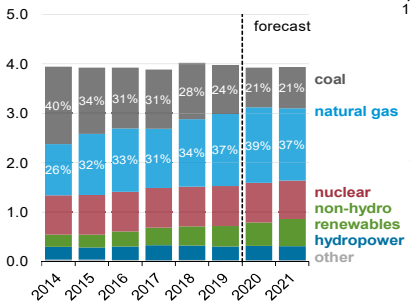


Annual growth in residential electricity prices
percent

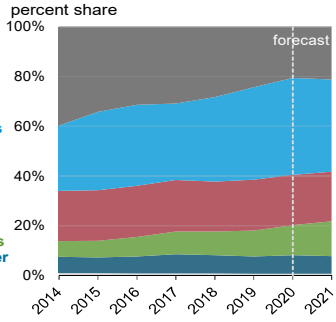


Source: Short-Term Energy Outlook, March 2020

U.S. electricity generation by fuel, all sectors
trillion kilowatthours

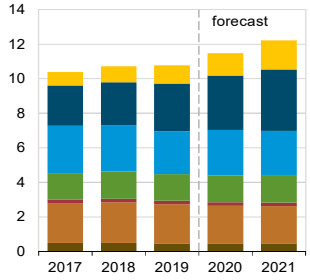


percent share

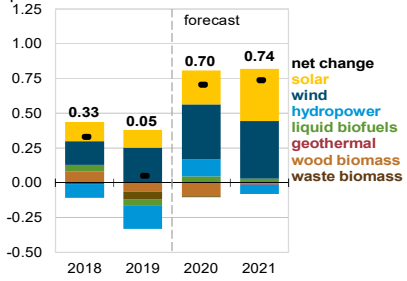


Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: Short-Term Energy Outlook, March 2020

U.S. renewable energy supply
quadrillion British thermal units

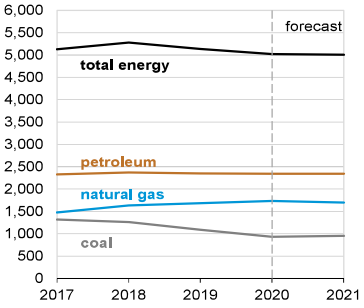


Components of annual change
quadrillion British thermal units

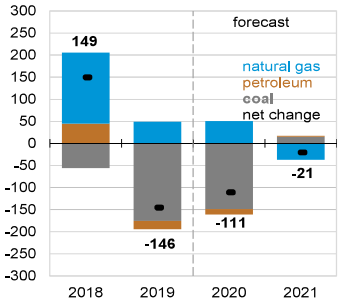


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, March 2020

U.S. annual carbon emissions by source
million metric tons

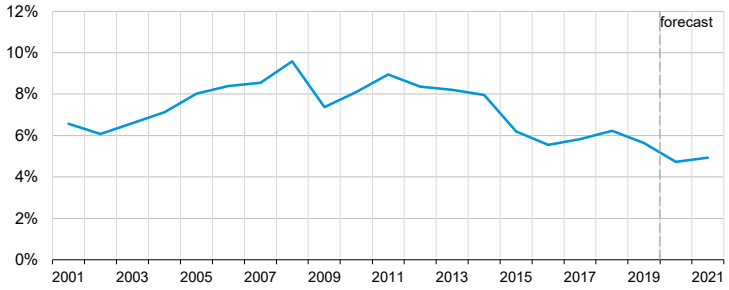


Components of annual change
million metric tons



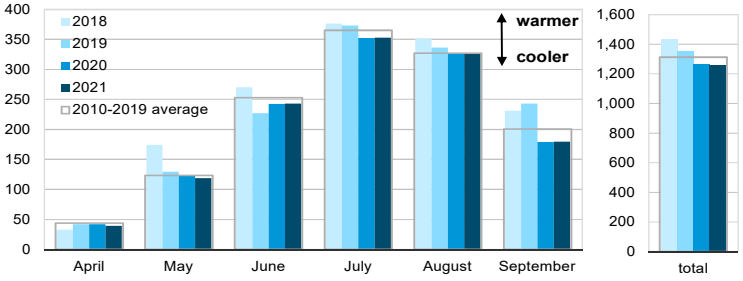
Source: Short-Term Energy Outlook, March 2020

U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, March 2020

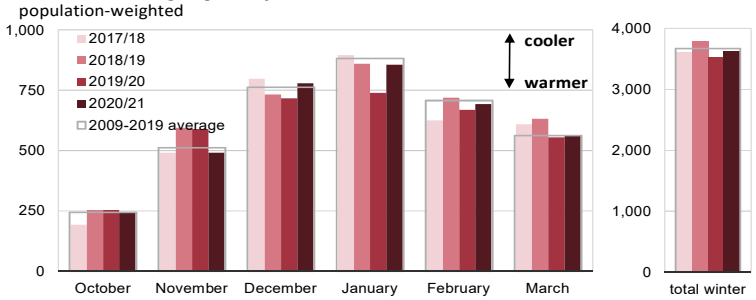
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, March 2020

U.S. winter heating degree days
population-weighted

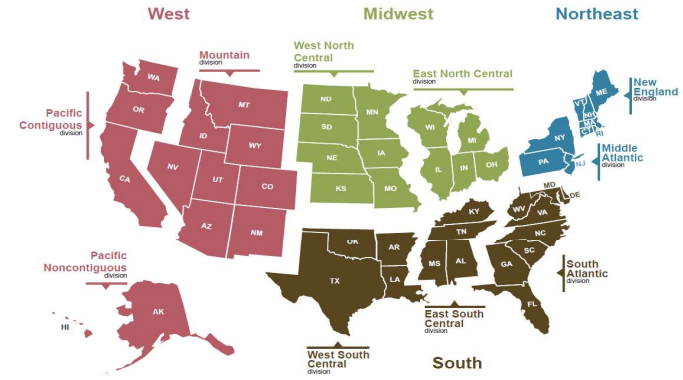


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, March 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.81**	**12.10**	**12.23**	**12.77**	*13.04*	*13.16*	*12.96*	*12.81*	*12.67*	*12.61*	*12.58*	*12.76*	**12.23**	*12.99*	*12.66*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**96.08**	*96.41*	*96.07*	*95.29*	*93.36*	*91.42*	*91.74*	*93.11*	*94.15*	**92.24**	*95.28*	*92.61*
Coal Production															
(million short tons)	**170**	**175**	**180**	**165**	*156*	*117*	*156*	*144*	*162*	*120*	*153*	*147*	**690**	*573*	*581*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.29**	**20.32**	**20.68**	**20.55**	*19.94*	*20.36*	*20.99*	*20.80*	*20.52*	*20.55*	*21.01*	*20.80*	**20.46**	*20.52*	*20.72*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.74**	**89.34**	*105.09*	*77.47*	*77.78*	*88.82*	*103.15*	*74.32*	*76.69*	*88.54*	**84.97**	*87.27*	*85.61*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**134**	*128*	*107*	*151*	*120*	*142*	*107*	*146*	*120*	**590**	*505*	*515*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.01**	**12.07**	**10.07**	*10.35*	*10.02*	*11.85*	*9.93*	*10.56*	*10.04*	*11.87*	*9.96*	**10.67**	*10.54*	*10.61*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.79**	*2.92*	*3.27*	*2.99*	*3.00*	*3.12*	*3.47*	*3.19*	*3.16*	**11.49**	*12.19*	*12.93*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.23**	**23.08**	**24.62**	**24.86**	*25.88*	*23.35*	*24.57*	*24.84*	*26.16*	*23.31*	*24.48*	*24.81*	**98.79**	*98.64*	*98.76*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.86**	*46.35*	*31.72*	*35.00*	*40.00*	*45.13*	*49.00*	*51.98*	*55.00*	**57.02**	*38.19*	*50.36*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	*1.89*	*1.91*	*2.22*	*2.41*	*2.64*	*2.42*	*2.43*	*2.54*	**2.57**	*2.11*	*2.51*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	*2.08*	*2.04*	*2.03*	*2.03*	*2.06*	*2.08*	*2.06*	*2.07*	**2.02**	*2.05*	*2.06*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,220**	*19,316*	*19,422*	*19,528*	*19,626*	*19,711*	*19,775*	*19,850*	*19,934*	**19,073**	*19,473*	*19,817*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.3**	*2.1*	*2.1*	*2.1*	*2.1*	*2.0*	*1.8*	*1.7*	*1.6*	**2.3**	*2.1*	*1.8*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.1**	*113.5*	*114.0*	*114.7*	*115.4*	*116.1*	*116.8*	*117.4*	*118.1*	**112.4**	*114.4*	*117.1*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.7**	*1.8*	*1.6*	*1.8*	*2.0*	*2.2*	*2.4*	*2.4*	*2.4*	**1.8**	*1.8*	*2.4*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,043**	**15,100**	*15,191*	*15,299*	*15,352*	*15,422*	*15,517*	*15,591*	*15,672*	*15,745*	**14,989**	*15,316*	*15,631*
Percent change from prior year	**3.3**	**3.0**	**2.9**	**2.6**	*2.1*	*2.4*	*2.1*	*2.1*	*2.2*	*1.9*	*2.1*	*2.1*	**3.0**	*2.2*	*2.1*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	*105.8*	*105.7*	*106.3*	*106.4*	*106.6*	*106.5*	*106.8*	*107.3*	**106.0**	*106.1*	*106.8*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	*-0.7*	*0.0*	*0.4*	*0.6*	*0.7*	*0.8*	*0.5*	*0.8*	**0.0**	*0.1*	*0.7*
Weather															
U.S. Heating Degree-Days	**2,210**	**481**	**57**	**1,559**	*1,962*	*475*	*72*	*1,516*	*2,112*	*491*	*72*	*1,514*	**4,307**	*4,025*	*4,189*
U.S. Cooling Degree-Days	**46**	**399**	**953**	**105**	*52*	*408*	*858*	*94*	*43*	*401*	*859*	*95*	**1,502**	*1,411*	*1,398*

- = no data available
Prices are not adjusted for inflation.
(a) Includes lease condensate.
(b) Total consumption includes Independent Power Producer (IPP) consumption.
(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.
(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER). Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).
Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.
Minor discrepancies with published historical data are due to independent rounding.
Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.
Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.86**	*46.35*	*31.72*	*35.00*	*40.00*	*45.13*	*49.00*	*51.98*	*55.00*	**57.02**	*38.19*	*50.36*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.30**	*51.80*	*36.72*	*40.00*	*45.00*	*50.13*	*54.00*	*56.98*	*60.00*	**64.37**	*43.30*	*55.36*
U.S. Imported Average	**55.25**	**62.98**	**57.30**	**55.49**	*42.00*	*28.04*	*31.93*	*36.93*	*42.60*	*46.48*	*49.49*	*52.51*	**57.92**	*34.36*	*47.90*
U.S. Refiner Average Acquisition Cost	**56.93**	**63.55**	**58.67**	**57.66**	*45.47*	*30.53*	*34.43*	*39.43*	*44.01*	*48.02*	*50.99*	*54.01*	**59.23**	*37.35*	*49.33*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	*153*	*128*	*133*	*131*	*138*	*164*	*168*	*161*	**186**	*136*	*158*
Diesel Fuel	**192**	**203**	**192**	**197**	*160*	*130*	*137*	*149*	*155*	*171*	*177*	*184*	**196**	*144*	*172*
Heating Oil	**189**	**195**	**184**	**191**	*163*	*120*	*125*	*140*	*156*	*167*	*174*	*183*	**190**	*142*	*164*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	*152*	*127*	*137*	*145*	*155*	*170*	*176*	*184*	**197**	*140*	*172*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**162**	*147*	*101*	*114*	*127*	*107*	*114*	*119*	*127*	**158**	*122*	*117*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	*237*	*203*	*210*	*206*	*208*	*240*	*245*	*236*	**260**	*214*	*233*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	*246*	*215*	*222*	*220*	*221*	*253*	*258*	*250*	**269**	*225*	*246*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	*283*	*237*	*243*	*255*	*255*	*271*	*279*	*288*	**306**	*254*	*273*
Heating Oil	**300**	**305**	**290**	**301**	*287*	*240*	*229*	*249*	*257*	*264*	*273*	*293*	**300**	*263*	*271*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	*1.97*	*1.98*	*2.31*	*2.51*	*2.74*	*2.51*	*2.53*	*2.63*	**2.66**	*2.19*	*2.60*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	*1.89*	*1.91*	*2.22*	*2.41*	*2.64*	*2.42*	*2.43*	*2.54*	**2.57**	*2.11*	*2.51*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.74**	*3.49*	*2.88*	*3.13*	*3.65*	*4.06*	*3.48*	*3.42*	*3.83*	**3.91**	*3.31*	*3.72*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.22**	*7.02*	*7.29*	*7.82*	*7.20*	*7.19*	*7.73*	*8.17*	*7.40*	**7.62**	*7.21*	*7.45*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.88**	*9.15*	*11.58*	*16.30*	*9.93*	*9.08*	*11.96*	*16.76*	*10.19*	**10.56**	*10.24*	*10.33*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	*2.08*	*2.04*	*2.03*	*2.03*	*2.06*	*2.08*	*2.06*	*2.07*	**2.02**	*2.05*	*2.06*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.79**	*2.29*	*1.88*	*2.17*	*2.63*	*3.08*	*2.53*	*2.46*	*2.80*	**2.88**	*2.23*	*2.69*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.35**	*11.99*	*9.03*	*8.17*	*8.42*	*9.26*	*10.89*	*10.70*	*10.99*	**12.68**	*9.38*	*10.45*
Distillate Fuel Oil	**14.88**	**15.75**	**15.01**	**15.27**	*13.54*	*10.49*	*10.90*	*11.75*	*12.04*	*13.37*	*13.76*	*14.39*	**15.21**	*11.80*	*13.31*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.67**	**6.72**	**7.24**	**6.65**	*6.48*	*6.61*	*7.26*	*6.71*	*6.66*	*6.81*	*7.40*	*6.81*	**6.83**	*6.78*	*6.93*
Commercial Sector	**10.41**	**10.65**	**11.00**	**10.53**	*10.28*	*10.47*	*10.86*	*10.47*	*10.32*	*10.64*	*11.12*	*10.74*	**10.66**	*10.54*	*10.72*
Residential Sector	**12.67**	**13.32**	**13.25**	**12.85**	*12.78*	*13.27*	*13.23*	*12.90*	*12.83*	*13.59*	*13.59*	*13.25*	**13.02**	*13.05*	*13.32*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.08**	**31.32**	**31.46**	**32.69**	*33.30*	*33.71*	*33.56*	*33.62*	*33.27*	*33.29*	*33.42*	*33.91*	**31.64**	*33.55*	*33.48*
U.S. (50 States)	**18.91**	**19.38**	**19.49**	**20.25**	*20.68*	*21.10*	*21.05*	*20.92*	*20.54*	*20.68*	*20.83*	*21.11*	**19.51**	*20.94*	*20.79*
Canada	**5.44**	**5.47**	**5.47**	**5.62**	*5.69*	*5.68*	*5.70*	*5.74*	*5.79*	*5.78*	*5.82*	*5.88*	**5.50**	*5.70*	*5.82*
Mexico	**1.91**	**1.91**	**1.92**	**1.92**	*1.94*	*1.90*	*1.91*	*1.85*	*1.82*	*1.80*	*1.78*	*1.77*	**1.91**	*1.90*	*1.79*
Other OECD	**4.82**	**4.56**	**4.58**	**4.90**	*4.98*	*5.03*	*4.91*	*5.11*	*5.11*	*5.04*	*4.98*	*5.16*	**4.71**	*5.01*	*5.07*
Non-OECD	**69.29**	**69.05**	**68.65**	**68.87**	*67.25*	*68.48*	*69.38*	*69.05*	*68.10*	*68.94*	*69.50*	*69.30*	**68.96**	*68.54*	*68.97*
OPEC	**35.98**	**35.43**	**34.45**	**34.81**	*33.77*	*33.89*	*34.46*	*34.45*	*34.36*	*34.34*	*34.53*	*34.62*	**35.16**	*34.15*	*34.46*
Crude Oil Portion	**30.47**	**30.00**	**29.20**	**29.54**	*28.69*	*28.85*	*29.41*	*29.39*	*29.32*	*29.29*	*29.47*	*29.55*	**29.80**	*29.09*	*29.41*
Other Liquids (b)	**5.51**	**5.43**	**5.25**	**5.27**	*5.07*	*5.05*	*5.06*	*5.06*	*5.04*	*5.05*	*5.06*	*5.07*	**5.36**	*5.06*	*5.06*
Eurasia	**14.87**	**14.43**	**14.59**	**14.68**	*14.71*	*14.76*	*14.74*	*14.78*	*14.72*	*14.58*	*14.62*	*14.66*	**14.64**	*14.75*	*14.64*
China	**4.89**	**4.92**	**4.89**	**4.88**	*4.87*	*4.95*	*4.95*	*5.00*	*4.98*	*5.01*	*5.01*	*5.05*	**4.89**	*4.94*	*5.01*
Other Non-OECD	**13.55**	**14.26**	**14.71**	**14.50**	*13.90*	*14.88*	*15.22*	*14.82*	*14.05*	*15.01*	*15.34*	*14.97*	**14.26**	*14.71*	*14.85*
Total World Supply	**100.36**	**100.36**	**100.10**	**101.57**	*100.55*	*102.19*	*102.94*	*102.67*	*101.37*	*102.23*	*102.92*	*103.21*	**100.60**	*102.09*	*102.44*
Non-OPEC Supply	**64.39**	**64.93**	**65.65**	**66.75**	*66.78*	*68.29*	*68.48*	*68.22*	*67.01*	*67.89*	*68.39*	*68.60*	**65.44**	*67.95*	*67.98*
Consumption (million barrels per day) (c)															
OECD	**47.39**	**46.71**	**47.87**	**47.53**	*46.60*	*46.17*	*47.77*	*47.83*	*47.24*	*46.58*	*47.75*	*47.70*	**47.38**	*47.10*	*47.32*
U.S. (50 States)	**20.29**	**20.32**	**20.68**	**20.55**	*19.94*	*20.36*	*20.99*	*20.80*	*20.52*	*20.55*	*21.01*	*20.80*	**20.46**	*20.52*	*20.72*
U.S. Territories	**0.12**	**0.11**	**0.12**	**0.13**	*0.12*	*0.11*	*0.12*	*0.13*	*0.16*	*0.14*	*0.14*	*0.15*	**0.12**	*0.12*	*0.15*
Canada	**2.45**	**2.44**	**2.60**	**2.55**	*2.52*	*2.46*	*2.57*	*2.54*	*2.52*	*2.46*	*2.57*	*2.54*	**2.51**	*2.52*	*2.52*
Europe	**13.89**	**14.03**	**14.54**	**14.07**	*13.62*	*13.76*	*14.42*	*14.17*	*13.72*	*13.93*	*14.43*	*14.14*	**14.14**	*13.99*	*14.06*
Japan	**4.09**	**3.41**	**3.44**	**3.80**	*3.97*	*3.21*	*3.30*	*3.65*	*3.87*	*3.17*	*3.24*	*3.56*	**3.68**	*3.53*	*3.46*
Other OECD	**6.55**	**6.40**	**6.49**	**6.43**	*6.44*	*6.27*	*6.38*	*6.54*	*6.46*	*6.33*	*6.36*	*6.51*	**6.47**	*6.41*	*6.41*
Non-OECD	**52.58**	**53.53**	**53.55**	**53.83**	*52.46*	*54.16*	*54.57*	*54.87*	*54.62*	*55.76*	*55.83*	*55.88*	**53.37**	*54.02*	*55.53*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	*4.83*	*4.96*	*5.34*	*5.24*	*4.98*	*5.04*	*5.43*	*5.28*	**5.01**	*5.10*	*5.18*
Europe	**0.76**	**0.76**	**0.78**	**0.78**	*0.77*	*0.77*	*0.79*	*0.79*	*0.78*	*0.78*	*0.80*	*0.80*	**0.77**	*0.78*	*0.79*
China	**14.38**	**14.67**	**14.39**	**14.61**	*13.90*	*14.79*	*14.76*	*15.05*	*15.32*	*15.53*	*15.23*	*15.47*	**14.51**	*14.62*	*15.39*
Other Asia	**13.95**	**13.97**	**13.62**	**13.94**	*14.13*	*14.22*	*13.94*	*14.29*	*14.66*	*14.83*	*14.39*	*14.76*	**13.87**	*14.15*	*14.66*
Other Non-OECD	**18.66**	**19.22**	**19.59**	**19.38**	*18.83*	*19.41*	*19.74*	*19.49*	*18.88*	*19.58*	*19.98*	*19.57*	**19.21**	*19.37*	*19.51*
Total World Consumption	**99.97**	**100.24**	**101.41**	**101.36**	*99.06*	*100.33*	*102.34*	*102.70*	*101.87*	*102.34*	*103.59*	*103.59*	**100.75**	*101.12*	*102.85*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.17**	**-0.62**	**0.06**	**0.28**	*0.10*	*-0.67*	*-0.10*	*0.50*	*0.09*	*-0.34*	*-0.08*	*0.46*	**-0.03**	*-0.04*	*0.04*
Other OECD	**-0.21**	**0.03**	**-0.16**	**0.26**	*-0.53*	*-0.38*	*-0.16*	*-0.16*	*0.13*	*0.14*	*0.24*	*-0.03*	**-0.02**	*-0.31*	*0.12*
Other Stock Draws and Balance	**-0.35**	**0.47**	**1.40**	**-0.74**	*-1.05*	*-0.80*	*-0.34*	*-0.31*	*0.27*	*0.30*	*0.51*	*-0.06*	**0.20**	*-0.62*	*0.25*
Total Stock Draw	**-0.40**	**-0.13**	**1.31**	**-0.20**	*-1.49*	*-1.86*	*-0.60*	*0.03*	*0.50*	*0.11*	*0.67*	*0.37*	**0.15**	*-0.97*	*0.41*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,249**	**1,310**	**1,305**	**1,289**	*1,280*	*1,347*	*1,356*	*1,313*	*1,307*	*1,341*	*1,350*	*1,310*	**1,289**	*1,313*	*1,310*
OECD Commercial Inventory	**2,867**	**2,925**	**2,934**	**2,894**	*2,934*	*3,035*	*3,060*	*3,031*	*3,013*	*3,034*	*3,020*	*2,983*	**2,894**	*3,031*	*2,983*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Supply (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.26**	**26.76**	**26.88**	**27.80**	*28.31*	*28.68*	*28.65*	*28.51*	*28.15*	*28.26*	*28.44*	*28.75*	**26.93**	*28.54*	*28.40*
Canada	**5.44**	**5.47**	**5.47**	**5.62**	*5.69*	*5.68*	*5.70*	*5.74*	*5.79*	*5.78*	*5.82*	*5.88*	**5.50**	*5.70*	*5.82*
Mexico	**1.91**	**1.91**	**1.92**	**1.92**	*1.94*	*1.90*	*1.91*	*1.85*	*1.82*	*1.80*	*1.78*	*1.77*	**1.91**	*1.90*	*1.79*
United States	**18.91**	**19.38**	**19.49**	**20.25**	*20.68*	*21.10*	*21.05*	*20.92*	*20.54*	*20.68*	*20.83*	*21.11*	**19.51**	*20.94*	*20.79*
Central and South America	**4.91**	**5.69**	**6.25**	**5.92**	*5.29*	*6.31*	*6.65*	*6.27*	*5.52*	*6.52*	*6.87*	*6.51*	**5.70**	*6.13*	*6.36*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	*0.69*	*0.71*	*0.71*	*0.71*	*0.71*	*0.72*	*0.73*	*0.72*	**0.69**	*0.71*	*0.72*
Brazil	**2.90**	**3.65**	**4.22**	**3.89**	*3.20*	*4.17*	*4.51*	*4.13*	*3.39*	*4.38*	*4.73*	*4.37*	**3.67**	*4.01*	*4.22*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	*0.91*	*0.91*	*0.90*	*0.90*	*0.91*	*0.91*	*0.89*	*0.90*	**0.92**	*0.91*	*0.90*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.42**	*0.48*	*0.51*	*0.52*	*0.53*	*0.52*	*0.51*	*0.52*	*0.52*	**0.42**	*0.51*	*0.52*
Europe	**4.26**	**3.97**	**3.95**	**4.29**	*4.44*	*4.48*	*4.34*	*4.53*	*4.54*	*4.46*	*4.41*	*4.60*	**4.12**	*4.45*	*4.50*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	*2.06*	*2.09*	*2.07*	*2.17*	*2.18*	*2.12*	*2.12*	*2.19*	**1.75**	*2.10*	*2.15*
United Kingdom	**1.25**	**1.17**	**1.09**	**1.15**	*1.18*	*1.20*	*1.09*	*1.17*	*1.16*	*1.17*	*1.10*	*1.22*	**1.16**	*1.16*	*1.16*
Eurasia	**14.87**	**14.43**	**14.59**	**14.68**	*14.71*	*14.76*	*14.74*	*14.78*	*14.72*	*14.58*	*14.62*	*14.66*	**14.64**	*14.75*	*14.64*
Azerbaijan	**0.82**	**0.79**	**0.78**	**0.77**	*0.78*	*0.77*	*0.76*	*0.76*	*0.75*	*0.75*	*0.74*	*0.75*	**0.79**	*0.77*	*0.75*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	*2.00*	*1.98*	*2.02*	*2.06*	*2.05*	*1.94*	*1.98*	*2.03*	**1.97**	*2.02*	*2.00*
Russia	**11.58**	**11.41**	**11.48**	**11.49**	*11.55*	*11.62*	*11.57*	*11.57*	*11.55*	*11.52*	*11.53*	*11.52*	**11.49**	*11.58*	*11.53*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.24**	*0.25*	*0.25*	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.25**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	*0.14*	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.11**	**3.11**	**3.12**	**3.12**	*3.20*	*3.20*	*3.20*	*3.20*	*3.26*	*3.25*	*3.25*	*3.25*	**3.11**	*3.20*	*3.25*
Oman	**0.98**	**0.98**	**0.98**	**0.98**	*0.99*	*0.99*	*0.99*	*0.99*	*1.00*	*1.00*	*1.00*	*1.00*	**0.98**	*0.99*	*1.00*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	*2.06*	*2.06*	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.46**	**9.44**	**9.31**	**9.39**	*9.35*	*9.39*	*9.41*	*9.45*	*9.42*	*9.41*	*9.39*	*9.41*	**9.40**	*9.40*	*9.41*
Australia	**0.40**	**0.44**	**0.47**	**0.49**	*0.50*	*0.51*	*0.51*	*0.52*	*0.53*	*0.52*	*0.51*	*0.51*	**0.45**	*0.51*	*0.52*
China	**4.89**	**4.92**	**4.89**	**4.88**	*4.87*	*4.95*	*4.95*	*5.00*	*4.98*	*5.01*	*5.01*	*5.05*	**4.89**	*4.94*	*5.01*
India	**1.01**	**0.99**	**0.98**	**0.97**	*0.94*	*0.93*	*0.93*	*0.92*	*0.94*	*0.93*	*0.92*	*0.91*	**0.99**	*0.93*	*0.92*
Indonesia	**0.94**	**0.90**	**0.90**	**0.88**	*0.90*	*0.89*	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	*0.84*	**0.91**	*0.88*	*0.85*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	*0.69*	*0.67*	*0.69*	*0.69*	*0.69*	*0.68*	*0.68*	*0.67*	**0.71**	*0.69*	*0.68*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	*0.22*	*0.22*	*0.21*	*0.21*	*0.21*	*0.21*	*0.21*	*0.20*	**0.24**	*0.21*	*0.21*
Africa	**1.52**	**1.54**	**1.55**	**1.56**	*1.48*	*1.48*	*1.48*	*1.48*	*1.41*	*1.41*	*1.41*	*1.41*	**1.54**	*1.48*	*1.41*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	*0.60*	*0.60*	*0.60*	*0.60*	*0.56*	*0.56*	*0.56*	*0.56*	**0.65**	*0.60*	*0.56*
South Sudan	**0.17**	**0.18**	**0.18**	**0.18**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.19*	*0.19*
Total non-OPEC liquids	**64.39**	**64.93**	**65.65**	**66.75**	*66.78*	*68.29*	*68.48*	*68.22*	*67.01*	*67.89*	*68.39*	*68.60*	**65.44**	*67.95*	*67.98*
OPEC non-crude liquids	**5.51**	**5.43**	**5.25**	**5.27**	*5.07*	*5.05*	*5.06*	*5.06*	*5.04*	*5.05*	*5.06*	*5.07*	**5.36**	*5.06*	*5.06*
Non-OPEC + OPEC non-crude	**69.89**	**70.36**	**70.90**	**72.03**	*71.85*	*73.34*	*73.53*	*73.28*	*72.06*	*72.94*	*73.45*	*73.66*	**70.80**	*73.00*	*73.03*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.25**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.31**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	-	-	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	-	-	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	-	-	-	-	-	-	-	-	**0.32**	-	-
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	-	-	-	-	-	-	-	-	**0.53**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	-	-	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	-	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	-	-	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	-	-	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	-	-	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	-	-	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	-	-	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	-	-	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	-	-	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	-	-	-	-	-	-	-	-	**0.83**	-	-
OPEC Total	**30.47**	**30.00**	**29.20**	**29.54**	*28.69*	*28.85*	*29.41*	*29.39*	*29.32*	*29.29*	*29.47*	*29.55*	**29.80**	*29.09*	*29.41*
Other Liquids (a)	**5.51**	**5.43**	**5.25**	**5.27**	*5.07*	*5.05*	*5.06*	*5.06*	*5.04*	*5.05*	*5.06*	*5.07*	**5.36**	*5.06*	*5.06*
Total OPEC Supply	**35.98**	**35.43**	**34.45**	**34.81**	*33.77*	*33.89*	*34.46*	*34.45*	*34.36*	*34.34*	*34.53*	*34.62*	**35.16**	*34.15*	*34.46*
Crude Oil Production Capacity															
Africa	**5.66**	**5.89**	**5.91**	**5.87**	*5.06*	*5.13*	*5.65*	*5.66*	*5.64*	*5.64*	*5.66*	*5.67*	**5.83**	*5.38*	*5.65*
Middle East	**25.31**	**24.96**	**23.96**	**24.15**	*24.67*	*24.89*	*25.07*	*25.15*	*25.16*	*25.24*	*25.26*	*25.35*	**24.59**	*24.94*	*25.25*
South America	**1.58**	**1.32**	**1.28**	**1.25**	*1.29*	*1.03*	*1.00*	*0.97*	*0.94*	*0.91*	*0.88*	*0.85*	**1.36**	*1.07*	*0.89*
OPEC Total	**32.55**	**32.18**	**31.16**	**31.27**	*31.02*	*31.04*	*31.72*	*31.77*	*31.74*	*31.78*	*31.79*	*31.87*	**31.78**	*31.39*	*31.80*
Surplus Crude Oil Production Capacity															
Africa	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Middle East	**2.08**	**2.18**	**1.95**	**1.73**	*2.32*	*2.19*	*2.31*	*2.39*	*2.42*	*2.50*	*2.32*	*2.32*	**1.99**	*2.30*	*2.39*
South America	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
OPEC Total	**2.08**	**2.18**	**1.95**	**1.73**	*2.32*	*2.19*	*2.31*	*2.39*	*2.42*	*2.50*	*2.32*	*2.32*	**1.99**	*2.30*	*2.39*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.94**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.
Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.68**	**24.72**	**25.22**	**24.89**	*24.35*	*24.74*	*25.48*	*25.28*	*24.93*	*24.94*	*25.50*	*25.27*	**24.88**	*24.96*	*25.16*
Canada	**2.45**	**2.44**	**2.60**	**2.55**	*2.52*	*2.46*	*2.57*	*2.54*	*2.52*	*2.46*	*2.57*	*2.54*	**2.51**	*2.52*	*2.52*
Mexico	**1.93**	**1.94**	**1.93**	**1.78**	*1.88*	*1.91*	*1.91*	*1.93*	*1.88*	*1.91*	*1.91*	*1.93*	**1.89**	*1.91*	*1.91*
United States	**20.29**	**20.32**	**20.68**	**20.55**	*19.94*	*20.36*	*20.99*	*20.80*	*20.52*	*20.55*	*21.01*	*20.80*	**20.46**	*20.52*	*20.72*
Central and South America	**6.66**	**6.86**	**6.91**	**6.94**	*6.68*	*6.82*	*6.95*	*6.96*	*6.75*	*6.88*	*7.01*	*7.02*	**6.84**	*6.85*	*6.92*
Brazil	**3.01**	**3.14**	**3.18**	**3.18**	*3.06*	*3.13*	*3.22*	*3.23*	*3.12*	*3.19*	*3.29*	*3.29*	**3.13**	*3.16*	*3.22*
Europe	**14.66**	**14.80**	**15.32**	**14.85**	*14.39*	*14.54*	*15.21*	*14.96*	*14.50*	*14.71*	*15.23*	*14.95*	**14.91**	*14.78*	*14.85*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	*4.83*	*4.96*	*5.34*	*5.24*	*4.98*	*5.04*	*5.43*	*5.28*	**5.01**	*5.10*	*5.18*
Russia	**3.67**	**3.76**	**3.97**	**3.91**	*3.66*	*3.82*	*4.14*	*4.03*	*3.80*	*3.90*	*4.22*	*4.06*	**3.83**	*3.91*	*3.99*
Middle East	**8.19**	**8.55**	**8.94**	**8.53**	*8.26*	*8.70*	*9.00*	*8.53*	*8.13*	*8.67*	*9.05*	*8.42*	**8.55**	*8.63*	*8.57*
Asia and Oceania	**36.43**	**35.91**	**35.42**	**36.40**	*35.97*	*35.99*	*35.87*	*37.03*	*37.87*	*37.37*	*36.73*	*37.82*	**36.04**	*36.22*	*37.45*
China	**14.38**	**14.67**	**14.39**	**14.61**	*13.90*	*14.79*	*14.76*	*15.05*	*15.32*	*15.53*	*15.23*	*15.47*	**14.51**	*14.62*	*15.39*
Japan	**4.09**	**3.41**	**3.44**	**3.80**	*3.97*	*3.21*	*3.30*	*3.65*	*3.87*	*3.17*	*3.24*	*3.56*	**3.68**	*3.53*	*3.46*
India	**4.82**	**4.75**	**4.48**	**4.74**	*4.93*	*4.97*	*4.64*	*4.93*	*5.10*	*5.16*	*4.82*	*5.12*	**4.70**	*4.87*	*5.05*
Africa	**4.51**	**4.51**	**4.43**	**4.63**	*4.58*	*4.58*	*4.49*	*4.70*	*4.72*	*4.72*	*4.63*	*4.84*	**4.52**	*4.59*	*4.73*
Total OECD Liquid Fuels Consumption	**47.39**	**46.71**	**47.87**	**47.53**	*46.60*	*46.17*	*47.77*	*47.83*	*47.24*	*46.58*	*47.75*	*47.70*	**47.38**	*47.10*	*47.32*
Total non-OECD Liquid Fuels Consumption	**52.58**	**53.53**	**53.55**	**53.83**	*52.46*	*54.16*	*54.57*	*54.87*	*54.62*	*55.76*	*55.83*	*55.88*	**53.37**	*54.02*	*55.53*
Total World Liquid Fuels Consumption	**99.97**	**100.24**	**101.41**	**101.36**	*99.06*	*100.33*	*102.34*	*102.70*	*101.87*	*102.34*	*103.59*	*103.59*	**100.75**	*101.12*	*102.85*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**111.7**	**112.2**	**112.8**	**113.3**	*113.5*	*114.4*	*115.3*	*116.1*	*116.9*	*117.7*	*118.5*	*119.3*	**112.5**	*114.8*	*118.1*
Percent change from prior year	**2.1**	**2.0**	**1.9**	**1.9**	*1.6*	*1.9*	*2.3*	*2.5*	*3.0*	*2.9*	*2.8*	*2.8*	**2.0**	*2.1*	*2.9*
OECD Index, 2015 Q1 = 100	**108.9**	**109.4**	**109.8**	**110.0**	*110.2*	*110.7*	*111.2*	*111.7*	*112.2*	*112.6*	*113.1*	*113.6*	**109.5**	*110.9*	*112.9*
Percent change from prior year	**1.9**	**1.7**	**1.7**	**1.6**	*1.2*	*1.2*	*1.3*	*1.5*	*1.8*	*1.7*	*1.7*	*1.7*	**1.7**	*1.3*	*1.7*
Non-OECD Index, 2015 Q1 = 100	**114.4**	**115.0**	**115.6**	**116.4**	*116.7*	*118.0*	*119.3*	*120.4*	*121.5*	*122.7*	*123.8*	*125.0*	**115.3**	*118.6*	*123.3*
Percent change from prior year	**2.4**	**2.2**	**2.1**	**2.1**	*2.0*	*2.6*	*3.2*	*3.4*	*4.2*	*4.0*	*3.8*	*3.8*	**2.2**	*2.8*	*3.9*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.30**	**105.88**	**106.33**	**106.13**	*105.60*	*105.68*	*105.63*	*105.23*	*104.80*	*104.43*	*104.18*	*103.58*	**105.91**	*105.53*	*104.25*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**-0.1**	*0.3*	*-0.2*	*-0.7*	*-0.8*	*-0.8*	*-1.2*	*-1.4*	*-1.6*	**2.1**	*-0.4*	*-1.2*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.81**	**12.10**	**12.23**	**12.77**	*13.04*	*13.16*	*12.96*	*12.81*	*12.67*	*12.61*	*12.58*	*12.76*	**12.23**	*12.99*	*12.66*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	*0.51*	*0.49*	*0.45*	*0.49*	*0.51*	*0.50*	*0.46*	*0.49*	**0.47**	*0.48*	*0.49*
Federal Gulf of Mexico (b)	**1.85**	**1.93**	**1.82**	**1.94**	*1.94*	*2.02*	*1.93*	*1.94*	*2.02*	*2.01*	*1.94*	*2.00*	**1.88**	*1.96*	*1.99*
Lower 48 States (excl GOM)	**9.47**	**9.70**	**9.98**	**10.35**	*10.59*	*10.66*	*10.58*	*10.38*	*10.14*	*10.11*	*10.18*	*10.27*	**9.88**	*10.55*	*10.17*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.94**	*3.27*	*3.98*	*4.03*	*3.87*	*3.56*	*4.02*	*4.10*	*3.83*	**3.82**	*3.79*	*3.88*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	*0.00*	*0.06*	*0.00*	*0.03*	*0.03*	*0.03*	*0.01*	*0.03*	**0.04**	*0.02*	*0.03*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.07**	*-0.41*	*-0.33*	*0.18*	*0.08*	*-0.23*	*0.16*	*0.24*	*0.00*	**0.03**	*-0.12*	*0.04*
Crude Oil Adjustment (d)	**0.33**	**0.53**	**0.38**	**0.57**	*0.37*	*0.19*	*0.21*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.45**	*0.23*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.32**	*16.27*	*17.05*	*17.38*	*16.94*	*16.26*	*17.04*	*17.15*	*16.78*	**16.56**	*16.91*	*16.81*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	*1.12*	*1.19*	*1.22*	*1.23*	*1.17*	*1.21*	*1.24*	*1.25*	**1.08**	*1.19*	*1.22*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**4.99**	*5.12*	*5.32*	*5.46*	*5.47*	*5.30*	*5.41*	*5.59*	*5.66*	**4.81**	*5.34*	*5.49*
Renewables and Oxygenate Production (e)	**1.18**	**1.23**	**1.20**	**1.20**	*1.19*	*1.21*	*1.18*	*1.19*	*1.18*	*1.22*	*1.21*	*1.22*	**1.20**	*1.19*	*1.21*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	*1.05*	*1.04*	*1.02*	*1.03*	*1.02*	*1.03*	*1.03*	*1.03*	**1.03**	*1.04*	*1.03*
Petroleum Products Adjustment (f)	**0.20**	**0.18**	**0.19**	**0.19**	*0.21*	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.19**	*0.22*	*0.22*
Product Net Imports (c)	**-3.35**	**-3.10**	**-3.20**	**-3.49**	*-4.48*	*-4.23*	*-4.20*	*-4.64*	*-3.89*	*-4.02*	*-4.06*	*-4.76*	**-3.29**	*-4.39*	*-4.19*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.83**	*-1.97*	*-2.19*	*-2.16*	*-2.18*	*-1.97*	*-2.10*	*-2.14*	*-2.20*	**-1.62**	*-2.12*	*-2.10*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.50**	*0.27*	*0.49*	*0.50*	*0.38*	*0.35*	*0.46*	*0.44*	*0.31*	**0.41**	*0.41*	*0.39*
Other HC/Oxygenates	**-0.13**	**-0.13**	**-0.13**	**-0.11**	*-0.12*	*-0.14*	*-0.11*	*-0.13*	*-0.14*	*-0.13*	*-0.13*	*-0.14*	**-0.13**	*-0.13*	*-0.13*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.46**	*0.24*	*0.63*	*0.50*	*0.23*	*0.52*	*0.68*	*0.50*	*0.16*	**0.60**	*0.40*	*0.46*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.87**	*-0.83*	*-0.82*	*-0.77*	*-0.90*	*-0.81*	*-0.78*	*-0.66*	*-0.86*	**-0.74**	*-0.83*	*-0.78*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.09**	*-0.06*	*-0.02*	*-0.03*	*-0.03*	*0.03*	*0.05*	*0.07*	*0.03*	**-0.06**	*-0.04*	*0.04*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-0.99**	*-1.22*	*-1.36*	*-1.34*	*-1.16*	*-0.99*	*-1.27*	*-1.27*	*-1.14*	**-1.12**	*-1.27*	*-1.17*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**-0.03**	*-0.05*	*-0.11*	*-0.05*	*-0.02*	*-0.05*	*-0.13*	*-0.07*	*-0.01*	**-0.08**	*-0.06*	*-0.06*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.54**	*-0.74*	*-0.70*	*-0.74*	*-0.83*	*-0.82*	*-0.80*	*-0.81*	*-0.92*	**-0.55**	*-0.75*	*-0.84*
Product Inventory Net Withdrawals	**0.35**	**-0.62**	**-0.35**	**0.24**	*0.50*	*-0.40*	*-0.28*	*0.38*	*0.29*	*-0.53*	*-0.33*	*0.43*	**-0.09**	*0.05*	*-0.04*
Total Supply	**20.30**	**20.32**	**20.68**	**20.55**	*19.94*	*20.36*	*20.99*	*20.80*	*20.52*	*20.55*	*21.01*	*20.80*	**20.46**	*20.52*	*20.72*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.48**	**2.79**	**2.95**	**3.30**	*3.46*	*2.99*	*3.16*	*3.49*	*3.66*	*3.14*	*3.30*	*3.63*	**3.13**	*3.27*	*3.43*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.10**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.05**	*0.00*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.16**	*8.91*	*9.44*	*9.52*	*9.24*	*8.89*	*9.38*	*9.42*	*9.10*	**9.27**	*9.28*	*9.20*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.96**	*0.92*	*0.96*	*0.97*	*0.95*	*0.90*	*0.96*	*0.96*	*0.94*	**0.95**	*0.95*	*0.94*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.74**	*1.65*	*1.76*	*1.85*	*1.80*	*1.74*	*1.81*	*1.85*	*1.80*	**1.74**	*1.77*	*1.80*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.10**	*3.92*	*3.97*	*4.05*	*4.13*	*4.22*	*4.06*	*4.04*	*4.14*	**4.08**	*4.02*	*4.11*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.27**	*0.25*	*0.23*	*0.31*	*0.27*	*0.27*	*0.22*	*0.30*	*0.27*	**0.27**	*0.26*	*0.27*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.88**	*1.75*	*1.95*	*2.11*	*1.87*	*1.74*	*1.94*	*2.10*	*1.86*	**1.91**	*1.92*	*1.91*
Total Consumption	**20.29**	**20.32**	**20.68**	**20.55**	*19.94*	*20.36*	*20.99*	*20.80*	*20.52*	*20.55*	*21.01*	*20.80*	**20.46**	*20.52*	*20.72*
Total Petroleum and Other Liquids Net Imports	**0.89**	**1.04**	**0.75**	**-0.55**	*-1.21*	*-0.25*	*-0.17*	*-0.77*	*-0.33*	*0.00*	*0.03*	*-0.94*	**0.53**	*-0.60*	*-0.31*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**432.9**	*470.2*	*500.7*	*483.8*	*476.1*	*496.5*	*481.8*	*460.1*	*459.7*	**432.9**	*476.1*	*459.7*
Hydrocarbon Gas Liquids	**163.0**	**228.9**	**267.1**	**217.7**	*179.1*	*224.7*	*260.2*	*213.3*	*173.9*	*223.1*	*259.9*	*216.2*	**217.7**	*213.3*	*216.2*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.4**	*97.3*	*93.5*	*90.2*	*83.7*	*93.6*	*91.9*	*91.2*	*85.2*	**89.4**	*83.7*	*85.2*
Other HC/Oxygenates	**32.8**	**30.7**	**29.7**	**29.2**	*31.7*	*30.8*	*30.1*	*30.7*	*32.4*	*31.4*	*30.7*	*31.4*	**29.2**	*30.7*	*31.4*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**253.8**	*239.4*	*231.6*	*227.0*	*240.3*	*246.5*	*243.4*	*238.5*	*245.2*	**253.8**	*240.3*	*245.2*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.0**	*24.4*	*22.9*	*24.0*	*24.3*	*23.7*	*22.2*	*23.2*	*23.2*	**26.0**	*24.3*	*23.2*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**227.9**	*215.0*	*208.7*	*203.0*	*216.0*	*222.8*	*221.2*	*215.3*	*221.9*	**227.9**	*216.0*	*221.9*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.5**	*41.4*	*42.9*	*44.3*	*42.4*	*41.5*	*42.2*	*44.2*	*41.1*	**40.5**	*42.4*	*41.1*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**140.0**	*129.9*	*132.6*	*137.8*	*142.3*	*131.1*	*135.5*	*141.6*	*143.3*	**140.0**	*142.3*	*143.3*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**30.9**	*31.2*	*31.3*	*29.5*	*29.0*	*31.4*	*32.4*	*30.2*	*32.0*	**30.9**	*29.0*	*32.0*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**54.6**	*60.2*	*58.8*	*53.0*	*55.1*	*60.5*	*59.1*	*53.3*	*55.5*	**54.6**	*55.1*	*55.5*
Total Commercial Inventory	**1,249**	**1,310**	**1,305**	**1,289**	*1,280*	*1,347*	*1,356*	*1,313*	*1,307*	*1,341*	*1,350*	*1,310*	**1,289**	*1,313*	*1,310*
Crude Oil in SPR	**649**	**645**	**645**	**635**	*635*	*630*	*630*	*627*	*624*	*621*	*620*	*617*	**635**	*627*	*617*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.85**	*1.97*	*2.03*	*2.11*	*2.21*	*2.24*	*2.26*	*2.34*	*2.44*	**1.83**	*2.08*	*2.32*
Propane	**1.50**	**1.56**	**1.61**	**1.67**	*1.70*	*1.75*	*1.77*	*1.73*	*1.65*	*1.67*	*1.71*	*1.71*	**1.59**	*1.74*	*1.69*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	*0.89*	*0.93*	*0.95*	*0.92*	*0.86*	*0.89*	*0.92*	*0.91*	**0.85**	*0.92*	*0.90*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.57**	*0.56*	*0.61*	*0.63*	*0.60*	*0.55*	*0.59*	*0.62*	*0.60*	**0.55**	*0.60*	*0.59*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	*0.00*	*0.01*	*0.00*	*0.00*	*0.00*	*0.01*	*0.01*	*0.00*	**0.01**	*0.00*	*0.00*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	*0.28*	*0.30*	*0.29*	*0.29*	*0.28*	*0.31*	*0.30*	*0.30*	**0.29**	*0.29*	*0.30*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	*0.28*	*0.29*	*0.28*	*0.29*	*0.28*	*0.29*	*0.28*	*0.29*	**0.28**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	*-0.08*	*0.26*	*0.19*	*-0.20*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.03**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.31**	*-0.28*	*-0.35*	*-0.37*	*-0.38*	*-0.36*	*-0.39*	*-0.38*	*-0.41*	**-0.28**	*-0.34*	*-0.38*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.07**	*-1.06*	*-1.23*	*-1.17*	*-1.21*	*-1.02*	*-1.14*	*-1.14*	*-1.18*	**-0.94**	*-1.17*	*-1.12*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.25**	*-0.34*	*-0.33*	*-0.33*	*-0.33*	*-0.30*	*-0.31*	*-0.32*	*-0.34*	**-0.23**	*-0.33*	*-0.32*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.21**	*-0.29*	*-0.28*	*-0.29*	*-0.26*	*-0.28*	*-0.27*	*-0.30*	*-0.27*	**-0.17**	*-0.28*	*-0.28*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	*0.42*	*0.30*	*0.34*	*0.51*	*0.41*	*0.30*	*0.33*	*0.50*	**0.40**	*0.39*	*0.39*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	*0.16*	*0.17*	*0.17*	*0.17*	*0.16*	*0.17*	*0.18*	*0.18*	**0.17**	*0.17*	*0.17*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.55**	*1.72*	*1.66*	*1.77*	*1.85*	*1.88*	*1.85*	*1.98*	*2.03*	**1.53**	*1.75*	*1.94*
Propane	**1.20**	**0.58**	**0.65**	**1.05**	*1.17*	*0.61*	*0.69*	*0.96*	*1.18*	*0.60*	*0.65*	*0.94*	**0.87**	*0.86*	*0.84*
Propylene (refinery-grade)	**0.28**	**0.31**	**0.29**	**0.29**	*0.29*	*0.32*	*0.31*	*0.30*	*0.29*	*0.31*	*0.31*	*0.29*	**0.30**	*0.30*	*0.30*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.24**	*0.18*	*0.28*	*0.26*	*0.23*	*0.20*	*0.26*	*0.25*	*0.22*	**0.24**	*0.24*	*0.23*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.17**	*0.10*	*0.12*	*0.13*	*0.15*	*0.11*	*0.11*	*0.11*	*0.13*	**0.20**	*0.13*	*0.12*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**58.84**	*54.91*	*57.85*	*55.58*	*56.28*	*54.16*	*57.87*	*56.21*	*57.93*	**54.94**	*56.15*	*56.55*
Propane	**47.77**	**71.72**	**95.60**	**79.63**	*54.37*	*71.46*	*89.06*	*74.76*	*47.86*	*67.43*	*86.18*	*73.42*	**79.63**	*74.76*	*73.42*
Propylene (refinery-grade)	**7.82**	**6.57**	**6.95**	**7.65**	*8.62*	*8.13*	*7.96*	*8.84*	*9.80*	*9.55*	*8.98*	*9.95*	**7.65**	*8.84*	*9.95*
Butanes/Butylenes	**39.30**	**70.72**	**85.88**	**52.15**	*40.91*	*66.80*	*85.50*	*53.48*	*42.19*	*68.09*	*86.79*	*54.77*	**52.15**	*53.48*	*54.77*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.90**	*19.55*	*20.86*	*21.91*	*21.31*	*18.87*	*20.24*	*21.35*	*20.86*	**20.90**	*21.31*	*20.86*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.32**	*16.27*	*17.05*	*17.38*	*16.94*	*16.26*	*17.04*	*17.15*	*16.78*	**16.56**	*16.91*	*16.81*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	*0.58*	*0.47*	*0.51*	*0.68*	*0.57*	*0.47*	*0.50*	*0.68*	**0.57**	*0.56*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	*1.20*	*1.23*	*1.21*	*1.20*	*1.18*	*1.25*	*1.23*	*1.21*	**1.19**	*1.21*	*1.22*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	*0.18*	*0.53*	*0.54*	*0.46*	*0.24*	*0.48*	*0.45*	*0.38*	**0.35**	*0.43*	*0.39*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.40**	*0.54*	*0.84*	*0.66*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.68**	*0.58*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**19.07**	*18.78*	*20.12*	*20.31*	*19.54*	*18.83*	*20.08*	*20.00*	*19.31*	**19.37**	*19.69*	*19.55*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	*1.12*	*1.19*	*1.22*	*1.23*	*1.17*	*1.21*	*1.24*	*1.25*	**1.08**	*1.19*	*1.22*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	*0.48*	*0.86*	*0.77*	*0.39*	*0.49*	*0.86*	*0.77*	*0.39*	**0.61**	*0.62*	*0.63*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.16**	*9.85*	*10.36*	*10.38*	*10.28*	*9.79*	*10.25*	*10.16*	*10.10*	**10.09**	*10.22*	*10.08*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	*1.73*	*1.80*	*1.90*	*1.81*	*1.71*	*1.78*	*1.80*	*1.74*	**1.80**	*1.81*	*1.75*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	*4.99*	*5.30*	*5.36*	*5.27*	*5.05*	*5.32*	*5.31*	*5.23*	**5.14**	*5.23*	*5.23*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.31**	*0.30*	*0.34*	*0.34*	*0.29*	*0.34*	*0.36*	*0.35*	*0.30*	**0.36**	*0.32*	*0.34*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.46**	*2.55*	*2.64*	*2.78*	*2.73*	*2.62*	*2.72*	*2.84*	*2.81*	**2.45**	*2.68*	*2.75*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.17**	*19.90*	*21.30*	*21.53*	*20.77*	*20.00*	*21.29*	*21.23*	*20.56*	**20.44**	*20.88*	*20.77*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.86**	*16.63*	*17.21*	*17.58*	*17.14*	*16.49*	*17.20*	*17.36*	*16.99*	**16.98**	*17.14*	*17.01*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.81**	*18.81*	*18.81*	*18.81*	*18.84*	*18.84*	*18.84*	*18.84*	*18.86*	**18.80**	*18.82*	*18.84*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	*0.88*	*0.91*	*0.93*	*0.91*	*0.88*	*0.91*	*0.92*	*0.90*	**0.90**	*0.91*	*0.90*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	*153*	*128*	*133*	*131*	*138*	*164*	*168*	*161*	**186**	*136*	*158*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	*231*	*192*	*201*	*197*	*202*	*229*	*237*	*231*	**251**	*205*	*225*
PADD 2	**223**	**269**	**257**	**244**	*222*	*192*	*202*	*195*	*195*	*234*	*235*	*225*	**249**	*202*	*223*
PADD 3	**206**	**246**	**234**	**224**	*206*	*178*	*183*	*179*	*186*	*213*	*217*	*209*	**228**	*186*	*207*
PADD 4	**226**	**285**	**270**	**276**	*241*	*199*	*207*	*201*	*202*	*233*	*242*	*231*	**265**	*212*	*227*
PADD 5	**297**	**356**	**331**	**350**	*305*	*268*	*269*	*272*	*262*	*297*	*302*	*295*	**334**	*278*	*290*
U.S. Average	**236**	**279**	**265**	**259**	*237*	*203*	*210*	*206*	*208*	*240*	*245*	*236*	**260**	*214*	*233*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	*246*	*215*	*222*	*220*	*221*	*253*	*258*	*250*	**269**	*225*	*246*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**65.6**	*59.0*	*59.6*	*57.8*	*62.0*	*66.4*	*66.4*	*61.7*	*67.2*	**65.6**	*62.0*	*67.2*
PADD 2	**53.9**	**49.6**	**51.0**	**55.0**	*55.9*	*50.6*	*49.4*	*51.4*	*54.4*	*52.8*	*52.5*	*50.4*	**55.0**	*51.4*	*50.4*
PADD 3	**82.5**	**82.4**	**81.5**	**91.8**	*86.4*	*85.2*	*83.9*	*87.8*	*87.8*	*87.8*	*87.8*	*87.8*	**91.8**	*87.8*	*87.8*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	*8.3*	*7.5*	*6.9*	*7.2*	*7.7*	*7.8*	*7.4*	*7.8*	**8.3**	*7.2*	*7.8*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	*29.8*	*28.7*	*29.1*	*31.8*	*30.3*	*28.7*	*29.1*	*31.9*	**33.2**	*31.8*	*31.9*
U.S. Total	**236.1**	**229.7**	**231.9**	**253.8**	*239.4*	*231.6*	*227.0*	*240.3*	*246.5*	*243.4*	*238.5*	*245.2*	**253.8**	*240.3*	*245.2*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.0**	*24.4*	*22.9*	*24.0*	*24.3*	*23.7*	*22.2*	*23.2*	*23.2*	**26.0**	*24.3*	*23.2*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**227.9**	*215.0*	*208.7*	*203.0*	*216.0*	*222.8*	*221.2*	*215.3*	*221.9*	**227.9**	*216.0*	*221.9*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**103.25**	*103.65*	*103.33*	*102.54*	*100.53*	*98.49*	*98.88*	*100.41*	*101.59*	**99.19**	*102.51*	*99.85*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	*1.00*	*0.85*	*0.78*	*0.94*	*1.01*	*0.87*	*0.80*	*0.95*	**0.90**	*0.89*	*0.90*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.72**	*2.72*	*2.69*	*2.52*	*2.46*	*2.49*	*2.41*	*2.27*	*2.24*	**2.69**	*2.60*	*2.35*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.60**	*99.93*	*99.78*	*99.25*	*97.13*	*95.00*	*95.60*	*97.34*	*98.41*	**95.60**	*99.02*	*96.60*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**96.08**	*96.41*	*96.07*	*95.29*	*93.36*	*91.42*	*91.74*	*93.11*	*94.15*	**92.24**	*95.28*	*92.61*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	*0.32*	*0.10*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.20*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	*6.74*	*5.27*	*6.33*	*7.35*	*8.23*	*6.88*	*7.56*	*8.20*	**4.98**	*6.43*	*7.72*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	*7.68*	*6.51*	*6.47*	*7.33*	*7.83*	*6.46*	*6.66*	*7.55*	**7.36**	*7.00*	*7.12*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.24**	*8.20*	*7.73*	*8.02*	*7.79*	*8.38*	*7.70*	*8.61*	*9.24*	**7.77**	*7.93*	*8.49*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	*0.18*	*0.18*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.17*	*0.17*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.44**	*13.94*	*-10.39*	*-8.75*	*2.79*	*17.87*	*-10.67*	*-8.39*	*3.30*	**-1.37**	*-0.61*	*0.46*
Total Supply	**103.21**	**71.52**	**77.14**	**91.55**	*103.59*	*79.47*	*79.01*	*88.71*	*101.00*	*73.29*	*75.57*	*87.93*	**85.80**	*87.68*	*84.39*
Balancing Item (b)	**0.11**	**-0.79**	**-0.39**	**-2.21**	*1.50*	*-2.01*	*-1.23*	*0.11*	*2.15*	*1.03*	*1.13*	*0.61*	**-0.83**	*-0.41*	*1.23*
Total Primary Supply	**103.32**	**70.74**	**76.74**	**89.34**	*105.09*	*77.47*	*77.78*	*88.82*	*103.15*	*74.32*	*76.69*	*88.54*	**84.97**	*87.27*	*85.61*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.00**	*25.53*	*7.94*	*3.60*	*15.93*	*26.94*	*7.90*	*3.54*	*15.83*	**13.70**	*13.23*	*13.49*
Commercial	**16.19**	**6.36**	**4.68**	**11.45**	*14.70*	*6.58*	*4.90*	*10.77*	*15.38*	*6.67*	*4.91*	*10.78*	**9.65**	*9.23*	*9.41*
Industrial	**25.12**	**21.74**	**21.31**	**23.79**	*26.36*	*23.43*	*22.58*	*25.52*	*26.31*	*23.28*	*22.49*	*25.67*	**22.98**	*24.47*	*24.43*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	*30.10*	*31.89*	*38.95*	*28.59*	*26.21*	*28.89*	*37.96*	*28.07*	**30.98**	*32.39*	*30.31*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.30**	*5.32*	*5.30*	*5.26*	*5.16*	*5.05*	*5.07*	*5.15*	*5.21*	**5.09**	*5.26*	*5.12*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.56**	*2.92*	*2.17*	*2.34*	*2.70*	*3.11*	*2.35*	*2.50*	*2.82*	**2.44**	*2.53*	*2.69*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.14**	*0.15*	*0.16*
Total Consumption	**103.32**	**70.74**	**76.74**	**89.34**	*105.09*	*77.47*	*77.78*	*88.82*	*103.15*	*74.32*	*76.69*	*88.54*	**84.97**	*87.27*	*85.61*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,189**	*1,920*	*2,865*	*3,670*	*3,413*	*1,805*	*2,776*	*3,548*	*3,245*	**3,189**	*3,413*	*3,245*
East Region (d)	**216**	**537**	**845**	**764**	*362*	*637*	*911*	*819*	*301*	*609*	*875*	*750*	**764**	*819*	*750*
Midwest Region (d)	**242**	**579**	**990**	**885**	*466*	*736*	*1,083*	*977*	*353*	*608*	*955*	*845*	**885**	*977*	*845*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	*780*	*1,058*	*1,165*	*1,163*	*837*	*1,100*	*1,190*	*1,197*	**1,095**	*1,163*	*1,197*
Mountain Region (d)	**63**	**135**	**200**	**167**	*87*	*124*	*170*	*143*	*100*	*145*	*188*	*154*	**167**	*143*	*154*
Pacific Region (d)	**115**	**259**	**294**	**245**	*198*	*284*	*313*	*285*	*187*	*287*	*313*	*272*	**245**	*285*	*272*
Alaska	**30**	**33**	**37**	**33**	*27*	*27*	*27*	*27*	*27*	*27*	*27*	*27*	**33**	*27*	*27*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	*1.97*	*1.98*	*2.31*	*2.51*	*2.74*	*2.51*	*2.53*	*2.63*	**2.66**	*2.19*	*2.60*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.05**	*13.44*	*13.78*	*16.51*	*12.68*	*12.46*	*13.57*	*16.59*	*12.75*	**14.78**	*13.46*	*12.98*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.38**	*10.20*	*11.79*	*15.95*	*10.11*	*9.23*	*11.63*	*16.18*	*10.37*	**11.74**	*10.82*	*10.36*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.68**	*6.95*	*9.77*	*15.77*	*7.82*	*7.32*	*10.32*	*16.04*	*7.85*	**8.41**	*8.17*	*8.41*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.23**	*7.35*	*10.09*	*16.28*	*8.51*	*7.52*	*10.50*	*16.59*	*8.63*	**8.84**	*8.57*	*8.75*
S. Atlantic	**11.63**	**18.34**	**26.03**	**12.90**	*11.46*	*15.81*	*21.78*	*11.82*	*10.48*	*15.76*	*21.99*	*11.99*	**13.83**	*13.00*	*12.43*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.68**	*9.67*	*13.78*	*20.70*	*12.48*	*10.08*	*14.83*	*21.73*	*13.06*	**11.14**	*11.75*	*12.20*
W. S. Central	**8.29**	**13.38**	**21.45**	**10.77**	*8.84*	*13.70*	*19.77*	*11.48*	*8.86*	*14.58*	*20.40*	*11.71*	**10.61**	*11.31*	*11.39*
Mountain	**7.73**	**9.46**	**13.40**	**7.74**	*7.47*	*8.97*	*12.61*	*7.57*	*7.43*	*9.36*	*13.19*	*8.07*	**8.37**	*8.12*	*8.38*
Pacific	**12.44**	**12.75**	**13.50**	**11.98**	*12.22*	*12.69*	*13.40*	*12.44*	*12.78*	*13.57*	*14.27*	*13.16*	**12.48**	*12.51*	*13.21*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.88**	*9.15*	*11.58*	*16.30*	*9.93*	*9.08*	*11.96*	*16.76*	*10.19*	**10.56**	*10.24*	*10.33*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**10.13**	*9.57*	*8.88*	*8.64*	*8.62*	*8.88*	*9.10*	*9.12*	*9.08*	**10.95**	*9.07*	*9.00*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.47**	*7.36*	*7.00*	*6.46*	*7.08*	*7.30*	*7.19*	*6.65*	*7.19*	**7.85**	*7.10*	*7.17*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.04**	*5.48*	*6.48*	*8.10*	*6.35*	*6.21*	*7.26*	*8.59*	*6.56*	**6.51**	*6.11*	*6.64*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.24**	*6.33*	*6.58*	*7.86*	*6.45*	*6.76*	*7.23*	*8.35*	*6.78*	**6.76**	*6.52*	*6.95*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.82**	*8.54*	*9.03*	*9.51*	*8.69*	*8.55*	*9.37*	*9.72*	*8.69*	**9.05**	*8.79*	*8.87*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.65**	*8.33*	*8.64*	*9.06*	*8.12*	*7.75*	*8.79*	*9.35*	*8.32*	**8.94**	*8.39*	*8.25*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.40**	*6.19*	*6.44*	*7.27*	*6.89*	*6.58*	*7.10*	*7.70*	*7.09*	**6.41**	*6.58*	*6.97*
Mountain	**6.40**	**6.72**	**7.41**	**6.16**	*6.42*	*6.56*	*7.40*	*6.51*	*6.76*	*7.07*	*7.85*	*6.84*	**6.47**	*6.57*	*6.96*
Pacific	**9.08**	**8.82**	**9.14**	**8.90**	*8.66*	*8.16*	*8.31*	*8.05*	*8.29*	*8.40*	*8.65*	*8.28*	**8.99**	*8.32*	*8.36*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.22**	*7.02*	*7.29*	*7.82*	*7.20*	*7.19*	*7.73*	*8.17*	*7.40*	**7.62**	*7.21*	*7.45*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.29**	*7.41*	*6.87*	*6.54*	*7.71*	*8.23*	*7.49*	*6.83*	*7.74*	**8.08**	*7.22*	*7.69*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.95**	*7.14*	*6.31*	*6.45*	*6.86*	*7.37*	*6.83*	*6.87*	*7.09*	**7.86**	*6.84*	*7.14*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.14**	*5.38*	*4.79*	*4.89*	*5.00*	*5.69*	*5.44*	*5.34*	*5.28*	**5.49**	*5.11*	*5.48*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.19**	*4.33*	*3.34*	*3.38*	*4.19*	*4.77*	*4.06*	*3.92*	*4.57*	**4.24**	*3.88*	*4.38*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.52**	*4.40*	*3.85*	*4.13*	*4.61*	*4.99*	*4.44*	*4.39*	*4.70*	**4.80**	*4.26*	*4.65*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.08**	*3.92*	*3.49*	*3.75*	*4.31*	*4.60*	*4.20*	*4.08*	*4.47*	**4.21**	*3.88*	*4.36*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.64**	*2.24*	*2.06*	*2.48*	*2.69*	*2.88*	*2.63*	*2.73*	*2.82*	**2.89**	*2.37*	*2.77*
Mountain	**5.31**	**4.80**	**5.00**	**4.72**	*4.73*	*4.52*	*4.99*	*5.20*	*5.42*	*5.13*	*5.35*	*5.37*	**4.96**	*4.87*	*5.33*
Pacific	**7.68**	**6.66**	**6.49**	**6.83**	*6.72*	*5.61*	*5.73*	*5.95*	*6.49*	*6.02*	*6.12*	*6.17*	**6.97**	*6.05*	*6.22*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.74**	*3.49*	*2.88*	*3.13*	*3.65*	*4.06*	*3.48*	*3.42*	*3.83*	**3.91**	*3.31*	*3.72*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**170.3**	**174.9**	**179.7**	**165.2**	*156.0*	*117.3*	*156.2*	*143.9*	*161.7*	*119.7*	*153.2*	*146.6*	**690.1**	*573.5*	*581.1*
Appalachia	**47.4**	**49.3**	**46.6**	**44.3**	*44.2*	*33.7*	*37.4*	*33.2*	*36.1*	*30.3*	*34.6*	*32.3*	**187.6**	*148.6*	*133.3*
Interior	**31.0**	**32.2**	**32.4**	**30.6**	*30.3*	*25.4*	*33.5*	*32.0*	*36.4*	*25.6*	*31.8*	*32.6*	**126.2**	*121.3*	*126.4*
Western	**91.9**	**93.4**	**102.4**	**90.3**	*81.5*	*58.2*	*85.3*	*78.6*	*89.2*	*63.7*	*86.8*	*81.7*	**378.0**	*303.6*	*321.4*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	*-0.5*	*1.0*	*1.5*	*-2.2*	*-0.4*	*1.2*	*1.7*	*-2.2*	**-2.7**	*-0.1*	*0.3*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	*1.3*	*1.3*	*1.5*	*1.4*	*1.2*	*1.3*	*1.5*	*1.4*	**6.7**	*5.5*	*5.4*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	*22.3*	*18.9*	*18.6*	*18.3*	*21.8*	*20.2*	*20.4*	*20.4*	**92.9**	*78.1*	*82.8*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	*13.9*	*11.4*	*11.2*	*10.8*	*13.3*	*12.1*	*12.2*	*11.9*	**55.1**	*47.2*	*49.5*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	*8.4*	*7.5*	*7.4*	*7.5*	*8.5*	*8.2*	*8.2*	*8.4*	**37.7**	*30.9*	*33.3*
Total Primary Supply	**145.3**	**152.4**	**158.3**	**145.2**	*134.5*	*100.7*	*140.6*	*124.9*	*140.6*	*101.9*	*136.0*	*125.5*	**601.2**	*500.7*	*504.0*
Secondary Inventory Withdrawals	**6.2**	**-21.0**	**6.4**	**-17.4**	*-3.0*	*3.9*	*7.8*	*-7.6*	*-0.3*	*3.4*	*7.7*	*-7.7*	**-25.9**	*1.1*	*3.1*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**153.8**	**133.7**	**167.0**	**130.1**	*133.8*	*106.9*	*150.7*	*119.5*	*142.4*	*107.3*	*145.7*	*119.8*	**584.7**	*510.9*	*515.1*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**6.8**	*5.8*	*5.6*	*5.4*	*6.4*	*5.4*	*5.2*	*4.9*	*6.0*	**20.4**	*23.2*	*21.6*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	*114.7*	*94.1*	*138.3*	*105.9*	*129.8*	*95.3*	*134.1*	*106.9*	**539.4**	*453.1*	*466.1*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	*7.5*	*7.2*	*7.0*	*7.2*	*7.2*	*6.8*	*6.6*	*6.8*	**30.0**	*28.9*	*27.5*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.9**	*0.7*	*0.7*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	*7.4*	*7.0*	*6.9*	*7.0*	*7.0*	*6.7*	*6.5*	*6.6*	**29.1**	*28.3*	*26.8*
Total Consumption	**157.9**	**129.9**	**167.8**	**134.2**	*128.1*	*106.9*	*150.7*	*119.5*	*142.4*	*107.3*	*145.7*	*119.8*	**589.8**	*505.3*	*515.1*
Discrepancy (c)	**-4.1**	**3.9**	**-0.8**	**-4.1**	*5.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-5.1**	*5.7*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	*24.9*	*23.9*	*22.4*	*24.6*	*25.0*	*23.8*	*22.1*	*24.3*	**24.4**	*24.6*	*24.3*
Secondary Inventories	**102.2**	**123.2**	**116.9**	**134.2**	*137.3*	*133.4*	*125.6*	*133.2*	*133.4*	*130.0*	*122.3*	*130.1*	**134.2**	*133.2*	*130.1*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	*131.6*	*127.4*	*119.4*	*127.2*	*127.6*	*123.8*	*116.0*	*123.9*	**128.5**	*127.2*	*123.9*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.4**	*3.7*	*3.6*	*3.7*	*3.5*	*3.8*	*3.7*	*3.7*	*3.6*	**3.4**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.1**	*1.8*	*2.2*	*2.3*	*2.3*	*1.9*	*2.3*	*2.4*	*2.4*	**2.1**	*2.3*	*2.4*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	*0.274*	*0.270*	*0.260*	*0.259*	*0.256*	*0.254*	*0.246*	*0.252*	**0.268**	*0.266*	*0.252*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	*2.08*	*2.04*	*2.03*	*2.03*	*2.06*	*2.08*	*2.06*	*2.07*	**2.02**	*2.05*	*2.06*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	*981*	*971*	*1,138*	*962*	*988*	*972*	*1,140*	*964*	**4,118**	*4,053*	*4,064*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	*948*	*939*	*1,105*	*930*	*955*	*940*	*1,106*	*931*	**3,956**	*3,923*	*3,932*
Industrial Sector (b)	**37**	**36**	**38**	**38**	*31*	*29*	*31*	*30*	*30*	*30*	*31*	*31*	**149**	*120*	*121*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*2*	*2*	*3*	*2*	*2*	*2*	*3*	*2*	**14**	*10*	*10*
Net Imports	**9**	**9**	**11**	**10**	*12*	*12*	*15*	*11*	*13*	*13*	*15*	*12*	**40**	*50*	*52*
Total Supply	**1,004**	**983**	**1,184**	**986**	*993*	*983*	*1,153*	*973*	*1,000*	*985*	*1,155*	*975*	**4,158**	*4,103*	*4,116*
Losses and Unaccounted for (c)	**57**	**72**	**74**	**59**	*51*	*71*	*63*	*59*	*50*	*71*	*63*	*59*	**262**	*245*	*244*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	*905*	*877*	*1052*	*878*	*914*	*878*	*1054*	*879*	**3750**	*3713*	*3725*
Residential Sector	**361**	**309**	**434**	**331**	*354*	*312*	*423*	*324*	*369*	*314*	*425*	*325*	**1435**	*1413*	*1433*
Commercial Sector	**320**	**328**	**382**	**325**	*322*	*330*	*376*	*323*	*321*	*330*	*377*	*323*	**1355**	*1351*	*1351*
Industrial Sector	**228**	**238**	**254**	**232**	*227*	*234*	*251*	*229*	*222*	*233*	*250*	*229*	**952**	*941*	*934*
Transportation Sector	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*7*	*7*
Direct Use (d)	**36**	**34**	**38**	**38**	*37*	*35*	*38*	*36*	*36*	*35*	*38*	*37*	**146**	*145*	*147*
Total Consumption	**948**	**911**	**1110**	**927**	*942*	*912*	*1090*	*914*	*950*	*914*	*1092*	*916*	**3896**	*3858*	*3872*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,450**	*2,598*	*2,288*	*3,100*	*2,373*	*2,677*	*2,280*	*3,086*	*2,362*	**10,631**	*10,359*	*10,406*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	*2.08*	*2.04*	*2.03*	*2.03*	*2.06*	*2.08*	*2.06*	*2.07*	**2.02**	*2.05*	*2.06*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.79**	*2.29*	*1.88*	*2.17*	*2.63*	*3.08*	*2.53*	*2.46*	*2.80*	**2.88**	*2.23*	*2.69*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.35**	*11.99*	*9.03*	*8.17*	*8.42*	*9.26*	*10.89*	*10.70*	*10.99*	**12.68**	*9.38*	*10.45*
Distillate Fuel Oil	**14.88**	**15.75**	**15.01**	**15.27**	*13.54*	*10.49*	*10.90*	*11.75*	*12.04*	*13.37*	*13.76*	*14.39*	**15.21**	*11.80*	*13.31*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.67**	**13.32**	**13.25**	**12.85**	*12.78*	*13.27*	*13.23*	*12.90*	*12.83*	*13.59*	*13.59*	*13.25*	**13.02**	*13.05*	*13.32*
Commercial Sector	**10.41**	**10.65**	**11.00**	**10.53**	*10.28*	*10.47*	*10.86*	*10.47*	*10.32*	*10.64*	*11.12*	*10.74*	**10.66**	*10.54*	*10.72*
Industrial Sector	**6.67**	**6.72**	**7.24**	**6.65**	*6.48*	*6.61*	*7.26*	*6.71*	*6.66*	*6.81*	*7.40*	*6.81*	**6.83**	*6.78*	*6.93*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	*20.61*	*24.99*	*29.98*	*27.37*	*30.04*	*27.78*	*28.55*	*29.36*	**56.24**	*25.74*	*28.93*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	*30.43*	*28.29*	*32.79*	*36.04*	*36.51*	*29.98*	*35.54*	*36.72*	**38.15**	*31.88*	*34.69*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	*29.00*	*24.34*	*25.59*	*30.48*	*40.22*	*25.30*	*26.56*	*32.32*	**34.89**	*27.35*	*31.10*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	*24.58*	*23.30*	*25.25*	*25.59*	*28.69*	*24.94*	*26.38*	*25.68*	**30.56**	*24.68*	*26.42*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	*24.80*	*27.90*	*31.00*	*27.79*	*30.35*	*28.47*	*31.54*	*28.17*	**30.85**	*27.87*	*29.63*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	*26.17*	*27.04*	*30.05*	*26.74*	*27.92*	*27.73*	*30.43*	*26.99*	**29.51**	*27.50*	*28.27*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	*22.18*	*23.79*	*28.89*	*24.86*	*24.39*	*24.98*	*29.47*	*24.90*	**27.86**	*24.93*	*25.93*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	*26.55*	*28.82*	*32.39*	*29.09*	*30.54*	*30.05*	*32.80*	*29.24*	**30.25**	*29.21*	*30.66*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	*27.07*	*26.69*	*29.11*	*29.69*	*30.96*	*29.33*	*29.80*	*30.42*	**30.10**	*28.14*	*30.13*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	*24.13*	*22.05*	*27.69*	*30.55*	*30.65*	*22.48*	*29.57*	*31.00*	**36.12**	*26.11*	*28.42*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	*23.35*	*25.70*	*31.21*	*30.81*	*32.66*	*28.16*	*33.54*	*32.09*	**35.26**	*27.77*	*31.61*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	*12.0*	*9.8*	*12.9*	*10.9*	*12.5*	*10.0*	*12.9*	*10.8*	**46.1**	*45.6*	*46.3*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	*34.1*	*28.0*	*38.8*	*29.2*	*35.3*	*28.1*	*38.7*	*29.2*	**133.1**	*130.1*	*131.3*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	*48.6*	*38.9*	*51.9*	*42.8*	*50.1*	*39.1*	*51.9*	*42.9*	**185.9**	*182.2*	*184.0*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	*29.0*	*22.0*	*29.0*	*24.3*	*29.1*	*22.1*	*29.1*	*24.6*	**105.4**	*104.3*	*105.0*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	*86.3*	*82.7*	*107.9*	*81.7*	*93.0*	*83.4*	*108.6*	*82.1*	**368.5**	*358.6*	*367.1*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	*30.1*	*25.7*	*35.8*	*26.3*	*32.3*	*25.7*	*35.9*	*26.4*	**121.1**	*117.9*	*120.2*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	*51.5*	*50.8*	*73.7*	*49.1*	*53.5*	*51.0*	*74.4*	*49.6*	**227.1**	*225.2*	*228.5*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	*23.8*	*23.4*	*32.9*	*22.2*	*23.7*	*23.6*	*33.3*	*22.5*	**100.2**	*102.2*	*103.1*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	*37.9*	*29.6*	*38.8*	*35.8*	*38.0*	*29.7*	*38.9*	*35.9*	**143.1**	*142.1*	*142.5*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	**4.7**	*4.7*	*4.6*
Total	**361.4**	**309.2**	**433.8**	**330.7**	*354.4*	*312.0*	*422.8*	*323.6*	*368.6*	*313.9*	*424.9*	*325.3*	**1,435.1**	*1,412.9*	*1,432.8*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	*12.5*	*12.0*	*13.6*	*12.0*	*12.0*	*11.5*	*12.9*	*11.4*	**51.2**	*50.0*	*47.8*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	*38.2*	*35.9*	*40.7*	*35.4*	*37.9*	*35.8*	*40.7*	*35.4*	**152.6**	*150.3*	*149.8*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	*44.5*	*43.4*	*49.4*	*43.4*	*44.4*	*43.4*	*49.3*	*43.3*	**181.6**	*180.7*	*180.5*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	*25.6*	*24.5*	*27.8*	*24.9*	*25.4*	*24.6*	*27.9*	*25.0*	**102.5**	*102.7*	*103.0*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	*72.5*	*78.3*	*88.2*	*74.5*	*72.4*	*78.3*	*88.3*	*74.6*	**317.0**	*313.6*	*313.6*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	*21.0*	*22.3*	*26.3*	*21.4*	*21.1*	*22.3*	*26.4*	*21.4*	**92.3**	*91.0*	*91.1*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	*44.6*	*49.1*	*57.7*	*47.1*	*45.1*	*49.5*	*58.4*	*47.7*	**195.7**	*198.5*	*200.8*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	*23.3*	*24.7*	*28.3*	*23.7*	*23.3*	*24.9*	*28.5*	*23.8*	**98.2**	*100.0*	*100.6*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	*38.4*	*38.1*	*43.0*	*39.1*	*38.0*	*38.2*	*43.0*	*39.1*	**157.9**	*158.6*	*158.3*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	*1.4*	*1.4*	*1.5*	*1.4*	*1.3*	*1.4*	*1.4*	*1.4*	**5.7**	*5.6*	*5.6*
Total	**319.9**	**328.2**	**381.8**	**324.6**	*322.0*	*329.6*	*376.5*	*322.9*	*321.1*	*329.8*	*377.0*	*323.2*	**1,354.5**	*1,351.0*	*1,351.0*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	*3.9*	*3.8*	*4.1*	*3.8*	*3.8*	*3.8*	*4.0*	*3.7*	**15.4**	*15.6*	*15.3*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	*17.5*	*17.3*	*19.6*	*18.0*	*17.1*	*17.1*	*19.4*	*17.9*	**73.2**	*72.4*	*71.6*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	*44.4*	*44.3*	*46.6*	*42.7*	*43.1*	*43.8*	*46.0*	*42.3*	**181.5**	*178.1*	*175.3*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	*21.2*	*21.9*	*23.5*	*21.8*	*21.0*	*22.1*	*23.8*	*22.1*	**88.3**	*88.4*	*89.1*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	*32.2*	*33.7*	*35.1*	*32.3*	*30.9*	*32.7*	*34.0*	*31.5*	**137.5**	*133.3*	*129.1*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	*22.6*	*22.7*	*23.4*	*22.0*	*21.5*	*21.9*	*22.7*	*21.5*	**94.7**	*90.7*	*87.5*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	*45.4*	*47.7*	*50.7*	*47.0*	*45.6*	*48.5*	*51.3*	*47.7*	**189.5**	*190.8*	*193.1*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	*19.6*	*21.2*	*23.6*	*20.4*	*19.6*	*21.4*	*23.8*	*20.6*	**84.1**	*84.8*	*85.5*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	*18.9*	*20.1*	*23.2*	*20.1*	*18.7*	*20.3*	*23.4*	*20.2*	**83.1**	*82.3*	*82.5*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**228.2**	**237.7**	**254.2**	**232.1**	*226.9*	*233.8*	*251.2*	*229.4*	*222.4*	*232.8*	*249.8*	*228.8*	**952.1**	*941.4*	*933.8*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	*28.6*	*25.7*	*30.6*	*26.8*	*28.5*	*25.3*	*30.0*	*26.1*	**113.3**	*111.8*	*110.0*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	*90.8*	*82.1*	*100.1*	*83.6*	*91.3*	*82.0*	*99.7*	*83.4*	**362.8**	*356.5*	*356.4*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	*137.7*	*126.7*	*148.0*	*129.1*	*137.9*	*126.3*	*147.5*	*128.8*	**549.6**	*541.5*	*540.4*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	*75.7*	*68.4*	*80.4*	*71.0*	*75.6*	*68.9*	*80.9*	*71.7*	**296.2**	*295.5*	*297.1*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	*191.4*	*195.0*	*231.5*	*188.9*	*196.6*	*194.7*	*231.3*	*188.6*	**824.3**	*806.8*	*811.1*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	*73.7*	*70.6*	*85.6*	*69.7*	*74.8*	*69.9*	*84.9*	*69.2*	**308.1**	*299.6*	*298.8*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	*141.6*	*147.6*	*182.2*	*143.3*	*144.2*	*149.1*	*184.2*	*145.1*	**612.4**	*614.7*	*622.6*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	*66.8*	*69.2*	*84.8*	*66.3*	*66.7*	*70.0*	*85.7*	*67.0*	**282.7**	*287.2*	*289.3*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	*95.5*	*88.1*	*105.2*	*95.2*	*94.9*	*88.4*	*105.5*	*95.4*	**384.9**	*383.9*	*384.2*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	*3.7*	*3.6*	*4.0*	*3.9*	*3.6*	*3.6*	*4.0*	*3.9*	**15.2**	*15.2*	*15.1*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	*905.3*	*877.2*	*1,052.4*	*877.8*	*914.1*	*878.2*	*1,053.6*	*879.1*	**3,749.5**	*3,712.6*	*3,725.0*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.51**	**21.54**	**20.67**	**20.87**	*21.74*	*21.26*	*20.20*	*20.27*	*21.18*	*21.30*	*20.84*	*21.45*	**21.12**	*20.85*	*21.17*
Middle Atlantic	**15.18**	**16.03**	**16.13**	**15.78**	*15.09*	*15.66*	*15.81*	*15.73*	*15.29*	*16.17*	*16.41*	*16.19*	**15.78**	*15.57*	*16.01*
E. N. Central	**12.91**	**13.84**	**13.25**	**13.30**	*12.97*	*13.86*	*13.47*	*13.67*	*13.37*	*14.39*	*13.96*	*14.10*	**13.29**	*13.47*	*13.92*
W. N. Central	**10.70**	**12.77**	**12.91**	**11.24**	*10.92*	*13.00*	*13.30*	*11.73*	*11.36*	*13.54*	*13.79*	*12.08*	**11.86**	*12.21*	*12.67*
S. Atlantic	**11.69**	**12.15**	**12.09**	**11.87**	*11.82*	*12.02*	*11.90*	*11.66*	*11.59*	*12.10*	*12.08*	*11.90*	**11.96**	*11.86*	*11.92*
E. S. Central	**11.10**	**11.69**	**11.36**	**11.23**	*11.08*	*11.77*	*11.70*	*11.77*	*11.22*	*12.11*	*11.96*	*12.06*	**11.33**	*11.57*	*11.81*
W. S. Central	**10.87**	**11.49**	**11.34**	**11.24**	*11.05*	*11.24*	*11.13*	*11.10*	*10.93*	*11.42*	*11.42*	*11.41*	**11.24**	*11.13*	*11.30*
Mountain	**11.50**	**12.16**	**12.21**	**11.59**	*11.41*	*12.13*	*12.24*	*11.74*	*11.68*	*12.49*	*12.62*	*12.08*	**11.90**	*11.91*	*12.26*
Pacific	**14.85**	**15.86**	**17.28**	**14.64**	*15.31*	*16.43*	*17.48*	*14.58*	*15.54*	*17.06*	*17.97*	*14.91*	**15.66**	*15.95*	*16.36*
U.S. Average	**12.67**	**13.32**	**13.25**	**12.85**	*12.78*	*13.27*	*13.23*	*12.90*	*12.83*	*13.59*	*13.59*	*13.25*	**13.02**	*13.05*	*13.32*
Commercial Sector															
New England	**16.80**	**16.25**	**15.97**	**15.76**	*16.21*	*15.79*	*15.60*	*15.47*	*16.07*	*15.95*	*16.04*	*16.09*	**16.19**	*15.77*	*16.04*
Middle Atlantic	**11.55**	**12.19**	**13.03**	**11.97**	*11.25*	*11.66*	*12.46*	*11.68*	*11.25*	*11.86*	*12.76*	*11.88*	**12.21**	*11.78*	*11.95*
E. N. Central	**10.13**	**10.29**	**10.09**	**10.05**	*10.06*	*10.20*	*10.07*	*10.13*	*10.23*	*10.46*	*10.34*	*10.37*	**10.14**	*10.11*	*10.35*
W. N. Central	**8.96**	**10.05**	**10.41**	**9.11**	*8.97*	*10.14*	*10.67*	*9.48*	*9.39*	*10.63*	*11.13*	*9.80*	**9.65**	*9.83*	*10.26*
S. Atlantic	**9.43**	**9.37**	**9.35**	**9.35**	*9.28*	*9.15*	*9.12*	*9.14*	*9.15*	*9.18*	*9.25*	*9.33*	**9.37**	*9.17*	*9.23*
E. S. Central	**10.69**	**10.71**	**10.65**	**10.62**	*10.54*	*10.72*	*10.94*	*11.09*	*10.84*	*11.08*	*11.22*	*11.39*	**10.67**	*10.83*	*11.14*
W. S. Central	**8.11**	**8.00**	**8.30**	**8.07**	*8.03*	*7.77*	*8.09*	*7.95*	*8.01*	*7.86*	*8.21*	*8.01*	**8.13**	*7.96*	*8.03*
Mountain	**9.19**	**9.72**	**10.00**	**9.18**	*9.19*	*9.71*	*10.01*	*9.25*	*9.34*	*9.93*	*10.26*	*9.45*	**9.55**	*9.56*	*9.77*
Pacific	**12.96**	**14.16**	**16.35**	**14.44**	*13.10*	*14.21*	*16.27*	*14.37*	*13.13*	*14.48*	*16.87*	*15.08*	**14.54**	*14.54*	*14.95*
U.S. Average	**10.41**	**10.65**	**11.00**	**10.53**	*10.28*	*10.47*	*10.86*	*10.47*	*10.32*	*10.64*	*11.12*	*10.74*	**10.66**	*10.54*	*10.72*
Industrial Sector															
New England	**13.45**	**12.90**	**12.65**	**12.69**	*12.78*	*12.51*	*12.48*	*12.59*	*13.06*	*12.76*	*12.59*	*12.64*	**12.92**	*12.59*	*12.76*
Middle Atlantic	**6.73**	**6.53**	**6.53**	**6.40**	*6.28*	*6.16*	*6.35*	*6.28*	*6.45*	*6.32*	*6.37*	*6.26*	**6.54**	*6.27*	*6.35*
E. N. Central	**7.04**	**6.84**	**6.82**	**6.76**	*6.67*	*6.69*	*6.83*	*6.84*	*6.86*	*6.91*	*6.97*	*6.95*	**6.86**	*6.76*	*6.92*
W. N. Central	**7.14**	**7.34**	**8.08**	**6.86**	*7.26*	*7.52*	*8.32*	*7.09*	*7.51*	*7.79*	*8.59*	*7.31*	**7.37**	*7.57*	*7.82*
S. Atlantic	**6.22**	**6.29**	**6.71**	**6.18**	*5.98*	*6.10*	*6.62*	*6.13*	*6.08*	*6.20*	*6.65*	*6.13*	**6.36**	*6.21*	*6.27*
E. S. Central	**5.70**	**5.78**	**5.94**	**5.60**	*5.38*	*5.60*	*5.90*	*5.61*	*5.52*	*5.75*	*5.98*	*5.66*	**5.76**	*5.62*	*5.73*
W. S. Central	**5.26**	**5.28**	**6.04**	**5.29**	*5.17*	*5.14*	*6.03*	*5.36*	*5.33*	*5.35*	*6.15*	*5.42*	**5.48**	*5.44*	*5.58*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	*5.95*	*6.14*	*6.75*	*5.90*	*6.08*	*6.27*	*6.84*	*5.96*	**6.29**	*6.21*	*6.31*
Pacific	**8.65**	**9.46**	**11.24**	**10.16**	*9.02*	*9.74*	*11.61*	*10.52*	*9.35*	*10.13*	*12.01*	*10.86*	**9.94**	*10.29*	*10.67*
U.S. Average	**6.67**	**6.72**	**7.24**	**6.65**	*6.48*	*6.61*	*7.26*	*6.71*	*6.66*	*6.81*	*7.40*	*6.81*	**6.83**	*6.78*	*6.93*
All Sectors (a)															
New England	**18.35**	**17.73**	**17.48**	**17.33**	*18.03*	*17.36*	*17.09*	*16.98*	*17.88*	*17.54*	*17.61*	*17.78*	**17.72**	*17.36*	*17.71*
Middle Atlantic	**12.01**	**12.27**	**12.98**	**12.10**	*11.73*	*11.86*	*12.55*	*11.93*	*11.91*	*12.18*	*12.93*	*12.17*	**12.36**	*12.04*	*12.32*
E. N. Central	**10.13**	**10.12**	**10.19**	**10.03**	*9.99*	*10.09*	*10.24*	*10.21*	*10.31*	*10.44*	*10.56*	*10.49*	**10.12**	*10.13*	*10.45*
W. N. Central	**9.14**	**10.04**	**10.63**	**9.17**	*9.24*	*10.22*	*10.93*	*9.52*	*9.63*	*10.65*	*11.34*	*9.82*	**9.76**	*9.99*	*10.38*
S. Atlantic	**9.91**	**10.02**	**10.23**	**9.89**	*9.87*	*9.84*	*10.03*	*9.72*	*9.82*	*9.93*	*10.20*	*9.91*	**10.02**	*9.87*	*9.97*
E. S. Central	**9.30**	**9.44**	**9.64**	**9.27**	*9.18*	*9.46*	*9.88*	*9.62*	*9.48*	*9.79*	*10.13*	*9.87*	**9.42**	*9.55*	*9.83*
W. S. Central	**8.21**	**8.29**	**8.93**	**8.28**	*8.21*	*8.11*	*8.74*	*8.18*	*8.25*	*8.26*	*8.93*	*8.32*	**8.46**	*8.34*	*8.47*
Mountain	**9.11**	**9.43**	**9.96**	**8.97**	*9.03*	*9.43*	*9.97*	*9.06*	*9.21*	*9.67*	*10.22*	*9.26*	**9.41**	*9.41*	*9.63*
Pacific	**12.87**	**13.63**	**15.54**	**13.59**	*13.16*	*13.92*	*15.67*	*13.63*	*13.34*	*14.34*	*16.18*	*14.11*	**13.95**	*14.14*	*14.54*
U.S. Average	**10.37**	**10.52**	**11.01**	**10.38**	*10.31*	*10.43*	*10.95*	*10.38*	*10.44*	*10.68*	*11.24*	*10.64*	**10.59**	*10.54*	*10.77*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	*348.0*	*365.7*	*466.1*	*351.2*	*309.5*	*343.1*	*460.5*	*346.8*	**1,474.7**	*1,531.0*	*1,459.8*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	*204.0*	*166.4*	*247.8*	*186.7*	*234.3*	*170.8*	*240.8*	*189.4*	**959.5**	*804.9*	*835.3*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	*205.2*	*187.4*	*204.8*	*200.7*	*201.7*	*189.2*	*200.7*	*189.7*	**809.4**	*798.1*	*781.3*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	*184.4*	*212.8*	*180.7*	*186.2*	*203.4*	*230.2*	*198.5*	*200.3*	**688.0**	*764.2*	*832.4*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	*74.2*	*85.2*	*67.2*	*62.3*	*72.6*	*81.7*	*64.3*	*61.6*	**272.4**	*288.8*	*280.1*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	*84.9*	*90.1*	*72.9*	*94.9*	*99.7*	*101.4*	*83.2*	*103.5*	**299.8**	*342.9*	*387.8*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	*15.9*	*26.6*	*29.0*	*18.5*	*21.3*	*36.4*	*39.4*	*24.5*	**71.5**	*90.0*	*121.6*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	*5.3*	*7.0*	*7.4*	*7.2*	*6.3*	*7.1*	*7.5*	*7.3*	**28.8**	*27.0*	*28.2*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	*4.1*	*3.9*	*4.2*	*3.4*	*3.5*	*3.7*	*4.1*	*3.4*	**15.6**	*15.5*	*14.7*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	*-1.0*	*-0.6*	*-1.7*	*-1.4*	*-1.1*	*-0.8*	*-1.8*	*-1.4*	**-5.3**	*-4.8*	*-5.0*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	*4.6*	*4.3*	*4.5*	*3.6*	*4.6*	*4.1*	*4.3*	*3.5*	**17.3**	*17.0*	*16.5*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	*1.2*	*1.2*	*1.1*	*0.9*	*1.3*	*1.0*	*1.1*	*0.8*	**4.3**	*4.4*	*4.2*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	*2.0*	*2.0*	*2.0*	*1.9*	*1.9*	*1.9*	*1.9*	*1.8*	**7.7**	*7.8*	*7.6*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	*948.3*	*939.2*	*1,105.3*	*930.0*	*955.4*	*939.6*	*1,106.1*	*931.0*	**3,955.8**	*3,922.7*	*3,932.1*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	*13.0*	*11.8*	*14.8*	*11.3*	*11.5*	*9.8*	*14.4*	*11.7*	**46.9**	*50.9*	*47.4*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	*0.3*	*0.0*	*0.1*	*0.1*	*0.3*	*0.0*	*0.1*	*0.1*	**0.5**	*0.5*	*0.5*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	*7.2*	*5.4*	*7.3*	*6.3*	*7.1*	*7.1*	*7.2*	*5.6*	**29.8**	*26.2*	*27.0*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	*2.1*	*1.9*	*1.5*	*1.6*	*2.0*	*1.8*	*1.5*	*1.5*	**7.0**	*7.2*	*6.8*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	*2.1*	*2.8*	*2.7*	*2.9*	*2.9*	*3.0*	*2.8*	*2.9*	**10.3**	*10.4*	*11.5*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*1.5*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	*25.0*	*22.3*	*26.7*	*22.6*	*24.3*	*22.0*	*26.3*	*22.1*	**96.1**	*96.6*	*94.8*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**27.9**	*29.9*	*27.3*	*32.4*	*28.6*	*30.0*	*27.0*	*31.9*	*28.2*	**115.2**	*118.2*	*117.2*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	*14.8*	*19.0*	*23.0*	*18.5*	*12.5*	*17.8*	*23.8*	*19.9*	**54.0**	*75.3*	*74.1*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.2*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	*11.4*	*8.8*	*8.9*	*9.3*	*9.2*	*7.8*	*7.1*	*6.9*	**44.9**	*38.3*	*31.0*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	*7.6*	*7.3*	*7.9*	*7.3*	*7.1*	*6.8*	*7.4*	*7.0*	**29.5**	*30.1*	*28.3*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	*1.7*	*2.0*	*1.7*	*1.9*	*2.2*	*2.4*	*2.2*	*2.9*	**6.5**	*7.2*	*9.8*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	*0.5*	*0.1*	*0.2*	*0.2*	*0.4*	*0.1*	*0.2*	*0.2*	**0.9**	*1.0*	*0.9*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	*36.0*	*37.2*	*41.6*	*37.2*	*31.4*	*35.1*	*40.8*	*37.0*	**136.2**	*152.0*	*144.3*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	*38.3*	*36.5*	*43.8*	*36.9*	*38.1*	*36.3*	*43.6*	*36.8*	**150.6**	*155.5*	*154.8*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	*76.2*	*73.9*	*95.4*	*75.7*	*71.5*	*74.4*	*97.3*	*74.4*	**295.1**	*321.2*	*317.6*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	*45.3*	*32.4*	*46.6*	*31.6*	*52.0*	*32.9*	*45.3*	*34.4*	**184.3**	*156.0*	*164.6*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	*69.4*	*66.4*	*69.4*	*70.2*	*68.8*	*64.7*	*68.1*	*66.2*	**277.9**	*275.5*	*267.8*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	*2.9*	*2.5*	*1.8*	*2.2*	*2.8*	*2.3*	*1.7*	*2.1*	**10.6**	*9.4*	*9.0*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	*9.2*	*10.2*	*7.9*	*9.9*	*10.4*	*11.4*	*8.9*	*10.7*	**34.1**	*37.1*	*41.5*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	*0.9*	*0.9*	*0.5*	*0.4*	*1.0*	*0.8*	*0.5*	*0.4*	**2.5**	*2.7*	*2.6*
Total generation	**205.5**	**185.6**	**224.1**	**189.2**	*203.9*	*186.3*	*221.6*	*190.0*	*206.6*	*186.6*	*221.7*	*188.2*	**804.4**	*801.9*	*803.1*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	*195.9*	*177.6*	*209.5*	*183.0*	*198.7*	*176.7*	*208.5*	*182.3*	**760.9**	*766.0*	*766.2*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	*58.5*	*65.4*	*75.7*	*60.9*	*55.3*	*61.4*	*74.2*	*60.6*	**252.9**	*260.5*	*251.5*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	*32.1*	*35.8*	*44.5*	*32.4*	*40.5*	*36.9*	*45.4*	*33.1*	**159.8**	*144.9*	*155.8*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	*51.8*	*49.9*	*54.3*	*53.2*	*52.7*	*52.4*	*54.0*	*53.3*	**211.0**	*209.3*	*212.4*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	*10.3*	*8.1*	*6.7*	*8.0*	*9.9*	*7.5*	*6.4*	*7.6*	**35.5**	*33.1*	*31.4*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	*2.6*	*4.9*	*4.7*	*3.4*	*3.6*	*6.2*	*5.9*	*4.0*	**13.2**	*15.6*	*19.7*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	*0.0*	*0.1*	*-0.6*	*-0.4*	*0.0*	*-0.1*	*-0.6*	*-0.4*	**-1.2**	*-0.9*	*-1.1*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	*155.3*	*164.2*	*185.4*	*157.5*	*162.1*	*164.2*	*185.2*	*158.2*	**671.1**	*662.4*	*669.7*
Net energy for load (f)	**163.9**	**158.5**	**197.9**	**156.4**	*157.4*	*157.9*	*186.8*	*156.6*	*165.4*	*159.5*	*187.6*	*156.9*	**676.7**	*658.8*	*669.5*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	*39.1*	*48.4*	*50.9*	*40.1*	*35.7*	*45.4*	*51.6*	*40.2*	**174.4**	*178.5*	*173.0*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	*2.1*	*2.8*	*4.8*	*3.5*	*3.5*	*3.8*	*2.8*	*3.9*	**18.6**	*13.2*	*13.9*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	*7.0*	*6.9*	*7.4*	*7.8*	*8.0*	*6.9*	*7.4*	*6.5*	**29.1**	*29.1*	*28.8*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	*1.6*	*2.4*	*2.2*	*1.9*	*2.2*	*3.0*	*2.8*	*2.3*	**6.2**	*8.1*	*10.2*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	*0.9*	*0.9*	*0.7*	*0.7*	*0.8*	*0.9*	*0.7*	*0.7*	**3.1**	*3.2*	*3.1*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	*50.8*	*61.3*	*66.2*	*54.1*	*50.3*	*60.0*	*65.4*	*53.6*	**231.7**	*232.4*	*229.3*
Net energy for load (f)	**48.0**	**58.4**	**69.4**	**52.9**	*49.3*	*59.2*	*67.8*	*52.6*	*48.9*	*58.4*	*67.6*	*52.5*	**228.7**	*228.9*	*227.4*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	*43.1*	*50.4*	*57.1*	*44.4*	*39.4*	*44.9*	*56.3*	*44.4*	**177.2**	*195.0*	*185.0*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	*64.3*	*50.1*	*72.7*	*55.5*	*70.5*	*52.4*	*73.0*	*57.7*	**276.2**	*242.6*	*253.6*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	*27.4*	*22.3*	*27.0*	*25.2*	*25.3*	*24.9*	*25.8*	*22.6*	**102.3**	*102.0*	*98.6*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	*2.3*	*2.3*	*1.7*	*1.8*	*2.2*	*2.2*	*1.6*	*1.7*	**8.0**	*8.1*	*7.7*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	*19.7*	*20.4*	*16.4*	*23.0*	*23.7*	*23.7*	*18.9*	*24.9*	**66.1**	*79.5*	*91.2*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	*1.8*	*1.9*	*1.7*	*1.3*	*1.8*	*1.6*	*1.6*	*1.2*	**6.0**	*6.6*	*6.1*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	*158.6*	*147.3*	*176.4*	*151.3*	*162.9*	*149.7*	*177.0*	*152.5*	**635.7**	*633.7*	*642.2*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	*160.5*	*154.9*	*178.6*	*155.9*	*159.6*	*154.5*	*178.3*	*155.8*	**645.6**	*649.8*	*648.2*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	*16.2*	*15.8*	*23.8*	*13.6*	*12.3*	*15.1*	*22.1*	*13.1*	**71.1**	*69.4*	*62.7*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	*23.3*	*11.0*	*26.2*	*16.6*	*21.8*	*11.0*	*25.9*	*14.9*	**93.3**	*77.1*	*73.5*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	*4.3*	*4.3*	*4.3*	*3.6*	*4.0*	*2.7*	*4.4*	*4.5*	**16.2**	*16.6*	*15.5*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	*3.5*	*3.7*	*2.6*	*2.9*	*3.3*	*3.5*	*2.4*	*2.8*	**13.7**	*12.7*	*12.0*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	*18.9*	*20.3*	*17.4*	*23.2*	*22.6*	*22.9*	*20.2*	*25.0*	**75.0**	*79.8*	*90.7*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	*0.2*	*0.3*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.8**	*0.7*	*0.6*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	*66.5*	*55.3*	*74.5*	*60.1*	*64.3*	*55.5*	*74.9*	*60.4*	**270.1**	*256.4*	*255.1*
Net energy for load (f)	**62.5**	**68.4**	**73.6**	**61.4**	*64.9*	*60.4*	*73.6*	*59.3*	*61.2*	*60.5*	*73.7*	*59.7*	**265.9**	*258.2*	*255.2*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	*34.7*	*40.5*	*53.2*	*29.9*	*29.8*	*35.7*	*48.0*	*28.2*	**180.1**	*158.4*	*141.6*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	*9.4*	*13.2*	*17.7*	*15.2*	*10.6*	*11.1*	*16.2*	*14.8*	**75.2**	*55.4*	*52.6*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	*11.0*	*8.7*	*10.9*	*10.3*	*10.9*	*9.7*	*10.9*	*9.1*	**41.3**	*40.9*	*40.6*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	*0.4*	*0.2*	*0.1*	*0.1*	*0.4*	*0.2*	*0.1*	*0.1*	**0.7**	*0.8*	*0.8*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	*24.4*	*28.0*	*24.8*	*26.5*	*28.7*	*34.4*	*32.6*	*31.0*	**81.1**	*103.6*	*126.7*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.6**	*1.5*	*1.6*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	*80.2*	*91.0*	*107.0*	*82.4*	*80.8*	*91.5*	*108.1*	*83.5*	**380.2**	*360.7*	*363.8*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	*80.2*	*91.0*	*107.0*	*82.4*	*80.8*	*91.5*	*108.1*	*83.5*	**380.2**	*360.7*	*363.8*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	*19.6*	*15.4*	*26.1*	*18.1*	*14.7*	*17.2*	*29.9*	*18.4*	**89.2**	*79.2*	*80.2*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	*16.3*	*12.9*	*26.6*	*24.2*	*22.9*	*12.5*	*23.0*	*22.8*	**105.1**	*80.0*	*81.1*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	*2.4*	*2.2*	*2.4*	*2.5*	*2.4*	*1.2*	*2.4*	*2.5*	**8.9**	*9.5*	*8.5*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	*35.3*	*42.9*	*30.3*	*30.0*	*35.6*	*42.3*	*29.6*	*30.7*	**118.0**	*138.6*	*138.1*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	*13.9*	*14.5*	*13.0*	*14.3*	*17.2*	*17.3*	*15.5*	*16.3*	**48.4**	*55.7*	*66.2*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.7*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	*87.7*	*88.1*	*98.7*	*89.3*	*93.0*	*90.7*	*100.5*	*90.8*	**370.5**	*363.8*	*375.0*
Net energy for load (f)	**94.5**	**83.1**	**92.1**	**87.7**	*88.1*	*81.8*	*91.3*	*86.2*	*88.0*	*81.8*	*91.4*	*86.3*	**357.4**	*347.3*	*347.6*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	*10.3*	*14.8*	*19.7*	*13.9*	*8.2*	*12.8*	*19.3*	*12.9*	**56.5**	*58.6*	*53.2*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	*8.6*	*6.5*	*6.3*	*4.7*	*9.4*	*6.9*	*6.9*	*5.0*	**36.7**	*26.1*	*28.2*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	*8.4*	*7.4*	*8.5*	*7.7*	*8.6*	*7.5*	*8.5*	*7.8*	**31.9**	*32.1*	*32.4*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	*2.7*	*3.9*	*4.2*	*2.6*	*2.6*	*3.5*	*3.9*	*2.5*	**13.9**	*13.4*	*12.5*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	*2.4*	*3.0*	*2.7*	*2.6*	*3.5*	*3.9*	*3.6*	*3.5*	**9.9**	*10.8*	*14.5*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.0**	*0.0*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	*32.4*	*35.7*	*41.4*	*31.6*	*32.3*	*34.8*	*42.1*	*31.5*	**148.9**	*141.1*	*140.8*
Net energy for load (f)	**18.2**	**23.1**	**34.0**	**22.3**	*22.1*	*26.8*	*34.4*	*23.3*	*22.7*	*27.2*	*34.8*	*23.5*	**97.7**	*106.6*	*108.2*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	*21.8*	*9.8*	*25.7*	*23.9*	*17.7*	*7.7*	*23.1*	*22.3*	**74.2**	*81.1*	*70.8*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	*1.8*	*1.3*	*1.8*	*2.4*	*2.3*	*2.9*	*1.9*	*2.3*	**7.5**	*7.4*	*9.4*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	*4.8*	*4.9*	*4.4*	*4.4*	*4.6*	*4.2*	*4.9*	*4.9*	**16.2**	*18.6*	*18.6*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	*6.6*	*11.8*	*10.1*	*5.2*	*6.0*	*11.1*	*9.5*	*5.1*	**34.0**	*33.7*	*31.7*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	*13.3*	*18.9*	*19.6*	*14.1*	*13.4*	*19.9*	*20.5*	*14.7*	**63.7**	*65.9*	*68.5*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	*-0.1*	*0.2*	*0.2*	*0.0*	*-0.1*	*0.2*	*0.2*	*0.0*	**0.2**	*0.4*	*0.3*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	*48.3*	*46.9*	*61.8*	*50.0*	*43.9*	*46.0*	*60.1*	*49.3*	**195.8**	*207.0*	*199.3*
Net energy for load (f)	**59.9**	**62.4**	**76.3**	**61.6**	*58.3*	*62.1*	*76.2*	*61.4*	*58.6*	*62.5*	*76.5*	*61.7*	**260.2**	*257.9*	*259.3*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	*0.037*	*0.035*	*0.038*	*0.031*	*0.032*	*0.033*	*0.038*	*0.031*	**0.142**	*0.141*	*0.134*
Hydroelectric Power (a)	**0.650**	**0.745**	**0.554**	**0.537**	*0.653*	*0.776*	*0.609*	*0.568*	*0.647*	*0.747*	*0.584*	*0.561*	**2.486**	*2.607*	*2.539*
Solar (b)	**0.122**	**0.201**	**0.208**	**0.128**	*0.146*	*0.245*	*0.267*	*0.170*	*0.196*	*0.335*	*0.363*	*0.226*	**0.659**	*0.829*	*1.120*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	*0.053*	*0.058*	*0.060*	*0.060*	*0.055*	*0.059*	*0.061*	*0.060*	**0.236**	*0.232*	*0.236*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	*0.029*	*0.050*	*0.056*	*0.052*	*0.043*	*0.051*	*0.055*	*0.054*	**0.211**	*0.187*	*0.203*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	*0.782*	*0.830*	*0.672*	*0.874*	*0.919*	*0.935*	*0.766*	*0.953*	**2.762**	*3.159*	*3.573*
Subtotal	**1.604**	**1.815**	**1.527**	**1.550**	*1.702*	*1.996*	*1.702*	*1.756*	*1.892*	*2.160*	*1.868*	*1.885*	**6.496**	*7.155*	*7.805*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	*0.203*	*0.202*	*0.201*	*0.202*	*0.195*	*0.200*	*0.202*	*0.202*	**0.800**	*0.809*	*0.800*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	*0.003*	*0.003*	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	*0.006*	*0.009*	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.029**	*0.032*	*0.036*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	*0.040*	*0.039*	*0.039*	*0.041*	*0.040*	*0.039*	*0.039*	*0.041*	**0.160**	*0.160*	*0.160*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	*0.351*	*0.343*	*0.352*	*0.353*	*0.341*	*0.338*	*0.349*	*0.351*	**1.473**	*1.399*	*1.379*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	*0.603*	*0.593*	*0.600*	*0.605*	*0.585*	*0.586*	*0.598*	*0.603*	**2.466**	*2.401*	*2.371*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.022**	*0.025*	*0.037*	*0.038*	*0.026*	*0.030*	*0.042*	*0.042*	*0.030*	**0.108**	*0.127*	*0.144*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	*0.010*	*0.008*	*0.009*	*0.009*	*0.010*	*0.008*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	*0.021*	*0.020*	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.084*	*0.084*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	*0.069*	*0.079*	*0.081*	*0.069*	*0.073*	*0.084*	*0.086*	*0.072*	**0.279**	*0.298*	*0.315*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	*0.057*	*0.089*	*0.091*	*0.064*	*0.069*	*0.107*	*0.110*	*0.077*	**0.256**	*0.301*	*0.363*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.132**	*0.130*	*0.132*	*0.133*	*0.132*	*0.130*	*0.132*	*0.133*	*0.132*	**0.528**	*0.528*	*0.528*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	*0.197*	*0.231*	*0.235*	*0.206*	*0.209*	*0.249*	*0.253*	*0.219*	**0.824**	*0.868*	*0.930*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	*0.074*	*0.082*	*0.072*	*0.078*	*0.090*	*0.099*	*0.085*	*0.093*	**0.265**	*0.306*	*0.367*
Ethanol (f)	**0.275**	**0.293**	**0.291**	**0.296**	*0.279*	*0.293*	*0.296*	*0.290*	*0.271*	*0.292*	*0.295*	*0.288*	**1.155**	*1.158*	*1.146*
Subtotal	**0.333**	**0.365**	**0.361**	**0.361**	*0.353*	*0.375*	*0.369*	*0.368*	*0.361*	*0.391*	*0.380*	*0.381*	**1.420**	*1.464*	*1.514*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	*0.074*	*0.082*	*0.072*	*0.078*	*0.090*	*0.099*	*0.085*	*0.093*	**0.265**	*0.306*	*0.367*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	*0.203*	*0.202*	*0.201*	*0.202*	*0.195*	*0.200*	*0.202*	*0.202*	**0.800**	*0.809*	*0.800*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.307**	*0.289*	*0.304*	*0.308*	*0.301*	*0.282*	*0.303*	*0.306*	*0.298*	**1.199**	*1.202*	*1.190*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	*0.054*	*0.052*	*0.055*	*0.048*	*0.049*	*0.050*	*0.055*	*0.048*	**0.209**	*0.209*	*0.201*
Hydroelectric Power (a)	**0.653**	**0.748**	**0.557**	**0.540**	*0.657*	*0.779*	*0.612*	*0.571*	*0.650*	*0.750*	*0.587*	*0.564*	**2.498**	*2.619*	*2.551*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.207**	*0.235*	*0.381*	*0.406*	*0.267*	*0.302*	*0.495*	*0.526*	*0.339*	**1.044**	*1.289*	*1.663*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	*0.103*	*0.106*	*0.108*	*0.111*	*0.105*	*0.107*	*0.109*	*0.110*	**0.433**	*0.428*	*0.432*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.569**	*0.532*	*0.545*	*0.563*	*0.559*	*0.535*	*0.540*	*0.560*	*0.558*	**2.296**	*2.199*	*2.193*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	*0.782*	*0.830*	*0.672*	*0.874*	*0.919*	*0.935*	*0.766*	*0.953*	**2.762**	*3.159*	*3.573*
Total Consumption	**2.809**	**3.085**	**2.798**	**2.793**	*2.923*	*3.273*	*2.987*	*3.004*	*3.120*	*3.470*	*3.185*	*3.160*	**11.486**	*12.186*	*12.935*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,969**	**6,934**	**6,832**	**6,896**	*6,896*	*6,830*	*6,864*	*6,867*	*6,867*	*6,886*	*6,886*	*6,886*	**6,896**	*6,867*	*6,886*
Waste	**4,135**	**4,114**	**4,102**	**4,100**	*4,100*	*4,034*	*4,068*	*4,071*	*4,071*	*4,090*	*4,090*	*4,090*	**4,100**	*4,071*	*4,090*
Wood	**2,835**	**2,820**	**2,730**	**2,795**	*2,795*	*2,795*	*2,795*	*2,795*	*2,795*	*2,795*	*2,795*	*2,795*	**2,795**	*2,795*	*2,795*
Conventional Hydroelectric	**79,569**	**79,550**	**79,378**	**79,386**	*79,500*	*79,511*	*79,639*	*79,718*	*79,736*	*79,747*	*79,747*	*79,787*	**79,386**	*79,718*	*79,787*
Geothermal	**2,359**	**2,410**	**2,410**	**2,410**	*2,410*	*2,410*	*2,410*	*2,410*	*2,410*	*2,410*	*2,410*	*2,410*	**2,410**	*2,410*	*2,410*
Large-Scale Solar (b)	**32,704**	**33,190**	**33,843**	**36,909**	*39,022*	*42,001*	*43,444*	*50,917*	*51,911*	*58,539*	*59,916*	*64,624*	**36,909**	*50,917*	*64,624*
Wind	**96,653**	**98,128**	**99,707**	**103,466**	*108,081*	*109,457*	*112,315*	*123,906*	*124,351*	*125,816*	*126,274*	*129,528*	**103,466**	*123,906*	*129,528*
Other Sectors (c)															
Biomass	**6,588**	**6,537**	**6,537**	**6,541**	*6,565*	*6,565*	*6,565*	*6,565*	*6,577*	*6,569*	*6,569*	*6,569*	**6,541**	*6,565*	*6,569*
Waste	**846**	**847**	**847**	**847**	*863*	*863*	*863*	*863*	*875*	*874*	*874*	*874*	**847**	*863*	*874*
Wood	**5,742**	**5,690**	**5,690**	**5,694**	*5,702*	*5,702*	*5,702*	*5,702*	*5,702*	*5,694*	*5,694*	*5,694*	**5,694**	*5,702*	*5,694*
Conventional Hydroelectric	**290**	**290**	**290**	**290**	*290*	*290*	*290*	*290*	*290*	*291*	*289*	*289*	**290**	*290*	*289*
Large-Scale Solar (b)	**409**	**415**	**426**	**431**	*439*	*441*	*443*	*443*	*443*	*443*	*444*	*444*	**431**	*443*	*444*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	*24,210*	*25,276*	*26,415*	*27,618*	*28,890*	*30,241*	*31,670*	*33,184*	**23,211**	*27,618*	*33,184*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	*14,966*	*15,761*	*16,621*	*17,538*	*18,516*	*19,563*	*20,680*	*21,873*	**14,229**	*17,538*	*21,873*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	*7,397*	*7,615*	*7,840*	*8,072*	*8,313*	*8,561*	*8,818*	*9,083*	**7,186**	*8,072*	*9,083*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	*1,848*	*1,901*	*1,954*	*2,007*	*2,062*	*2,117*	*2,172*	*2,229*	**1,796**	*2,007*	*2,229*
Wind	**118**	**118**	**118**	**118**	*127*	*353*	*353*	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	*5.3*	*7.0*	*7.4*	*7.2*	*6.3*	*7.1*	*7.5*	*7.3*	**28.8**	*27.0*	*28.2*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	*3.5*	*3.9*	*4.0*	*4.0*	*3.7*	*3.9*	*4.1*	*4.0*	**15.7**	*15.5*	*15.7*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	*1.8*	*3.1*	*3.4*	*3.2*	*2.6*	*3.1*	*3.4*	*3.3*	**13.0**	*11.6*	*12.5*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	*74.2*	*85.2*	*67.2*	*62.3*	*72.6*	*81.7*	*64.3*	*61.6*	**272.4**	*288.8*	*280.1*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	*4.1*	*3.9*	*4.2*	*3.4*	*3.5*	*3.7*	*4.1*	*3.4*	**15.6**	*15.5*	*14.7*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	*15.9*	*26.6*	*29.0*	*18.5*	*21.3*	*36.4*	*39.4*	*24.5*	**71.5**	*90.0*	*121.6*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	*84.9*	*90.1*	*72.9*	*94.9*	*99.7*	*101.4*	*83.2*	*103.5*	**299.8**	*342.9*	*387.8*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	*7.5*	*7.3*	*7.6*	*7.4*	*7.4*	*7.3*	*7.6*	*7.4*	**29.7**	*29.7*	*29.7*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	*0.8*	*0.7*	*0.7*	*0.7*	*0.8*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	*6.7*	*6.6*	*6.9*	*6.6*	*6.7*	*6.6*	*6.9*	*6.6*	**26.8**	*26.9*	*26.8*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	*0.3*	*0.3*	**1.3**	*1.3*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**0.7**	*1.0*	*1.3*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	*8.0*	*12.3*	*12.6*	*8.7*	*9.8*	*14.8*	*15.1*	*10.5*	**35.0**	*41.6*	*50.3*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	*4.8*	*7.5*	*7.7*	*5.4*	*6.1*	*9.4*	*9.7*	*6.8*	**20.9**	*25.4*	*32.0*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	*2.6*	*3.8*	*3.8*	*2.6*	*3.0*	*4.3*	*4.3*	*2.9*	**11.1**	*12.8*	*14.4*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	*0.7*	*1.0*	*1.0*	*0.7*	*0.8*	*1.1*	*1.1*	*0.8*	**3.0**	*3.4*	*3.9*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.4*	*0.4*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,220**	*19,316*	*19,422*	*19,528*	*19,626*	*19,711*	*19,775*	*19,850*	*19,934*	**19,073**	*19,473*	*19,817*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,353**	**13,412**	*13,504*	*13,591*	*13,674*	*13,740*	*13,805*	*13,862*	*13,922*	*13,987*	**13,280**	*13,627*	*13,894*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,330**	**3,331**	*3,341*	*3,358*	*3,392*	*3,436*	*3,456*	*3,468*	*3,481*	*3,497*	**3,337**	*3,382*	*3,476*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**67**	**12**	*35*	*33*	*36*	*27*	*37*	*37*	*38*	*40*	**67**	*33*	*38*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,332**	*3,341*	*3,369*	*3,370*	*3,375*	*3,381*	*3,386*	*3,389*	*3,392*	**3,299**	*3,364*	*3,387*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,532**	*2,543*	*2,554*	*2,601*	*2,644*	*2,662*	*2,678*	*2,698*	*2,720*	**2,532**	*2,585*	*2,690*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,514**	**3,434**	*3,495*	*3,533*	*3,600*	*3,656*	*3,693*	*3,721*	*3,743*	*3,769*	**3,486**	*3,571*	*3,731*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,043**	**15,100**	*15,191*	*15,299*	*15,352*	*15,422*	*15,517*	*15,591*	*15,672*	*15,745*	**14,989**	*15,316*	*15,631*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	*152.3*	*152.9*	*153.1*	*153.3*	*153.6*	*153.9*	*154.0*	*154.2*	**150.9**	*152.9*	*153.9*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	*3.5*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.5*	*3.6*	**3.7**	*3.4*	*3.5*
Housing Starts															
(millions - SAAR)	**1.21**	**1.26**	**1.28**	**1.45**	*1.43*	*1.39*	*1.37*	*1.35*	*1.32*	*1.30*	*1.27*	*1.27*	**1.30**	*1.38*	*1.29*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.5**	*109.2*	*109.5*	*109.6*	*109.7*	*110.1*	*110.2*	*110.5*	*111.0*	**109.5**	*109.5*	*110.4*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	*105.8*	*105.7*	*106.3*	*106.4*	*106.6*	*106.5*	*106.8*	*107.3*	**106.0**	*106.1*	*106.8*
Food	**115.1**	**115.3**	**114.6**	**115.9**	*116.2*	*116.5*	*116.9*	*117.2*	*117.5*	*117.9*	*118.3*	*118.9*	**115.2**	*116.7*	*118.1*
Paper	**94.2**	**91.8**	**92.6**	**93.3**	*92.9*	*91.7*	*91.1*	*90.3*	*89.8*	*89.4*	*89.2*	*89.3*	**93.0**	*91.5*	*89.4*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.8**	*106.0*	*105.6*	*105.6*	*105.5*	*105.2*	*104.9*	*104.7*	*104.3*	**105.6**	*105.7*	*104.8*
Chemicals	**101.4**	**99.9**	**100.6**	**100.2**	*100.5*	*100.9*	*101.4*	*101.8*	*102.4*	*102.9*	*103.5*	*104.2*	**100.5**	*101.2*	*103.2*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.1**	*119.3*	*118.3*	*118.0*	*117.8*	*117.7*	*117.7*	*117.8*	*118.1*	**119.4**	*118.3*	*117.8*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.4**	*96.0*	*94.2*	*93.2*	*91.5*	*90.4*	*89.3*	*89.1*	*89.6*	**96.9**	*93.7*	*89.6*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.1**	**106.3**	*106.5*	*105.9*	*106.1*	*106.0*	*106.1*	*106.2*	*106.5*	*107.2*	**106.2**	*106.1*	*106.5*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.3**	*98.4*	*97.9*	*97.8*	*97.5*	*97.4*	*97.2*	*97.3*	*97.5*	**98.3**	*97.9*	*97.3*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.8**	*105.8*	*105.1*	*105.2*	*104.9*	*104.7*	*104.6*	*104.8*	*105.5*	**105.8**	*105.2*	*104.9*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	*108.5*	*108.0*	*108.2*	*107.9*	*108.0*	*108.0*	*108.5*	*109.2*	**108.2**	*108.2*	*108.4*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	*2.59*	*2.60*	*2.61*	*2.62*	*2.64*	*2.65*	*2.67*	*2.68*	**2.56**	*2.61*	*2.66*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	*1.99*	*2.00*	*2.02*	*2.03*	*2.04*	*2.05*	*2.06*	*2.06*	**2.00**	*2.01*	*2.05*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.96**	**1.96**	*1.75*	*1.40*	*1.47*	*1.53*	*1.52*	*1.70*	*1.75*	*1.76*	**1.95**	*1.53*	*1.68*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.1**	*113.5*	*114.0*	*114.7*	*115.4*	*116.1*	*116.8*	*117.4*	*118.1*	**112.4**	*114.4*	*117.1*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,298**	**9,333**	**9,289**	**8,888**	*8,387*	*9,411*	*9,361*	*9,017*	*8,477*	*9,472*	*9,409*	*9,051*	**8,955**	*9,045*	*9,104*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**707**	**682**	*640*	*676*	*687*	*666*	*647*	*681*	*690*	*667*	**679**	*667*	*671*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	*396*	*435*	*443*	*423*	*404*	*439*	*445*	*425*	**410**	*424*	*429*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	*253.0*	*271.2*	*267.3*	*275.6*	*269.8*	*291.2*	*286.8*	*296.1*	**265.4**	*266.8*	*286.0*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	*0.274*	*0.270*	*0.260*	*0.259*	*0.256*	*0.254*	*0.246*	*0.252*	**0.268**	*0.266*	*0.252*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	*565*	*580*	*601*	*597*	*575*	*581*	*596*	*592*	**2,355**	*2,342*	*2,344*
Natural Gas	**507**	**350**	**384**	**444**	*521*	*383*	*389*	*442*	*506*	*367*	*384*	*440*	**1,684**	*1,735*	*1,697*
Coal	**290**	**239**	**307**	**248**	*237*	*199*	*277*	*222*	*262*	*199*	*267*	*222*	**1,084**	*935*	*951*
Total Energy (c)	**1,374**	**1,178**	**1,291**	**1,291**	*1,326*	*1,164*	*1,270*	*1,264*	*1,346*	*1,150*	*1,250*	*1,257*	**5,135**	*5,024*	*5,003*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,004**	**1,010**	*1,016*	*1,023*	*1,026*	*1,030*	*1,034*	*1,036*	*1,040*	*1,044*	**1,002**	*1,024*	*1,038*
Middle Atlantic	**2,772**	**2,782**	**2,791**	**2,805**	*2,820*	*2,837*	*2,845*	*2,854*	*2,862*	*2,865*	*2,872*	*2,881*	**2,788**	*2,839*	*2,870*
E. N. Central	**2,528**	**2,535**	**2,545**	**2,552**	*2,571*	*2,583*	*2,591*	*2,601*	*2,608*	*2,611*	*2,618*	*2,626*	**2,540**	*2,586*	*2,616*
W. N. Central	**1,181**	**1,187**	**1,193**	**1,197**	*1,203*	*1,209*	*1,214*	*1,219*	*1,224*	*1,228*	*1,233*	*1,239*	**1,190**	*1,211*	*1,231*
S. Atlantic	**3,353**	**3,367**	**3,383**	**3,402**	*3,420*	*3,445*	*3,468*	*3,489*	*3,510*	*3,523*	*3,539*	*3,557*	**3,376**	*3,455*	*3,532*
E. S. Central	**832**	**835**	**840**	**842**	*847*	*851*	*855*	*859*	*863*	*866*	*869*	*872*	**837**	*853*	*867*
W. S. Central	**2,347**	**2,370**	**2,392**	**2,406**	*2,420*	*2,431*	*2,437*	*2,444*	*2,452*	*2,468*	*2,482*	*2,494*	**2,379**	*2,433*	*2,474*
Mountain	**1,252**	**1,261**	**1,269**	**1,276**	*1,285*	*1,294*	*1,301*	*1,309*	*1,315*	*1,322*	*1,329*	*1,335*	**1,264**	*1,297*	*1,325*
Pacific	**3,700**	**3,719**	**3,739**	**3,763**	*3,770*	*3,784*	*3,826*	*3,856*	*3,878*	*3,891*	*3,905*	*3,923*	**3,731**	*3,809*	*3,899*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**98.9**	**97.7**	**97.6**	**97.1**	*96.8*	*96.7*	*96.9*	*96.9*	*96.9*	*96.8*	*97.0*	*97.4*	**97.8**	*96.8*	*97.0*
Middle Atlantic	**98.8**	**97.5**	**97.2**	**97.0**	*97.0*	*96.9*	*97.1*	*97.1*	*97.0*	*96.9*	*97.0*	*97.4*	**97.6**	*97.0*	*97.1*
E. N. Central	**108.7**	**107.4**	**107.1**	**105.9**	*106.1*	*105.8*	*106.4*	*106.6*	*106.5*	*106.3*	*106.4*	*107.0*	**107.3**	*106.2*	*106.5*
W. N. Central	**106.1**	**105.1**	**105.2**	**104.8**	*104.7*	*104.4*	*105.2*	*105.5*	*105.7*	*105.8*	*106.1*	*106.7*	**105.3**	*105.0*	*106.1*
S. Atlantic	**110.6**	**109.9**	**110.0**	**110.2**	*110.2*	*110.2*	*110.7*	*110.8*	*110.8*	*110.8*	*111.0*	*111.5*	**110.2**	*110.5*	*111.0*
E. S. Central	**111.4**	**110.4**	**110.8**	**110.5**	*110.5*	*110.4*	*111.0*	*111.3*	*111.4*	*111.3*	*111.5*	*112.0*	**110.8**	*110.8*	*111.5*
W. S. Central	**101.5**	**100.6**	**101.2**	**102.1**	*102.2*	*102.0*	*102.4*	*102.4*	*102.5*	*102.6*	*102.9*	*103.4*	**101.4**	*102.2*	*102.8*
Mountain	**116.1**	**116.3**	**117.6**	**117.4**	*117.6*	*117.9*	*118.7*	*119.1*	*119.5*	*119.6*	*120.0*	*120.6*	**116.9**	*118.3*	*119.9*
Pacific	**105.9**	**105.2**	**105.5**	**106.2**	*106.1*	*106.1*	*106.7*	*106.9*	*107.1*	*107.1*	*107.4*	*108.0*	**105.7**	*106.5*	*107.4*
Real Personal Income (Billion $2009)															
New England	**904**	**904**	**906**	**910**	*917*	*924*	*926*	*929*	*933*	*937*	*940*	*944*	**906**	*924*	*938*
Middle Atlantic	**2,302**	**2,316**	**2,320**	**2,329**	*2,346*	*2,361*	*2,366*	*2,373*	*2,382*	*2,389*	*2,396*	*2,403*	**2,317**	*2,361*	*2,392*
E. N. Central	**2,428**	**2,432**	**2,447**	**2,451**	*2,467*	*2,482*	*2,488*	*2,496*	*2,507*	*2,515*	*2,524*	*2,533*	**2,439**	*2,483*	*2,519*
W. N. Central	**1,146**	**1,147**	**1,163**	**1,163**	*1,166*	*1,174*	*1,177*	*1,182*	*1,190*	*1,196*	*1,204*	*1,210*	**1,155**	*1,175*	*1,200*
S. Atlantic	**3,214**	**3,232**	**3,246**	**3,264**	*3,291*	*3,320*	*3,334*	*3,352*	*3,375*	*3,394*	*3,414*	*3,432*	**3,239**	*3,324*	*3,404*
E. S. Central	**888**	**890**	**895**	**899**	*903*	*909*	*912*	*916*	*921*	*924*	*928*	*931*	**893**	*910*	*926*
W. S. Central	**1,984**	**1,992**	**2,004**	**2,016**	*2,031*	*2,049*	*2,058*	*2,069*	*2,083*	*2,094*	*2,105*	*2,115*	**1,999**	*2,052*	*2,099*
Mountain	**1,168**	**1,177**	**1,181**	**1,187**	*1,197*	*1,209*	*1,215*	*1,223*	*1,231*	*1,239*	*1,247*	*1,254*	**1,178**	*1,211*	*1,243*
Pacific	**2,807**	**2,835**	**2,848**	**2,860**	*2,881*	*2,907*	*2,919*	*2,932*	*2,947*	*2,961*	*2,977*	*2,991*	**2,837**	*2,910*	*2,969*
Households (Thousands)															
New England	**5,936**	**5,941**	**5,957**	**5,966**	*5,973*	*5,979*	*5,987*	*5,994*	*6,001*	*6,009*	*6,016*	*6,023*	**5,966**	*5,994*	*6,023*
Middle Atlantic	**16,243**	**16,263**	**16,305**	**16,328**	*16,346*	*16,360*	*16,377*	*16,395*	*16,414*	*16,432*	*16,452*	*16,471*	**16,328**	*16,395*	*16,471*
E. N. Central	**19,087**	**19,112**	**19,166**	**19,197**	*19,224*	*19,253*	*19,284*	*19,315*	*19,346*	*19,374*	*19,403*	*19,430*	**19,197**	*19,315*	*19,430*
W. N. Central	**8,688**	**8,708**	**8,740**	**8,760**	*8,777*	*8,793*	*8,811*	*8,828*	*8,845*	*8,863*	*8,881*	*8,897*	**8,760**	*8,828*	*8,897*
S. Atlantic	**25,689**	**25,762**	**25,877**	**25,965**	*26,050*	*26,130*	*26,215*	*26,300*	*26,385*	*26,473*	*26,557*	*26,640*	**25,965**	*26,300*	*26,640*
E. S. Central	**7,651**	**7,663**	**7,689**	**7,706**	*7,721*	*7,735*	*7,751*	*7,767*	*7,782*	*7,798*	*7,815*	*7,830*	**7,706**	*7,767*	*7,830*
W. S. Central	**14,813**	**14,856**	**14,923**	**14,974**	*15,023*	*15,069*	*15,119*	*15,170*	*15,220*	*15,271*	*15,323*	*15,373*	**14,974**	*15,170*	*15,373*
Mountain	**9,404**	**9,448**	**9,506**	**9,551**	*9,594*	*9,635*	*9,678*	*9,719*	*9,759*	*9,799*	*9,836*	*9,873*	**9,551**	*9,719*	*9,873*
Pacific	**18,903**	**18,932**	**18,994**	**19,034**	*19,073*	*19,109*	*19,152*	*19,197*	*19,242*	*19,286*	*19,330*	*19,374*	**19,034**	*19,197*	*19,374*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	*7.6*	**7.5**	*7.6*	*7.6*
Middle Atlantic	**19.9**	**20.0**	**20.0**	**20.1**	*20.1*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	*20.2*	**20.0**	*20.2*	*20.2*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.4**	*22.4*	*22.5*	*22.5*	*22.5*	*22.5*	*22.5*	*22.5*	*22.5*	**22.3**	*22.5*	*22.5*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	*10.9*	*10.9*	*10.9*	*10.9*	*10.9*	*10.9*	*10.9*	*11.0*	**10.8**	*10.9*	*10.9*
S. Atlantic	**29.0**	**29.0**	**29.2**	**29.3**	*29.4*	*29.6*	*29.6*	*29.7*	*29.8*	*29.9*	*30.0*	*30.0*	**29.1**	*29.6*	*29.9*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	*8.4*	*8.4*	*8.4*	*8.4*	*8.4*	*8.5*	*8.5*	*8.5*	**8.3**	*8.4*	*8.5*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	*18.0*	*18.0*	*18.1*	*18.1*	*18.2*	*18.2*	*18.3*	*18.3*	**17.7**	*18.1*	*18.2*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	*11.2*	*11.3*	*11.3*	*11.4*	*11.4*	*11.5*	*11.5*	*11.5*	**11.1**	*11.3*	*11.5*
Pacific	**23.7**	**23.8**	**23.9**	**24.0**	*24.1*	*24.2*	*24.2*	*24.3*	*24.3*	*24.4*	*24.4*	*24.4*	**23.9**	*24.2*	*24.4*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,224**	**896**	**135**	**2,280**	*2,891*	*862*	*127*	*2,159*	*3,180*	*893*	*127*	*2,159*	**6,535**	*6,039*	*6,358*
Middle Atlantic	**2,983**	**633**	**68**	**2,062**	*2,636*	*678*	*76*	*1,984*	*2,947*	*721*	*76*	*1,983*	**5,746**	*5,373*	*5,727*
E. N. Central	**3,327**	**764**	**66**	**2,280**	*2,927*	*724*	*122*	*2,238*	*3,154*	*740*	*122*	*2,238*	**6,436**	*6,010*	*6,254*
W. N. Central	**3,646**	**772**	**107**	**2,548**	*3,182*	*712*	*161*	*2,424*	*3,236*	*707*	*162*	*2,425*	**7,073**	*6,480*	*6,529*
South Atlantic	**1,335**	**128**	**2**	**918**	*1,215*	*184*	*12*	*956*	*1,421*	*198*	*12*	*954*	**2,382**	*2,367*	*2,585*
E. S. Central	**1,712**	**193**	**1**	**1,275**	*1,633*	*240*	*20*	*1,295*	*1,818*	*248*	*20*	*1,295*	**3,182**	*3,188*	*3,381*
W. S. Central	**1,207**	**90**	**0**	**852**	*1,064*	*76*	*4*	*790*	*1,144*	*82*	*4*	*789*	**2,150**	*1,934*	*2,019*
Mountain	**2,429**	**787**	**127**	**1,968**	*2,245*	*662*	*143*	*1,809*	*2,184*	*684*	*143*	*1,808*	**5,311**	*4,860*	*4,818*
Pacific	**1,691**	**578**	**96**	**1,184**	*1,451*	*562*	*85*	*1,179*	*1,496*	*576*	*85*	*1,180*	**3,550**	*3,276*	*3,337*
U.S. Average	**2,210**	**481**	**57**	**1,559**	*1,962*	*475*	*72*	*1,516*	*2,112*	*491*	*72*	*1,514*	**4,307**	*4,025*	*4,189*
Heating Degree Days, Prior 10-year Average															
New England	**3,166**	**820**	**111**	**2,122**	*3,152*	*822*	*105*	*2,128*	*3,149*	*845*	*108*	*2,116*	**6,218**	*6,207*	*6,217*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	*2,948*	*644*	*69*	*1,944*	*2,929*	*661*	*71*	*1,926*	**5,623**	*5,605*	*5,587*
E. N. Central	**3,196**	**697**	**112**	**2,198**	*3,198*	*698*	*102*	*2,198*	*3,171*	*719*	*104*	*2,184*	**6,203**	*6,196*	*6,178*
W. N. Central	**3,255**	**702**	**140**	**2,380**	*3,287*	*702*	*131*	*2,379*	*3,261*	*719*	*132*	*2,378*	**6,477**	*6,500*	*6,491*
South Atlantic	**1,480**	**176**	**11**	**964**	*1,459*	*169*	*10*	*951*	*1,404*	*174*	*10*	*922*	**2,631**	*2,589*	*2,510*
E. S. Central	**1,861**	**222**	**17**	**1,292**	*1,850*	*214*	*15*	*1,278*	*1,787*	*222*	*16*	*1,256*	**3,392**	*3,357*	*3,280*
W. S. Central	**1,183**	**85**	**4**	**808**	*1,199*	*83*	*3*	*794*	*1,149*	*83*	*3*	*792*	**2,079**	*2,079*	*2,027*
Mountain	**2,164**	**714**	**139**	**1,856**	*2,192*	*718*	*135*	*1,844*	*2,185*	*700*	*135*	*1,847*	**4,873**	*4,890*	*4,868*
Pacific	**1,444**	**582**	**83**	**1,175**	*1,456*	*580*	*85*	*1,162*	*1,454*	*556*	*83*	*1,157*	**3,283**	*3,284*	*3,249*
U.S. Average	**2,151**	**475**	**68**	**1,518**	*2,149*	*472*	*64*	*1,509*	*2,117*	*475*	*65*	*1,494*	**4,212**	*4,194*	*4,151*
Cooling Degree Days															
New England	**0**	**67**	**467**	**0**	*0*	*85*	*418*	*1*	*0*	*83*	*417*	*1*	**534**	*504*	*502*
Middle Atlantic	**0**	**144**	**629**	**8**	*0*	*156*	*549*	*5*	*0*	*152*	*549*	*5*	**781**	*710*	*706*
E. N. Central	**0**	**175**	**648**	**6**	*0*	*215*	*532*	*7*	*0*	*213*	*532*	*7*	**829**	*754*	*752*
W. N. Central	**0**	**222**	**729**	**2**	*3*	*258*	*657*	*10*	*3*	*260*	*656*	*10*	**954**	*927*	*929*
South Atlantic	**153**	**757**	**1,301**	**308**	*154*	*666*	*1,173*	*236*	*119*	*651*	*1,174*	*236*	**2,519**	*2,228*	*2,180*
E. S. Central	**29**	**548**	**1,212**	**86**	*32*	*517*	*1,045*	*67*	*27*	*513*	*1,044*	*67*	**1,874**	*1,661*	*1,652*
W. S. Central	**73**	**821**	**1,697**	**170**	*104*	*897*	*1,504*	*201*	*90*	*874*	*1,504*	*201*	**2,760**	*2,706*	*2,669*
Mountain	**10**	**342**	**985**	**59**	*14*	*439*	*941*	*79*	*18*	*433*	*942*	*79*	**1,397**	*1,472*	*1,472*
Pacific	**21**	**166**	**589**	**67**	*28*	*171*	*592*	*59*	*27*	*169*	*591*	*58*	**843**	*848*	*846*
U.S. Average	**46**	**399**	**953**	**105**	*52*	*408*	*858*	*94*	*43*	*401*	*859*	*95*	**1,502**	*1,411*	*1,398*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	*0*	*83*	*470*	*1*	*0*	*79*	*461*	*1*	**536**	*554*	*541*
Middle Atlantic	**0**	**165**	**589**	**6**	*0*	*170*	*609*	*6*	*0*	*163*	*596*	*6*	**760**	*785*	*765*
E. N. Central	**3**	**242**	**548**	**7**	*3*	*240*	*578*	*8*	*3*	*234*	*564*	*7*	**799**	*829*	*808*
W. N. Central	**7**	**298**	**669**	**11**	*7*	*296*	*697*	*11*	*7*	*291*	*686*	*11*	**985**	*1,011*	*994*
South Atlantic	**120**	**684**	**1,180**	**239**	*127*	*696*	*1,202*	*247*	*139*	*685*	*1,190*	*254*	**2,224**	*2,273*	*2,268*
E. S. Central	**36**	**555**	**1,049**	**67**	*36*	*557*	*1,081*	*72*	*38*	*541*	*1,062*	*73*	**1,706**	*1,746*	*1,714*
W. S. Central	**103**	**897**	**1,552**	**205**	*100*	*892*	*1,576*	*207*	*107*	*886*	*1,568*	*209*	**2,758**	*2,775*	*2,770*
Mountain	**25**	**438**	**932**	**81**	*24*	*433*	*939*	*81*	*24*	*442*	*940*	*82*	**1,476**	*1,476*	*1,488*
Pacific	**31**	**185**	**631**	**76**	*31*	*185*	*624*	*78*	*31*	*190*	*635*	*79*	**923**	*918*	*935*
U.S. Average	**46**	**417**	**873**	**97**	*47*	*420*	*892*	*100*	*50*	*416*	*886*	*102*	**1,433**	*1,459*	*1,454*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

April 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- Although all market outlooks are subject to many risks, the April edition of EIA's *Short-Term Energy Outlook* is subject to heightened levels of uncertainty because the impacts of the 2019 novel coronavirus disease (COVID-19) on energy markets are still evolving. The COVID-19 pandemic has caused significant changes in energy fuel supply and demand patterns. Crude oil prices, in particular, have fallen significantly since the beginning of 2020, largely driven by the economic contraction caused by COVID-19 and a sudden increase in crude oil supply following the suspension of previously agreed upon production cuts among the Organization of the Petroleum Exporting Countries (OPEC) and partner countries. Similar uncertainties persist across EIA's outlook for other energy sources, including natural gas and electricity. Despite recent news of OPEC+ emergency meetings within the next few days to discuss production levels, without an agreement actually in place, EIA assumes no re-implementation of an OPEC+ agreement during the forecast period. If there is ultimately an agreement, this forecast will incorporate that information into its ensuing release.

- EIA forecasts that the United States will return to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remain a net importer in most months through the end of the forecast period. This is a result of higher net imports of crude oil and lower net exports of petroleum products. Net crude oil imports are expected to increase because as U.S. crude oil production declines, there will be fewer barrels available for export. On the petroleum product side, net exports will be lowest in the third quarter of 2020, when U.S. refinery runs are expected to decline significantly.

- Brent crude oil prices averaged $32/barrel (b) in March, a decrease of $24/b from the average in February and the lowest monthly average since January 2016. EIA forecasts Brent crude oil prices will average $33/b in 2020, $10/b lower than in last month's STEO and down from an average of $64/b in 2019. EIA expects prices will average $23/b during the second quarter of 2020 before increasing to $30/b during the second half of the year. EIA forecasts that average Brent prices will rise to an average of $46/b in 2021, $10/b lower than forecast last month, as a return to declining global oil inventories puts upward pressure on prices.

- EIA estimates global petroleum and liquid fuels consumption averaged 94.4 million barrels per day (b/d) in the first quarter of 2020, a decline of 5.6 million b/d from the same period in 2019. EIA expects global petroleum and liquid fuels demand will decrease by 5.2 million b/d in 2020 from an average of 100.7 million b/d last year before increasing by 6.4 million b/d in 2021. Lower global oil demand growth for 2020 in the April STEO reflects growing evidence of significant disruptions to global economic activity along with reduced expected travel globally because of COVID-19.

- EIA expects that global liquid fuels inventories will grow by an average of 3.9 million b/d in 2020 after falling by about 0.2 million b/d in 2019. EIA expects inventory builds will be largest in the first half of 2020, rising at a rate of 5.7 million b/d in the first quarter and increasing to builds of 11.4 million b/d in the second quarter as a result of widespread travel limitations and sharp reductions in economic activity. Firmer demand growth as the global economy begins to recover and slower supply growth will contribute to global oil inventory draws beginning in the fourth quarter of 2020. EIA expects global liquid fuels inventories will decline by 1.7 million b/d in 2021.

- EIA forecasts significant decreases in U.S. liquid fuels demand during the first half of 2020 as a result of COVID-19 travel restrictions and significant disruptions to business and economic activity. EIA expects that the largest impacts will occur in the second quarter of 2020, before gradually dissipating over the course of the next 18 months. EIA expects U.S. motor gasoline consumption to fall by 1.7 million b/d from the first quarter of 2020 to an average of 7.1 million b/d in the second quarter, before gradually increasing to 8.9 million b/d in the second half of the year. U.S. jet fuel consumption will fall by 0.4 million b/d from the first quarter of 2020 to average 1.2 million b/d in the second quarter. U.S. distillate fuel oil consumption would see a smaller decline, falling by 0.2 million b/d to average 3.8 million b/d over the same period. In 2020, EIA forecasts that U.S. motor gasoline consumption will average 8.4 million b/d, a decrease of 9% compared with 2019, while jet fuel and distillate fuel oil consumption will fall by 10% and 5%, respectively over the same period.

- For the April–September 2020 summer driving season, EIA forecasts U.S. regular gasoline retail prices will average $1.58 per gallon (gal), down from an average of $2.72/gal last summer (*Summer Fuels Outlook*). The lower forecast gasoline prices reflect lower forecast crude oil prices and significantly lower gasoline demand in the second quarter of 2020 driven by COVID-19 travel restrictions and disruptions to domestic economic activity. For all of 2020, EIA expects U.S. regular gasoline retail prices to average $1.86/gal and gasoline retail prices for all grades to average $1.97/gal.

- EIA has revised its current forecast of domestic crude oil production down from the March STEO, as a result of lower crude oil prices. EIA forecasts U.S. crude oil production will average 11.8 million b/d in 2020, down 0.5 million b/d from 2019. In 2021, EIA expects U.S. crude production to decline further by 0.7 million b/d. If realized, the 2020 production decline would mark the first annual decline since 2016. Typically, price

changes impact production after about a six-month lag. However, current market conditions, combined with the COVID-19 pandemic, will likely reduce this lag as many producers have already announced plans to reduce capital spending and drilling levels.

Natural gas

- In March, the Henry Hub natural gas spot price averaged $1.74 per million British thermal units (MMBtu). Warmer-than-normal temperatures in March reduced demand for space heating and put downward pressure on prices. EIA forecasts that prices will begin to rise at the end of the second quarter of 2020 as U.S. natural gas production declines and natural gas use for power generation increases the demand for natural gas. EIA forecasts that Henry Hub natural gas spot prices will average $2.11/MMBtu in 2020 and then increase in 2021, reaching an annual average of $2.98/MMBtu because of lower natural gas production compared to 2020.

- EIA expects residential consumption of natural gas to average 12.9 billion cubic feet per day (Bcf/d) in 2020, down 5.8% from the 2019 average primarily because of warmer-than-normal weather in the first quarter. Similarly, EIA expects commercial consumption of natural gas to average 9.0 Bcf/d in 2020, a decrease of 7.1%, as a result of warm weather and the slowing economy. EIA forecasts industrial natural gas consumption to average 22.9 Bcf/d in 2020, about the same as in 2019. The industrial forecast is down from the previously expected 6.5% growth in the March STEO, as less manufacturing activity in 2020 weakens the growth potential for industrial natural gas consumption.

- U.S. dry natural gas production set a record in 2019, averaging 92.2 Bcf/d. EIA forecasts dry natural gas production will average 91.7 Bcf/d in 2020, with monthly production falling from an estimated 94.4 Bcf/d in March to 87.5 Bcf/d in December. Natural gas production declines the most in the Appalachian and Permian regions. In the Appalachian region, low natural gas prices are discouraging producers from engaging in natural gas-directed drilling, and in the Permian region, low oil prices reduce associated gas output from oil-directed wells. In 2021, forecast dry natural gas production averages 87.5 Bcf/d, rising in the second half of 2021 in response to higher prices.

- EIA estimates that total U.S. working natural gas in storage ended March at 2.0 trillion cubic feet (Tcf), 17% more than the five-year (2015–19) average. In the forecast, inventories rise by 1.9 Tcf during the April through October injection season to reach almost 3.9 Tcf on October 31.

- EIA forecasts that U.S. liquefied natural gas exports will average 6.6 billion cubic feet per day (Bcf/d) in the second quarter of 2020 and 6.0 Bcf/d in the third quarter of 2020. Liquefied natural gas exports in the third quarter 2020 are 0.3 bcf/d lower compared with the March STEO forecast because of lower expected global demand for natural gas.

Electricity, coal, renewables, and emissions

- The economic slowdown and stay-at-home orders are likely to affect U.S. electricity consumption over the next few months. EIA expects the largest impact will occur in the commercial sector where forecast retail sales of electricity fall by 4.7% in 2020 due to the closure of many businesses. Similarly, EIA expects retail sales of electricity to the industrial sector will fall by 4.2% in 2020 as many factories cut back production. Forecast U.S. sales of electricity to the residential sector fall by 0.8% in 2020, as reduced power usage resulting from milder winter and summer weather is offset by increased household electricity consumption as much of the population stays at home.

- EIA forecasts that total U.S. electric power sector generation will decline by 3% in 2020. Renewable energy sources account for the largest proportion of new generating capacity in 2020, driving EIA's forecast that renewable generation by the electric power sector will grow by 11% this year. Renewable energy is typically dispatched whenever it is available because of its low operating cost. The forecast for lower overall electricity demand leads to an expected decline in fossil-fuel generation, especially at coal-fired power plants. EIA expects that coal generation will fall by 20% in 2020. Forecast natural gas generation rises by 1% this year, reflecting favorable fuel costs and the addition of new generating capacity.

- Although EIA expects renewable energy to be the fastest growing source of electricity generation in 2020, the effects of COVID-19 and the resulting economic slowdown are likely to have an impact on new generating capacity builds over the next few months. EIA expects that the electric power sector will add 19.4 gigawatts of new wind capacity and 12.6 gigawatts of utility-scale solar capacity in 2020. These annual wind and solar capacity additions are 5% and 10% lower, respectively, than expected in the previous STEO.

- EIA forecasts that U.S. coal production will total 537 million short tons (MMst) in 2020, down 153 MMst (22%) from 2019. Lower production reflects declining demand for coal in the electric power sector, lower demand for U.S. exports, and a number of coal mines that have been idled for extended periods as a result of COVID-19. EIA forecasts that total coal consumption will decrease by 19% in 2020, driven primarily by electric power sector demand, which will fall by 107 MMst (20%) in 2020. Total coal exports also decline, as European demand is affected by economic slowdown.

- After decreasing by 2.7% in 2019, EIA forecasts that energy-related carbon dioxide (CO2) emissions will decrease by 7.5% in 2020 as the result of the slowing economy and restrictions on business and travel activity related to COVID-19. In 2021, EIA forecasts that energy-related CO2 emissions will increase by 3.6%. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Forecast Assumptions

Because of the heightened uncertainty surrounding this month's STEO, we have included some of the driving assumptions that affected our forecast this month.

Global Liquid Fuels

Global Petroleum and Other Liquid Fuels Consumption

In the April STEO, EIA's 2020 global oil consumption forecast has undergone major revisions to reflect the most up-to-date information available.

Similar to the March STEO, EIA analyzed reductions in oil demand by evaluating three main drivers: lower economic growth, less air travel, and other reductions in demand not captured by these two categories. In the March STEO, reductions in gross domestic product (GDP) and oil consumption were primarily limited to China, South Korea, Japan, and Italy. As a result of more government lockdowns across most of Europe, the United States, India, and other countries, the oil consumption effects now span a significantly larger segment of the world's population.

According to some estimates, about 40% of the world's population is currently advised to stay home to limit the spread of COVID-19. The shutdown orders have contributed to significant contractions in service industries—including travel, tourism, and restaurants, among others—leading to a rapid increase in layoffs and unemployment. Although governments introduced fiscal and monetary responses, the effects of this stimulus on oil demand could be minimal given the significant restrictions on travel. The outlook for global economic growth is highly uncertain, and the high level of volatility in the markets presents considerable challenges in forecasting oil prices and the level of global oil consumption in the coming months.

Non-OPEC Petroleum and Other Liquid Fuels Supply

EIA assumes that non-OPEC petroleum and other liquid fuels supply will decline slightly in 2020, because of the impacts of COVID-19 and low oil prices that started in March 2020. Production increases in Norway and Brazil will be more than offset by declines from the United States, India, and other non-OPEC countries.

EIA expects non-OPEC petroleum and other liquid fuels production to increase slightly in 2021, when supply growth, mainly in Brazil and Canada, is expected to offset production declines in the United States and other non-OPEC countries.

EIA expects Canada's total liquid fuels production to fall by 0.1 million barrels per day (b/d) in 2020 instead of the previously forecast supply growth. This decrease is a result of 2019 government-ordered production cuts in Alberta, continued pipeline constraints, and economic shut-ins because of the effect of low oil prices and falling demand for oil exports. In 2021, EIA expects Canada's production to increase after new pipeline capacity is available but by less than previously forecast. EIA does not expect any additional production from new upstream projects to come online during the forecast period, only expansions of existing projects.

EIA expects Brazil's petroleum and other liquid fuels production to grow more slowly than previously forecast. Near the end of March, Brazil's national oil company Petroleo Brasileiro, S.A. (Petrobras) announced a 100,000 b/d production cut for the remainder of 2020. Petrobras will idle some shallow-water platforms with higher production costs in the Sergipe, Rio Grande do Norte, and Ceará states to achieve these cuts. Additionally, production volumes from the P-70 floating, production, storage, and offloading vessel (FPSO) will be delayed until 2021. The P-70 was damaged in a storm in February 2020, and was originally scheduled to begin producing in the first half of 2020. The main driver for Brazil's production growth in 2021 will be the start-up of P-70 and two other FPSOs in 2021 that EIA does not expect will be affected by events in 2020 at this time.

EIA expects Asia, China and India to shut in about 250,000 b/d of production during the next few months as a result of immediate COVID-19 impacts on labor mobility and other logistics. In addition, the significantly lower oil price environment will reduce capital expenditure of upstream investors and shutter production at higher production cost fields, such as China's tight oil plays in the north central and northwest of the country and the mature fields that require enhanced oil recovery. Crude oil production projections for both China and India are lower than in last month's STEO, and EIA expects declines to deepen in 2020 and 2021. India plans to begin oil production from the deepwater KG-DWN-98/2 oil and natural gas project in early 2021, which will offset some production declines from mature basins in 2021.

OPEC Petroleum and Other Liquid Fuels Supply

The Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) suspended agreed-upon production cuts in March 2020. Despite the resulting oversupply in markets and recent news of OPEC+ emergency meetings to discuss production levels, EIA assumes no re-implementation of an OPEC+ agreement during the forecast period. Instead, EIA assumes that OPEC members with surplus production capacity will increase their production in an effort to gain additional market share. EIA assumes that although production in some oil fields will be affected by COVID-19, OPEC countries will try to increase production as long as they can find buyers in this weaker demand environment.

EIA assumes that Saudi Arabia will ramp up its crude oil production to near full capacity in the second quarter of 2020. Saudi Arabia will keep its production above recent production levels throughout the forecast in an attempt to regain global market share as higher-cost production declines elsewhere.

EIA assumes that sanctions on both Iran and Venezuela remain in place throughout the forecast period and that both countries' production will be lower compared with the March STEO.

Venezuela's production declines further as a result of additional sanctions that took effect in mid-February on Rosneft Trading, which had been a principal distributor of Venezuela's oil. These new sanctions, coupled with low global oil demand will make it more difficult for Venezuela to find buyers for its oil.

After reaching production levels of 1.2 million b/d in late 2019, Libya's crude oil output averaged 100,000 b/d in March 2020, after most of the country's export ports closed and several oil fields

were shut-in, including El Sharara and El Feel, in January 2020. With the ongoing civil war in Libya, EIA does not expect production to increase until late 2020. Once currently shuttered export terminals and oil fields reopen, EIA expects that Libya will boost production to near-capacity despite low oil prices.

In Nigeria and Angola, EIA expects new projects that have not yet reached the final investment decision (FID) stage will be delayed beyond 2021. In addition, growth from fields recently brought online will be flat for 2020. Lower production for the forecast period is driven by decreased demand as a result of COVID-19 as well as the expected surge in global crude oil supply resulting from the OPEC+ production cuts that were suspended.

EIA expects that OPEC surplus crude oil production capacity, which averaged 2.5 million b/d in and 3 million b/d in the first quarter of 2020, will decline to 1.5 million b/d in the second quarter of 2020. This is a result of Saudi Arabia ramping up its production to near full capacity during the second quarter of 2020, following the suspension of OPEC+ agreed-upon production cuts in March 2020. This decline will occur despite the Neutral Zone production ramp up that will start in May.

OECD Petroleum Inventories

An unprecedented drop in global oil demand in 2020, combined with the breakdown of the OPEC+ agreement to restrict oil production, leads EIA to forecast a global oil inventory build more than twice as large as the largest annual inventory build (1.8 million b/d in 1998) over the 40 years that EIA has tracked international data. EIA estimates that the 2020 build could add 1.6 billion barrels to global inventories, which would fill them at or near their estimated full storage capacity levels. Because of storage constraints, EIA believes the 2021 global oil market will need to be mostly balanced or inventory withdrawals will occur simply because there will be no room to store additional large inventory builds.

Crude Oil Prices

EIA assumes that the sharp reductions in global crude oil prices, which occurred during March 2020 as a result of COVID-19, will persist through the second quarter before prices begin gradually increasing through the end of the forecast. EIA expects that considerable decreases in liquid fuel consumption will result from containment measures and economic disruptions related to COVID-19, which will affect U.S. refinery activity and, consequently, demand for crude oil. However, crude oil supply will increase in the short term as a result of agreed production cuts among OPEC+ that were suspended. EIA assumes that these two factors will keep global crude oil prices at multi-year low averages through the first half of 2020. Only gradual increases in crude oil prices are expected through all of 2020 as these factors persist, which could lead to record levels of expected global oil inventory builds in the first half of 2020.

U.S. Liquid Fuels

Consumption

EIA assumes significantly lower levels of U.S. liquid fuels consumption during much of 2020 as a result of the disruptions to economic and business activity because of COVID-19 and the strict containment measures that have dramatically reduced all forms of travel. These impacts are expected to be most pronounced during the second quarter of 2020, when most containment measures and wide-scale reductions in business activity are assumed to be in place. EIA expects these impacts to persist through most of 2020, but in the second half of 2020, EIA expects liquid fuels consumption will gradually increase from these low levels as some business activity resumes and stay-at-home orders gradually ease. EIA forecasts these travel disruptions will have the largest impacts on gasoline and jet fuel consumption in 2020, but expects distillate fuel oil consumption to be affected less because of assumed increases in trucking activity both for distribution and expected increases in personal deliveries of goods and food services. The rise in U.S. liquid fuels consumption in the second half of 2020 drives the United States to return to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remaining a net importer in most months through the end of the forecast period.

EIA forecasts that U.S. annual average hydrocarbon gas liquids consumption will decline by 1.6% in 2020 and then increase by 12% in 2021. This 2020 decline is mainly the result of the expected slowdown in manufacturing, which would keep ethane demand as a petrochemical feedstock below 2019 levels for the remainder of this year. Ethane consumption begins to rise in the second quarter of 2021 as manufacturing begins to recover, and both new and existing ethane-fed petrochemical plants increase utilization.

Crude Oil Supply

EIA's model for Lower 48 production includes structural parameters that reduce the forecast for rigs and wells when WTI price falls below $45/b or the Henry Hub price falls below $2/MMBtu, based on historical trends in each region. In addition to this model-based drop, EIA assumes a further 15% reduction in activity on average in the second quarter of 2020 and a 12% reduction in the third quarter of 2020 to account for the unprecedented effects of COVID-19 on the level of drilling activity as many producers have already announced plans to reduce capital spending and drilling levels. The decline in U.S. crude oil production in the second half of 2020 and 2021, combined with rising U.S. liquid fuels consumption, results in the United States returning to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remaining a net importer in most months through the end of the forecast period.

EIA assumes that all oil stripper wells are shut in. These wells are characterized as producing no more than 15 barrels of oil equivalent per day (BOE/d) during a 12-month period.

In addition, even though some companies operating in the Permian Basin have asked for a hearing with the Texas Railroad Commission to determine mandatory crude oil production cuts for Permian producers, EIA assume no such proration of production in the model until the Texas Railroad Commission actually orders production cuts.

Product Prices

EIA expects that COVID-19 will drive sharp reductions in crude oil prices and U.S. liquid fuels demand during the second quarter of 2020, which will significantly reduce prices for gasoline and diesel fuel during the same period. Significant reductions in personal travel, both for normal commuting and vacation travel typical for the summer driving season, will decrease gasoline prices more dramatically than diesel fuel prices.

The shock to gasoline demand and EIA's corresponding expectation of near-term oversupply has been reflected in forecast U.S. refinery wholesale margins. In late March 2020, refinery wholesale margins for gasoline fell to near-zero levels in some regions, while diesel fuel margins remained relatively strong. EIA expects that stronger refinery wholesale margins for diesel fuel relative to gasoline will not only encourage refiners to maximize distillate production while reducing gasoline production, but in some cases, to idle some production units, which will drive refinery utilization rates to some of their lowest levels since the 2008 recession.

As a result, EIA forecasts that U.S. gasoline retail prices will reach some of their lowest levels in 20 years in the second quarter of 2020, before gradually increasing throughout the year as travel and business activity slowly recovers. Comparatively, diesel fuel prices only see minor decreases during the forecast period as increased demand for diesel fuel to meet expected near-term increases in long haul trucking and last-mile delivery activity.

Natural Gas

Natural Gas Consumption

The April STEO assumes minor shifts in space heating demand in March and April as more people stay at home rather than go to work or shop at retail establishments as a result of the COVID-19 pandemic. This shift increases residential natural gas demand while decreasing commercial natural gas demand. Commercial natural gas demand sees further reductions in the near term under the assumption that restaurants and other food establishments, which use more natural gas for cooking food and for hot water heating, compared with other segments of the commercial sector, will see a particularly high number of closings.

EIA forecasts that industrial demand for natural gas will decrease significantly because of the weakening economic outlook, leading to a lower forecast natural gas-weighted manufacturing index that declines through September 2020.

The April STEO forecast assumes that a combination of lower global natural gas demand as a result of the COVID-19 pandemic and an unfavorable liquefied natural gas (LNG) pricing environment will lower U.S. LNG exports, primarily in the third quarter of 2020.

Natural Gas Supply

EIA's model for Lower 48 production includes structural parameters that reduce the forecast for rigs and wells when the WTI price falls below $45/b or the Henry Hub price falls below $2/MMBtu, based on historical trends. In addition to this model-based drop, EIA assumes a further 15% reduction in activity on average in the second quarter of 2020 and a 12% reduction

in the third quarter of 2020 to account for the unprecedented effects of COVID-19 on the level of drilling activity as many producers have already announced plans to reduce capital spending and drilling levels.

EIA assumes that natural gas stripper wells remain economic, on average, and thus continue to produce through the forecast. These wells are characterized as producing no more than 90 thousand cubic feet per day during a 12-month period.

In addition, even though some companies operating in the Permian Basin have asked for a hearing with the Texas Railroad Commission to determine mandatory production cuts for Permian producers, EIA will assume no such proration of production in the model until the Texas Railroad Commission actually orders production cuts.

Natural Gas Inventories

EIA's natural gas storage forecast assumes a summer (March through October) storage build that is slightly below average because of strong natural gas consumption for power generation in 2020, combined with declining production in the second half of 2020. Less production in the first half of 2021 compared with recent years also puts downward pressure on storage in 2021.

Natural Gas Prices

The April STEO assumes that the Henry Hub spot price will remain low compared with historical levels in the near term as reduced business activity and higher-than-average storage levels entering the summer injection season contribute to keeping prices low. In the third quarter of 2020, slowing natural gas production, combined with increasing industrial demand and higher winter demand for space heating, encourage increases in the natural gas price.

Coal

Coal Supply

Many coal mines across the United States have shut down or idled, citing public health concerns. Some large producers have stipulated that their mines will be shut down or idled for two-weeks, while others have not implied a date to resume normal operations. EIA expects that these decreases in overall production will have a noticeable effect on supply, contributing to a steeper decline than would have occurred had these measures not been put into place.

Coal Consumption

Coal consumption is closely related to overall electricity generation demand, which is trending downward. Secondary stocks (at power plants) are high, and even with decreased production, coal plants do not expect shortfalls in the next few months. EIA projects that industrial consumption will also decline as coal coke demand is slowed by unfavorable market conditions and decreased raw steel production.

Coal Trade

EIA estimates that U.S. coal exports will decrease through 2020. Atlantic markets, which are the primary outlet for U.S. coal exports, are showing significantly decreased demand because of the global economic slowdown. India, the top destination for U.S. exports, had maintained near-normal consumption of steam coal during the first two months of 2020. Other important U.S. coal export destinations, such as South Korea and Japan, have seen economic effects already in 2020 and thus, have not been strong. Health-related lockdowns affecting large seaborne market suppliers, including South Africa, Indonesia, and Australia, have dampened global supply, providing some support to international prices but not enough to overcome the overarching shortfalls in demand.

Coal Prices

EIA estimates the delivered coal price to U.S. electricity generators averaged $2.02 per million British thermal units (MMBtu) in 2019, which was 4 cents/MMBtu lower than in 2018. EIA forecasts that coal prices will decrease in 2020 to $2.00 and increase in 2021 to $2.04/MMBtu.

Electricity

The COVID-19 pandemic and its associated economic effects also create a high level of uncertainty regarding EIA's short-term outlook for U.S. electricity markets. EIA has developed some initial assumptions about potential effects. As EIA receives new survey data over the coming weeks, future STEO forecasts will incorporate this information.

Electricity Consumption

Many states have implemented stay-at-home orders or similar restrictions, which have caused a significant number of commercial businesses and industrial facilities to stop operating. In addition, many commercial employees are now working from home instead of going into the office. The current STEO forecast incorporates new macroeconomic projections, which lead to declines in forecast retail sales of electricity to the commercial and industrial sectors. However, EIA also assumes the unique aspects of the stay-at-home orders will depress industrial and commercial electricity demand more than the impact of the slowing economy.

As a result of the stay-at-home orders, weather-adjusted electricity consumption by the residential sector is likely to increase in the near term, in contrast to the effects on the commercial and industrial sectors. EIA assumes, in particular, that household usage of electronic equipment such as computers and televisions will increase. Other uses of electricity, such as for cooking and for heating water, may also rise. Household use of air conditioning during the summer months is also likely to be higher than normal as more people stay home during the daytime.

Electricity Generation

The effects on electricity supply are also very uncertain because of rapidly changing economic conditions. In terms of building new generating capacity, component supply chains and the construction workforce is likely to be affected in the near term in many areas of the country.

Most of the generating capacity that had been scheduled to come online in 2020 is fueled by renewable energy sources—including solar and wind—and by natural gas.

To represent these impacts on electricity supply, EIA assumes in the current STEO that half of the generating capacity previously expected to enter service in the second quarter of 2020 will be postponed to sometime beyond the STEO forecast period, as will one-quarter of the capacity expected for the third quarter of 2020. As EIA continues to collect updates for project development activities reported on our surveys, we will revise these assumptions in future STEO forecasts.

Electricity Prices

The forecast reduction in overall electricity demand resulting from the economic slowdown, along with lower expected natural gas fuel costs for power generation, drives EIA's expectation that wholesale electricity prices will be lower in 2020 throughout the country. The lower costs of electricity supply will likely not affect retail electricity prices in the near term but may be reflected in lower retail prices in the future as utilities make adjustments to their electric rates over the coming months.

U.S. Economic Assumptions and Energy-Related Carbon Dioxide Emissions

Recent Economic Indicators

The STEO is based on macroeconomic projections by Oxford Economics (for countries other than the United States) and by IHS Markit (for the United States). Given the tremendous uncertainty in both the spread and severity of COVID-19 and in the policy responses, these forecasts are significantly more uncertain than normal.

The Oxford forecast projects that global GDP will contract by 2% in the first quarter of 2020 and by 0.4% in in the second quarter. However, this contraction is followed by a rapid recovery in the second half of 2020, leading to flat global GDP growth for the year.

For the United States, EIA used the March 20, 2020 version of the IHS Markit macroeconomic model with EIA's energy prices. The resulting U.S. economic forecast, which is used in this STEO, reflects a return to growth in the fourth quarter of 2020, and an expectation that employment does not return to pre-pandemic levels by the end of the STEO forecast period.

Energy-Related Carbon Dioxide Emissions.

EIA estimates energy-related carbon dioxide (CO_2) emissions based on energy consumption and carbon factors, the amounts of CO_2 that are released when fuels are burned, are unique to each fuel. Total CO_2 emissions depend on total energy consumption and the fuel mix of the energy consumed. Coal has the highest carbon factor of the major fossil fuels. However, because more petroleum products (such as motor gasoline) are consumed than coal, petroleum is the largest source of CO_2 emissions in the United States. Natural gas is the least carbon-intensive fossil fuel, but in recent years, because of its increasing consumption, it generates more U.S. CO_2 emissions

than coal. Non-fossil fuels, such as nuclear power and renewable generation sources, emit no direct CO2. As these noncarbon generation sources enter the fuel mix, energy demands can be met without proportional increases in energy-related CO2.

Notable forecast changes

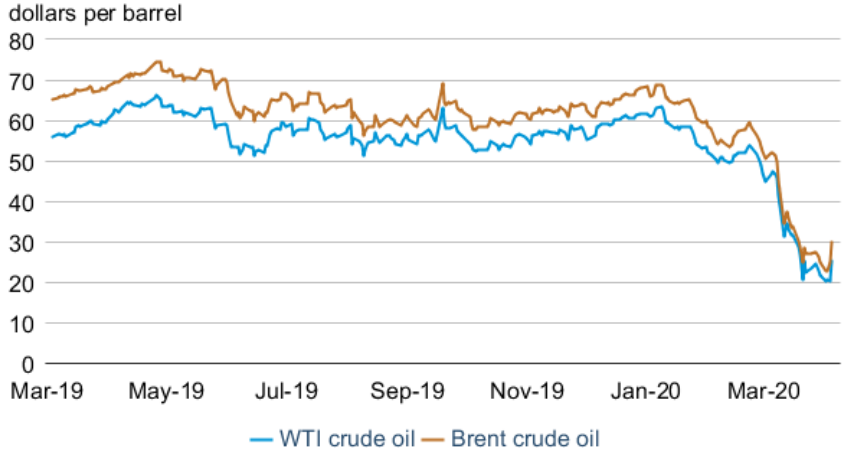
- For more information, see the detailed table of forecast changes.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $29.94 per barrel (b) on April 2, 2020, down $21.96/b from March 2. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $21.43 /b during the same period, settling at $25.32/b on April 2 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

Oil and other financial markets reached all-time high levels of volatility in March. Several economic indicators suggest the global economy entered a recession, primarily as a result of containment efforts related to the 2019 novel coronavirus disease (COVID-19).

Although real-time data remain limited, EIA estimates global liquid fuels consumption declined by 11.4 million barrels per day (b/d) in March from the 2019 annual average and forecasts demand to decline by 17.1 million b/d in April from the 2019 average. For 2020, EIA estimates that global liquid fuels consumption will average 95.5 million b/d, down 5.2 million b/d (5.2%)

from 2019. If realized, 2020 would see the largest year-over-year percentage decline in global oil consumption since at least 1990, the year EIA began tracking global consumption levels. In the United States, EIA forecasts that total oil consumption will decline 6.5% in 2020 to average 19.1 million b/d, which would be the largest percentage decline in consumption since 1980 and the second-largest decline since 1949, the earliest EIA data available.

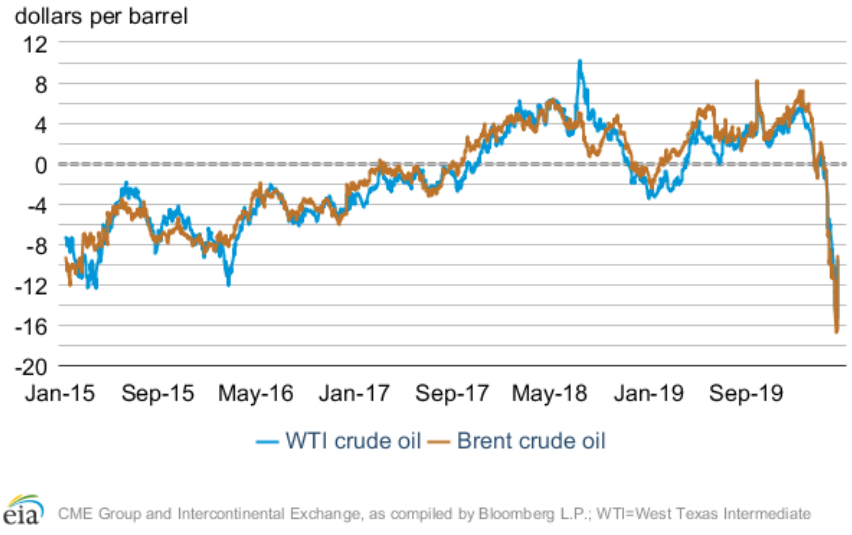
Aside from these significant changes to oil demand, EIA expects global oil supply to remain near first-quarter 2020 levels in the coming months. Upstream supply projects from countries outside the Organization of the Petroleum Exporting Countries (OPEC) require years of development and, once brought online, continue producing in low oil price environments as operating costs per barrel are generally low. However, EIA forecasts that low oil prices will immediately reduce U.S. Lower 48 crude oil production in the second quarter of 2020 as drilling activity slows significantly. In addition, as a result of OPEC and partner countries no longer restraining production, several OPEC members have begun increasing crude oil production by bringing previously idle spare production capacity online and selling additional crude oil from storage.

These supply and demand developments are contributing to significant increases in liquid fuels inventories. EIA estimates that second-quarter 2020 global petroleum inventories will increase at an average rate of 11.4 million b/d, which would be the largest rate of inventory increases since EIA record keeping began. Within the Organization for Economic Cooperation and Development (OECD), the highest stock levels recorded dating back to 2003 was in July 2016, when total commercial petroleum inventories ended the month at slightly more than 3.1 billion barrels. EIA forecasts inventories will surpass this level, but it remains uncertain how much commercially available storage capacity exists globally, particularly in non-OECD countries. Trade press is reporting an increase in unconventional forms of storage, such as floating storage, as becoming used increasingly as on-land storage quickly fills.

EIA expects these large stock builds to keep downward price pressure on crude oil prices for several months. As a result, EIA forecasts Brent crude oil to average $23/b in the second quarter of 2020. As non-OPEC crude oil production begins declining in the fourth quarter of 2020, and global liquid fuels demand increases, prices will increase gradually. EIA forecasts Brent crude oil will increase from the lows of the second quarter of 2020 to average $46/b in 2021.

Crude oil price spreads: In addition to the decline in front-month crude oil futures prices, the market structure for crude oil along the futures curve developed significant levels of contango (when near-term crude oil prices are lower than longer-dated ones). Both the Brent and WTI 1st–13th spreads declined to the lowest levels since the global financial crisis of 2008–09, settling at -$9.20/b and -$9.59/b, respectively, on April 2 **(Figure 2)**. The immediate and large loss of demand means that oil must be put in storage, as options for reducing crude oil production are limited in the short-term. Various trade press reports indicate that market participants are leasing tankers for floating storage, which is significantly more expensive than on-land storage.

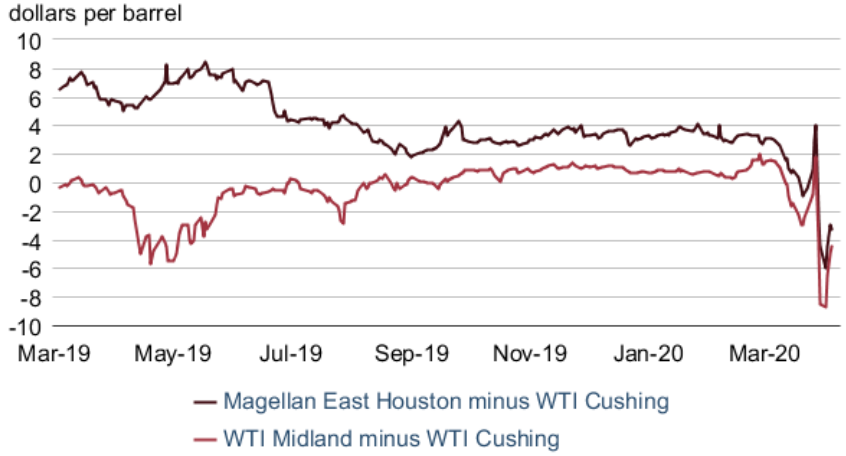
Figure 2. Crude oil front-month to 13th month futures price spread



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

Not only do crude oil inventory builds reflect price contango, but changes in price spreads between WTI for delivery in Cushing, Oklahoma—the delivery point for the WTI futures contract—and other light sweet crude oils in the United States suggest on-land storage in Cushing could begin filling rapidly. WTI Midland reflects crude oil prices at the point of production in the Permian region of Texas and New Mexico, and Magellan East Houston (MEH) crude oil reflects the price of light sweet crude oil on the U.S. Gulf Coast. Both WTI Midland and MEH developed discounts to WTI Cushing in March, when they had been averaging premiums of 88 cents/b and $3.24/b, respectively, since the fourth quarter of 2019 through February 2020 **(Figure 3)**.

Figure 3. U.S. crude oil price spreads



eia Bloomberg L.P., WTI=West Texas Intermediate

The WTI Midland discount to WTI Cushing was large when there was a lack of available pipeline capacity from the Permian production region to transport crude oil to Cushing. However, after several pipeline projects came online in the second half of 2019, there was more capacity than

current production, contributing to a slight premium in WTI Midland prices. Houston, on the other hand, is a destination point for crude oil from Cushing because local refineries can use it or it can be exported. The typical premium of MEH crude oil to Cushing generally reflects the cost of shipping crude oil by pipeline to the U.S. Gulf Coast. The rare discount that developed in late March provides a strong indication that barrels are being bought for storage in Cushing amid a significant decline in purchases from both U.S. and international refineries. Crude oil inventories in Cushing increased 3.5 million barrels for the week ending March 27, the largest week on week build in two years.

Oil company bond yields: Higher bond yields reflect increased risk aversion among bond investors and indicates tightening credit availability among companies. Bond yields for crude oil exploration and production companies increased in March, particularly for companies with a credit rating below Investment Grade, also called high yield bonds. The Bloomberg Barclays Energy High Yield Corporate Bond Index's yield-to-worst (YTW), which represents the minimum achievable yield on the bonds after accounting for early prepayment, increased to 23.9% on March 20, the highest since at least 2010 **(Figure 4).**

Figure 4. Energy company bond yields



eia Bloomberg L.P., Barclays

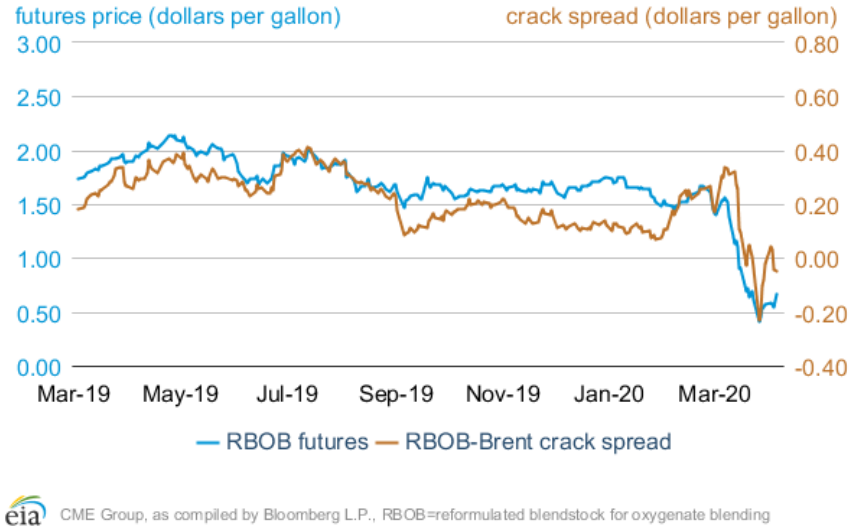
According to the latest Dallas Fed Energy Survey, nearly 40% of survey respondents from exploration and production companies would be able remain solvent for two years or less if WTI crude oil prices stayed at $40/b. As discussed in the crude oil price spreads section, many U.S. producers are receiving prices at large discounts to WTI Cushing crude oil prices, and some trades are as low as $10/b or lower. These prices could lead to asset impairments and bankruptcies among U.S. oil companies, and perhaps some producers will shut in wells if conditions persist.

Petroleum products

Gasoline prices*:* The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country)

settled at $0.66 per gallon (gal) on April 2, down 88 cents/gal since March 2, 2020 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 35 cents/gal to settle at 5 cents/gal during the same period.

Figure 5. Historical RBOB front-month futures prices and crack spread

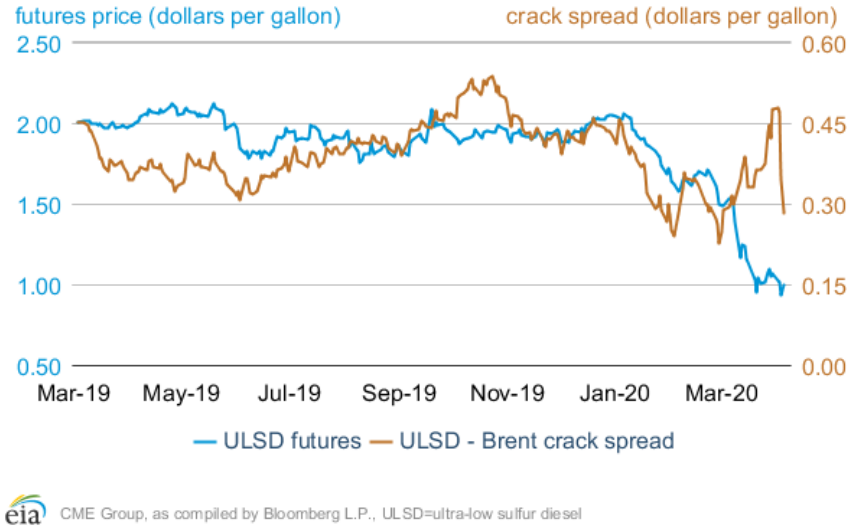


eia CME Group, as compiled by Bloomberg L.P., RBOB=reformulated blendstock for oxygenate blending

RBOB prices declined substantially throughout much of March and experienced week-on-week declines for four consecutive weeks. U.S. average retail gasoline prices also declined from $2.42/gal on March 2, 2020, to $2.01 per gallon on March 30, 2020. Average gasoline retail prices in the East Coast (Petroleum Administration for Defense District, or PADD 1), the Midwest (PADD 2), and the Gulf Coast (PADD 3) all fell below $2.00 /gal in March 2020, the first time since March 2016, November 2016, and February 2019, respectively. The lower prices for retail gasoline and RBOB futures prices likely reflect the interaction of two forces: the fall in the price of crude oil, the primary input cost for producing gasoline, and the fall in gasoline demand as a result of the decline in automotive travel caused by efforts to contain the outbreak of COVID-19 in North America. For example, U.S. vehicle miles traveled (VMT) fell to 8.3 billion miles in March 2020, 5% below March 2019, and EIA anticipates further declines throughout 2020 when VMT is expected to average 8.2 billion miles—the lowest level since 2012.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at $1.00/gal on April 2, 2020 **(Figure 6)**, down 53 cents/gal from March 2, 2020. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 1 cent/gal to settle at 28 cents/gal during the same period.

Figure 6. Historical ULSD front-month futures price and crack spread



eia CME Group, as compiled by Bloomberg L.P., ULSD=ultra-low sulfur diesel

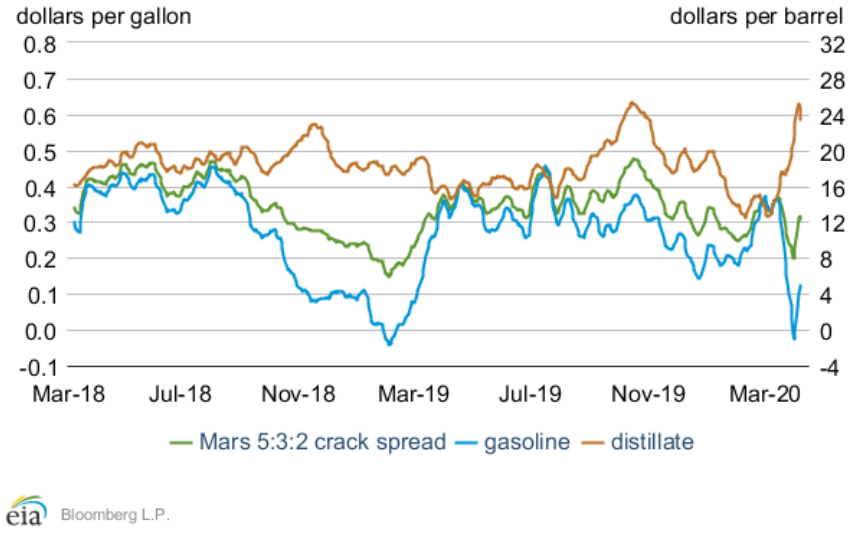
Through March, the ULSD–Brent crack spread has remained well above the five-year (2015–19) average, even as ULSD and other petroleum prices fell. EIA expects the economic slowdown as a result of COVID-19 will have a much greater effect on gasoline and jet fuel than distillate fuel. EIA forecasts a 25% decline in gasoline consumption and a 34% decrease in jet fuel consumption in the second quarter 2020 compared with a 6% decline in distillate consumption. EIA's March 2020 estimate of distillate consumption was 1% lower than the bottom of the previous five-year range, but distillate exports remained very strong. Distillate exports for the four weeks ending March 27 averaged 1.4 million barrels per day, which if confirmed by the monthly data, would be the most ever recorded for March.

More exports helped to reduce March distillate inventories below the five-year range and contributed to higher crack spreads. The ULSD–Brent crack spread fell sharply on April 1-2 as the ULSD price responded more slowly to the increase in Brent crude oil prices, but the crack spread remained near the five-year average.

Refining margins: The availability of cheaper crude oil inputs have somewhat blunted the impact of declining petroleum demand on U.S. refinery margins. EIA approximates these margins using the 5:3:2 crack spread, calculated as the combined revenue earned from selling 3 barrels of gasoline and 2 barrels of distillate less the cost of 5 barrels of crude oil inputs (using Mars, the U.S. Gulf Coast sour crude oil benchmark). Mars crude oil declined by 57% from $48.00/b on March 2, 2020, to $20.79/b on April 2, 2020. And although prices for distillate increased during the same period, the higher distillate price was more than offset by declines in the price for gasoline, which reduced the overall 5:3:2 crack spread by 6% to $12.32/gal during the same period **(Figure 7)**. While crack spreads for some products such as low sulfur fuel oil remain healthy, the decline in the 5:3:2 spread is likely fairly reflective of the margins realized by many U.S. Gulf Coast refiners. Because of this decrease in estimated margins, EIA expects refinery runs to decline over the next several months, with second quarter 2020 refinery distillation inputs falling by 14% relative to the preceding quarter to 14.2 million barrels per day,

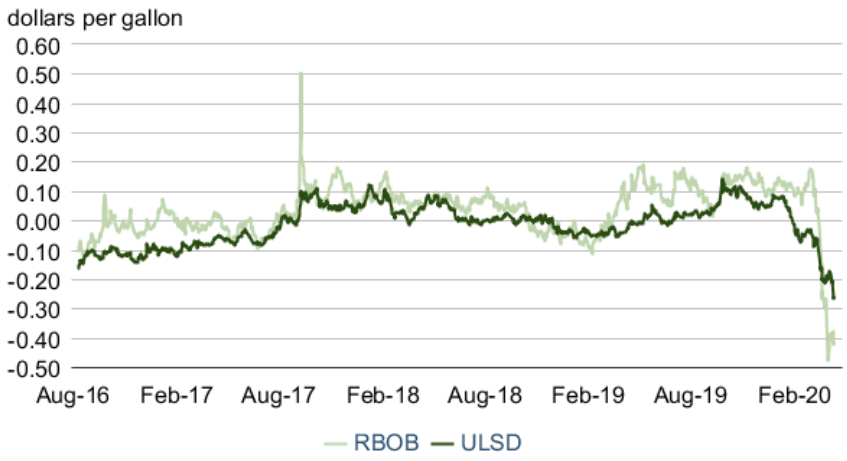
and 2020 refinery runs averaging 15.8 million barrels per day over the year, 7% less than 2019. Consequently, EIA estimates that the average U.S. refinery distillation utilization factor will fall from 87% in the first quarter 2020 to a 34 year low of 75% in the second quarter of 2020, and will average 83% throughout 2020 compared to 90% in 2019.

Figure 7. U.S. Gulf Coast refinery margins, five-day moving average



Futures price spreads: The shape of the futures curves for both RBOB and ULSD shifted in early 2020 from backwardation—when near-term futures prices are higher than longer-dated ones—to contango—when near-term futures prices are lower than longer-dated ones. The 1st-13th spread (the difference between the price for a product settled in the nearest month and the price for 13 months in the future) for RBOB declined from $0.03 per gallon on March 2, 2020, to the lowest since RBOB began trading in 2005 to -$0.38/gal per gallon on April 2, 2020, while the 1st-13th spread for ULSD declined from -$0.06 per gallon to -$0.26 per gallon over the same period **(Figure 8)**. The increased degree of contango likely reflects concerns of a significant decline in petroleum product demand, resulting in increases in inventory. As of March 27, U.S. commercial inventories of RBOB stood at 55.4 million barrels, 6.1 million more than their March 6 level, and 12% above the five-year average. The 1st-13th spread in ULSD declined by a smaller amount, reflecting a somewhat tighter distillate market. Expected decreases in consumption in the next few months will likely result in more product than normal moving into storage.

Figure 8. 1st-13th month futures spread

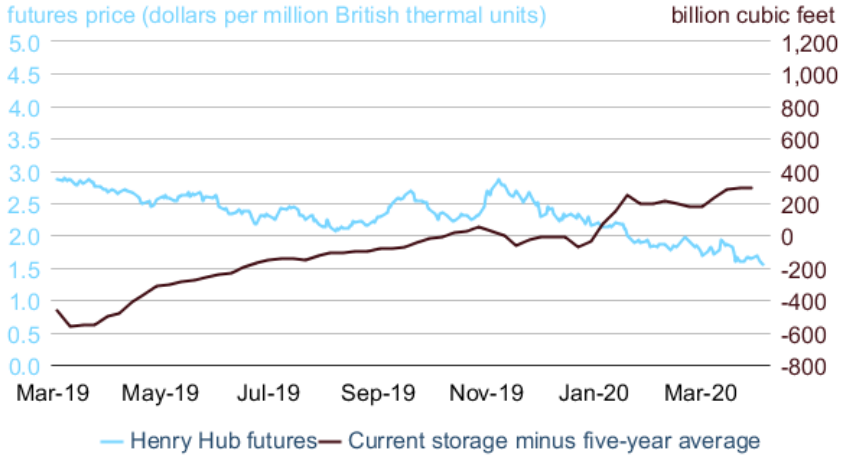


U.S. EIA, Bloomberg LP

Natural Gas

Prices: The front-month natural gas futures contract for May delivery at the Henry Hub settled at $1.55 per million British thermal units (MMBtu) on April 2, down 20 cents/MMBtu from March 2 **(Figure 9)**. Production gains combined with a mild winter have led to markedly higher year-over-year inventory levels compared with March 2019. Typically, March inventories are some of the lowest of the year immediately following the winter heating months.

Figure 9. U.S. natural gas front-month futures prices and storage

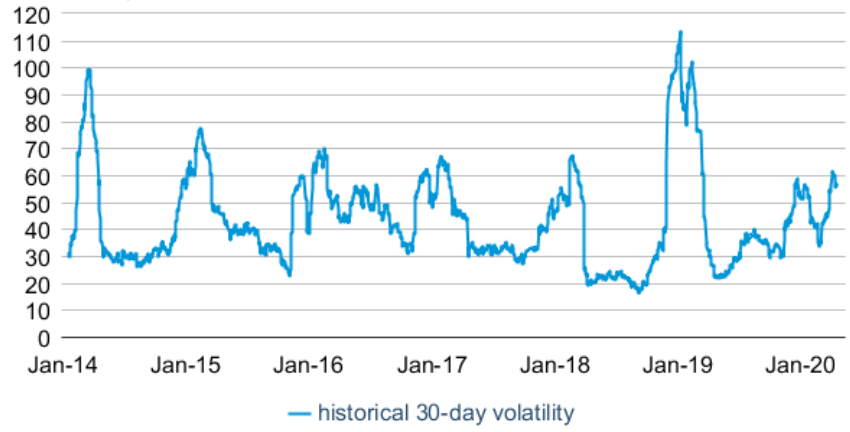


U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

Historical Volatility: During the past month, oil prices and equities have seen significant movements that have drastically increased measures of their volatility. Natural gas volatility also increased in March but by a much smaller amount than in other markets. Historical 30-day volatility is defined as a rolling measure of the magnitude of price movements during the past 30 days **(Figure 10).** Many factors, including record production levels in 2019 and an atypically

warm winter, have led to historically low natural gas prices even before current economic conditions. This winter saw a much lower-than-usual increase in demand and prices during the winter months of late 2019 and early 2020. As a result, historical 30-day volatility peaked at significantly lower levels than several of the past winters.

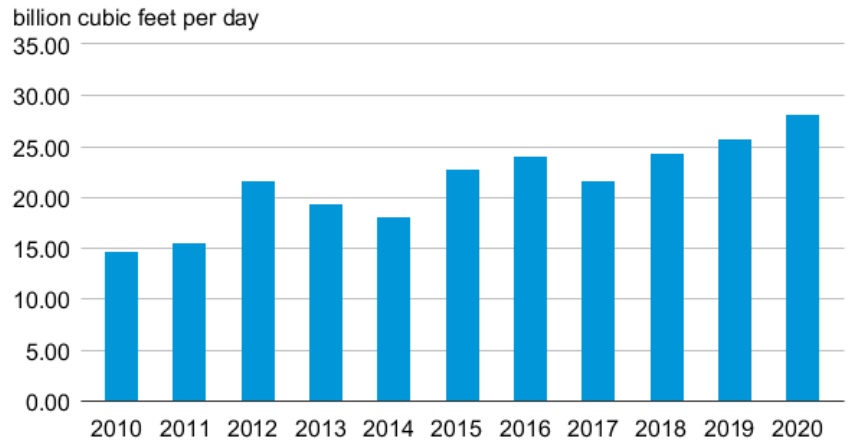
Figure 10. Natural gas historical volatility



eia Bloomberg L.P.

Natural gas in power generation: Power generation has been the largest source of natural gas demand for the past year. In addition, lower prices have contributed to increased competitiveness between natural gas and coal as a source of power generation. **Figure 11** displays the March natural gas consumption for power generation from 2010 to the 2020 estimate. EIA forecasts annual average natural gas consumption for electric power to increase to 31.3 billion cubic feet (Bcf) per day in 2020 compared with 31.0 Bcf/day in 2019. Although natural gas consumption for electric power is forecast to increase, total U.S. electricity consumption is expected to decline in 2020.

Figure 11. March consumption of natural gas for power generation, 2010-present



eia U.S. Energy Information Administration

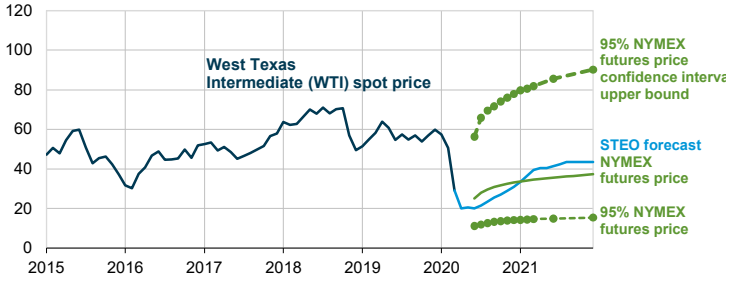
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

April 7, 2020

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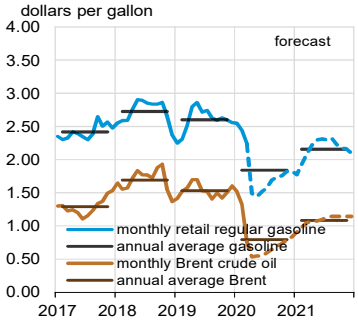
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



Note: Confidence interval derived from options market information for the five trading days ending Apr 2, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

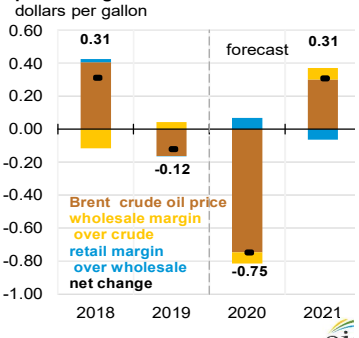
Sources: Short-Term Energy Outlook, April 2020, and CME Group

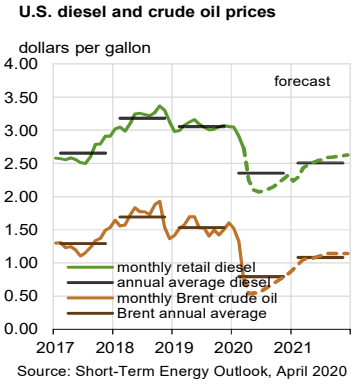
U.S. gasoline and crude oil prices
dollars per gallon



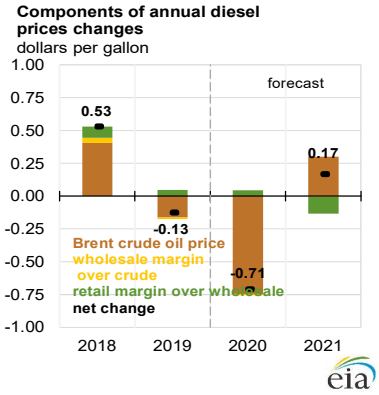
Source: Short-Term Energy Outlook, April 2020

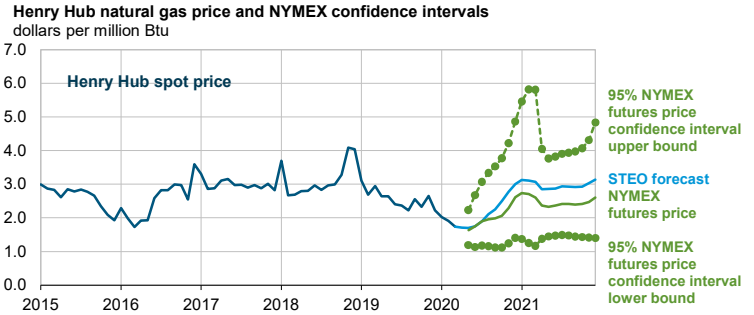
Components of annual gasoline price changes
dollars per gallon





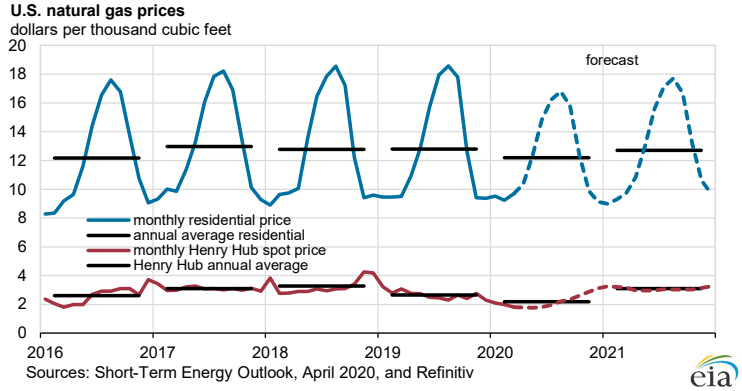
Source: Short-Term Energy Outlook, April 2020





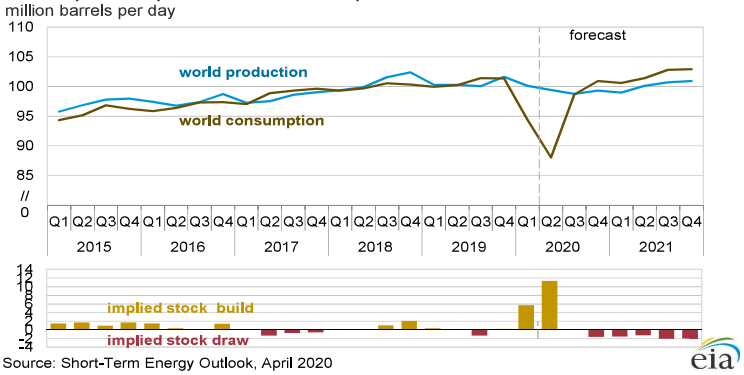
Note: Confidence interval derived from options market information for the five trading days ending Apr 2, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, April 2020, and CME Group



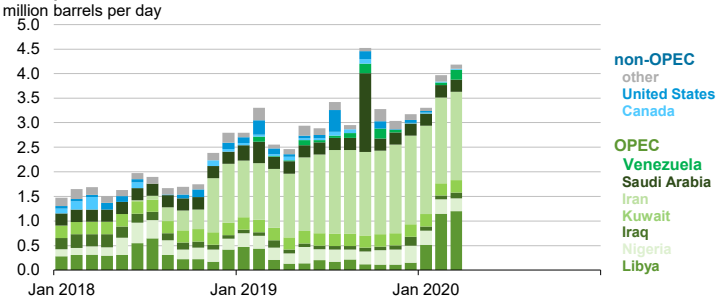
Sources: Short-Term Energy Outlook, April 2020, and Refinitiv

World liquid fuels production and consumption balance
million barrels per day



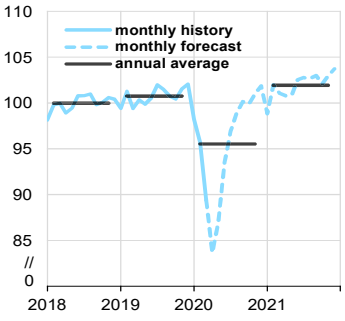
Source: Short-Term Energy Outlook, April 2020

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day

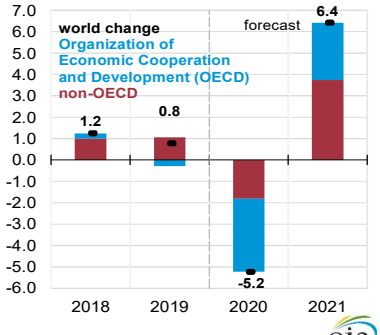


Source: Short-Term Energy Outlook, April 2020

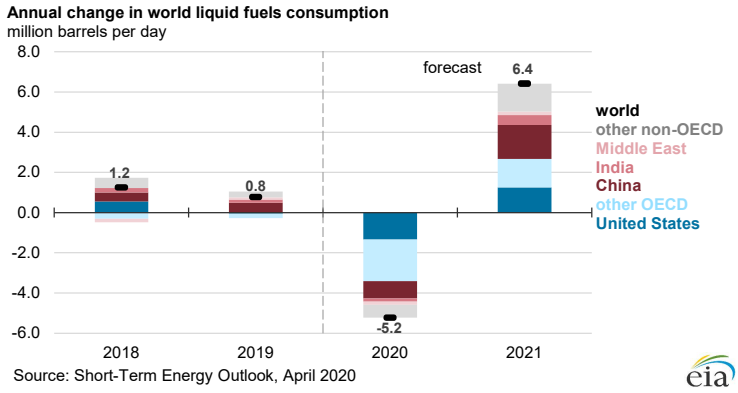
World liquid fuels consumption
million barrels per day

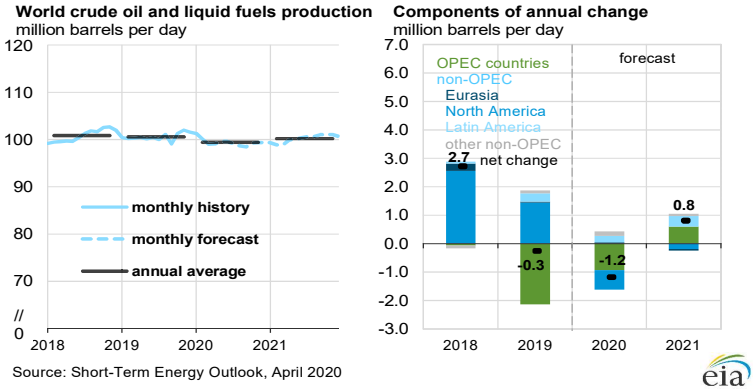


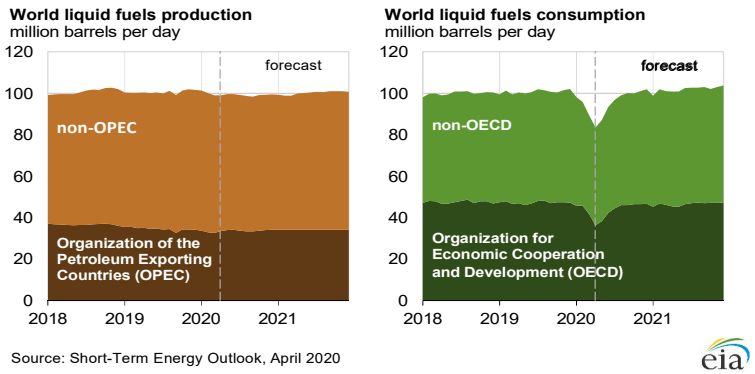
Components of annual change
million barrels per day



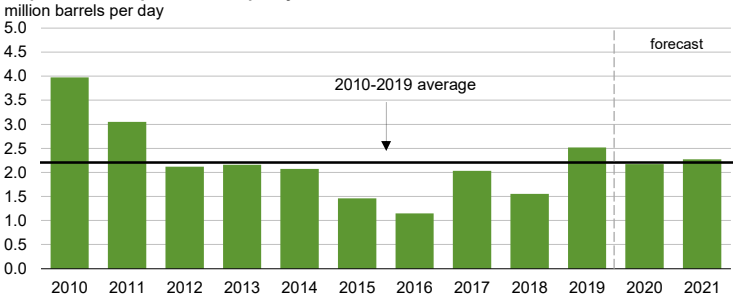
Source: Short-Term Energy Outlook, April 2020


Annual change in world liquid fuels consumption
million barrels per day
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
forecast
1.2
0.8
-5.2
6.4
2018
2019
2020
2021
world
other non-OECD
Middle East
India
China
other OECD
United States
Source: Short-Term Energy Outlook, April 2020
eia


World crude oil and liquid fuels production
million barrels per day
120
110
100
90
80
70
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
OPEC countries
non-OPEC
Eurasia
North America
Latin America
other non-OPEC
forecast
2.7
net change
-0.3
-1.2
0.8
2018
2019
2020
2021
Source: Short-Term Energy Outlook, April 2020
eia

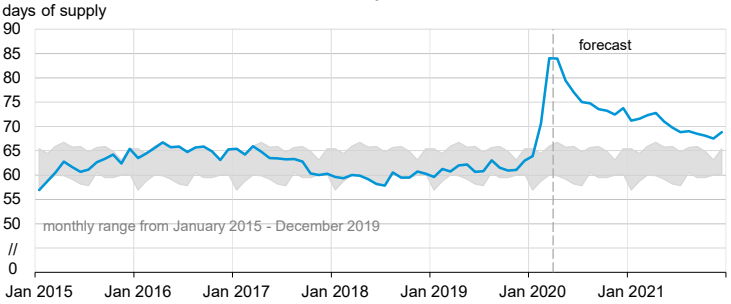

World liquid fuels production
million barrels per day
120
100
80
60
40
20
0
forecast
non-OPEC
Organization of the Petroleum Exporting Countries (OPEC)
2018
2019
2020
2021
World liquid fuels consumption
million barrels per day
120
100
80
60
40
20
0
forecast
non-OECD
Organization for Economic Cooperation and Development (OECD)
2018
2019
2020
2021
Source: Short-Term Energy Outlook, April 2020
eia

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



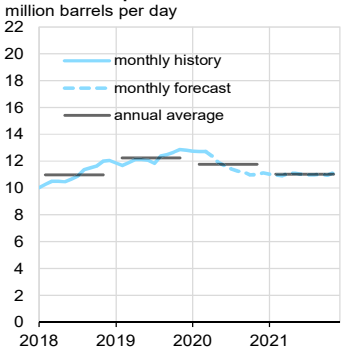
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: Short-Term Energy Outlook, April 2020

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

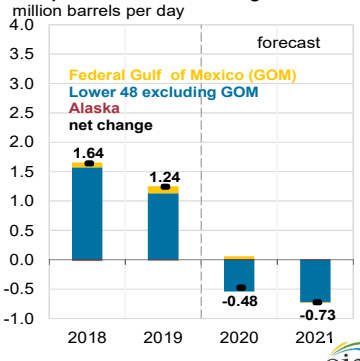


Source: Short-Term Energy Outlook, April 2020

U.S. crude oil production
million barrels per day

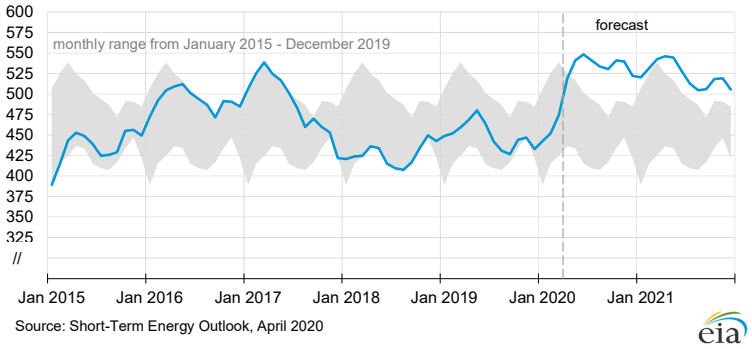


Components of annual change
million barrels per day



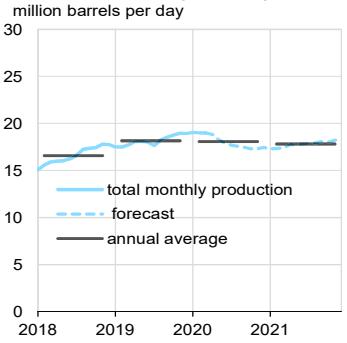
Source: Short-Term Energy Outlook, April 2020

U.S. commercial crude oil inventories
million barrels



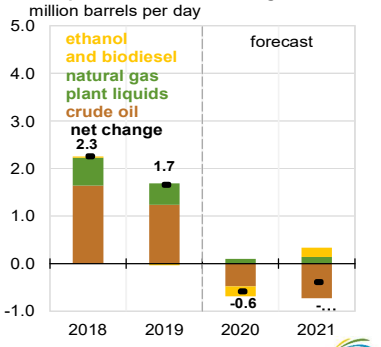
Source: Short-Term Energy Outlook, April 2020

U.S. crude oil and liquid fuels production
million barrels per day

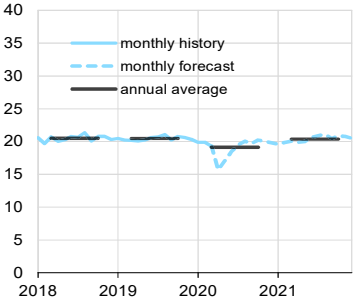


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million barrels per day

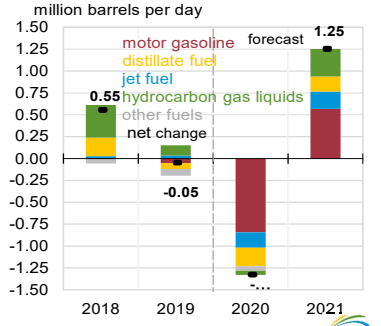


U.S. liquid fuels product supplied (consumption)
million barrels per day

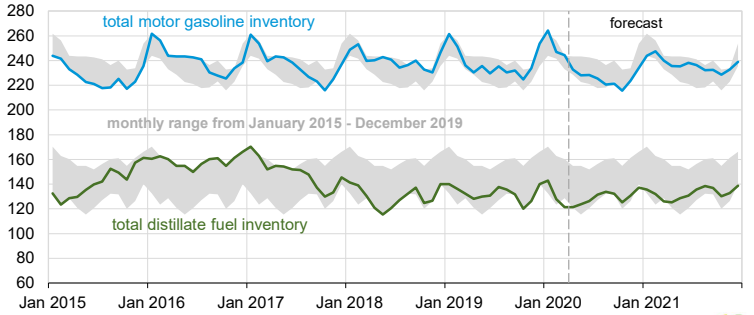


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million barrels per day

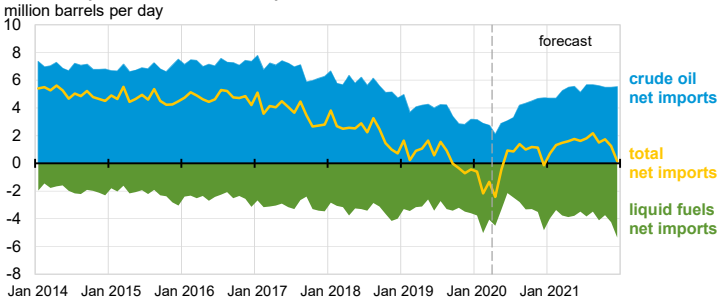


U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, April 2020

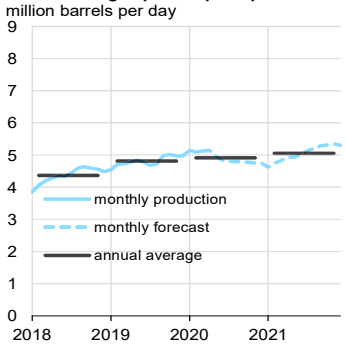
U.S. net imports of crude oil and liquid fuels
million barrels per day



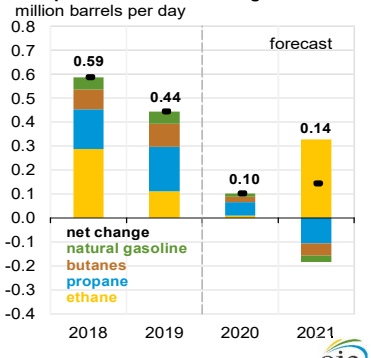
Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, April 2020

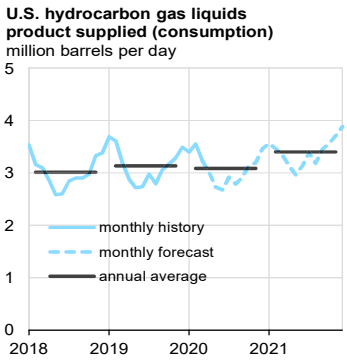
U.S. natural gas plant liquids production
million barrels per day

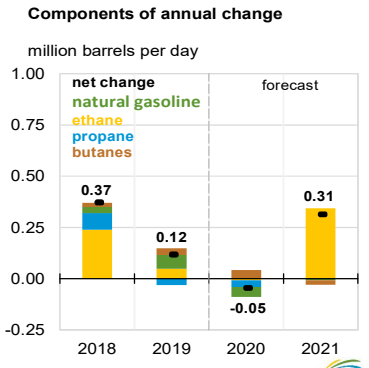


Components of annual change
million barrels per day

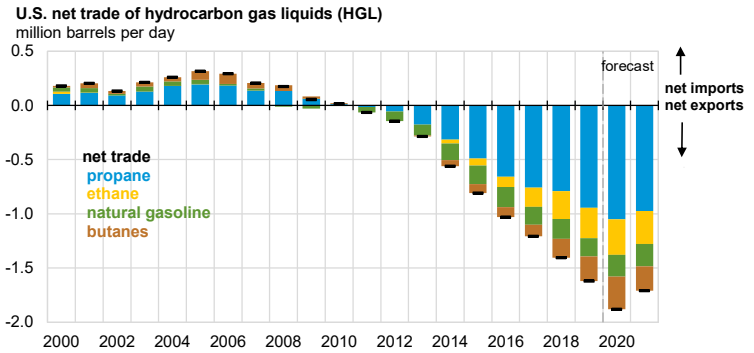


Source: Short-Term Energy Outlook, April 2020

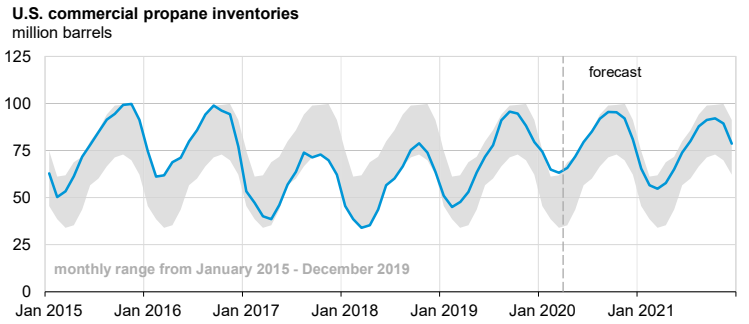




Source: Short-Term Energy Outlook, April 2020

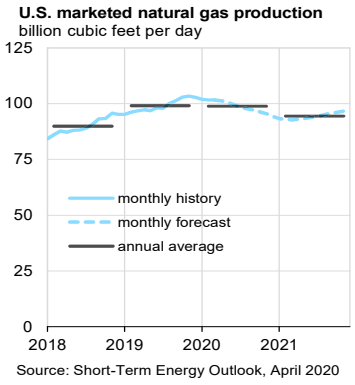


Source: Short-Term Energy Outlook, April 2020

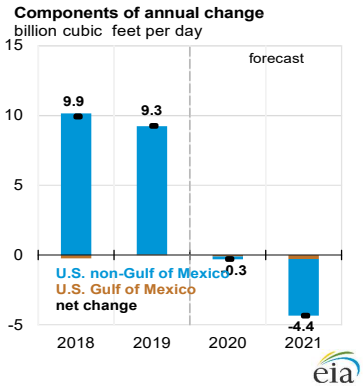


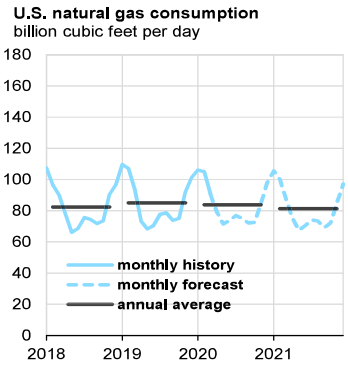
Note: Excludes refinery propylene.

Source: Short-Term Energy Outlook, April 2020

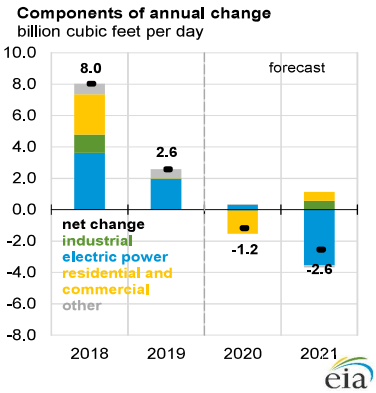


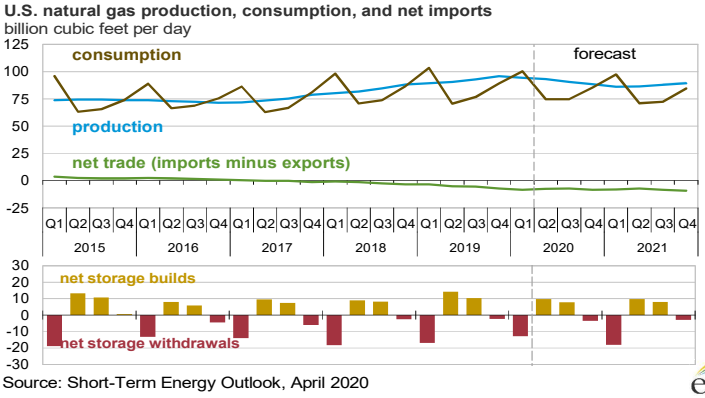
Source: Short-Term Energy Outlook, April 2020





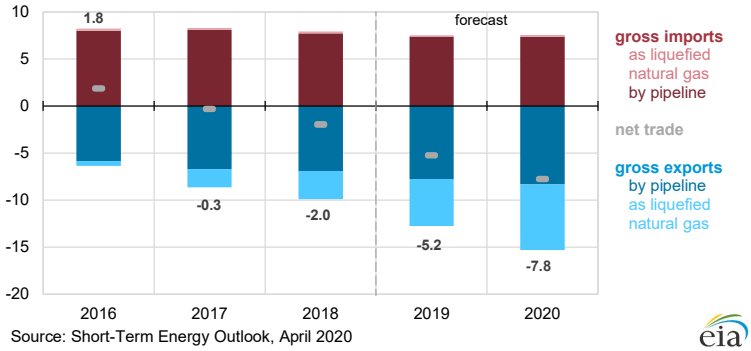
Source: Short-Term Energy Outlook, April 2020





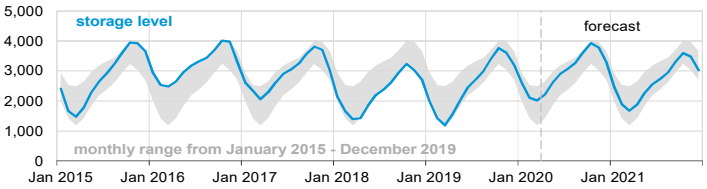
Source: Short-Term Energy Outlook, April 2020

U.S. annual natural gas trade
billion cubic feet per day

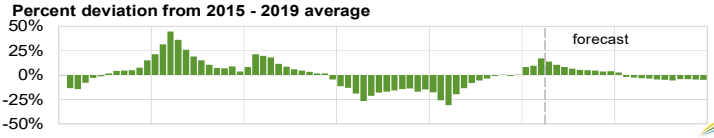


Source: Short-Term Energy Outlook, April 2020

U.S. working natural gas in storage
billion cubic feet

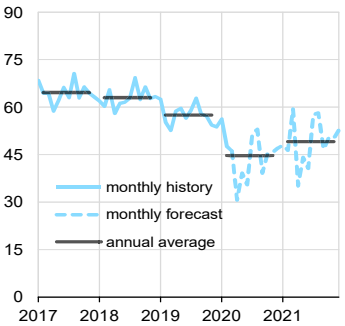


Percent deviation from 2015 - 2019 average



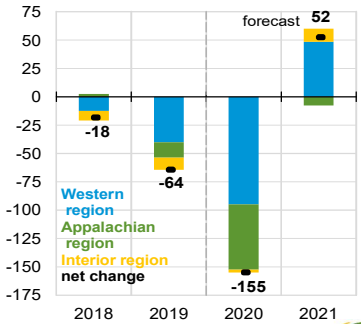
Source: Short-Term Energy Outlook, April 2020

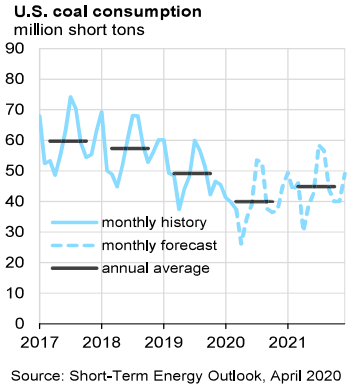
U.S. coal production
million short tons

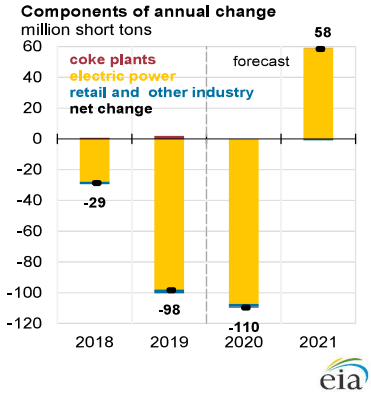


Source: Short-Term Energy Outlook, April 2020

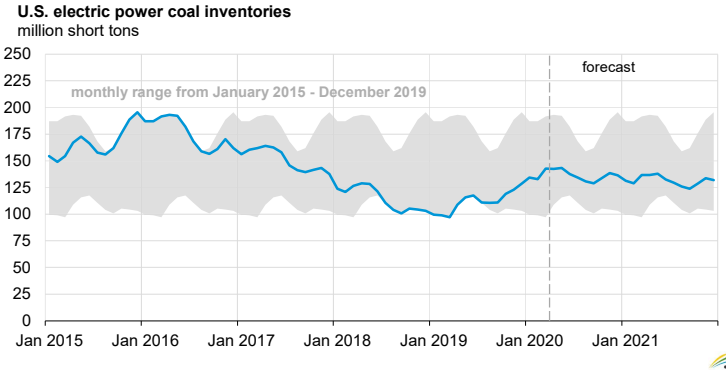
Components of annual change
million short tons



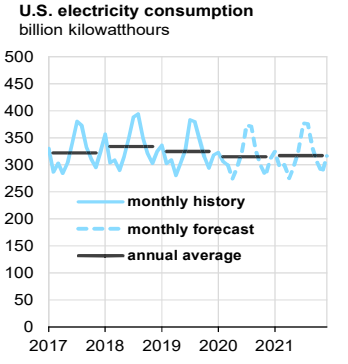


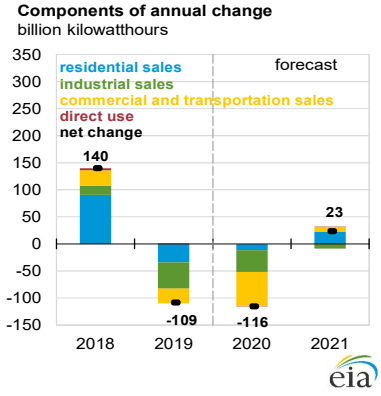


Source: Short-Term Energy Outlook, April 2020



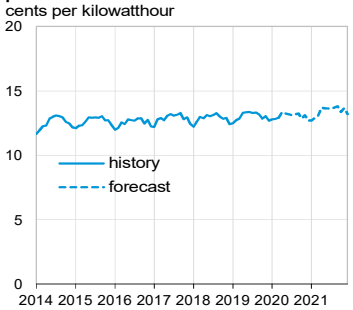
Source: Short-Term Energy Outlook, April 2020



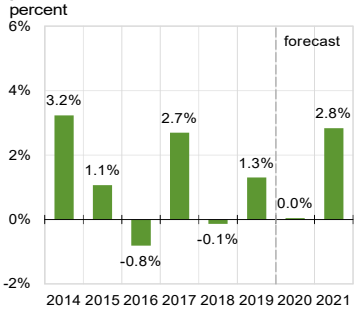


Source: Short-Term Energy Outlook, April 2020

U.S. monthly residential electricity price
cents per kilowatthour

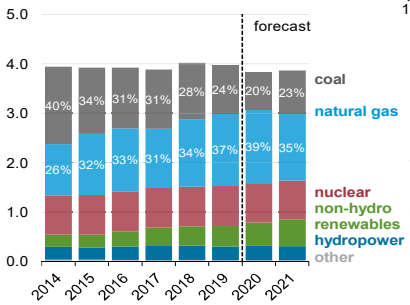


Annual growth in residential electricity prices
percent

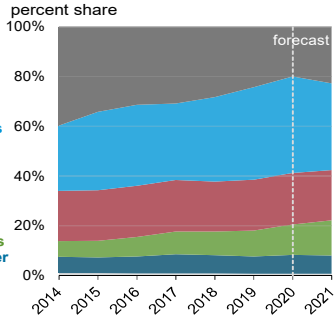


Source: Short-Term Energy Outlook, April 2020

U.S. electricity generation by fuel, all sectors
trillion kilowatthours

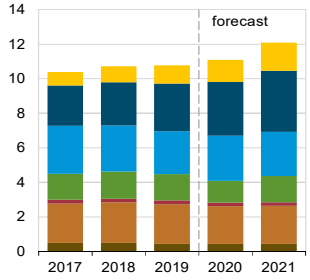


percent share

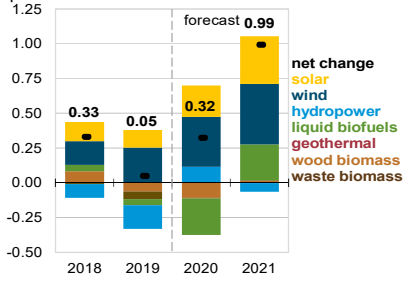


Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: Short-Term Energy Outlook, April 2020

U.S. renewable energy supply
quadrillion British thermal units

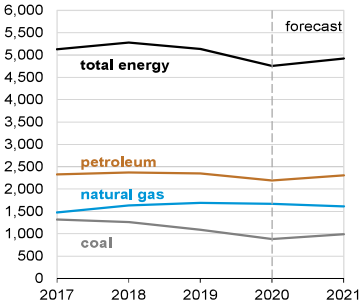


Components of annual change
quadrillion British thermal units

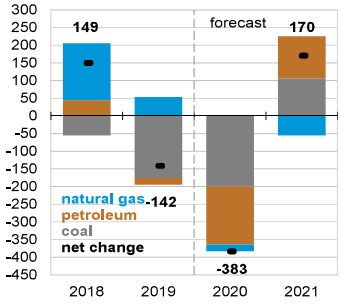


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, April 2020

U.S. annual carbon emissions by source
million metric tons



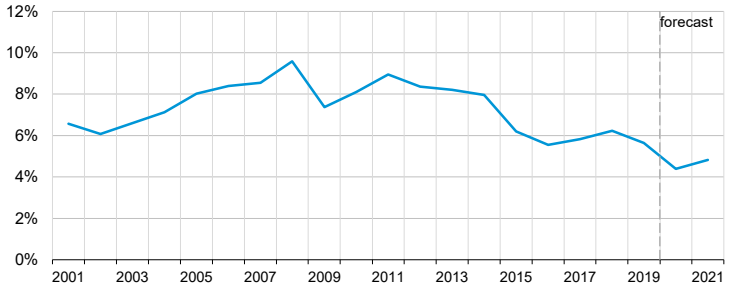
Components of annual change
million metric tons



Source: Short-Term Energy Outlook, April 2020

eia

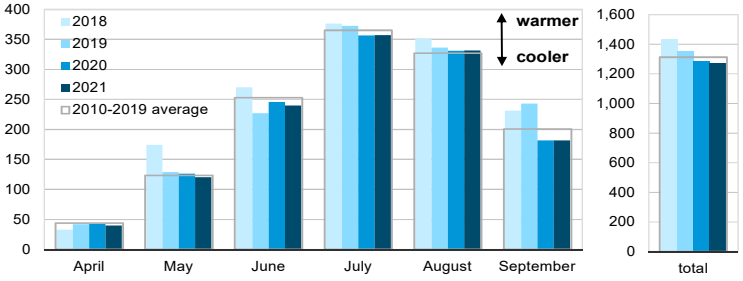
U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, April 2020

eia

U.S. summer cooling degree days
population-weighted

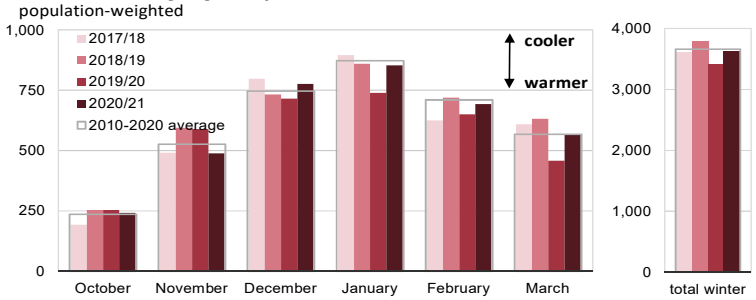


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, April 2020

eia

U.S. winter heating degree days
population-weighted

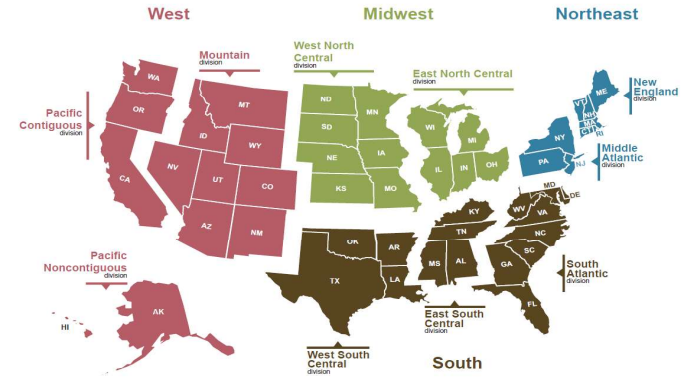


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, April 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table SF01. U.S. Motor Gasoline Summer Outlook

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019			2020			Year-over-year Change (percent)		
	Q2	Q3	Season	Q2	Q3	Season	Q2	Q3	Season
Nominal Prices (dollars per gallon)									
WTI Crude Oil (Spot) [a]	**1.43**	**1.34**	**1.38**	*0.48*	*0.56*	*0.52*	*-66.4*	*-58.4*	*-62.5*
Brent Crude Oil Price (Spot)	**1.64**	**1.47**	**1.56**	*0.54*	*0.64*	*0.59*	*-66.9*	*-56.5*	*-62.0*
U.S. Refiner Average Crude Oil Cost	**1.51**	**1.40**	**1.46**	*0.45*	*0.55*	*0.50*	*-70.1*	*-60.9*	*-65.7*
Wholesale Gasoline Price [b]	**2.05**	**1.89**	**1.97**	*0.69*	*0.93*	*0.83*	*-66.2*	*-50.6*	*-58.0*
Wholesale Diesel Fuel Price [b]	**2.03**	**1.92**	**1.97**	*0.99*	*1.07*	*1.03*	*-51.1*	*-44.3*	*-47.8*
Regular Gasoline Retail Price [c]	**2.79**	**2.65**	**2.72**	*1.48*	*1.67*	*1.58*	*-46.9*	*-37.2*	*-41.8*
Diesel Fuel Retail Price [c]	**3.12**	**3.02**	**3.07**	*2.14*	*2.12*	*2.13*	*-31.7*	*-30.0*	*-30.8*
Gasoline Consumption/Supply (million barrels per day)									
Total Consumption	**9.476**	**9.495**	**9.486**	*7.137*	*8.848*	*7.997*	*-24.7*	*-6.8*	*-15.7*
Total Refinery and Blender Net Supply [d]	**8.282**	**8.491**	**8.387**	*6.237*	*7.545*	*6.895*	*-24.7*	*-11.1*	*-17.8*
Fuel Ethanol Blending	**0.966**	**0.948**	**0.957**	*0.702*	*0.821*	*0.762*	*-27.3*	*-13.4*	*-20.4*
Total Stock Withdrawal [e]	**0.069**	**-0.023**	**0.023**	*0.178*	*0.075*	*0.126*			
Net Imports [e]	**0.159**	**0.079**	**0.119**	*0.020*	*0.407*	*0.214*			
Refinery Utilization (percent)	**91.2**	**92.7**	**91.9**	*75.1*	*84.5*	*79.8*			
Total Gasoline Stocks (million barrels)									
Beginning	**236.1**	**229.7**	**236.1**	*244.5*	*228.3*	*244.5*			
Ending	**229.7**	**231.9**	**231.9**	*228.3*	*221.4*	*221.4*			
Economic Indicators (annualized billion 2012 dollars)									
Real GDP	**19,022**	**19,121**	**19,071**	*18,502*	*18,423*	*18,463*	*-2.7*	*-3.6*	*-3.2*
Real Income	**14,934**	**15,012**	**14,973**	*16,722*	*14,779*	*15,750*	*12.0*	*-1.6*	*5.2*

[a] Spot Price of West Texas Intermediate (WTI) crude oil.

[b] Price product sold by refiners to resellers.

[c] Average retail price including taxes.

[d] Finished gasoline net production minus gasoline blend components net inputs minus fuel ethanol blending and supply adjustment.

[e] Total stock withdrawal and net imports includes both finished gasoline and gasoline blend components.

GDP = gross domestic product.

Notes: Minor discrepancies with other Energy Information Administration (EIA) published historical data are due to rounding. Historical data are printed in bold. Forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: latest data available from: EIA, *Petroleum Supply Monthly* , DOE/EIA-0109; Monthly Energy Review, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis (GDP and income); Refinitiv (WTI and Brent crude oil spot prices). Macroeconomic projections are based on IHS Markit Macroeconomic Forecast Model.

Table SF02. Average Summer Residential Electricity Usage, Prices and Expenditures

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2015	2016	2017	2018	2019	Forecast 2020	Change from 2019
United States							
Usage (kWh)	3,165	3,327	3,126	3,264	3,128	**3,205**	2.5%
Price (cents/kWh)	12.92	12.77	13.14	13.15	13.32	**13.16**	-1.3%
Expenditures	$409	$425	$411	$429	$417	**$422**	1.2%
New England							
Usage (kWh)	1,982	2,108	1,986	2,130	2,033	**2,071**	1.8%
Price (cents/kWh)	18.65	18.34	19.25	20.17	20.70	**20.19**	-2.5%
Expenditures	$370	$386	$382	$429	$421	**$418**	-0.7%
Middle Atlantic							
Usage (kWh)	2,376	2,549	2,328	2,455	2,434	**2,441**	0.3%
Price (cents/kWh)	16.37	15.90	16.39	16.36	16.16	**15.82**	-2.2%
Expenditures	$389	$405	$382	$402	$393	**$386**	-1.9%
East North Central							
Usage (kWh)	2,565	2,902	2,585	2,808	2,634	**2,680**	1.7%
Price (cents/kWh)	13.27	13.08	13.43	13.32	13.42	**13.43**	0.1%
Expenditures	$340	$380	$347	$374	$354	**$360**	1.8%
West North Central							
Usage (kWh)	3,075	3,302	3,039	3,272	2,974	**3,179**	6.9%
Price (cents/kWh)	12.65	12.85	13.41	13.32	13.16	**13.28**	0.9%
Expenditures	$389	$424	$408	$436	$392	**$422**	7.9%
South Atlantic							
Usage (kWh)	3,999	4,147	3,852	3,894	3,887	**3,907**	0.5%
Price (cents/kWh)	12.04	11.79	12.09	11.87	12.16	**11.90**	-2.1%
Expenditures	$482	$489	$466	$462	$473	**$465**	-1.6%
East South Central							
Usage (kWh)	4,279	4,413	4,038	4,315	4,199	**4,321**	2.9%
Price (cents/kWh)	10.91	10.93	11.36	11.19	11.50	**11.62**	1.1%
Expenditures	$467	$482	$459	$483	$483	**$502**	4.0%
West South Central							
Usage (kWh)	4,538	4,605	4,362	4,685	4,388	**4,621**	5.3%
Price (cents/kWh)	11.03	10.58	10.80	10.87	11.35	**10.93**	-3.7%
Expenditures	$501	$487	$471	$509	$498	**$505**	1.4%
Mountain							
Usage (kWh)	3,298	3,437	3,384	3,377	3,221	**3,288**	2.1%
Price (cents/kWh)	12.33	12.04	12.24	12.20	12.25	**12.21**	-0.4%
Expenditures	$407	$414	$414	$412	$395	**$401**	1.7%
Pacific							
Usage (kWh)	2,051	2,097	2,193	2,190	1,985	**2,030**	2.3%
Price (cents/kWh)	15.33	16.00	16.35	17.05	17.15	**17.50**	2.0%
Expenditures	$314	$336	$359	$373	$340	**$355**	4.4%

Notes: kWh = kilowatthours. All data cover the 3-month period of June-August of each year. Usage amounts represent total residential retail electricity sales per customer. Prices and expenditures are not adjusted for inflation.

Source: EIA Form-861 and Form-826 databases, Short-Term Energy Outlook.

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.81**	**12.10**	**12.23**	**12.78**	**12.73**	*11.98*	*11.29*	*11.04*	*10.96*	*11.08*	*11.00*	*11.08*	**12.23**	*11.76*	*11.03*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**95.88**	**94.47**	*93.24*	*90.71*	*88.43*	*86.18*	*86.49*	*87.95*	*89.26*	**92.19**	*91.70*	*87.48*
Coal Production															
(million short tons)	**170**	**175**	**180**	**165**	**150**	*105*	*144*	*138*	*154*	*120*	*162*	*153*	**690**	*537*	*589*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.30**	**20.31**	**20.67**	**20.57**	**19.70**	*17.07*	*19.74*	*20.02*	*19.83*	*20.17*	*20.81*	*20.72*	**20.46**	*19.13*	*20.39*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.74**	**89.33**	**100.36**	*74.79*	*74.76*	*85.34*	*97.34*	*71.00*	*72.29*	*84.56*	**84.97**	*83.79*	*81.24*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**134**	**119**	*99*	*144*	*119*	*139*	*111*	*159*	*129*	**590**	*480*	*538*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.02**	**12.06**	**10.07**	**10.19**	*9.84*	*11.61*	*9.66*	*10.21*	*9.86*	*11.76*	*9.84*	**10.67**	*10.33*	*10.42*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.79**	**2.90**	*3.07*	*2.86*	*2.95*	*3.09*	*3.41*	*3.15*	*3.14*	**11.48**	*11.77*	*12.78*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.54**	**23.44**	**24.98**	**25.26**	**25.15**	*21.36*	*23.59*	*24.16*	*25.29*	*22.91*	*24.24*	*24.59*	**100.22**	*94.26*	*97.03*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.86**	**45.36**	*20.16*	*23.44*	*29.00*	*36.70*	*40.84*	*43.16*	*43.50*	**57.02**	*29.34*	*41.12*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.89**	*1.72*	*2.09*	*2.76*	*3.10*	*2.86*	*2.93*	*3.03*	**2.57**	*2.11*	*2.98*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**2.02**	*2.01*	*1.99*	*2.00*	*2.03*	*2.05*	*2.04*	*2.04*	**2.02**	*2.00*	*2.04*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,220**	**19,176**	*18,502*	*18,423*	*18,669*	*19,052*	*19,352*	*19,523*	*19,642*	**19,073**	*18,693*	*19,392*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.3**	**1.3**	*-2.7*	*-3.6*	*-2.9*	*-0.6*	*4.6*	*6.0*	*5.2*	**2.3**	*-2.0*	*3.7*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	*113.1*	*113.7*	*114.3*	*114.5*	*114.9*	*115.6*	*116.1*	**112.3**	*113.6*	*115.3*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	*0.9*	*0.9*	*1.1*	*1.0*	*1.6*	*1.7*	*1.6*	**1.8**	*1.1*	*1.5*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,074**	**15,263**	*16,722*	*14,779*	*14,801*	*14,986*	*15,150*	*15,299*	*15,417*	**14,975**	*15,391*	*15,213*
Percent change from prior year	**3.3**	**3.0**	**2.7**	**2.4**	**2.6**	*12.0*	*-1.6*	*-1.8*	*-1.8*	*-9.4*	*3.5*	*4.2*	**2.9**	*2.8*	*-1.2*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**105.9**	*103.1*	*98.5*	*98.0*	*100.8*	*103.9*	*106.0*	*107.1*	**106.0**	*101.4*	*104.5*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-0.6**	*-2.4*	*-7.0*	*-7.3*	*-4.7*	*0.8*	*7.6*	*9.3*	**0.0**	*-4.3*	*3.1*
Weather															
U.S. Heating Degree-Days	**2,210**	**481**	**56**	**1,558**	**1,848**	*449*	*70*	*1,506*	*2,111*	*490*	*70*	*1,504*	**4,306**	*3,873*	*4,174*
U.S. Cooling Degree-Days	**45**	**398**	**952**	**105**	**66**	*415*	*869*	*95*	*43*	*400*	*871*	*96*	**1,500**	*1,445*	*1,409*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.86**	**45.36**	*20.16*	*23.44*	*29.00*	*36.70*	*40.84*	*43.16*	*43.50*	**57.02**	*29.34*	*41.12*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.30**	**50.00**	*22.83*	*26.94*	*33.00*	*41.20*	*45.34*	*47.66*	*48.00*	**64.37**	*33.04*	*45.62*
U.S. Imported Average	**55.25**	**62.98**	**57.30**	**55.57**	**42.58**	*16.53*	*20.58*	*25.96*	*34.12*	*38.32*	*40.67*	*41.01*	**57.94**	*26.10*	*38.70*
U.S. Refiner Average Acquisition Cost	**56.93**	**63.55**	**58.67**	**58.05**	**45.24**	*19.02*	*22.94*	*28.48*	*35.51*	*39.84*	*42.17*	*42.51*	**59.33**	*29.29*	*40.09*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**144**	*69*	*93*	*105*	*123*	*151*	*151*	*138*	**186**	*104*	*141*
Diesel Fuel	**192**	**203**	**192**	**197**	**156**	*99*	*107*	*120*	*133*	*151*	*156*	*157*	**196**	*120*	*150*
Heating Oil	**189**	**195**	**184**	**191**	**159**	*92*	*95*	*113*	*134*	*147*	*154*	*156*	**190**	*123*	*143*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**157**	*92*	*106*	*117*	*133*	*150*	*155*	*157*	**197**	*119*	*149*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**162**	**151**	*78*	*85*	*101*	*86*	*95*	*99*	*101*	**158**	*101*	*95*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	*148*	*167*	*180*	*193*	*227*	*229*	*214*	**260**	*186*	*216*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**250**	*160*	*179*	*193*	*206*	*241*	*242*	*228*	**269**	*197*	*230*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	*214*	*212*	*226*	*232*	*251*	*258*	*262*	**306**	*235*	*251*
Heating Oil	**300**	**305**	**290**	**301**	**287**	*217*	*199*	*221*	*233*	*243*	*252*	*266*	**300**	*245*	*247*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.96**	*1.78*	*2.17*	*2.86*	*3.21*	*2.97*	*3.04*	*3.15*	**2.66**	*2.19*	*3.09*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.89**	*1.72*	*2.09*	*2.76*	*3.10*	*2.86*	*2.93*	*3.03*	**2.57**	*2.11*	*2.98*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.74**	**3.43**	*2.72*	*2.90*	*3.85*	*4.47*	*3.93*	*3.91*	*4.34*	**3.91**	*3.26*	*4.18*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.22**	**7.16**	*7.34*	*7.70*	*7.21*	*7.44*	*8.08*	*8.57*	*7.85*	**7.62**	*7.27*	*7.79*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.88**	**9.47**	*11.79*	*16.26*	*9.93*	*9.31*	*12.30*	*17.14*	*10.61*	**10.56**	*10.45*	*10.66*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**2.02**	*2.01*	*1.99*	*2.00*	*2.03*	*2.05*	*2.04*	*2.04*	**2.02**	*2.00*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.79**	**2.31**	*1.71*	*2.06*	*3.04*	*3.63*	*3.05*	*3.07*	*3.40*	**2.88**	*2.24*	*3.26*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.52**	**11.97**	*7.58*	*5.79*	*6.32*	*7.57*	*9.48*	*9.25*	*9.25*	**12.72**	*7.75*	*8.91*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.03**	*8.42*	*8.59*	*9.67*	*10.54*	*11.91*	*12.24*	*12.45*	**15.16**	*9.91*	*11.77*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.45**	*6.55*	*7.25*	*6.78*	*6.72*	*6.88*	*7.52*	*6.89*	**6.83**	*6.77*	*7.02*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.33**	*10.43*	*10.79*	*10.41*	*10.35*	*10.70*	*11.20*	*10.84*	**10.66**	*10.50*	*10.79*
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.84**	*13.25*	*13.18*	*12.87*	*12.88*	*13.65*	*13.70*	*13.39*	**13.04**	*13.04*	*13.41*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.01**	**31.26**	**31.40**	**32.68**	**32.93**	*31.05*	*30.27*	*30.52*	*30.64*	*30.98*	*31.12*	*31.59*	**31.59**	*31.19*	*31.08*
U.S. (50 States)	**18.85**	**19.32**	**19.42**	**20.20**	**20.36**	*18.91*	*18.31*	*18.23*	*18.18*	*18.64*	*18.82*	*19.05*	**19.45**	*18.95*	*18.68*
Canada	**5.44**	**5.47**	**5.47**	**5.62**	**5.65**	*5.28*	*5.32*	*5.39*	*5.58*	*5.52*	*5.50*	*5.56*	**5.50**	*5.41*	*5.54*
Mexico	**1.91**	**1.91**	**1.92**	**1.92**	**1.92**	*1.82*	*1.80*	*1.77*	*1.76*	*1.80*	*1.80*	*1.79*	**1.91**	*1.83*	*1.79*
Other OECD	**4.82**	**4.56**	**4.59**	**4.93**	**5.00**	*5.04*	*4.84*	*5.13*	*5.11*	*5.02*	*4.99*	*5.19*	**4.72**	*5.00*	*5.08*
Non-OECD	**69.29**	**69.05**	**68.67**	**68.93**	**67.18**	*68.37*	*68.46*	*68.79*	*68.38*	*69.12*	*69.62*	*69.33*	**68.98**	*68.20*	*69.12*
OPEC	**35.45**	**34.90**	**33.91**	**34.36**	**33.17**	*34.01*	*33.61*	*34.07*	*34.31*	*34.32*	*34.33*	*34.31*	**34.65**	*33.72*	*34.32*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.10**	*28.95*	*28.55*	*29.02*	*29.27*	*29.27*	*29.27*	*29.25*	**29.27**	*28.66*	*29.27*
Other Liquids (b)	**5.51**	**5.43**	**5.25**	**5.34**	**5.07**	*5.06*	*5.06*	*5.06*	*5.04*	*5.05*	*5.05*	*5.06*	**5.38**	*5.06*	*5.05*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.68**	*14.64*	*14.66*	*14.74*	*14.69*	*14.55*	*14.58*	*14.63*	**14.64**	*14.68*	*14.61*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.87**	*4.73*	*4.83*	*4.91*	*4.83*	*4.86*	*4.86*	*4.90*	**4.89**	*4.83*	*4.86*
Other Non-OECD	**14.08**	**14.80**	**15.28**	**15.02**	**14.46**	*14.99*	*15.36*	*15.07*	*14.56*	*15.40*	*15.85*	*15.49*	**14.80**	*14.97*	*15.33*
Total World Supply	**100.30**	**100.31**	**100.06**	**101.61**	**100.11**	*99.42*	*98.74*	*99.31*	*99.01*	*100.10*	*100.74*	*100.92*	**100.57**	*99.39*	*100.20*
Non-OPEC Supply	**64.85**	**65.41**	**66.16**	**67.25**	**66.94**	*65.41*	*65.12*	*65.24*	*64.70*	*65.78*	*66.41*	*66.60*	**65.92**	*65.68*	*65.88*
Consumption (million barrels per day) (c)															
OECD	**47.40**	**46.70**	**47.84**	**47.49**	**44.42**	*39.08*	*45.60*	*46.65*	*46.17*	*45.84*	*47.19*	*47.25*	**47.36**	*43.95*	*46.62*
U.S. (50 States)	**20.30**	**20.31**	**20.67**	**20.57**	**19.70**	*17.07*	*19.74*	*20.02*	*19.83*	*20.17*	*20.81*	*20.72*	**20.46**	*19.13*	*20.39*
U.S. Territories	**0.12**	**0.11**	**0.12**	**0.13**	**0.12**	*0.11*	*0.12*	*0.13*	*0.16*	*0.14*	*0.14*	*0.15*	**0.12**	*0.12*	*0.15*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.33**	*2.04*	*2.44*	*2.47*	*2.48*	*2.43*	*2.53*	*2.51*	**2.50**	*2.32*	*2.49*
Europe	**13.90**	**14.03**	**14.54**	**13.94**	**12.65**	*11.52*	*13.87*	*14.04*	*13.53*	*13.74*	*14.24*	*13.95*	**14.10**	*13.02*	*13.87*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.57**	*2.72*	*3.23*	*3.57*	*3.76*	*3.08*	*3.15*	*3.46*	**3.67**	*3.27*	*3.36*
Other OECD	**6.55**	**6.40**	**6.49**	**6.55**	**6.06**	*5.63*	*6.21*	*6.43*	*6.41*	*6.27*	*6.31*	*6.45*	**6.50**	*6.08*	*6.36*
Non-OECD	**52.58**	**53.55**	**53.57**	**53.84**	**49.97**	*48.96*	*53.04*	*54.26*	*54.41*	*55.54*	*55.61*	*55.66*	**53.39**	*51.57*	*55.31*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	**4.77**	*4.56*	*5.03*	*5.03*	*4.95*	*5.01*	*5.40*	*5.25*	**5.01**	*4.85*	*5.15*
Europe	**0.76**	**0.76**	**0.78**	**0.78**	**0.77**	*0.77*	*0.79*	*0.79*	*0.78*	*0.78*	*0.80*	*0.80*	**0.77**	*0.78*	*0.79*
China	**14.38**	**14.67**	**14.39**	**14.61**	**12.31**	*13.11*	*14.36*	*14.87*	*15.29*	*15.50*	*15.20*	*15.44*	**14.51**	*13.67*	*15.36*
Other Asia	**13.95**	**13.99**	**13.64**	**13.96**	**13.51**	*12.62*	*13.38*	*14.27*	*14.61*	*14.77*	*14.34*	*14.71*	**13.88**	*13.45*	*14.61*
Other Non-OECD	**18.66**	**19.22**	**19.59**	**19.38**	**18.61**	*17.90*	*19.47*	*19.30*	*18.78*	*19.48*	*19.87*	*19.47*	**19.21**	*18.82*	*19.40*
Total World Consumption	**99.98**	**100.24**	**101.41**	**101.33**	**94.40**	*88.04*	*98.64*	*100.91*	*100.58*	*101.38*	*102.80*	*102.92*	**100.75**	*95.52*	*101.93*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.26**	**-0.64**	**0.05**	**0.29**	**-0.08**	*-1.37*	*0.13*	*0.90*	*0.26*	*-0.34*	*-0.07*	*0.46*	**-0.01**	*-0.10*	*0.08*
Other OECD	**-0.21**	**0.02**	**-0.16**	**0.30**	**-1.85**	*-3.08*	*-0.07*	*0.23*	*0.43*	*0.51*	*0.69*	*0.50*	**-0.01**	*-1.19*	*0.53*
Other Stock Draws and Balance	**-0.37**	**0.56**	**1.45**	**-0.86**	**-3.79**	*-6.93*	*-0.16*	*0.47*	*0.88*	*1.11*	*1.45*	*1.04*	**0.19**	*-2.59*	*1.12*
Total Stock Draw	**-0.32**	**-0.06**	**1.34**	**-0.27**	**-5.72**	*-11.37*	*-0.10*	*1.60*	*1.57*	*1.28*	*2.06*	*2.00*	**0.18**	*-3.87*	*1.73*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,289**	*1,383*	*1,371*	*1,306*	*1,301*	*1,334*	*1,342*	*1,302*	**1,282**	*1,306*	*1,302*
OECD Commercial Inventory	**2,858**	**2,919**	**2,928**	**2,884**	**3,059**	*3,434*	*3,429*	*3,343*	*3,298*	*3,286*	*3,230*	*3,144*	**2,884**	*3,343*	*3,144*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.19**	**26.70**	**26.81**	**27.75**	**27.93**	*26.01*	*25.44*	*25.39*	*25.52*	*25.96*	*26.13*	*26.40*	**26.87**	*26.19*	*26.00*
Canada	**5.44**	**5.47**	**5.47**	**5.62**	**5.65**	*5.28*	*5.32*	*5.39*	*5.58*	*5.52*	*5.50*	*5.56*	**5.50**	*5.41*	*5.54*
Mexico	**1.91**	**1.91**	**1.92**	**1.92**	**1.92**	*1.82*	*1.80*	*1.77*	*1.76*	*1.80*	*1.80*	*1.79*	**1.91**	*1.83*	*1.79*
United States	**18.85**	**19.32**	**19.42**	**20.20**	**20.36**	*18.91*	*18.31*	*18.23*	*18.18*	*18.64*	*18.82*	*19.05*	**19.45**	*18.95*	*18.68*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**5.83**	*6.56*	*6.88*	*6.53*	*6.03*	*6.90*	*7.35*	*6.99*	**6.23**	*6.45*	*6.82*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.67**	*0.68*	*0.68*	*0.68*	*0.67*	*0.69*	*0.70*	*0.69*	**0.69**	*0.68*	*0.69*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.25**	*3.95*	*4.27*	*3.92*	*3.42*	*4.29*	*4.74*	*4.38*	**3.67**	*3.85*	*4.21*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.89**	*0.88*	*0.87*	*0.87*	*0.88*	*0.88*	*0.86*	*0.87*	**0.92**	*0.88*	*0.87*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.53**	*0.53*	*0.53*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.49**	*0.51*	*0.52*	*0.53*	*0.52*	*0.51*	*0.52*	*0.52*	**0.42**	*0.51*	*0.52*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.49**	*4.53*	*4.28*	*4.56*	*4.54*	*4.45*	*4.43*	*4.63*	**4.12**	*4.47*	*4.51*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.08**	*2.16*	*2.08*	*2.18*	*2.17*	*2.09*	*2.13*	*2.21*	**1.75**	*2.13*	*2.15*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.23**	*1.22*	*1.03*	*1.19*	*1.18*	*1.19*	*1.12*	*1.24*	**1.17**	*1.17*	*1.18*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.68**	*14.64*	*14.66*	*14.74*	*14.69*	*14.55*	*14.58*	*14.63*	**14.64**	*14.68*	*14.61*
Azerbaijan	**0.82**	**0.79**	**0.78**	**0.77**	**0.77**	*0.76*	*0.74*	*0.75*	*0.74*	*0.74*	*0.73*	*0.73*	**0.79**	*0.75*	*0.73*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.01**	*1.97*	*2.00*	*2.05*	*2.05*	*1.93*	*1.97*	*2.02*	**1.97**	*2.01*	*1.99*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.52**	*11.52*	*11.53*	*11.56*	*11.54*	*11.51*	*11.51*	*11.51*	**11.49**	*11.53*	*11.52*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.25**	*0.25*	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.11**	**3.11**	**3.12**	**3.12**	**3.23**	*3.21*	*3.21*	*3.21*	*3.27*	*3.27*	*3.27*	*3.27*	**3.11**	*3.22*	*3.27*
Oman	**0.98**	**0.98**	**0.98**	**0.98**	**1.02**	*1.00*	*1.00*	*1.00*	*1.02*	*1.02*	*1.02*	*1.02*	**0.98**	*1.01*	*1.02*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	*2.06*	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.46**	**9.44**	**9.33**	**9.42**	**9.31**	*9.00*	*9.17*	*9.32*	*9.24*	*9.25*	*9.25*	*9.27*	**9.41**	*9.20*	*9.25*
Australia	**0.40**	**0.44**	**0.47**	**0.49**	**0.48**	*0.49*	*0.51*	*0.52*	*0.52*	*0.52*	*0.51*	*0.50*	**0.45**	*0.50*	*0.51*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.87**	*4.73*	*4.83*	*4.91*	*4.83*	*4.86*	*4.86*	*4.90*	**4.89**	*4.83*	*4.86*
India	**1.01**	**0.99**	**0.98**	**0.99**	**0.93**	*0.80*	*0.82*	*0.89*	*0.92*	*0.92*	*0.93*	*0.93*	**0.99**	*0.86*	*0.92*
Indonesia	**0.94**	**0.90**	**0.91**	**0.91**	**0.90**	*0.89*	*0.88*	*0.87*	*0.86*	*0.85*	*0.85*	*0.85*	**0.92**	*0.89*	*0.85*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.70**	*0.67*	*0.69*	*0.69*	*0.69*	*0.68*	*0.68*	*0.67*	**0.71**	*0.69*	*0.68*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	**0.22**	*0.22*	*0.22*	*0.21*	*0.21*	*0.21*	*0.21*	*0.21*	**0.24**	*0.22*	*0.21*
Africa	**1.52**	**1.54**	**1.55**	**1.55**	**1.48**	*1.48*	*1.48*	*1.48*	*1.41*	*1.41*	*1.41*	*1.41*	**1.54**	*1.48*	*1.41*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	**0.60**	*0.60*	*0.60*	*0.60*	*0.56*	*0.56*	*0.56*	*0.56*	**0.65**	*0.60*	*0.56*
South Sudan	**0.17**	**0.18**	**0.18**	**0.18**	**0.19**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.19*	*0.19*
Total non-OPEC liquids	**64.85**	**65.41**	**66.16**	**67.25**	**66.94**	*65.41*	*65.12*	*65.24*	*64.70*	*65.78*	*66.41*	*66.60*	**65.92**	*65.68*	*65.88*
OPEC non-crude liquids	**5.51**	**5.43**	**5.25**	**5.34**	**5.07**	*5.06*	*5.06*	*5.06*	*5.04*	*5.05*	*5.05*	*5.06*	**5.38**	*5.06*	*5.05*
Non-OPEC + OPEC non-crude	**70.36**	**70.84**	**71.41**	**72.59**	**72.01**	*70.46*	*70.18*	*70.30*	*69.74*	*70.83*	*71.47*	*71.66*	**71.30**	*70.74*	*70.93*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.26**	**0.12**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.31**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.02**	-	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	-	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.30**	-	-	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.12**	-	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.20**	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	-	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	-	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.71**	-	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	-	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.73**	-	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.77**	-	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.20**	-	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	-	-	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.10**	*28.95*	*28.55*	*29.02*	*29.27*	*29.27*	*29.27*	*29.25*	**29.27**	*28.66*	*29.27*
Other Liquids (a)	**5.51**	**5.43**	**5.25**	**5.34**	**5.07**	*5.06*	*5.06*	*5.06*	*5.04*	*5.05*	*5.05*	*5.06*	**5.38**	*5.06*	*5.05*
Total OPEC Supply	**35.45**	**34.90**	**33.91**	**34.36**	**33.17**	*34.01*	*33.61*	*34.07*	*34.31*	*34.32*	*34.33*	*34.31*	**34.65**	*33.72*	*34.32*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.25**	*25.24*	*25.42*	*25.50*	*25.57*	*25.65*	*25.67*	*25.67*	**25.12**	*25.35*	*25.64*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.84**	*5.22*	*5.14*	*5.71*	*5.93*	*5.90*	*5.90*	*5.88*	**6.66**	*5.48*	*5.90*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.09**	*30.46*	*30.56*	*31.20*	*31.50*	*31.55*	*31.57*	*31.55*	**31.78**	*30.83*	*31.54*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**2.99**	*1.51*	*2.01*	*2.19*	*2.23*	*2.28*	*2.30*	*2.30*	**2.52**	*2.17*	*2.28*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**2.99**	*1.51*	*2.01*	*2.19*	*2.23*	*2.28*	*2.30*	*2.30*	**2.52**	*2.17*	*2.28*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.69**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.69**	**24.70**	**25.19**	**24.98**	**23.85**	*20.71*	*23.98*	*24.36*	*24.12*	*24.44*	*25.18*	*25.08*	**24.89**	*23.23*	*24.71*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.33**	*2.04*	*2.44*	*2.47*	*2.48*	*2.43*	*2.53*	*2.51*	**2.50**	*2.32*	*2.49*
Mexico	**1.93**	**1.94**	**1.93**	**1.86**	**1.81**	*1.59*	*1.80*	*1.86*	*1.80*	*1.83*	*1.83*	*1.84*	**1.92**	*1.76*	*1.82*
United States	**20.30**	**20.31**	**20.67**	**20.57**	**19.70**	*17.07*	*19.74*	*20.02*	*19.83*	*20.17*	*20.81*	*20.72*	**20.46**	*19.13*	*20.39*
Central and South America	**6.66**	**6.86**	**6.91**	**6.93**	**6.62**	*6.08*	*6.81*	*6.92*	*6.70*	*6.84*	*6.96*	*6.97*	**6.84**	*6.61*	*6.87*
Brazil	**3.01**	**3.14**	**3.18**	**3.18**	**3.02**	*2.64*	*3.13*	*3.20*	*3.09*	*3.16*	*3.25*	*3.25*	**3.13**	*3.00*	*3.19*
Europe	**14.66**	**14.80**	**15.32**	**14.72**	**13.42**	*12.29*	*14.66*	*14.83*	*14.31*	*14.53*	*15.04*	*14.76*	**14.88**	*13.80*	*14.66*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	**4.77**	*4.56*	*5.03*	*5.03*	*4.95*	*5.01*	*5.40*	*5.25*	**5.01**	*4.85*	*5.15*
Russia	**3.67**	**3.76**	**3.97**	**3.91**	**3.60**	*3.42*	*3.83*	*3.82*	*3.77*	*3.87*	*4.19*	*4.03*	**3.83**	*3.67*	*3.96*
Middle East	**8.19**	**8.55**	**8.94**	**8.53**	**8.13**	*8.11*	*8.93*	*8.38*	*8.13*	*8.67*	*9.05*	*8.42*	**8.55**	*8.39*	*8.57*
Asia and Oceania	**36.43**	**35.93**	**35.44**	**36.42**	**33.05**	*31.91*	*34.78*	*36.70*	*37.69*	*37.21*	*36.57*	*37.65*	**36.05**	*34.12*	*37.28*
China	**14.38**	**14.67**	**14.39**	**14.61**	**12.31**	*13.11*	*14.36*	*14.87*	*15.29*	*15.50*	*15.20*	*15.44*	**14.51**	*13.67*	*15.36*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.57**	*2.72*	*3.23*	*3.57*	*3.76*	*3.08*	*3.15*	*3.46*	**3.67**	*3.27*	*3.36*
India	**4.82**	**4.76**	**4.50**	**4.76**	**4.68**	*4.26*	*4.30*	*4.92*	*5.07*	*5.14*	*4.80*	*5.10*	**4.71**	*4.54*	*5.03*
Africa	**4.51**	**4.51**	**4.43**	**4.63**	**4.55**	*4.39*	*4.44*	*4.69*	*4.68*	*4.68*	*4.59*	*4.80*	**4.52**	*4.52*	*4.69*
Total OECD Liquid Fuels Consumption	**47.40**	**46.70**	**47.84**	**47.49**	**44.42**	*39.08*	*45.60*	*46.65*	*46.17*	*45.84*	*47.19*	*47.25*	**47.36**	*43.95*	*46.62*
Total non-OECD Liquid Fuels Consumption	**52.58**	**53.55**	**53.57**	**53.84**	**49.97**	*48.96*	*53.04*	*54.26*	*54.41*	*55.54*	*55.61*	*55.66*	**53.39**	*51.57*	*55.31*
Total World Liquid Fuels Consumption	**99.98**	**100.24**	**101.41**	**101.33**	**94.40**	*88.04*	*98.64*	*100.91*	*100.58*	*101.38*	*102.80*	*102.92*	**100.75**	*95.52*	*101.93*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**111.7**	**112.3**	**112.8**	**113.1**	**111.5**	*111.1*	*112.6*	*114.4*	*115.7*	*116.8*	*117.6*	*118.3*	**112.5**	*112.4*	*117.1*
Percent change from prior year	**2.1**	**2.0**	**1.9**	**1.8**	**-0.2**	*-1.1*	*-0.1*	*1.1*	*3.8*	*5.1*	*4.4*	*3.4*	**2.0**	*-0.1*	*4.2*
OECD Index, 2015 Q1 = 100	**108.8**	**109.5**	**110.0**	**109.9**	**109.4**	*106.8*	*108.1*	*110.3*	*111.6*	*112.5*	*113.0*	*113.2*	**109.5**	*108.6*	*112.6*
Percent change from prior year	**1.8**	**1.7**	**1.8**	**1.6**	**0.5**	*-2.5*	*-1.7*	*0.4*	*2.0*	*5.3*	*4.6*	*2.6*	**1.7**	*-0.8*	*3.6*
Non-OECD Index, 2015 Q1 = 100	**114.4**	**115.1**	**115.5**	**116.2**	**113.5**	*115.4*	*117.1*	*118.3*	*119.8*	*121.0*	*122.0*	*123.3*	**115.3**	*116.1*	*121.5*
Percent change from prior year	**2.4**	**2.2**	**2.1**	**2.0**	**-0.8**	*0.3*	*1.4*	*1.8*	*5.5*	*4.9*	*4.2*	*4.2*	**2.2**	*0.7*	*4.7*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.26**	**105.87**	**106.34**	**106.12**	**106.82**	*108.75*	*109.13*	*108.48*	*107.56*	*106.84*	*106.34*	*105.42*	**105.90**	*108.30*	*106.54*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.0**	**1.5**	*2.7*	*2.6*	*2.2*	*0.7*	*-1.8*	*-2.6*	*-2.8*	**2.1**	*2.3*	*-1.6*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.81**	**12.10**	**12.23**	**12.78**	**12.73**	*11.98*	*11.29*	*11.04*	*10.96*	*11.08*	*11.00*	*11.08*	**12.23**	*11.76*	*11.03*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.50**	*0.49*	*0.45*	*0.49*	*0.51*	*0.50*	*0.46*	*0.49*	**0.47**	*0.48*	*0.49*
Federal Gulf of Mexico (b)	**1.85**	**1.93**	**1.82**	**1.94**	**1.99**	*1.97*	*1.89*	*1.89*	*1.97*	*1.95*	*1.88*	*1.90*	**1.88**	*1.93*	*1.92*
Lower 48 States (excl GOM)	**9.47**	**9.70**	**9.98**	**10.36**	**10.24**	*9.53*	*8.96*	*8.66*	*8.49*	*8.63*	*8.66*	*8.69*	**9.88**	*9.34*	*8.62*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.94**	**2.93**	*2.68*	*3.94*	*4.62*	*4.87*	*5.37*	*5.64*	*5.50*	**3.82**	*3.54*	*5.35*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	*-0.33*	*0.00*	*0.20*	*0.20*	*0.03*	*0.01*	*0.03*	**0.04**	*-0.03*	*0.07*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.07**	**-0.46**	*-0.81*	*0.19*	*0.09*	*-0.23*	*0.16*	*0.24*	*0.01*	**0.03**	*-0.24*	*0.05*
Crude Oil Adjustment (d)	**0.33**	**0.53**	**0.38**	**0.56**	**0.76**	*0.19*	*0.21*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.45**	*0.33*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.32**	**15.96**	*13.71*	*15.63*	*16.09*	*16.03*	*16.86*	*17.11*	*16.77*	**16.56**	*15.35*	*16.70*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.13**	*0.95*	*1.12*	*1.21*	*1.17*	*1.21*	*1.24*	*1.25*	**1.08**	*1.10*	*1.22*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**4.99**	**5.12**	*4.99*	*4.80*	*4.76*	*4.73*	*4.96*	*5.21*	*5.32*	**4.81**	*4.91*	*5.06*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.16**	*0.78*	*0.89*	*1.01*	*1.11*	*1.17*	*1.16*	*1.17*	**1.12**	*0.96*	*1.15*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.04**	*0.63*	*0.74*	*0.86*	*0.96*	*0.99*	*0.99*	*1.00*	**1.03**	*0.82*	*0.99*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	*0.21*	*0.21*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.21**	*0.22*	*0.22*
Product Net Imports (c)	**-3.30**	**-3.04**	**-3.13**	**-3.43**	**-4.28**	*-3.33*	*-2.86*	*-3.89*	*-3.71*	*-3.72*	*-3.80*	*-4.45*	**-3.22**	*-3.59*	*-3.92*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.83**	**-1.94**	*-2.00*	*-1.84*	*-1.75*	*-1.61*	*-1.74*	*-1.72*	*-1.76*	**-1.62**	*-1.88*	*-1.71*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.50**	**0.33**	*0.17*	*0.42*	*0.36*	*0.35*	*0.46*	*0.44*	*0.31*	**0.41**	*0.32*	*0.39*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.11**	*-0.09*	*-0.10*	*-0.11*	*-0.13*	*-0.12*	*-0.12*	*-0.13*	**-0.06**	*-0.10*	*-0.13*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.46**	**0.33**	*0.46*	*0.49*	*0.24*	*0.50*	*0.69*	*0.49*	*0.16*	**0.60**	*0.38*	*0.46*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.87**	**-0.74**	*-0.44*	*-0.08*	*-0.57*	*-0.88*	*-0.87*	*-0.79*	*-0.91*	**-0.74**	*-0.46*	*-0.86*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.09**	**-0.10**	*-0.22*	*0.08*	*-0.09*	*-0.02*	*0.02*	*0.05*	*0.00*	**-0.06**	*-0.08*	*0.01*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-0.99**	**-1.24**	*-0.84*	*-1.22*	*-1.22*	*-1.09*	*-1.27*	*-1.28*	*-1.18*	**-1.12**	*-1.13*	*-1.20*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**-0.03**	**-0.01**	*-0.06*	*-0.03*	*-0.01*	*-0.05*	*-0.12*	*-0.07*	*-0.01*	**-0.08**	*-0.03*	*-0.06*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.54**	**-0.80**	*-0.32*	*-0.58*	*-0.74*	*-0.78*	*-0.77*	*-0.81*	*-0.92*	**-0.55**	*-0.61*	*-0.82*
Product Inventory Net Withdrawals	**0.44**	**-0.64**	**-0.36**	**0.26**	**0.38**	*-0.23*	*-0.06*	*0.62*	*0.29*	*-0.54*	*-0.32*	*0.43*	**-0.07**	*0.18*	*-0.04*
Total Supply	**20.38**	**20.31**	**20.67**	**20.57**	**19.70**	*17.07*	*19.74*	*20.02*	*19.83*	*20.17*	*20.81*	*20.72*	**20.48**	*19.14*	*20.39*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.49**	**2.78**	**2.94**	**3.31**	**3.39**	*2.80*	*2.87*	*3.27*	*3.45*	*3.08*	*3.34*	*3.72*	**3.13**	*3.08*	*3.40*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.10**	**0.02**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.05**	*0.01*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.16**	**8.81**	*7.14*	*8.85*	*8.91*	*8.61*	*9.14*	*9.24*	*8.99*	**9.27**	*8.43*	*9.00*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.96**	**0.90**	*0.70*	*0.82*	*0.95*	*0.86*	*0.93*	*0.93*	*0.91*	**0.95**	*0.84*	*0.91*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.74**	**1.60**	*1.18*	*1.76*	*1.72*	*1.69*	*1.78*	*1.82*	*1.77*	**1.74**	*1.57*	*1.77*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.10**	**3.94**	*3.78*	*3.82*	*3.93*	*4.05*	*4.00*	*4.01*	*4.10*	**4.08**	*3.87*	*4.04*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.27**	**0.21**	*0.24*	*0.31*	*0.28*	*0.27*	*0.23*	*0.31*	*0.27*	**0.27**	*0.26*	*0.27*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.88**	**1.72**	*1.93*	*2.12*	*1.91*	*1.76*	*1.95*	*2.10*	*1.86*	**1.91**	*1.92*	*1.92*
Total Consumption	**20.30**	**20.31**	**20.67**	**20.57**	**19.70**	*17.07*	*19.74*	*20.02*	*19.83*	*20.17*	*20.81*	*20.72*	**20.46**	*19.13*	*20.39*
Total Petroleum and Other Liquids Net Imports	**0.95**	**1.10**	**0.83**	**-0.49**	**-1.35**	*-0.65*	*1.08*	*0.73*	*1.16*	*1.66*	*1.84*	*1.05*	**0.59**	*-0.04*	*1.43*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**432.9**	**474.5**	*548.2*	*530.4*	*522.2*	*542.4*	*527.6*	*505.7*	*505.2*	**432.9**	*522.2*	*505.2*
Hydrocarbon Gas Liquids	**156.9**	**224.1**	**262.8**	**211.7**	**180.7**	*231.0*	*260.3*	*206.9*	*167.7*	*215.5*	*251.8*	*208.9*	**211.7**	*206.9*	*208.9*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.4**	**101.8**	*94.6*	*90.5*	*83.8*	*93.5*	*92.4*	*91.5*	*85.3*	**89.4**	*83.8*	*85.3*
Other HC/Oxygenates	**30.8**	**29.0**	**28.4**	**27.8**	**31.8**	*21.6*	*9.4*	*-4.3*	*-2.6*	*-3.5*	*-4.3*	*-3.6*	**27.8**	*-4.3*	*-3.6*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**253.8**	**244.5**	*228.3*	*221.4*	*234.0*	*239.9*	*238.1*	*232.6*	*238.9*	**253.8**	*234.0*	*238.9*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.0**	**20.9**	*24.3*	*24.0*	*22.5*	*23.4*	*21.9*	*22.8*	*22.9*	**26.0**	*22.5*	*22.9*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**227.9**	**223.5**	*204.0*	*197.4*	*211.5*	*216.5*	*216.2*	*209.8*	*216.0*	**227.9**	*211.5*	*216.0*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.5**	**38.1**	*40.3*	*42.4*	*40.9*	*40.4*	*41.2*	*43.3*	*40.3*	**40.5**	*40.9*	*40.3*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**140.0**	**121.4**	*126.3*	*132.3*	*137.3*	*126.1*	*130.6*	*136.9*	*138.8*	**140.0**	*137.3*	*138.8*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**30.9**	**34.5**	*33.4*	*30.7*	*29.8*	*31.9*	*33.0*	*30.7*	*32.5*	**30.9**	*29.8*	*32.5*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**54.6**	**61.2**	*59.7*	*53.7*	*55.8*	*61.2*	*59.8*	*53.9*	*56.0*	**54.6**	*55.8*	*56.0*
Total Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,289**	*1,383*	*1,371*	*1,306*	*1,301*	*1,334*	*1,342*	*1,302*	**1,282**	*1,306*	*1,302*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	*665*	*665*	*647*	*629*	*626*	*625*	*623*	**635**	*647*	*623*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.85**	**1.96**	*1.83*	*1.72*	*1.83*	*1.95*	*2.06*	*2.25*	*2.38*	**1.83**	*1.84*	*2.16*
Propane	**1.50**	**1.56**	**1.61**	**1.67**	**1.71**	*1.68*	*1.62*	*1.55*	*1.50*	*1.53*	*1.55*	*1.56*	**1.59**	*1.64*	*1.54*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.89**	*0.89*	*0.87*	*0.83*	*0.79*	*0.82*	*0.83*	*0.83*	**0.85**	*0.87*	*0.82*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.57**	**0.56**	*0.58*	*0.58*	*0.54*	*0.51*	*0.54*	*0.57*	*0.55*	**0.55**	*0.57*	*0.54*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.00*	**0.01**	*0.01*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	*0.27*	*0.28*	*0.29*	*0.28*	*0.31*	*0.30*	*0.30*	**0.29**	*0.28*	*0.30*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.27**	*0.24*	*0.26*	*0.28*	*0.27*	*0.28*	*0.28*	*0.29*	**0.28**	*0.26*	*0.28*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.07**	*0.26*	*0.19*	*-0.20*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.03**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.01*	*-0.01*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.31**	**-0.29**	*-0.33*	*-0.33*	*-0.34*	*-0.30*	*-0.31*	*-0.30*	*-0.31*	**-0.28**	*-0.32*	*-0.30*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.07**	**-1.05**	*-1.11*	*-1.01*	*-1.03*	*-0.90*	*-1.00*	*-0.98*	*-1.02*	**-0.94**	*-1.05*	*-0.97*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.25**	**-0.31**	*-0.36*	*-0.30*	*-0.22*	*-0.21*	*-0.22*	*-0.22*	*-0.24*	**-0.23**	*-0.30*	*-0.22*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.21**	**-0.29**	*-0.19*	*-0.19*	*-0.15*	*-0.20*	*-0.21*	*-0.22*	*-0.20*	**-0.17**	*-0.20*	*-0.21*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.44**	*0.19*	*0.28*	*0.48*	*0.40*	*0.29*	*0.33*	*0.50*	**0.40**	*0.35*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.16**	*0.21*	*0.21*	*0.19*	*0.17*	*0.17*	*0.18*	*0.18*	**0.17**	*0.19*	*0.17*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.55**	**1.70**	*1.45*	*1.41*	*1.52*	*1.66*	*1.74*	*1.97*	*2.08*	**1.53**	*1.52*	*1.86*
Propane	**1.20**	**0.58**	**0.65**	**1.05**	**1.12**	*0.63*	*0.70*	*0.94*	*1.15*	*0.61*	*0.67*	*0.95*	**0.87**	*0.85*	*0.84*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.28**	*0.27*	*0.27*	*0.33*	*0.27*	*0.31*	*0.30*	*0.28*	**0.30**	*0.29*	*0.29*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.24**	**0.19**	*0.30*	*0.33*	*0.29*	*0.22*	*0.29*	*0.27*	*0.24*	**0.24**	*0.28*	*0.25*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.17**	**0.10**	*0.15*	*0.16*	*0.19*	*0.14*	*0.13*	*0.14*	*0.16*	**0.20**	*0.15*	*0.14*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**58.84**	**53.95**	*59.16*	*58.06*	*58.16*	*54.64*	*57.25*	*54.85*	*56.38*	**54.94**	*57.34*	*55.78*
Propane	**47.77**	**71.72**	**95.60**	**79.63**	**63.18**	*79.64*	*95.50*	*80.96*	*54.61*	*73.94*	*91.37*	*78.76*	**79.63**	*80.96*	*78.76*
Propylene (refinery-grade)	**1.68**	**1.76**	**2.65**	**1.66**	**2.30**	*1.96*	*2.97*	*0.26*	*2.24*	*2.33*	*2.59*	*4.41*	**1.66**	*0.26*	*4.41*
Butanes/Butylenes	**39.30**	**70.72**	**85.88**	**52.15**	**40.21**	*67.96*	*81.14*	*47.67*	*36.38*	*62.27*	*80.97*	*48.95*	**52.15**	*47.67*	*48.95*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.90**	**20.34**	*21.59*	*22.59*	*21.94*	*19.45*	*20.76*	*21.83*	*21.29*	**20.90**	*21.94*	*21.29*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.32**	**15.96**	*13.71*	*15.63*	*16.09*	*16.03*	*16.86*	*17.11*	*16.77*	**16.56**	*15.35*	*16.70*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.60**	*0.41*	*0.49*	*0.67*	*0.57*	*0.46*	*0.50*	*0.68*	**0.57**	*0.54*	*0.55*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.16**	*0.93*	*1.04*	*1.18*	*1.12*	*1.20*	*1.18*	*1.17*	**1.19**	*1.08*	*1.17*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.17**	*0.25*	*0.47*	*0.44*	*0.24*	*0.48*	*0.45*	*0.38*	**0.35**	*0.33*	*0.39*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.40**	**0.47**	*0.82*	*0.66*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.68**	*0.55*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**19.07**	**18.36**	*16.11*	*18.30*	*18.65*	*18.53*	*19.84*	*19.91*	*19.26*	**19.37**	*17.86*	*19.39*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.13**	*0.95*	*1.12*	*1.21*	*1.17*	*1.21*	*1.24*	*1.25*	**1.08**	*1.10*	*1.22*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.49**	*0.79*	*0.74*	*0.37*	*0.48*	*0.86*	*0.77*	*0.39*	**0.61**	*0.60*	*0.63*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.16**	**9.55**	*7.72*	*9.00*	*9.60*	*9.59*	*10.10*	*10.10*	*10.04*	**10.09**	*8.97*	*9.96*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.68**	*1.42*	*1.70*	*1.79*	*1.70*	*1.77*	*1.80*	*1.74*	**1.80**	*1.65*	*1.75*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.92**	*4.61*	*5.03*	*5.14*	*4.98*	*5.25*	*5.29*	*5.23*	**5.14**	*4.92*	*5.19*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.31**	**0.26**	*0.29*	*0.31*	*0.28*	*0.34*	*0.36*	*0.35*	*0.30*	**0.36**	*0.28*	*0.34*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.46**	**2.59**	*2.24*	*2.64*	*2.68*	*2.60*	*2.71*	*2.84*	*2.81*	**2.45**	*2.54*	*2.74*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.17**	**19.49**	*17.06*	*19.42*	*19.86*	*19.69*	*21.05*	*21.15*	*20.51*	**20.44**	*18.96*	*20.61*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.86**	**16.52**	*14.24*	*16.03*	*16.39*	*16.29*	*17.04*	*17.33*	*16.98*	**16.98**	*15.80*	*16.92*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.81**	**18.97**	*18.97*	*18.97*	*19.00*	*19.00*	*19.00*	*19.00*	*19.03*	**18.80**	*18.98*	*19.01*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.87**	*0.75*	*0.85*	*0.86*	*0.86*	*0.90*	*0.91*	*0.89*	**0.90**	*0.83*	*0.89*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**144**	*69*	*93*	*105*	*123*	*151*	*151*	*138*	**186**	*104*	*141*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	*135*	*157*	*171*	*187*	*217*	*221*	*209*	**251**	*177*	*209*
PADD 2	**223**	**269**	**257**	**244**	**225**	*140*	*161*	*169*	*181*	*221*	*219*	*202*	**249**	*175*	*206*
PADD 3	**206**	**246**	**234**	**224**	**210**	*124*	*141*	*153*	*172*	*201*	*201*	*187*	**228**	*158*	*191*
PADD 4	**226**	**285**	**270**	**276**	**246**	*152*	*160*	*173*	*185*	*221*	*226*	*209*	**265**	*184*	*211*
PADD 5	**297**	**356**	**331**	**350**	**310**	*210*	*221*	*244*	*246*	*286*	*286*	*273*	**334**	*248*	*273*
U.S. Average	**236**	**279**	**265**	**259**	**241**	*148*	*167*	*180*	*193*	*227*	*229*	*214*	**260**	*186*	*216*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**250**	*160*	*179*	*193*	*206*	*241*	*242*	*228*	**269**	*197*	*230*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**65.6**	**65.0**	*61.0*	*58.1*	*62.1*	*66.6*	*67.0*	*62.0*	*67.3*	**65.6**	*62.1*	*67.3*
PADD 2	**53.9**	**49.6**	**51.0**	**55.0**	**57.0**	*50.9*	*49.5*	*51.4*	*54.2*	*52.9*	*52.6*	*50.4*	**55.0**	*51.4*	*50.4*
PADD 3	**82.5**	**82.4**	**81.5**	**91.8**	**79.7**	*78.6*	*77.2*	*81.1*	*81.1*	*81.1*	*81.1*	*81.1*	**91.8**	*81.1*	*81.1*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**8.9**	*7.6*	*6.9*	*7.2*	*7.6*	*7.8*	*7.5*	*7.9*	**8.3**	*7.2*	*7.9*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**33.8**	*30.2*	*29.7*	*32.1*	*30.4*	*29.2*	*29.4*	*32.2*	**33.2**	*32.1*	*32.2*
U.S. Total	**236.1**	**229.7**	**231.9**	**253.8**	**244.5**	*228.3*	*221.4*	*234.0*	*239.9*	*238.1*	*232.6*	*238.9*	**253.8**	*234.0*	*238.9*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.0**	**20.9**	*24.3*	*24.0*	*22.5*	*23.4*	*21.9*	*22.8*	*22.9*	**26.0**	*22.5*	*22.9*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**227.9**	**223.5**	*204.0*	*197.4*	*211.5*	*216.5*	*216.2*	*209.8*	*216.0*	**227.9**	*211.5*	*216.0*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**103.07**	**101.77**	*100.47*	*97.78*	*95.39*	*93.01*	*93.40*	*95.03*	*96.49*	**99.15**	*98.84*	*94.49*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**1.00**	*0.85*	*0.78*	*0.94*	*1.00*	*0.87*	*0.80*	*0.95*	**0.90**	*0.89*	*0.90*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.72**	**2.77**	*2.70*	*2.51*	*2.44*	*2.46*	*2.38*	*2.23*	*2.19*	**2.69**	*2.61*	*2.32*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.42**	**97.99**	*96.91*	*94.49*	*92.00*	*89.54*	*90.15*	*92.00*	*93.35*	**95.55**	*95.34*	*91.27*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**95.88**	**94.47**	*93.24*	*90.71*	*88.43*	*86.18*	*86.49*	*87.95*	*89.26*	**92.19**	*91.70*	*87.48*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	*0.10*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.18*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.93**	*6.56*	*6.04*	*7.33*	*8.23*	*6.88*	*7.56*	*8.20*	**4.98**	*6.96*	*7.72*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.67**	*7.00*	*7.25*	*7.51*	*8.56*	*7.63*	*7.72*	*7.75*	**7.37**	*7.36*	*7.91*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.31**	*8.00*	*8.42*	*8.64*	*8.82*	*7.93*	*8.73*	*8.84*	**7.77**	*8.35*	*8.58*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	**0.18**	*0.17*	*0.17*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.17**	*0.17*	*0.16*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.44**	**12.90**	*-9.71*	*-7.90*	*3.49*	*18.08*	*-9.71*	*-8.04*	*2.98*	**-1.37**	*-0.31*	*0.76*
Total Supply	**103.21**	**71.52**	**77.14**	**91.35**	**99.22**	*76.25*	*75.95*	*83.82*	*96.25*	*69.94*	*71.70*	*83.31*	**85.75**	*83.79*	*80.24*
Balancing Item (b)	**0.11**	**-0.79**	**-0.39**	**-2.02**	**1.14**	*-1.46*	*-1.19*	*1.52*	*1.10*	*1.06*	*0.59*	*1.25*	**-0.78**	*0.00*	*1.00*
Total Primary Supply	**103.32**	**70.74**	**76.74**	**89.33**	**100.36**	*74.79*	*74.76*	*85.34*	*97.34*	*71.00*	*72.29*	*84.56*	**84.97**	*83.79*	*81.24*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.00**	**23.65**	*7.70*	*3.70*	*16.63*	*25.65*	*7.68*	*3.41*	*16.20*	**13.70**	*12.91*	*13.18*
Commercial	**16.19**	**6.36**	**4.68**	**11.45**	**14.00**	*6.30*	*4.82*	*10.76*	*15.37*	*6.52*	*4.70*	*10.50*	**9.65**	*8.96*	*9.25*
Industrial	**25.12**	**21.74**	**21.31**	**23.79**	**24.89**	*21.70*	*21.03*	*24.03*	*24.77*	*22.45*	*21.91*	*24.81*	**22.98**	*22.91*	*23.48*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	**29.52**	*31.52*	*37.86*	*26.31*	*23.70*	*27.16*	*34.87*	*25.27*	**30.98**	*31.31*	*27.77*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.29**	**5.22**	*5.16*	*5.02*	*4.89*	*4.77*	*4.79*	*4.88*	*4.95*	**5.09**	*5.07*	*4.85*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.56**	**2.92**	*2.24*	*2.17*	*2.56*	*2.91*	*2.23*	*2.35*	*2.67*	**2.44**	*2.47*	*2.54*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	**0.16**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.14**	*0.16*	*0.16*
Total Consumption	**103.32**	**70.74**	**76.74**	**89.33**	**100.36**	*74.79*	*74.76*	*85.34*	*97.34*	*71.00*	*72.29*	*84.56*	**84.97**	*83.79*	*81.24*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,189**	**2,014**	*2,898*	*3,624*	*3,303*	*1,676*	*2,559*	*3,299*	*3,025*	**3,189**	*3,303*	*3,025*
East Region (d)	**216**	**537**	**845**	**764**	**377**	*619*	*889*	*778*	*264*	*533*	*804*	*674*	**764**	*778*	*674*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	*724*	*1,054*	*929*	*345*	*556*	*891*	*783*	**885**	*929*	*783*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**850**	*1,111*	*1,164*	*1,136*	*750*	*1,009*	*1,076*	*1,115*	**1,095**	*1,136*	*1,115*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	*134*	*179*	*149*	*104*	*149*	*191*	*157*	**167**	*149*	*157*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	*286*	*314*	*286*	*188*	*288*	*313*	*272*	**245**	*286*	*272*
Alaska	**30**	**33**	**37**	**33**	**24**	*24*	*24*	*24*	*24*	*24*	*24*	*24*	**33**	*24*	*24*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.96**	*1.78*	*2.17*	*2.86*	*3.21*	*2.97*	*3.04*	*3.15*	**2.66**	*2.19*	*3.09*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.05**	**13.59**	*13.89*	*16.42*	*12.65*	*12.61*	*13.84*	*16.90*	*13.11*	**14.78**	*13.52*	*13.22*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.38**	**10.72**	*12.38*	*16.07*	*10.31*	*9.61*	*12.13*	*16.74*	*11.02*	**11.74**	*11.19*	*10.84*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.68**	**6.93**	*9.62*	*15.53*	*7.79*	*7.46*	*10.59*	*16.39*	*8.21*	**8.41**	*8.11*	*8.65*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.16**	**7.42**	*10.16*	*16.16*	*8.44*	*7.64*	*10.77*	*16.93*	*9.02*	**8.81**	*8.58*	*8.98*
S. Atlantic	**11.63**	**18.34**	**26.03**	**12.90**	**12.10**	*16.27*	*21.82*	*11.90*	*10.73*	*16.15*	*22.42*	*12.48*	**13.83**	*13.38*	*12.80*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.43**	**9.81**	*14.16*	*20.59*	*12.49*	*10.37*	*15.20*	*22.10*	*13.48*	**11.05**	*11.88*	*12.52*
W. S. Central	**8.29**	**13.38**	**21.45**	**10.54**	**8.75**	*14.04*	*19.66*	*11.53*	*9.17*	*14.84*	*20.62*	*12.04*	**10.54**	*11.43*	*11.68*
Mountain	**7.73**	**9.46**	**13.40**	**7.75**	**7.48**	*9.02*	*12.56*	*7.57*	*7.62*	*9.65*	*13.57*	*8.52*	**8.37**	*8.12*	*8.68*
Pacific	**12.44**	**12.75**	**13.50**	**12.06**	**13.50**	*13.30*	*13.56*	*12.58*	*13.07*	*13.95*	*14.70*	*13.64*	**12.50**	*13.20*	*13.60*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.88**	**9.47**	*11.79*	*16.26*	*9.93*	*9.31*	*12.30*	*17.14*	*10.61*	**10.56**	*10.45*	*10.66*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**10.13**	**9.86**	*9.22*	*8.70*	*8.83*	*9.35*	*9.71*	*9.86*	*9.89*	**10.95**	*9.38*	*9.65*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.47**	**7.85**	*7.24*	*6.47*	*7.18*	*7.52*	*7.48*	*6.98*	*7.55*	**7.85**	*7.36*	*7.45*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.04**	**5.54**	*6.29*	*7.86*	*6.28*	*6.41*	*7.61*	*9.00*	*6.99*	**6.51**	*6.07*	*6.96*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.16**	**6.19**	*6.46*	*7.68*	*6.57*	*7.10*	*7.66*	*8.85*	*7.31*	**6.73**	*6.45*	*7.38*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.82**	**8.57**	*9.01*	*9.30*	*8.70*	*8.79*	*9.66*	*9.98*	*8.96*	**9.05**	*8.78*	*9.13*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.54**	**8.49**	*8.77*	*8.95*	*8.14*	*8.02*	*9.24*	*9.86*	*8.89*	**8.91**	*8.47*	*8.68*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.38**	**5.89**	*6.38*	*7.05*	*6.94*	*6.95*	*7.57*	*8.20*	*7.63*	**6.41**	*6.43*	*7.44*
Mountain	**6.40**	**6.72**	**7.41**	**6.16**	**6.14**	*6.40*	*7.21*	*6.42*	*6.86*	*7.29*	*8.17*	*7.24*	**6.47**	*6.38*	*7.19*
Pacific	**9.08**	**8.82**	**9.14**	**8.90**	**9.46**	*8.50*	*8.32*	*8.14*	*8.58*	*8.78*	*9.09*	*8.77*	**8.99**	*8.69*	*8.76*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.22**	**7.16**	*7.34*	*7.70*	*7.21*	*7.44*	*8.08*	*8.57*	*7.85*	**7.62**	*7.27*	*7.79*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.29**	**7.57**	*6.68*	*6.27*	*7.69*	*8.46*	*7.77*	*7.11*	*8.03*	**8.08**	*7.17*	*7.95*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.95**	**6.81**	*6.02*	*6.20*	*6.87*	*7.61*	*7.19*	*7.28*	*7.54*	**7.86**	*6.60*	*7.48*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.14**	**4.94**	*4.66*	*4.73*	*5.17*	*6.11*	*5.95*	*5.91*	*5.88*	**5.49**	*4.94*	*5.99*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.19**	**4.07**	*3.23*	*3.22*	*4.39*	*5.21*	*4.53*	*4.46*	*5.15*	**4.24**	*3.80*	*4.88*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.52**	**4.23**	*3.73*	*3.90*	*4.81*	*5.43*	*4.86*	*4.83*	*5.16*	**4.80**	*4.19*	*5.09*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.07**	**3.87**	*3.40*	*3.57*	*4.54*	*5.03*	*4.59*	*4.51*	*4.92*	**4.20**	*3.87*	*4.78*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.64**	**2.19**	*1.88*	*2.29*	*2.99*	*3.37*	*3.12*	*3.26*	*3.36*	**2.89**	*2.34*	*3.28*
Mountain	**5.31**	**4.80**	**5.00**	**4.72**	**4.44**	*4.31*	*4.76*	*5.17*	*5.62*	*5.46*	*5.76*	*5.83*	**4.96**	*4.68*	*5.67*
Pacific	**7.68**	**6.66**	**6.49**	**6.83**	**7.19**	*5.73*	*5.62*	*5.99*	*6.82*	*6.44*	*6.59*	*6.68*	**6.97**	*6.19*	*6.64*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.74**	**3.43**	*2.72*	*2.90*	*3.85*	*4.47*	*3.93*	*3.91*	*4.34*	**3.91**	*3.26*	*4.18*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories
U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**170.3**	**174.9**	**179.7**	**165.2**	**149.9**	*105.2*	*143.7*	*137.9*	*153.6*	*119.9*	*162.4*	*153.1*	**690.1**	*536.7*	*589.1*
Appalachia	**47.4**	**49.3**	**46.6**	**44.3**	**42.7**	*29.4*	*30.7*	*27.2*	*29.8*	*26.7*	*34.0*	*31.6*	**187.6**	*129.9*	*122.2*
Interior	**31.0**	**32.2**	**32.4**	**30.6**	**28.3**	*24.4*	*35.5*	*35.5*	*38.4*	*28.3*	*34.0*	*34.6*	**126.2**	*123.7*	*135.4*
Western	**91.9**	**93.4**	**102.4**	**90.3**	**78.9**	*51.4*	*77.5*	*75.3*	*85.4*	*64.8*	*94.3*	*86.9*	**378.0**	*283.1*	*331.5*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	**-0.2**	*1.2*	*1.7*	*-2.1*	*-0.2*	*1.2*	*1.6*	*-2.3*	**-2.7**	*0.7*	*0.2*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	*1.3*	*1.5*	*1.4*	*1.2*	*1.3*	*1.5*	*1.4*	**6.7**	*5.5*	*5.4*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**19.7**	*15.4*	*13.9*	*13.6*	*17.7*	*16.6*	*17.2*	*17.5*	**92.9**	*62.7*	*68.9*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**10.5**	*8.8*	*8.4*	*8.2*	*11.2*	*10.2*	*10.5*	*10.4*	**55.1**	*35.8*	*42.3*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**9.2**	*6.7*	*5.5*	*5.4*	*6.5*	*6.4*	*6.7*	*7.1*	**37.7**	*26.8*	*26.6*
Total Primary Supply	**145.3**	**152.4**	**158.3**	**145.2**	**131.3**	*92.3*	*132.9*	*123.7*	*136.9*	*105.7*	*148.4*	*134.8*	**601.2**	*480.2*	*525.8*
Secondary Inventory Withdrawals	**6.2**	**-21.0**	**6.4**	**-17.4**	**-13.9**	*4.5*	*8.7*	*-7.4*	*0.0*	*3.8*	*8.5*	*-7.6*	**-25.9**	*-8.1*	*4.6*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**153.8**	**133.7**	**167.0**	**130.1**	**119.7**	*99.1*	*143.9*	*118.6*	*138.9*	*111.5*	*158.8*	*129.1*	**584.7**	*481.3*	*538.4*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**6.8**	**4.9**	*4.7*	*4.6*	*5.7*	*4.9*	*4.8*	*4.7*	*5.8*	**20.4**	*19.8*	*20.2*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	**106.0**	*87.4*	*132.7*	*106.1*	*127.3*	*100.0*	*147.5*	*116.4*	**539.4**	*432.2*	*491.1*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.7**	*7.1*	*6.6*	*6.7*	*6.8*	*6.7*	*6.7*	*7.0*	**30.0**	*28.0*	*27.1*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*0.2*	*0.2*	**0.9**	*0.9*	*0.9*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.5**	*6.9*	*6.4*	*6.4*	*6.6*	*6.5*	*6.5*	*6.7*	**29.1**	*27.2*	*26.3*
Total Consumption	**157.9**	**129.9**	**167.8**	**134.2**	**118.5**	*99.1*	*143.9*	*118.6*	*138.9*	*111.5*	*158.8*	*129.1*	**589.8**	*480.1*	*538.4*
Discrepancy (c)	**-4.0**	**3.9**	**-0.8**	**-4.1**	**1.2**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-5.1**	*1.2*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	**24.6**	*23.4*	*21.7*	*23.8*	*24.0*	*22.9*	*21.3*	*23.5*	**24.4**	*23.8*	*23.5*
Secondary Inventories	**102.2**	**123.2**	**116.8**	**134.2**	**148.1**	*143.5*	*134.9*	*142.3*	*142.3*	*138.5*	*130.0*	*137.7*	**134.2**	*142.3*	*137.7*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	**142.5**	*137.7*	*128.8*	*136.5*	*136.7*	*132.6*	*123.9*	*131.8*	**128.5**	*136.5*	*131.8*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.4**	**3.7**	*3.6*	*3.7*	*3.5*	*3.7*	*3.7*	*3.7*	*3.6*	**3.4**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.1**	**1.7**	*2.1*	*2.2*	*2.2*	*1.7*	*2.1*	*2.2*	*2.2*	**2.1**	*2.2*	*2.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.269**	*0.266*	*0.263*	*0.273*	*0.273*	*0.276*	*0.272*	*0.279*	**0.268**	*0.268*	*0.275*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**2.02**	*2.01*	*1.99*	*2.00*	*2.03*	*2.05*	*2.04*	*2.04*	**2.02**	*2.00*	*2.04*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	**967**	*955*	*1,116*	*935*	*956*	*954*	*1,131*	*952*	**4,118**	*3,972*	*3,992*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	**930**	*922*	*1,083*	*904*	*924*	*922*	*1,097*	*919*	**3,956**	*3,839*	*3,861*
Industrial Sector (b)	**37**	**36**	**38**	**38**	**34**	*30*	*30*	*29*	*30*	*30*	*31*	*31*	**149**	*124*	*122*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*2*	*2*	*2*	*2*	*2*	*3*	*2*	**14**	*10*	*9*
Net Imports	**9**	**9**	**11**	**9**	**12**	*13*	*15*	*11*	*12*	*13*	*15*	*11*	**38**	*50*	*51*
Total Supply	**1,004**	**983**	**1,184**	**985**	**978**	*967*	*1,130*	*946*	*968*	*967*	*1,145*	*963*	**4,156**	*4,022*	*4,043*
Losses and Unaccounted for (c)	**57**	**71**	**74**	**58**	**50**	*72*	*62*	*58*	*48*	*70*	*63*	*58*	**261**	*242*	*240*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	**890**	*859*	*1032*	*854*	*883*	*861*	*1044*	*868*	**3750**	*3634*	*3657*
Residential Sector	**361**	**309**	**434**	**331**	**346**	*320*	*434*	*323*	*364*	*324*	*435*	*323*	**1435**	*1424*	*1446*
Commercial Sector	**320**	**328**	**382**	**325**	**316**	*313*	*356*	*307*	*303*	*313*	*365*	*319*	**1355**	*1291*	*1300*
Industrial Sector	**228**	**238**	**254**	**232**	**226**	*225*	*240*	*222*	*215*	*223*	*242*	*224*	**952**	*912*	*904*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*8*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**38**	*36*	*37*	*35*	*36*	*36*	*38*	*37*	**146**	*146*	*146*
Total Consumption	**948**	**912**	**1110**	**927**	**928**	*895*	*1068*	*889*	*919*	*897*	*1082*	*905*	**3896**	*3780*	*3803*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,450**	**2,539**	*2,348*	*3,188*	*2,371*	*2,647*	*2,354*	*3,165*	*2,352*	**10,631**	*10,445*	*10,517*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**2.02**	*2.01*	*1.99*	*2.00*	*2.03*	*2.05*	*2.04*	*2.04*	**2.02**	*2.00*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.79**	**2.31**	*1.71*	*2.06*	*3.04*	*3.63*	*3.05*	*3.07*	*3.40*	**2.88**	*2.24*	*3.26*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.52**	**11.97**	*7.58*	*5.79*	*6.32*	*7.57*	*9.48*	*9.25*	*9.25*	**12.72**	*7.75*	*8.91*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.03**	*8.42*	*8.59*	*9.67*	*10.54*	*11.91*	*12.24*	*12.45*	**15.16**	*9.91*	*11.77*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.84**	*13.25*	*13.18*	*12.87*	*12.88*	*13.65*	*13.70*	*13.39*	**13.04**	*13.04*	*13.41*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.33**	*10.43*	*10.79*	*10.41*	*10.35*	*10.70*	*11.20*	*10.84*	**10.66**	*10.50*	*10.79*
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.45**	*6.55*	*7.25*	*6.78*	*6.72*	*6.88*	*7.52*	*6.89*	**6.83**	*6.77*	*7.02*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	*25.99*	*33.93*	*31.27*	*31.19*	*31.30*	*35.25*	*32.24*	**56.24**	*28.65*	*32.50*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	*25.55*	*25.33*	*31.15*	*31.92*	*29.54*	*31.38*	*32.67*	**38.15**	*27.67*	*31.38*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	*24.06*	*24.18*	*31.43*	*42.02*	*27.42*	*29.61*	*36.27*	**34.89**	*26.07*	*33.83*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	*23.12*	*24.28*	*24.80*	*25.88*	*25.00*	*27.29*	*26.04*	**30.56**	*23.50*	*26.05*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	*28.82*	*31.56*	*28.10*	*29.83*	*29.48*	*33.03*	*29.44*	**30.85**	*27.74*	*30.45*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	*27.57*	*30.12*	*27.02*	*27.38*	*28.03*	*30.90*	*27.40*	**29.51**	*27.28*	*28.43*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	*24.03*	*28.14*	*24.52*	*23.56*	*24.76*	*29.32*	*24.63*	**27.86**	*24.19*	*25.57*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	*30.07*	*32.73*	*29.65*	*30.50*	*30.87*	*34.00*	*30.93*	**30.25**	*29.01*	*31.57*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	*28.50*	*28.79*	*29.84*	*31.20*	*29.47*	*31.62*	*31.96*	**30.10**	*28.34*	*31.06*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	*19.66*	*20.76*	*26.56*	*27.45*	*23.15*	*26.53*	*28.01*	**36.12**	*22.44*	*26.29*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	*24.30*	*24.59*	*28.28*	*27.85*	*26.54*	*28.50*	*27.59*	**35.26**	*24.81*	*27.62*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	**11.7**	*10.1*	*13.4*	*11.0*	*12.5*	*10.4*	*13.3*	*10.8*	**46.1**	*46.2*	*47.1*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	**33.0**	*28.7*	*40.0*	*29.3*	*34.8*	*29.0*	*39.7*	*29.2*	**133.1**	*130.9*	*132.7*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	**47.3**	*40.2*	*53.4*	*43.0*	*49.7*	*40.4*	*53.2*	*42.8*	**185.9**	*183.9*	*186.0*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	**28.4**	*22.8*	*30.1*	*24.8*	*29.3*	*23.1*	*29.9*	*24.8*	**105.4**	*106.1*	*107.1*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	**84.1**	*84.2*	*110.7*	*81.4*	*91.6*	*85.9*	*111.2*	*81.5*	**368.5**	*360.4*	*370.2*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	**28.6**	*26.0*	*37.0*	*26.3*	*31.5*	*26.7*	*37.1*	*26.3*	**121.1**	*117.9*	*121.6*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	**50.5**	*52.4*	*75.9*	*48.5*	*52.2*	*52.3*	*76.3*	*48.9*	**227.1**	*227.3*	*229.6*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	**23.3**	*23.8*	*33.3*	*22.0*	*23.3*	*23.8*	*33.6*	*22.2*	**100.2**	*102.4*	*102.9*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	**37.9**	*30.6*	*39.5*	*35.7*	*37.8*	*30.9*	*39.6*	*35.8*	**143.1**	*143.7*	*144.1*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	**1.2**	*1.1*	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.2*	**4.7**	*4.8*	*4.8*
Total	**361.4**	**309.2**	**433.8**	**330.7**	**346.0**	*320.0*	*434.4*	*323.2*	*363.9*	*323.6*	*435.1*	*323.4*	**1,435.1**	*1,423.5*	*1,445.9*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	**12.2**	*11.0*	*11.4*	*9.3*	*9.6*	*11.0*	*12.8*	*11.1*	**51.2**	*43.8*	*44.5*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	**36.8**	*32.7*	*37.1*	*32.9*	*34.5*	*32.7*	*38.1*	*34.3*	**152.6**	*139.5*	*139.6*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	**43.8**	*40.7*	*46.1*	*41.2*	*42.1*	*40.9*	*47.5*	*43.0*	**181.6**	*171.8*	*173.4*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**25.2**	*23.6*	*27.0*	*24.4*	*24.7*	*23.8*	*27.5*	*25.1*	**102.5**	*100.2*	*101.1*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	**71.1**	*74.6*	*83.5*	*71.2*	*68.5*	*74.8*	*86.1*	*74.3*	**317.0**	*300.4*	*303.8*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	**20.7**	*21.6*	*25.6*	*20.7*	*20.3*	*21.8*	*26.2*	*21.3*	**92.3**	*88.6*	*89.6*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	**44.1**	*47.4*	*56.1*	*45.4*	*43.4*	*47.8*	*57.7*	*47.0*	**195.7**	*193.0*	*195.9*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	**23.1**	*24.1*	*27.3*	*22.9*	*22.5*	*24.3*	*28.0*	*23.7*	**98.2**	*97.4*	*98.6*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	**37.6**	*35.4*	*40.2*	*37.3*	*35.7*	*34.8*	*39.9*	*37.3*	**157.9**	*150.5*	*147.7*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	**1.4**	*1.4*	*1.5*	*1.5*	*1.4*	*1.4*	*1.5*	*1.5*	**5.7**	*5.7*	*5.7*
Total	**319.9**	**328.2**	**381.8**	**324.6**	**316.0**	*312.5*	*355.7*	*306.8*	*302.7*	*313.3*	*365.3*	*318.5*	**1,354.5**	*1,290.9*	*1,299.8*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	**3.5**	*3.3*	*3.7*	*3.6*	*3.3*	*3.2*	*3.7*	*3.6*	**15.4**	*14.2*	*13.9*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	**17.9**	*17.1*	*19.1*	*17.7*	*17.2*	*17.0*	*19.4*	*18.0*	**73.2**	*71.8*	*71.6*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	**42.0**	*37.7*	*41.0*	*38.9*	*37.5*	*35.4*	*39.5*	*37.5*	**181.5**	*159.6*	*149.8*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	**21.1**	*20.7*	*22.2*	*20.9*	*20.2*	*20.9*	*23.0*	*21.7*	**88.3**	*84.9*	*85.8*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	**32.6**	*33.4*	*34.4*	*32.1*	*31.3*	*33.3*	*34.9*	*32.5*	**137.5**	*132.5*	*132.0*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	**23.1**	*23.0*	*23.1*	*21.8*	*21.8*	*22.8*	*23.5*	*22.3*	**94.7**	*91.0*	*90.4*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	**45.7**	*47.0*	*48.7*	*45.6*	*44.3*	*47.5*	*50.2*	*47.2*	**189.5**	*187.0*	*189.2*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	**20.1**	*21.3*	*23.4*	*20.2*	*19.8*	*21.7*	*24.0*	*20.7*	**84.1**	*84.9*	*86.1*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	**19.0**	*20.0*	*22.7*	*19.7*	*18.2*	*19.7*	*22.5*	*19.5*	**83.1**	*81.4*	*79.8*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	*1.3*	**4.9**	*4.8*	*4.9*
Total	**228.2**	**237.7**	**254.2**	**232.1**	**226.0**	*224.8*	*239.6*	*221.7*	*214.8*	*222.7*	*241.9*	*224.3*	**952.1**	*912.1*	*903.7*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	**27.6**	*24.5*	*28.6*	*24.0*	*25.6*	*24.8*	*30.0*	*25.6*	**113.3**	*104.7*	*106.0*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	**88.7**	*79.5*	*97.2*	*80.8*	*87.6*	*79.6*	*98.2*	*82.4*	**362.8**	*346.1*	*347.8*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	**133.3**	*118.7*	*140.6*	*123.3*	*129.4*	*116.8*	*140.2*	*123.4*	**549.6**	*515.9*	*509.8*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	**74.6**	*67.2*	*79.2*	*70.2*	*74.2*	*67.9*	*80.4*	*71.6*	**296.2**	*291.2*	*294.0*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	**188.2**	*192.6*	*228.9*	*185.0*	*191.8*	*194.4*	*232.6*	*188.6*	**824.3**	*794.6*	*807.4*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	**72.4**	*70.7*	*85.7*	*68.8*	*73.6*	*71.3*	*86.8*	*69.9*	**308.1**	*297.5*	*301.5*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	**140.3**	*146.9*	*180.7*	*139.5*	*140.0*	*147.6*	*184.2*	*143.1*	**612.4**	*607.5*	*614.9*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	**66.6**	*69.2*	*84.0*	*65.1*	*65.7*	*69.8*	*85.6*	*66.7*	**282.7**	*284.9*	*287.8*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	**94.6**	*86.3*	*102.6*	*92.9*	*91.9*	*85.6*	*102.2*	*92.8*	**384.9**	*376.5*	*372.5*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.7**	*3.7*	*4.0*	*4.0*	*3.7*	*3.7*	*4.0*	*4.0*	**15.2**	*15.4*	*15.3*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	**890.0**	*859.1*	*1,031.6*	*853.6*	*883.4*	*861.4*	*1,044.2*	*868.1*	**3,749.5**	*3,634.3*	*3,657.1*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.57**	**20.70**	**20.87**	**21.94**	*21.26*	*20.12*	*20.17*	*21.30*	*21.40*	*21.13*	*22.02*	**21.14**	*20.84*	*21.44*
Middle Atlantic	**15.19**	**16.06**	**16.15**	**15.78**	**15.51**	*15.80*	*15.81*	*15.69*	*15.79*	*16.62*	*16.80*	*16.48*	**15.79**	*15.71*	*16.43*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.30**	**13.00**	*13.77*	*13.36*	*13.59*	*13.38*	*14.40*	*13.99*	*14.12*	**13.30**	*13.41*	*13.94*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.24**	**10.99**	*12.91*	*13.18*	*11.65*	*11.39*	*13.49*	*13.75*	*12.04*	**11.87**	*12.18*	*12.65*
S. Atlantic	**11.70**	**12.17**	**12.11**	**11.87**	**11.75**	*12.00*	*11.87*	*11.66*	*11.47*	*12.08*	*12.16*	*12.05*	**11.97**	*11.82*	*11.95*
E. S. Central	**11.10**	**11.70**	**11.37**	**11.23**	**11.35**	*11.78*	*11.63*	*11.79*	*11.50*	*12.18*	*12.02*	*12.16*	**11.34**	*11.63*	*11.95*
W. S. Central	**10.88**	**11.50**	**11.36**	**11.23**	**10.85**	*11.11*	*11.03*	*11.08*	*10.79*	*11.46*	*11.57*	*11.64*	**11.25**	*11.02*	*11.38*
Mountain	**11.51**	**12.18**	**12.23**	**11.59**	**11.38**	*12.10*	*12.20*	*11.68*	*11.64*	*12.51*	*12.67*	*12.10*	**11.91**	*11.88*	*12.28*
Pacific	**14.86**	**15.88**	**17.31**	**14.64**	**15.54**	*16.55*	*17.59*	*14.60*	*15.70*	*17.17*	*18.08*	*14.98*	**15.68**	*16.09*	*16.49*
U.S. Average	**12.68**	**13.33**	**13.27**	**12.85**	**12.84**	*13.25*	*13.18*	*12.87*	*12.88*	*13.65*	*13.70*	*13.39*	**13.04**	*13.04*	*13.41*
Commercial Sector															
New England	**16.83**	**16.24**	**15.97**	**15.76**	**16.37**	*15.93*	*15.81*	*15.77*	*16.50*	*16.11*	*16.23*	*16.41*	**16.20**	*15.99*	*16.30*
Middle Atlantic	**11.57**	**12.18**	**13.03**	**11.97**	**11.47**	*11.55*	*12.26*	*11.52*	*11.44*	*11.99*	*12.93*	*12.04*	**12.21**	*11.71*	*12.12*
E. N. Central	**10.14**	**10.29**	**10.09**	**10.05**	**10.06**	*10.19*	*10.05*	*10.12*	*10.27*	*10.55*	*10.45*	*10.46*	**10.14**	*10.10*	*10.43*
W. N. Central	**8.98**	**10.04**	**10.41**	**9.11**	**9.12**	*10.21*	*10.70*	*9.49*	*9.60*	*10.81*	*11.24*	*9.82*	**9.65**	*9.89*	*10.38*
S. Atlantic	**9.44**	**9.37**	**9.35**	**9.35**	**9.28**	*9.17*	*9.13*	*9.15*	*9.18*	*9.25*	*9.38*	*9.48*	**9.37**	*9.18*	*9.33*
E. S. Central	**10.70**	**10.70**	**10.65**	**10.63**	**10.83**	*10.83*	*10.98*	*11.17*	*11.25*	*11.30*	*11.37*	*11.50*	**10.67**	*10.95*	*11.36*
W. S. Central	**8.12**	**8.00**	**8.30**	**8.07**	**7.86**	*7.73*	*8.07*	*7.97*	*7.91*	*7.94*	*8.32*	*8.12*	**8.13**	*7.92*	*8.09*
Mountain	**9.20**	**9.71**	**10.00**	**9.18**	**9.08**	*9.64*	*9.97*	*9.23*	*9.23*	*9.93*	*10.31*	*9.51*	**9.55**	*9.50*	*9.78*
Pacific	**12.98**	**14.15**	**16.35**	**14.44**	**13.23**	*14.08*	*16.11*	*14.25*	*13.18*	*14.38*	*16.89*	*15.25*	**14.54**	*14.45*	*14.99*
U.S. Average	**10.43**	**10.64**	**11.00**	**10.53**	**10.33**	*10.43*	*10.79*	*10.41*	*10.35*	*10.70*	*11.20*	*10.84*	**10.66**	*10.50*	*10.79*
Industrial Sector															
New England	**13.45**	**12.89**	**12.66**	**12.70**	**12.90**	*12.39*	*12.45*	*12.71*	*13.28*	*12.87*	*12.78*	*12.81*	**12.92**	*12.62*	*12.93*
Middle Atlantic	**6.73**	**6.52**	**6.54**	**6.40**	**6.26**	*6.08*	*6.32*	*6.40*	*6.57*	*6.47*	*6.56*	*6.41*	**6.55**	*6.27*	*6.50*
E. N. Central	**7.03**	**6.84**	**6.83**	**6.76**	**6.67**	*6.74*	*6.89*	*6.96*	*7.01*	*7.12*	*7.18*	*7.12*	**6.87**	*6.81*	*7.11*
W. N. Central	**7.13**	**7.33**	**8.09**	**6.87**	**7.18**	*7.56*	*8.40*	*7.15*	*7.50*	*7.87*	*8.68*	*7.35*	**7.37**	*7.58*	*7.87*
S. Atlantic	**6.22**	**6.28**	**6.72**	**6.18**	**5.98**	*6.05*	*6.59*	*6.19*	*6.16*	*6.29*	*6.77*	*6.24*	**6.36**	*6.21*	*6.37*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.61**	**5.47**	*5.60*	*5.92*	*5.68*	*5.69*	*5.84*	*6.07*	*5.72*	**5.76**	*5.67*	*5.83*
W. S. Central	**5.25**	**5.28**	**6.05**	**5.29**	**5.02**	*5.01*	*5.96*	*5.43*	*5.33*	*5.41*	*6.29*	*5.53*	**5.48**	*5.36*	*5.65*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	**5.95**	*6.10*	*6.72*	*5.93*	*6.10*	*6.32*	*6.92*	*6.03*	**6.29**	*6.19*	*6.37*
Pacific	**8.65**	**9.45**	**11.26**	**10.16**	**9.08**	*9.71*	*11.59*	*10.56*	*9.48*	*10.20*	*12.11*	*10.93*	**9.95**	*10.29*	*10.75*
U.S. Average	**6.66**	**6.71**	**7.25**	**6.66**	**6.45**	*6.55*	*7.25*	*6.78*	*6.72*	*6.88*	*7.52*	*6.89*	**6.83**	*6.77*	*7.02*
All Sectors (a)															
New England	**18.35**	**17.72**	**17.50**	**17.33**	**18.26**	*17.61*	*17.35*	*17.29*	*18.39*	*17.87*	*17.95*	*18.24*	**17.73**	*17.64*	*18.11*
Middle Atlantic	**12.01**	**12.27**	**12.99**	**12.10**	**11.91**	*11.90*	*12.54*	*11.91*	*12.20*	*12.49*	*13.23*	*12.37*	**12.37**	*12.08*	*12.60*
E. N. Central	**10.13**	**10.12**	**10.20**	**10.03**	**10.04**	*10.31*	*10.38*	*10.33*	*10.51*	*10.84*	*10.87*	*10.71*	**10.12**	*10.26*	*10.73*
W. N. Central	**9.14**	**10.03**	**10.64**	**9.17**	**9.29**	*10.31*	*11.00*	*9.56*	*9.74*	*10.81*	*11.44*	*9.84*	**9.76**	*10.05*	*10.48*
S. Atlantic	**9.92**	**10.01**	**10.24**	**9.90**	**9.81**	*9.86*	*10.08*	*9.74*	*9.78*	*9.99*	*10.32*	*10.03*	**10.03**	*9.88*	*10.04*
E. S. Central	**9.30**	**9.43**	**9.65**	**9.27**	**9.32**	*9.48*	*9.90*	*9.67*	*9.71*	*9.88*	*10.21*	*9.91*	**9.42**	*9.61*	*9.94*
W. S. Central	**8.22**	**8.28**	**8.94**	**8.28**	**8.01**	*8.07*	*8.74*	*8.22*	*8.17*	*8.37*	*9.11*	*8.47*	**8.47**	*8.29*	*8.57*
Mountain	**9.12**	**9.43**	**9.98**	**8.98**	**8.94**	*9.40*	*9.95*	*9.04*	*9.14*	*9.69*	*10.29*	*9.29*	**9.42**	*9.37*	*9.65*
Pacific	**12.87**	**13.63**	**15.55**	**13.59**	**13.31**	*13.93*	*15.66*	*13.59*	*13.48*	*14.41*	*16.29*	*14.22*	**13.96**	*14.16*	*14.65*
U.S. Average	**10.37**	**10.52**	**11.03**	**10.38**	**10.32**	*10.47*	*10.97*	*10.40*	*10.50*	*10.82*	*11.39*	*10.77*	**10.60**	*10.56*	*10.89*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	**346.8**	*364.7*	*454.5*	*325.5*	*285.1*	*323.5*	*426.6*	*315.4*	**1,474.7**	*1,491.6*	*1,350.6*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	**188.3**	*153.8*	*236.5*	*188.3*	*228.2*	*176.3*	*265.2*	*208.1*	**959.5**	*766.9*	*877.7*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.1**	*186.3*	*205.4*	*199.8*	*199.8*	*188.7*	*201.6*	*190.6*	**809.4**	*795.6*	*780.7*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	**183.8**	*210.6*	*180.4*	*185.8*	*204.6*	*227.3*	*197.5*	*200.3*	**688.0**	*760.7*	*829.8*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	**74.3**	*84.5*	*68.7*	*63.3*	*74.5*	*80.5*	*64.3*	*61.9*	**272.4**	*290.7*	*281.1*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**84.2**	*88.7*	*71.9*	*93.9*	*99.5*	*100.7*	*82.9*	*102.9*	**299.8**	*338.8*	*386.0*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	**15.5**	*26.5*	*28.3*	*18.0*	*20.4*	*35.3*	*38.5*	*24.4*	**71.5**	*88.2*	*118.5*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**6.2**	*7.1*	*7.2*	*6.9*	*7.0*	*6.9*	*7.6*	*7.3*	**28.8**	*27.3*	*28.8*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.6**	*3.9*	*4.3*	*3.9*	*3.3*	*3.9*	*4.3*	*3.8*	**15.6**	*15.6*	*15.3*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.1**	*-0.5*	*-1.7*	*-1.3*	*-1.2*	*-0.8*	*-1.8*	*-1.4*	**-5.3**	*-4.7*	*-5.1*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	**4.6**	*4.3*	*4.6*	*3.3*	*4.1*	*4.2*	*4.4*	*3.5*	**17.3**	*16.7*	*16.2*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	**1.3**	*1.0*	*1.1*	*0.9*	*1.2*	*1.0*	*1.1*	*0.8*	**4.3**	*4.3*	*4.1*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	**1.9**	*2.0*	*1.9*	*1.7*	*1.7*	*1.9*	*1.9*	*1.8*	**7.7**	*7.6*	*7.2*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	**929.7**	*922.2*	*1,082.9*	*904.0*	*923.5*	*922.1*	*1,096.5*	*919.0*	**3,955.8**	*3,838.7*	*3,861.2*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	**12.5**	*12.0*	*15.1*	*10.0*	*9.6*	*8.6*	*13.8*	*10.9*	**46.9**	*49.6*	*42.9*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	**0.5**	*0.3*	*0.3*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.4**	*5.5*	*7.2*	*6.3*	*7.1*	*7.0*	*7.2*	*5.7*	**29.8**	*26.5*	*27.0*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	**2.0**	*1.9*	*1.5*	*1.6*	*2.0*	*1.8*	*1.4*	*1.5*	**7.0**	*7.1*	*6.7*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	**2.3**	*2.9*	*2.7*	*2.6*	*3.0*	*2.8*	*2.7*	*2.9*	**10.3**	*10.3*	*11.3*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*1.5*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	**24.7**	*22.8*	*26.9*	*20.9*	*22.2*	*20.6*	*25.5*	*21.5*	**96.1**	*95.3*	*89.7*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**27.9**	**28.6**	*26.1*	*30.7*	*26.6*	*27.9*	*26.4*	*31.7*	*27.7*	**115.2**	*112.0*	*113.8*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	**14.5**	*16.1*	*20.2*	*14.7*	*14.4*	*17.0*	*22.3*	*15.9*	**54.0**	*65.5*	*69.5*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	**0.4**	*0.2*	*0.3*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.8**	*8.8*	*8.7*	*9.1*	*9.0*	*7.6*	*7.0*	*6.8*	**44.9**	*37.4*	*30.4*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	**7.6**	*7.3*	*7.8*	*7.3*	*7.4*	*6.8*	*7.4*	*7.0*	**29.5**	*30.0*	*28.5*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	**1.7**	*1.9*	*1.6*	*1.9*	*2.2*	*2.4*	*2.2*	*3.0*	**6.5**	*7.1*	*9.8*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	**0.2**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	**0.9**	*0.7*	*0.7*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	**34.8**	*34.3*	*38.6*	*33.2*	*33.2*	*33.9*	*39.2*	*33.0*	**136.2**	*141.0*	*139.2*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	**36.7**	*35.4*	*42.5*	*35.6*	*36.7*	*35.6*	*43.2*	*36.3*	**150.6**	*150.2*	*151.9*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	**75.2**	*74.6*	*93.5*	*67.3*	*64.7*	*71.0*	*89.0*	*64.8*	**295.1**	*310.7*	*289.5*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	**44.5**	*24.4*	*40.1*	*35.8*	*57.2*	*30.2*	*49.2*	*42.1*	**184.3**	*144.7*	*178.6*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.4**	*66.4*	*69.4*	*70.0*	*68.3*	*65.7*	*70.3*	*68.7*	**277.9**	*274.2*	*272.9*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	**3.0**	*2.5*	*1.8*	*2.2*	*2.9*	*2.3*	*1.7*	*2.1*	**10.6**	*9.4*	*9.0*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	**9.5**	*10.2*	*7.9*	*10.2*	*10.8*	*11.5*	*9.0*	*10.9*	**34.1**	*37.8*	*42.3*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	**0.8**	*0.8*	*0.5*	*0.4*	*0.9*	*0.9*	*0.5*	*0.3*	**2.5**	*2.6*	*2.5*
Total generation	**205.4**	**185.6**	**224.1**	**189.2**	**201.4**	*178.9*	*213.2*	*185.9*	*204.7*	*181.5*	*219.6*	*188.9*	**804.4**	*779.4*	*794.8*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	**186.0**	*169.3*	*201.0*	*174.8*	*189.1*	*170.2*	*204.3*	*178.4*	**760.9**	*731.1*	*742.0*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	**60.8**	*67.1*	*75.6*	*60.6*	*56.3*	*62.6*	*71.3*	*60.6*	**252.9**	*264.1*	*250.9*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**25.0**	*34.7*	*44.1*	*29.6*	*32.4*	*35.7*	*48.0*	*31.4*	**159.8**	*133.4*	*147.6*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.1**	*49.0*	*54.8*	*52.9*	*52.5*	*52.0*	*54.9*	*51.8*	**211.0**	*209.8*	*211.3*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	**9.9**	*8.1*	*6.7*	*8.0*	*9.6*	*7.5*	*6.4*	*7.6*	**35.5**	*32.7*	*31.0*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	**3.0**	*4.8*	*4.5*	*3.3*	*3.9*	*6.0*	*5.9*	*3.9*	**13.2**	*15.5*	*19.6*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	*0.1*	*-0.5*	*-0.4*	*-0.1*	*-0.1*	*-0.7*	*-0.4*	**-1.2**	*-0.9*	*-1.3*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	**151.6**	*163.8*	*185.1*	*154.0*	*154.5*	*163.8*	*185.8*	*155.0*	**671.1**	*654.5*	*659.1*
Net energy for load (f)	**163.9**	**158.5**	**197.9**	**157.3**	**155.9**	*159.9*	*186.4*	*153.6*	*160.9*	*159.0*	*188.3*	*156.1*	**677.6**	*655.8*	*664.4*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	**36.4**	*48.0*	*50.3*	*37.9*	*30.4*	*46.6*	*47.8*	*37.3*	**174.4**	*172.7*	*162.1*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**3.2**	*1.1*	*3.7*	*3.9*	*6.3*	*2.1*	*6.6*	*5.3*	**18.6**	*12.0*	*20.3*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	*7.0*	*7.4*	*7.7*	*7.9*	*6.9*	*7.0*	*7.1*	**29.1**	*29.4*	*28.9*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.7**	*2.2*	*2.1*	*1.8*	*2.3*	*2.9*	*2.8*	*2.3*	**6.2**	*7.8*	*10.2*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	*0.9*	*0.8*	*0.7*	*0.8*	*0.8*	*0.7*	*0.7*	**3.1**	*3.3*	*3.1*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	**49.6**	*59.2*	*64.4*	*52.1*	*47.8*	*59.3*	*65.0*	*52.7*	**231.7**	*225.3*	*224.8*
Net energy for load (f)	**48.0**	**58.4**	**69.4**	**53.1**	**49.2**	*57.3*	*66.0*	*51.0*	*47.4*	*57.8*	*67.2*	*52.0*	**229.0**	*223.5*	*224.3*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	**45.7**	*47.6*	*55.7*	*42.1*	*36.7*	*40.7*	*52.4*	*39.8*	**177.2**	*191.1*	*169.7*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	**56.3**	*52.7*	*71.0*	*55.9*	*65.9*	*54.4*	*76.4*	*63.3*	**276.2**	*236.0*	*260.1*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	*22.4*	*26.9*	*25.0*	*24.6*	*23.9*	*24.9*	*22.4*	**102.3**	*100.8*	*95.8*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	**2.2**	*2.3*	*1.7*	*1.8*	*2.2*	*2.2*	*1.6*	*1.8*	**8.0**	*8.1*	*7.8*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	**18.8**	*19.8*	*15.8*	*22.6*	*22.5*	*23.1*	*18.4*	*24.5*	**66.1**	*77.0*	*88.5*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	**2.1**	*1.7*	*1.7*	*0.9*	*1.4*	*1.6*	*1.6*	*1.2*	**6.0**	*6.4*	*5.8*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	**151.7**	*146.5*	*172.8*	*148.3*	*153.4*	*146.0*	*175.4*	*153.0*	**635.7**	*619.4*	*627.7*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	**157.3**	*152.9*	*175.6*	*152.6*	*154.5*	*150.9*	*176.3*	*153.7*	**645.6**	*638.4*	*635.3*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	**16.6**	*15.0*	*22.6*	*12.8*	*10.9*	*11.9*	*21.4*	*12.0*	**71.1**	*67.0*	*56.2*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	**19.0**	*10.2*	*25.4*	*14.5*	*17.5*	*11.4*	*24.3*	*14.0*	**93.3**	*69.2*	*67.2*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	*4.3*	*4.3*	*3.5*	*4.0*	*3.3*	*4.4*	*4.4*	**16.2**	*16.6*	*16.0*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	**3.6**	*3.7*	*2.6*	*2.9*	*3.4*	*3.5*	*2.4*	*2.8*	**13.7**	*12.8*	*12.1*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	**19.3**	*19.9*	*16.9*	*23.0*	*23.6*	*23.5*	*20.9*	*25.9*	**75.0**	*79.1*	*94.0*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	**0.2**	*0.3*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	**0.8**	*0.7*	*0.5*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	**63.0**	*53.4*	*72.0*	*56.9*	*59.4*	*53.9*	*73.4*	*59.2*	**270.1**	*245.3*	*245.9*
Net energy for load (f)	**62.5**	**68.4**	**73.6**	**61.8**	**62.7**	*58.0*	*70.9*	*57.2*	*58.5*	*59.0*	*72.9*	*59.2*	**266.2**	*248.8*	*249.6*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	**35.8**	*43.4*	*51.4*	*29.0*	*24.6*	*31.3*	*43.8*	*24.5*	**180.1**	*159.6*	*124.3*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	**11.8**	*10.1*	*20.0*	*15.7*	*14.9*	*16.2*	*22.8*	*18.1*	**75.2**	*57.4*	*72.0*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	*9.2*	*10.8*	*10.2*	*10.9*	*9.7*	*10.2*	*9.6*	**41.3**	*40.6*	*40.3*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	**0.3**	*0.3*	*0.1*	*0.1*	*0.3*	*0.2*	*0.1*	*0.1*	**0.7**	*0.8*	*0.7*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	**23.6**	*27.1*	*23.7*	*25.0*	*27.2*	*32.8*	*31.1*	*29.7*	**81.1**	*99.5*	*120.8*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.6**	*1.5*	*1.5*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	**82.4**	*90.4*	*106.3*	*80.3*	*78.3*	*90.5*	*108.4*	*82.4*	**380.2**	*359.5*	*359.6*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	**82.4**	*90.4*	*106.3*	*80.3*	*78.3*	*90.5*	*108.4*	*82.4*	**380.2**	*359.5*	*359.6*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	**20.9**	*11.5*	*23.0*	*14.9*	*12.5*	*9.3*	*18.9*	*12.7*	**89.2**	*70.4*	*53.4*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	**20.4**	*13.5*	*23.7*	*24.6*	*26.8*	*18.9*	*30.5*	*26.9*	**105.1**	*82.2*	*103.1*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.5**	*2.3*	*2.4*	*2.5*	*2.4*	*1.1*	*2.4*	*2.5*	**8.9**	*9.7*	*8.4*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	**36.6**	*41.7*	*31.6*	*30.9*	*38.3*	*41.2*	*29.6*	*30.9*	**118.0**	*140.7*	*140.0*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	**14.6**	*14.5*	*13.3*	*14.5*	*18.4*	*17.3*	*15.7*	*16.6*	**48.4**	*56.9*	*68.1*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.8*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	**95.1**	*83.8*	*94.1*	*87.5*	*98.5*	*88.1*	*97.4*	*89.7*	**370.5**	*360.6*	*373.8*
Net energy for load (f)	**94.5**	**83.1**	**92.1**	**87.7**	**87.5**	*80.9*	*90.2*	*84.8*	*86.5*	*80.8*	*90.2*	*85.2*	**357.4**	*343.3*	*342.8*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	**11.6**	*14.3*	*18.1*	*11.6*	*11.8*	*15.7*	*22.5*	*13.5*	**56.5**	*55.5*	*63.5*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	**6.5**	*5.5*	*6.5*	*5.3*	*5.1*	*4.6*	*4.7*	*4.0*	**36.7**	*23.8*	*18.5*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	*7.4*	*8.6*	*7.6*	*8.6*	*7.5*	*8.6*	*7.6*	**31.9**	*31.9*	*32.2*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	**2.9**	*4.0*	*4.2*	*2.7*	*2.8*	*3.5*	*3.8*	*2.5*	**13.9**	*13.8*	*12.6*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	**2.5**	*3.0*	*2.7*	*2.7*	*3.9*	*4.2*	*3.8*	*3.5*	**9.9**	*11.0*	*15.5*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.0**	*0.0*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	**31.8**	*34.3*	*40.2*	*29.8*	*32.2*	*35.6*	*43.5*	*31.1*	**148.9**	*136.1*	*142.3*
Net energy for load (f)	**18.2**	**23.1**	**34.0**	**22.3**	**21.7**	*26.7*	*34.1*	*23.0*	*22.3*	*26.8*	*34.5*	*23.3*	**97.6**	*105.5*	*106.9*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	**16.0**	*14.2*	*28.3*	*23.9*	*12.5*	*8.0*	*22.6*	*22.6*	**74.2**	*82.4*	*65.7*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.1**	*1.2*	*1.4*	*2.3*	*1.5*	*2.3*	*1.9*	*2.3*	**7.5**	*6.0*	*8.1*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.9**	*3.8*	*4.9*	*4.9*	*4.5*	*4.1*	*4.9*	*3.8*	**16.2**	*18.5*	*17.4*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	**5.8**	*12.3*	*10.3*	*5.3*	*5.2*	*11.1*	*9.5*	*5.0*	**34.0**	*33.7*	*30.8*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	**12.2**	*19.4*	*20.0*	*14.5*	*12.1*	*19.7*	*20.3*	*14.7*	**63.7**	*66.1*	*66.9*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	*0.2*	*0.3*	*0.0*	*-0.1*	*0.2*	*0.2*	*0.0*	**0.2**	*0.5*	*0.3*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	**39.9**	*51.2*	*65.2*	*50.9*	*35.8*	*45.5*	*59.4*	*48.6*	**195.8**	*207.2*	*189.2*
Net energy for load (f)	**59.9**	**62.5**	**76.4**	**61.6**	**57.7**	*61.7*	*75.3*	*60.5*	*57.6*	*61.6*	*75.6*	*60.9*	**260.2**	*255.1*	*255.7*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	**0.033**	*0.035*	*0.039*	*0.035*	*0.030*	*0.036*	*0.040*	*0.034*	**0.142**	*0.143*	*0.140*
Hydroelectric Power (a)	**0.650**	**0.745**	**0.554**	**0.535**	**0.651**	*0.762*	*0.615*	*0.571*	*0.658*	*0.736*	*0.583*	*0.562*	**2.484**	*2.600*	*2.539*
Solar (b)	**0.122**	**0.201**	**0.208**	**0.128**	**0.143**	*0.244*	*0.260*	*0.166*	*0.188*	*0.325*	*0.355*	*0.225*	**0.659**	*0.813*	*1.092*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	**0.055**	*0.058*	*0.059*	*0.059*	*0.057*	*0.058*	*0.060*	*0.060*	**0.236**	*0.231*	*0.235*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	**0.041**	*0.052*	*0.053*	*0.048*	*0.052*	*0.049*	*0.058*	*0.054*	**0.211**	*0.194*	*0.212*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.776**	*0.817*	*0.662*	*0.865*	*0.917*	*0.928*	*0.763*	*0.948*	**2.762**	*3.121*	*3.556*
Subtotal	**1.604**	**1.815**	**1.527**	**1.548**	**1.698**	*1.969*	*1.690*	*1.744*	*1.901*	*2.132*	*1.858*	*1.883*	**6.494**	*7.101*	*7.775*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.201**	*0.123*	*0.145*	*0.169*	*0.184*	*0.192*	*0.194*	*0.197*	**0.799**	*0.638*	*0.767*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	*0.003*	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.006**	*0.009*	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.029**	*0.032*	*0.036*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.041**	*0.039*	*0.039*	*0.042*	*0.041*	*0.040*	*0.039*	*0.042*	**0.160**	*0.162*	*0.161*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.343**	*0.342*	*0.351*	*0.351*	*0.339*	*0.338*	*0.351*	*0.354*	**1.473**	*1.386*	*1.382*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.593**	*0.511*	*0.542*	*0.570*	*0.573*	*0.577*	*0.593*	*0.600*	**2.466**	*2.217*	*2.343*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.023*	*0.023*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.022**	**0.026**	*0.037*	*0.037*	*0.026*	*0.030*	*0.042*	*0.043*	*0.030*	**0.108**	*0.126*	*0.145*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.010**	*0.008*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.020*	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.084*	*0.084*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.069**	*0.077*	*0.080*	*0.069*	*0.072*	*0.084*	*0.086*	*0.073*	**0.280**	*0.294*	*0.315*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.059**	*0.089*	*0.088*	*0.061*	*0.066*	*0.100*	*0.102*	*0.070*	**0.256**	*0.297*	*0.338*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.128**	*0.132*	*0.133*	*0.133*	*0.128*	*0.132*	*0.133*	*0.133*	**0.529**	*0.526*	*0.526*
Subtotal	**0.190**	**0.218**	**0.221**	**0.196**	**0.197**	*0.230*	*0.232*	*0.204*	*0.203*	*0.242*	*0.245*	*0.214*	**0.824**	*0.862*	*0.904*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.070**	*0.069*	*0.063*	*0.069*	*0.084*	*0.092*	*0.079*	*0.087*	**0.265**	*0.270*	*0.342*
Ethanol (f)	**0.274**	**0.293**	**0.291**	**0.296**	**0.272**	*0.214*	*0.253*	*0.292*	*0.257*	*0.281*	*0.285*	*0.280*	**1.154**	*1.030*	*1.103*
Subtotal	**0.333**	**0.365**	**0.361**	**0.361**	**0.341**	*0.282*	*0.316*	*0.360*	*0.341*	*0.373*	*0.364*	*0.367*	**1.419**	*1.300*	*1.445*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.070**	*0.069*	*0.063*	*0.069*	*0.084*	*0.092*	*0.079*	*0.087*	**0.265**	*0.270*	*0.342*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.201**	*0.123*	*0.145*	*0.169*	*0.184*	*0.192*	*0.194*	*0.197*	**0.799**	*0.638*	*0.767*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.307**	**0.282**	*0.222*	*0.262*	*0.303*	*0.266*	*0.292*	*0.296*	*0.291*	**1.199**	*1.070*	*1.146*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.049**	*0.052*	*0.056*	*0.052*	*0.047*	*0.052*	*0.056*	*0.051*	**0.209**	*0.209*	*0.207*
Hydroelectric Power (a)	**0.653**	**0.748**	**0.557**	**0.538**	**0.654**	*0.766*	*0.618*	*0.574*	*0.661*	*0.740*	*0.586*	*0.565*	**2.496**	*2.612*	*2.551*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.234**	*0.379*	*0.395*	*0.259*	*0.290*	*0.479*	*0.510*	*0.333*	**1.044**	*1.268*	*1.612*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.106**	*0.106*	*0.107*	*0.110*	*0.108*	*0.106*	*0.109*	*0.111*	**0.433**	*0.429*	*0.433*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.532**	*0.546*	*0.559*	*0.553*	*0.540*	*0.539*	*0.564*	*0.562*	**2.297**	*2.190*	*2.204*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.776**	*0.817*	*0.662*	*0.865*	*0.917*	*0.928*	*0.763*	*0.948*	**2.762**	*3.121*	*3.556*
Total Consumption	**2.809**	**3.085**	**2.798**	**2.792**	**2.898**	*3.069*	*2.860*	*2.947*	*3.090*	*3.408*	*3.146*	*3.136*	**11.484**	*11.774*	*12.781*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,947**	**6,900**	**6,801**	**6,811**	**6,812**	*6,746*	*6,780*	*6,784*	*6,787*	*6,806*	*6,726*	*6,814*	**6,811**	*6,784*	*6,814*
Waste	**4,112**	**4,080**	**4,070**	**4,052**	**4,053**	*3,987*	*4,021*	*4,025*	*4,028*	*4,047*	*3,967*	*4,055*	**4,052**	*4,025*	*4,055*
Wood	**2,835**	**2,820**	**2,731**	**2,759**	**2,759**	*2,759*	*2,759*	*2,759*	*2,759*	*2,759*	*2,759*	*2,759*	**2,759**	*2,759*	*2,759*
Conventional Hydroelectric	**79,586**	**79,561**	**79,391**	**79,446**	**79,446**	*79,490*	*79,587*	*79,604*	*79,695*	*79,654*	*79,730*	*79,750*	**79,446**	*79,604*	*79,750*
Geothermal	**2,422**	**2,422**	**2,422**	**2,422**	**2,422**	*2,422*	*2,512*	*2,512*	*2,512*	*2,512*	*2,512*	*2,554*	**2,422**	*2,512*	*2,554*
Large-Scale Solar (b)	**32,743**	**33,227**	**33,865**	**36,879**	**38,963**	*40,643*	*41,904*	*49,496*	*50,317*	*55,254*	*56,889*	*62,434*	**36,879**	*49,496*	*62,434*
Wind	**96,606**	**98,081**	**99,657**	**103,522**	**106,579**	*107,466*	*110,299*	*122,954*	*122,966*	*124,253*	*124,779*	*128,249*	**103,522**	*122,954*	*128,249*
Other Sectors (c)															
Biomass	**6,629**	**6,578**	**6,578**	**6,511**	**6,527**	*6,507*	*6,507*	*6,507*	*6,519*	*6,466*	*6,466*	*6,466*	**6,511**	*6,507*	*6,466*
Waste	**846**	**847**	**847**	**847**	**855**	*855*	*855*	*855*	*867*	*866*	*866*	*866*	**847**	*855*	*866*
Wood	**5,783**	**5,730**	**5,730**	**5,664**	**5,672**	*5,652*	*5,652*	*5,652*	*5,652*	*5,600*	*5,600*	*5,600*	**5,664**	*5,652*	*5,600*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*289*	*289*	*291*	*289*	*289*	**289**	*289*	*289*
Large-Scale Solar (b)	**409**	**415**	**426**	**431**	**435**	*437*	*438*	*438*	*438*	*438*	*439*	*439*	**431**	*438*	*439*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	**24,278**	*24,568*	*25,229*	*26,267*	*27,390*	*28,574*	*29,817*	*31,127*	**23,211**	*26,267*	*31,127*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	**14,949**	*15,140*	*15,585*	*16,283*	*17,039*	*17,840*	*18,689*	*19,588*	**14,229**	*16,283*	*19,588*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	**7,469**	*7,528*	*7,696*	*7,978*	*8,285*	*8,606*	*8,939*	*9,286*	**7,186**	*7,978*	*9,286*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	**1,860**	*1,900*	*1,949*	*2,006*	*2,066*	*2,127*	*2,189*	*2,253*	**1,796**	*2,006*	*2,253*
Wind	**118**	**118**	**118**	**118**	**127**	*297*	*297*	*297*	*297*	*297*	*297*	*297*	**118**	*297*	*297*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**6.2**	*7.1*	*7.2*	*6.9*	*7.0*	*6.9*	*7.6*	*7.3*	**28.8**	*27.3*	*28.8*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	**3.7**	*3.9*	*3.9*	*3.9*	*3.8*	*3.8*	*4.0*	*4.0*	**15.7**	*15.4*	*15.7*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	**2.5**	*3.2*	*3.3*	*3.0*	*3.2*	*3.0*	*3.6*	*3.3*	**13.0**	*12.0*	*13.1*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	**74.3**	*84.5*	*68.7*	*63.3*	*74.5*	*80.5*	*64.3*	*61.9*	**272.4**	*290.7*	*281.1*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.6**	*3.9*	*4.3*	*3.9*	*3.3*	*3.9*	*4.3*	*3.8*	**15.6**	*15.6*	*15.3*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	**15.5**	*26.5*	*28.3*	*18.0*	*20.4*	*35.3*	*38.5*	*24.4*	**71.5**	*88.2*	*118.5*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**84.2**	*88.7*	*71.9*	*93.9*	*99.5*	*100.7*	*82.9*	*102.9*	**299.8**	*338.8*	*386.0*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	**7.5**	*7.3*	*7.6*	*7.4*	*7.4*	*7.3*	*7.6*	*7.4*	**29.7**	*29.7*	*29.6*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.8**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	**6.7**	*6.6*	*6.9*	*6.6*	*6.6*	*6.6*	*6.9*	*6.6*	**26.8**	*26.9*	*26.8*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	**0.3**	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	*0.3*	*0.3*	**1.3**	*1.3*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.2**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**0.7**	*1.0*	*1.3*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.3**	*12.2*	*12.2*	*8.4*	*9.4*	*14.1*	*14.3*	*9.9*	**35.0**	*41.1*	*47.7*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	*7.5*	*7.4*	*5.1*	*5.7*	*8.7*	*8.8*	*6.1*	**20.9**	*25.0*	*29.3*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	**2.6**	*3.8*	*3.7*	*2.6*	*2.9*	*4.3*	*4.3*	*3.0*	**11.1**	*12.7*	*14.5*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	*1.0*	*1.0*	*0.7*	*0.8*	*1.1*	*1.2*	*0.8*	**3.0**	*3.4*	*3.9*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.3*	*0.4*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,220**	**19,176**	*18,502*	*18,423*	*18,669*	*19,052*	*19,352*	*19,523*	*19,642*	**19,073**	*18,693*	*19,392*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,353**	**13,410**	**13,353**	*12,744*	*12,724*	*12,982*	*13,145*	*13,247*	*13,304*	*13,390*	**13,279**	*12,951*	*13,272*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,330**	**3,326**	**3,352**	*3,170*	*3,101*	*3,092*	*3,141*	*3,194*	*3,230*	*3,264*	**3,336**	*3,179*	*3,207*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**67**	**18**	**-26**	*-5*	*-173*	*-243*	*-100*	*40*	*120*	*141*	**68**	*-112*	*51*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,332**	**3,348**	*3,360*	*3,369*	*3,376*	*3,392*	*3,403*	*3,415*	*3,421*	**3,299**	*3,363*	*3,408*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,536**	**2,541**	*2,504*	*2,572*	*2,647*	*2,739*	*2,825*	*2,905*	*2,954*	**2,533**	*2,566*	*2,856*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,514**	**3,436**	**3,441**	*3,312*	*3,200*	*3,216*	*3,279*	*3,355*	*3,441*	*3,521*	**3,486**	*3,292*	*3,399*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,074**	**15,263**	*16,722*	*14,779*	*14,801*	*14,986*	*15,150*	*15,299*	*15,417*	**14,975**	*15,391*	*15,213*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**152.1**	*146.3*	*143.4*	*142.3*	*144.0*	*146.2*	*148.3*	*150.0*	**150.9**	*146.1*	*147.1*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	*7.5*	*8.6*	*9.0*	*7.9*	*6.8*	*5.8*	*5.1*	**3.7**	*7.2*	*6.4*
Housing Starts															
(millions - SAAR)	**1.21**	**1.26**	**1.28**	**1.44**	**1.55**	*1.24*	*1.16*	*1.15*	*1.18*	*1.19*	*1.25*	*1.27*	**1.30**	*1.27*	*1.22*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.5**	**109.2**	*107.6*	*103.7*	*103.2*	*105.5*	*108.1*	*109.8*	*110.7*	**109.5**	*105.9*	*108.5*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**105.9**	*103.1*	*98.5*	*98.0*	*100.8*	*103.9*	*106.0*	*107.1*	**106.0**	*101.4*	*104.5*
Food	**115.1**	**115.3**	**114.6**	**116.0**	**117.3**	*119.4*	*119.9*	*119.9*	*120.1*	*120.2*	*120.7*	*120.9*	**115.3**	*119.1*	*120.5*
Paper	**94.2**	**91.8**	**92.6**	**93.3**	**95.8**	*91.7*	*89.3*	*88.7*	*89.1*	*90.0*	*91.1*	*91.6*	**93.0**	*91.4*	*90.4*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.8**	**107.3**	*104.8*	*103.2*	*102.4*	*102.7*	*103.0*	*103.1*	*102.8*	**105.7**	*104.4*	*102.9*
Chemicals	**101.4**	**99.9**	**100.6**	**100.1**	**99.3**	*99.5*	*99.8*	*100.5*	*101.3*	*102.3*	*103.3*	*104.1*	**100.5**	*99.7*	*102.7*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.0**	**121.7**	*116.6*	*113.6*	*112.4*	*112.1*	*112.5*	*113.2*	*114.3*	**119.4**	*116.1*	*113.0*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**96.6**	*90.6*	*86.3*	*86.1*	*87.3*	*89.9*	*92.3*	*93.4*	**96.9**	*89.9*	*90.7*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.3**	**107.5**	*104.4*	*101.4*	*101.0*	*102.6*	*104.6*	*106.3*	*107.3*	**106.2**	*103.6*	*105.2*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.4**	**99.3**	*96.3*	*94.2*	*93.6*	*94.1*	*95.1*	*96.0*	*96.7*	**98.3**	*95.8*	*95.5*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.8**	**106.4**	*101.6*	*98.9*	*99.4*	*101.0*	*102.9*	*104.7*	*105.8*	**105.8**	*101.6*	*103.6*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**109.0**	*105.1*	*102.8*	*103.2*	*104.8*	*106.7*	*108.6*	*109.6*	**108.1**	*105.0*	*107.4*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	*2.57*	*2.60*	*2.62*	*2.64*	*2.66*	*2.67*	*2.68*	**2.56**	*2.60*	*2.66*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	*1.94*	*1.95*	*1.96*	*1.98*	*2.00*	*2.01*	*2.02*	**2.00**	*1.96*	*2.00*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.96**	**1.96**	**1.70**	*1.00*	*1.12*	*1.26*	*1.33*	*1.54*	*1.57*	*1.52*	**1.95**	*1.27*	*1.49*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	*113.1*	*113.7*	*114.3*	*114.5*	*114.9*	*115.6*	*116.1*	**112.3**	*113.6*	*115.3*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,298**	**9,333**	**9,289**	**8,895**	**8,219**	*7,085*	*8,696*	*8,694*	*8,202*	*9,226*	*9,233*	*8,943*	**8,956**	*8,176*	*8,904*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**707**	**682**	**527**	*466*	*673*	*653*	*637*	*672*	*682*	*660*	**679**	*580*	*663*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**395**	*420*	*415*	*395*	*382*	*421*	*431*	*412*	**410**	*406*	*412*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**259.8**	*348.3*	*355.2*	*350.3*	*328.1*	*342.1*	*327.8*	*329.8*	**265.4**	*328.4*	*331.9*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.269**	*0.266*	*0.263*	*0.273*	*0.273*	*0.276*	*0.272*	*0.279*	**0.268**	*0.268*	*0.275*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	**559**	*481*	*571*	*578*	*559*	*572*	*590*	*588*	**2,354**	*2,189*	*2,309*
Natural Gas	**507**	**350**	**384**	**448**	**498**	*370*	*374*	*428*	*478*	*351*	*362*	*424*	**1,689**	*1,670*	*1,614*
Coal	**290**	**239**	**307**	**248**	**218**	*183*	*264*	*219*	*256*	*206*	*291*	*239*	**1,084**	*885*	*991*
Total Energy (c)	**1,374**	**1,178**	**1,291**	**1,295**	**1,278**	*1,037*	*1,212*	*1,228*	*1,295*	*1,132*	*1,245*	*1,253*	**5,138**	*4,755*	*4,925*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,004**	**1,010**	**1,008**	*973*	*968*	*981*	*1,000*	*1,014*	*1,023*	*1,029*	**1,002**	*982*	*1,016*
Middle Atlantic	**2,772**	**2,782**	**2,791**	**2,805**	**2,800**	*2,701*	*2,686*	*2,719*	*2,770*	*2,807*	*2,828*	*2,842*	**2,788**	*2,726*	*2,812*
E. N. Central	**2,528**	**2,535**	**2,545**	**2,552**	**2,553**	*2,461*	*2,445*	*2,475*	*2,521*	*2,556*	*2,575*	*2,588*	**2,540**	*2,483*	*2,560*
W. N. Central	**1,181**	**1,187**	**1,193**	**1,197**	**1,194**	*1,151*	*1,146*	*1,161*	*1,185*	*1,203*	*1,214*	*1,222*	**1,190**	*1,163*	*1,206*
S. Atlantic	**3,353**	**3,367**	**3,383**	**3,402**	**3,395**	*3,281*	*3,271*	*3,318*	*3,390*	*3,445*	*3,479*	*3,502*	**3,376**	*3,316*	*3,454*
E. S. Central	**832**	**835**	**840**	**843**	**841**	*811*	*806*	*817*	*834*	*847*	*854*	*859*	**837**	*819*	*849*
W. S. Central	**2,347**	**2,370**	**2,392**	**2,406**	**2,403**	*2,314*	*2,298*	*2,324*	*2,368*	*2,413*	*2,439*	*2,455*	**2,379**	*2,335*	*2,419*
Mountain	**1,252**	**1,261**	**1,269**	**1,276**	**1,275**	*1,232*	*1,226*	*1,244*	*1,270*	*1,292*	*1,306*	*1,314*	**1,264**	*1,244*	*1,296*
Pacific	**3,700**	**3,719**	**3,739**	**3,764**	**3,743**	*3,612*	*3,612*	*3,664*	*3,749*	*3,809*	*3,841*	*3,867*	**3,731**	*3,657*	*3,817*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**98.9**	**97.7**	**97.6**	**97.1**	**97.0**	*94.4*	*90.0*	*89.4*	*91.8*	*94.6*	*96.4*	*97.4*	**97.8**	*92.7*	*95.1*
Middle Atlantic	**98.8**	**97.5**	**97.2**	**97.0**	**96.9**	*94.4*	*90.0*	*89.4*	*91.9*	*94.6*	*96.4*	*97.3*	**97.6**	*92.7*	*95.0*
E. N. Central	**108.7**	**107.4**	**107.1**	**105.9**	**106.2**	*103.1*	*98.4*	*97.8*	*100.4*	*103.3*	*105.2*	*106.3*	**107.3**	*101.4*	*103.8*
W. N. Central	**106.1**	**105.1**	**105.2**	**104.8**	**104.7**	*101.8*	*97.5*	*97.1*	*100.0*	*103.1*	*105.3*	*106.5*	**105.3**	*100.3*	*103.7*
S. Atlantic	**110.6**	**109.9**	**110.0**	**110.2**	**110.3**	*107.4*	*102.6*	*102.0*	*104.9*	*108.1*	*110.1*	*111.2*	**110.2**	*105.6*	*108.6*
E. S. Central	**111.4**	**110.4**	**110.8**	**110.5**	**110.6**	*107.6*	*102.8*	*102.4*	*105.3*	*108.5*	*110.5*	*111.6*	**110.8**	*105.8*	*109.0*
W. S. Central	**101.5**	**100.6**	**101.2**	**102.1**	**102.2**	*99.5*	*94.9*	*94.4*	*97.1*	*100.1*	*102.2*	*103.3*	**101.4**	*97.7*	*100.7*
Mountain	**116.1**	**116.3**	**117.6**	**117.4**	**117.7**	*115.1*	*110.2*	*109.8*	*113.2*	*116.8*	*119.2*	*120.5*	**116.9**	*113.2*	*117.4*
Pacific	**105.9**	**105.2**	**105.5**	**106.2**	**106.3**	*103.7*	*99.0*	*98.5*	*101.4*	*104.6*	*106.8*	*108.1*	**105.7**	*101.9*	*105.3*
Real Personal Income (Billion $2009)															
New England	**904**	**904**	**904**	**908**	**915**	*897*	*887*	*887*	*896*	*906*	*914*	*922*	**905**	*896*	*909*
Middle Atlantic	**2,302**	**2,316**	**2,315**	**2,324**	**2,341**	*2,293*	*2,266*	*2,265*	*2,288*	*2,312*	*2,332*	*2,350*	**2,314**	*2,291*	*2,321*
E. N. Central	**2,428**	**2,432**	**2,442**	**2,446**	**2,462**	*2,412*	*2,384*	*2,384*	*2,408*	*2,433*	*2,456*	*2,476*	**2,437**	*2,410*	*2,443*
W. N. Central	**1,146**	**1,147**	**1,160**	**1,161**	**1,163**	*1,140*	*1,128*	*1,130*	*1,143*	*1,158*	*1,171*	*1,183*	**1,153**	*1,140*	*1,164*
S. Atlantic	**3,214**	**3,232**	**3,238**	**3,257**	**3,284**	*3,226*	*3,194*	*3,198*	*3,239*	*3,280*	*3,318*	*3,351*	**3,236**	*3,226*	*3,297*
E. S. Central	**888**	**890**	**893**	**897**	**902**	*884*	*875*	*875*	*885*	*895*	*904*	*912*	**892**	*884*	*899*
W. S. Central	**1,984**	**1,992**	**1,999**	**2,011**	**2,028**	*1,992*	*1,973*	*1,976*	*2,001*	*2,026*	*2,048*	*2,068*	**1,997**	*1,992*	*2,036*
Mountain	**1,168**	**1,177**	**1,179**	**1,185**	**1,195**	*1,175*	*1,164*	*1,167*	*1,182*	*1,197*	*1,212*	*1,224*	**1,177**	*1,175*	*1,204*
Pacific	**2,807**	**2,835**	**2,841**	**2,854**	**2,874**	*2,824*	*2,797*	*2,799*	*2,828*	*2,862*	*2,894*	*2,921*	**2,834**	*2,824*	*2,876*
Households (Thousands)															
New England	**5,936**	**5,941**	**5,957**	**5,966**	**5,973**	*5,974*	*5,980*	*5,986*	*5,992*	*6,000*	*6,008*	*6,015*	**5,966**	*5,986*	*6,015*
Middle Atlantic	**16,243**	**16,263**	**16,305**	**16,328**	**16,344**	*16,346*	*16,360*	*16,375*	*16,391*	*16,408*	*16,427*	*16,448*	**16,328**	*16,375*	*16,448*
E. N. Central	**19,087**	**19,112**	**19,166**	**19,197**	**19,222**	*19,237*	*19,263*	*19,290*	*19,317*	*19,343*	*19,371*	*19,400*	**19,197**	*19,290*	*19,400*
W. N. Central	**8,688**	**8,708**	**8,740**	**8,760**	**8,777**	*8,786*	*8,801*	*8,817*	*8,832*	*8,848*	*8,866*	*8,883*	**8,760**	*8,817*	*8,883*
S. Atlantic	**25,689**	**25,762**	**25,877**	**25,965**	**26,048**	*26,109*	*26,187*	*26,266*	*26,344*	*26,428*	*26,511*	*26,597*	**25,965**	*26,266*	*26,597*
E. S. Central	**7,651**	**7,663**	**7,689**	**7,706**	**7,721**	*7,728*	*7,742*	*7,757*	*7,771*	*7,785*	*7,802*	*7,818*	**7,706**	*7,757*	*7,818*
W. S. Central	**14,813**	**14,856**	**14,923**	**14,974**	**15,021**	*15,057*	*15,104*	*15,151*	*15,198*	*15,249*	*15,300*	*15,352*	**14,974**	*15,151*	*15,352*
Mountain	**9,404**	**9,448**	**9,506**	**9,551**	**9,594**	*9,627*	*9,667*	*9,707*	*9,744*	*9,782*	*9,819*	*9,857*	**9,551**	*9,707*	*9,857*
Pacific	**18,903**	**18,932**	**18,994**	**19,034**	**19,072**	*19,094*	*19,134*	*19,177*	*19,220*	*19,263*	*19,309*	*19,355*	**19,034**	*19,177*	*19,355*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.5**	*7.2*	*7.1*	*7.0*	*7.1*	*7.2*	*7.3*	*7.4*	**7.5**	*7.2*	*7.2*
Middle Atlantic	**19.9**	**20.0**	**20.0**	**20.1**	**20.1**	*19.3*	*18.9*	*18.8*	*18.9*	*19.2*	*19.5*	*19.7*	**20.0**	*19.3*	*19.3*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.4**	**22.4**	*21.5*	*21.1*	*20.9*	*21.1*	*21.4*	*21.7*	*21.9*	**22.3**	*21.5*	*21.5*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	*10.4*	*10.2*	*10.1*	*10.2*	*10.4*	*10.5*	*10.7*	**10.8**	*10.4*	*10.5*
S. Atlantic	**29.0**	**29.0**	**29.2**	**29.3**	**29.4**	*28.3*	*27.8*	*27.6*	*27.9*	*28.4*	*28.8*	*29.2*	**29.1**	*28.3*	*28.6*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.4**	*8.0*	*7.9*	*7.8*	*7.9*	*8.0*	*8.1*	*8.2*	**8.3**	*8.0*	*8.1*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**17.9**	*17.3*	*17.0*	*16.8*	*17.0*	*17.3*	*17.6*	*17.8*	**17.7**	*17.3*	*17.4*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	*10.8*	*10.6*	*10.5*	*10.7*	*10.9*	*11.0*	*11.2*	**11.1**	*10.8*	*10.9*
Pacific	**23.7**	**23.8**	**23.9**	**24.0**	**24.1**	*23.2*	*22.7*	*22.5*	*22.8*	*23.2*	*23.5*	*23.8*	**23.9**	*23.1*	*23.3*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,228**	**897**	**136**	**2,282**	**2,696**	*799*	*125*	*2,150*	*3,171*	*889*	*125*	*2,151*	**6,541**	*5,771*	*6,335*
Middle Atlantic	**2,985**	**634**	**68**	**2,058**	**2,426**	*626*	*75*	*1,969*	*2,939*	*714*	*75*	*1,969*	**5,745**	*5,096*	*5,697*
E. N. Central	**3,328**	**764**	**65**	**2,279**	**2,757**	*684*	*116*	*2,224*	*3,152*	*736*	*116*	*2,224*	**6,437**	*5,782*	*6,228*
W. N. Central	**3,644**	**773**	**107**	**2,546**	**3,020**	*694*	*158*	*2,419*	*3,238*	*703*	*158*	*2,420*	**7,071**	*6,291*	*6,520*
South Atlantic	**1,335**	**128**	**2**	**919**	**1,101**	*174*	*11*	*951*	*1,419*	*191*	*11*	*950*	**2,384**	*2,237*	*2,571*
E. S. Central	**1,715**	**195**	**1**	**1,276**	**1,471**	*234*	*17*	*1,287*	*1,821*	*239*	*17*	*1,287*	**3,187**	*3,009*	*3,365*
W. S. Central	**1,208**	**90**	**0**	**853**	**964**	*74*	*4*	*776*	*1,141*	*80*	*4*	*776*	**2,151**	*1,818*	*2,001*
Mountain	**2,433**	**787**	**126**	**1,967**	**2,196**	*661*	*142*	*1,808*	*2,191*	*697*	*142*	*1,807*	**5,313**	*4,808*	*4,837*
Pacific	**1,686**	**575**	**95**	**1,182**	**1,474**	*517*	*82*	*1,164*	*1,497*	*587*	*82*	*1,165*	**3,539**	*3,237*	*3,331*
U.S. Average	**2,210**	**481**	**56**	**1,558**	**1,848**	*449*	*70*	*1,506*	*2,111*	*490*	*70*	*1,504*	**4,306**	*3,873*	*4,174*
Heating Degree Days, Prior 10-year Average															
New England	**3,166**	**820**	**111**	**2,122**	**3,153**	*823*	*105*	*2,128*	*3,129*	*838*	*108*	*2,115*	**6,218**	*6,208*	*6,191*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,948**	*644*	*69*	*1,944*	*2,908*	*656*	*70*	*1,924*	**5,623**	*5,605*	*5,559*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	*698*	*102*	*2,198*	*3,154*	*715*	*104*	*2,183*	**6,203**	*6,196*	*6,155*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	*703*	*131*	*2,379*	*3,245*	*718*	*132*	*2,378*	**6,477**	*6,500*	*6,472*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	*169*	*10*	*952*	*1,392*	*173*	*10*	*922*	**2,631**	*2,589*	*2,497*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,850**	*215*	*15*	*1,278*	*1,771*	*221*	*16*	*1,255*	**3,392**	*3,357*	*3,263*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	*83*	*3*	*794*	*1,139*	*83*	*3*	*791*	**2,079**	*2,079*	*2,016*
Mountain	**2,164**	**714**	**139**	**1,856**	**2,193**	*718*	*135*	*1,844*	*2,180*	*700*	*135*	*1,847*	**4,873**	*4,890*	*4,863*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	*580*	*85*	*1,162*	*1,455*	*552*	*82*	*1,155*	**3,283**	*3,283*	*3,244*
U.S. Average	**2,151**	**475**	**68**	**1,518**	**2,149**	*472*	*64*	*1,509*	*2,105*	*472*	*64*	*1,493*	**4,212**	*4,194*	*4,135*
Cooling Degree Days															
New England	**0**	**67**	**463**	**0**	**0**	*93*	*422*	*1*	*0*	*77*	*422*	*1*	**530**	*517*	*500*
Middle Atlantic	**0**	**144**	**631**	**8**	**0**	*168*	*557*	*5*	*0*	*145*	*558*	*5*	**783**	*730*	*707*
E. N. Central	**0**	**175**	**649**	**6**	**0**	*226*	*546*	*7*	*0*	*213*	*546*	*7*	**829**	*780*	*767*
W. N. Central	**0**	**222**	**728**	**2**	**0**	*264*	*667*	*11*	*3*	*264*	*667*	*11*	**953**	*942*	*945*
South Atlantic	**152**	**756**	**1,299**	**307**	**191**	*668*	*1,182*	*235*	*120*	*658*	*1,183*	*235*	**2,515**	*2,277*	*2,196*
E. S. Central	**28**	**545**	**1,211**	**86**	**47**	*522*	*1,072*	*69*	*27*	*530*	*1,072*	*69*	**1,870**	*1,710*	*1,698*
W. S. Central	**73**	**818**	**1,692**	**167**	**163**	*907*	*1,529*	*208*	*90*	*870*	*1,529*	*208*	**2,750**	*2,807*	*2,697*
Mountain	**10**	**340**	**983**	**58**	**5**	*445*	*940*	*78*	*18*	*418*	*941*	*78*	**1,392**	*1,468*	*1,455*
Pacific	**21**	**166**	**592**	**67**	**25**	*175*	*596*	*59*	*27*	*166*	*596*	*59*	**846**	*856*	*848*
U.S. Average	**45**	**398**	**952**	**105**	**66**	*415*	*869*	*95*	*43*	*400*	*871*	*96*	**1,500**	*1,445*	*1,409*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	*83*	*470*	*1*	*0*	*80*	*461*	*1*	**536**	*554*	*542*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	*170*	*609*	*6*	*0*	*164*	*597*	*6*	**760**	*786*	*768*
E. N. Central	**3**	**242**	**548**	**7**	**3**	*240*	*578*	*8*	*3*	*235*	*566*	*7*	**799**	*829*	*811*
W. N. Central	**7**	**298**	**669**	**11**	**7**	*296*	*696*	*11*	*6*	*291*	*687*	*11*	**985**	*1,011*	*995*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	*696*	*1,202*	*247*	*143*	*685*	*1,191*	*254*	**2,224**	*2,272*	*2,272*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	*556*	*1,081*	*72*	*40*	*541*	*1,065*	*73*	**1,706**	*1,745*	*1,719*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	*892*	*1,576*	*207*	*113*	*887*	*1,570*	*210*	**2,758**	*2,774*	*2,779*
Mountain	**25**	**438**	**932**	**81**	**24**	*432*	*938*	*81*	*23*	*442*	*939*	*82*	**1,476**	*1,476*	*1,487*
Pacific	**31**	**185**	**631**	**76**	**31**	*185*	*624*	*78*	*31*	*191*	*636*	*79*	**923**	*918*	*936*
U.S. Average	**46**	**417**	**873**	**97**	**47**	*420*	*892*	*100*	*52*	*417*	*887*	*102*	**1,433**	*1,459*	*1,458*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the April 2020 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	February 2020	March 2020	February – March 2020 Average	February – March 2019 Average	2017–2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	100.1	99.0	99.5	100.2	99.8
Global Petroleum and Other Liquids Consumption (b)	95.7	89.4	92.4	100.3	99.8
Biofuels Production (c)	2.0	2.1	2.1	2.0	2.5
Biofuels Consumption (c)	2.3	2.3	2.3	2.3	2.3
Iran Liquid Fuels Production	2.6	2.5	2.5	3.6	4.1
Iran Liquid Fuels Consumption	2.1	1.8	2.0	1.9	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	95.5	94.5	95.0	94.6	93.2
Consumption (d)	91.3	85.3	88.2	96.1	95.6
Production minus Consumption	4.2	9.2	6.8	-1.5	-2.4
World Inventory Net Withdrawals Including Iran	-4.4	-9.6	-7.1	0.1	0.0
Estimated OECD Inventory Level (e) (million barrels)	2,950	3,059	3,005	2,860	2,911
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	3.0	3.0	3.0	2.5	2.0

Note: The term “petroleum and other liquids” encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.
(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
(b) Consumption of petroleum by the OECD countries is synonymous with “products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	February 2020	March 2020	February – March 2020 Average	February – March 2019 Average	2017–2019 Average
Brent Front Month Futures Price ($ per barrel)	55.48	33.73	44.09	65.80	57.19
WTI Front Month Futures Price ($ per barrel)	50.54	30.45	39.76	56.65	53.07
Dubai Front Month Futures Price ($ per barrel)	54.42	34.22	43.84	65.84	55.04
Brent 1st - 13th Month Futures Spread ($ per barrel)	0.29	-8.96	-4.56	1.38	-0.56
WTI 1st - 13th Month Futures Spread ($ per barrel)	-0.19	-7.75	-4.25	-1.35	-0.92
RBOB Front Month Futures Price ($ per gallon)	1.54	0.55	1.01	1.69	1.65
Heating Oil Front Month Futures Price ($ per gallon)	1.62	1.17	1.38	1.98	1.71
RBOB - Brent Futures Crack Spread ($ per gallon)	0.22	-0.26	-0.04	0.13	0.29
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.30	0.37	0.34	0.41	0.35

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

May 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- Although all market outlooks are subject to many risks, the May edition of EIA's *Short-Term Energy Outlook* remains subject to heightened levels of uncertainty because the effects on energy markets of mitigation efforts related to the 2019 novel coronavirus disease (COVID-19) are still evolving. Reduced economic activity related to the COVID-19 pandemic has caused significant changes in energy supply and demand patterns. Crude oil prices, in particular, have fallen significantly since the beginning of 2020, largely driven by reduced oil demand because of COVID-19 mitigation efforts. Despite the April agreement between the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) to reduce production levels beyond the end of the STEO forecast period, crude oil prices have remained at some of their lowest levels in more than 20 years. Uncertainties persist across EIA's outlook for other energy sources, including natural gas, electricity, coal, and renewables.

- Brent crude oil prices averaged $18 per barrel (b) in April, a decrease of $13/b from the average in March. EIA forecasts Brent crude oil prices will average $34/b in 2020, down from an average of $64/b in 2019. EIA expects prices will average $23/b during the second quarter of 2020 before increasing to $32/b during the second half of the year. EIA forecasts that Brent prices will rise to an average of $48/b in 2021, $2/b higher than forecast last month, as EIA expects that declining global oil inventories next year will put upward pressure on oil prices.

- EIA estimates global petroleum and liquid fuels consumption averaged 94.1 million barrels per day (b/d) in the first quarter of 2020, a decline of 5.8 million b/d from the same period in 2019. EIA expects global petroleum and liquid fuels demand will average 92.6 million b/d in 2020, a decrease of 8.1 million b/d from last year, before increasing by 7.0 million b/d in 2021. Lower global oil demand growth for 2020 in the May STEO reflects growing evidence of disruptions to global economic activity along with reduced expected travel globally as a result of restrictions related to COVID-19.

- EIA expects that global liquid fuels inventories will grow by an average of 2.6 million b/d in 2020 after falling by 0.2 million b/d in 2019. EIA expects inventory builds will

be largest in the first half of 2020, rising at a rate of 6.6 million b/d in the first quarter and increasing to builds of 11.5 million b/d in the second quarter as a result of widespread travel limitations and sharp reductions in economic activity. Firmer demand growth as the global economy begins to recover and slower supply growth will contribute to global oil inventory draws beginning in the third quarter of 2020. EIA expects global liquid fuels inventories will fall by 1.9 million b/d in 2021.

- EIA forecasts significant decreases in U.S. liquid fuels demand during the first half of 2020 as a result of COVID-19 travel restrictions and disruptions to business and economic activity. EIA expects the largest impacts will occur in the second quarter of 2020 before gradually dissipating over the next 18 months. EIA expects U.S. motor gasoline consumption to fall from 8.6 million b/d in the first quarter of 2020 to an average of 7.0 million b/d in the second quarter before gradually increasing to 8.7 million b/d in the second half of the year. U.S. jet fuel consumption will fall from 1.6 million b/d in the first quarter of 2020 to an average of 0.8 million b/d in the second quarter. U.S. distillate fuel oil consumption is forecast to decline by 0.6 million b/d to average 3.3 million b/d during the same period. For all of 2020, EIA forecasts that U.S. motor gasoline consumption will average 8.3 million b/d, a decrease of 11% compared with 2019, while jet fuel and distillate fuel oil consumption will fall by 25% and 10%, respectively, during the same period.

- EIA has revised its current forecast of domestic crude oil production down from the April STEO as a result of lower crude oil prices. EIA forecasts U.S. crude oil production will average 11.7 million b/d in 2020, down 0.5 million b/d from 2019. In 2021, EIA expects U.S. crude oil production to decline further by 0.8 million b/d. If realized, the 2020 production decline would mark the first annual decline since 2016. U.S. crude oil production has not declined for two years in a row since the 17-year period of declines beginning in 1992 and running through 2008. Typically, price changes affect production after about a six-month lag. However, current market conditions will likely reduce this lag as many producers have already announced plans to reduce capital spending and drilling levels.

Natural Gas

- In April, the Henry Hub natural gas spot price averaged $1.73 per million British thermal units (MMBtu). EIA forecasts that natural gas prices will generally rise through the rest of 2020 as U.S. production declines. EIA forecasts that Henry Hub natural gas spot prices will average $2.14/MMBtu in 2020 and then increase in 2021, reaching an annual average of $2.89/MMBtu. EIA expects prices to rise largely because of lower natural gas production compared with 2020.

- EIA expects total consumption of natural gas to average 81.7 billion cubic feet per day (Bcf/d) in 2020, down 3.9% from the 2019 average primarily because of lower industrial sector consumption of natural gas. EIA forecasts industrial natural gas consumption to average 21.3 Bcf/d in 2020, down 7.1% from 2019 as a result of lower expected manufacturing activity. This expected decline is lower than the 0.3% decline forecast in the April STEO because of large downward revisions to the macroeconomic forecast in the May STEO.

- U.S. dry natural gas production set a record in 2019, averaging 92.2 Bcf/d. EIA forecasts dry natural gas production will average 89.8 Bcf/d in 2020, with monthly production falling from an estimated 93.1 Bcf/d in April to 85.4 Bcf/d in December. Natural gas production declines the most in the Appalachian region and Permian region. In the Appalachian region, low natural gas prices are discouraging producers from engaging in natural gas-directed drilling, and in the Permian region, low oil prices reduce associated gas output from oil-directed wells. In 2021, forecast dry natural gas production averages 84.9 Bcf/d, rising in the second half of 2021 in response to higher prices.

- EIA estimates that total U.S. working natural gas in storage ended April at 2.3 trillion cubic feet (Tcf), 20% more than the five-year (2015–19) average. In the forecast, inventories rise by 2.1 Tcf during the April through October injection season to reach almost 4.2 Tcf on October 31, which would be a record level.

- EIA forecasts that U.S. liquefied natural gas exports will average 5.8 Bcf/d in the second quarter of 2020 and 4.8 Bcf/d in the third quarter of 2020. U.S. liquefied natural gas exports are expected to decline through the end of the summer as a result of lower expected global demand for natural gas.

Electricity, coal, renewables, and emissions

- Although some stay-at-home orders are beginning to be relaxed, the effects of social distancing guidelines are likely to continue affecting U.S. electricity consumption during the next few months. EIA expects retail sales of electricity in the commercial sector will fall by 6.5% in 2020 because many businesses have closed and many people are working from home. Similarly, EIA expects industrial retail sales of electricity will fall by 6.5% in 2020 as many factories cut back production. Forecast U.S. sales of electricity to the residential sector fall by 1.3% in 2020 because of lower electricity demand as a result of milder winter and summer weather, which is offset slightly by increased household electricity consumption as much of the population spends relatively more time at home.

- EIA forecasts that total U.S. electric power sector generation will decline by 5% in 2020. Most of the expected decline in electricity supply is reflected in lower fossil fuel generation, especially at coal-fired power plants. EIA expects that coal generation will fall by 25% in 2020. Forecast natural gas generation is relatively flat

this year, reflecting favorable fuel costs and the addition of new generating capacity. Renewable energy sources account for the largest portion of new generating capacity in 2020, driving EIA's forecast of 11% growth in renewable generation by the electric power sector. Renewable energy is typically dispatched whenever it is available because of its low operating cost.

- Although EIA expects renewable energy to be the fastest-growing source of electricity generation in 2020, the effects the economic slowdown related to COVID-19 are likely to affect new generating capacity builds during the next few months. EIA expects the electric power sector will add 20.4 gigawatts of new wind capacity and 12.7 gigawatts of utility-scale solar capacity in 2020. However, these forecasts are subject to a high degree of uncertainty, and EIA will continue to monitor reported planned capacity builds.

- EIA forecasts U.S. average coal consumption will decrease by 23% to 453 MMst in 2020. The decrease is primarily driven by a 24% decline in electric power sector consumption and persistently low natural gas prices. In 2021, consumption is expected to increase by 10% to 498 MMst because of stronger natural gas prices and an overall economic recovery that results in rising electricity generation.

- After decreasing by 2.8% in 2019, EIA forecasts that U.S. energy-related carbon dioxide (CO2) emissions will decrease by 11% (572 million metric tons) in 2020. This record decline is the result of restrictions on business and travel activity and slowing economic growth related to COVID-19. CO2 emissions decline from all fossil fuels, particularly coal (23%) and petroleum (11%). In 2021, EIA forecasts that energy-related CO2 emissions will increase by 5% as the economy recovers and stay-at-home orders are lifted. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Forecast Assumptions

Because of the heightened uncertainty surrounding this month's STEO, we have included some of the driving assumptions that affected our forecast this month.

Global Liquid Fuels

Global Petroleum and Other Liquid Fuels Consumption

In the May STEO, EIA revised its 2020 global oil consumption forecast to reflect the most up-to-date information available.

Similar to the March and April STEOs, EIA analyzed reductions in oil demand by evaluating three main drivers: lower economic growth, less air travel, and other declines in demand not captured by these two categories, largely related to reductions in travel because of stay-at-home orders. Based on incoming data and updated assessments of lockdowns and stay-at-home orders across dozens of countries globally, EIA has lowered its forecasts for global oil demand in 2020. The precise effect of lockdowns on petroleum consumption remains highly uncertain because the severity and enforcement of the shutdowns vary by country. EIA currently assumes all stay-at-home orders will be eased by the fourth quarter of 2020. EIA is not assuming resurgent outbreaks of COVID-19 that result in the announcement of further lockdowns.

The May STEO's forecast for non-U.S. economic growth is based on forecasts from Oxford Economics, which have been revised down since the April STEO. In 2020, EIA forecasts global oil consumption-weighted gross domestic product (GDP) to decline by 4.1%, compared with a decline of 0.1% in the April STEO. The sharpest declines occur in the second quarter of 2020 when Oxford Economics forecasts that global GDP will decrease 7.1% compared with 2019.

EIA forecasts global liquid fuels consumption will average 92.6 million barrels per day (b/d) in 2020, down 8.1 million b/d from 2019. Following the pattern of the GDP forecast, the sharpest consumption declines are in the second quarter, when EIA forecasts a year-over-year decline in liquid fuels consumption of 18.8 million b/d. EIA forecasts both economic growth and global liquid fuels consumption to increase in 2021. However, any lasting changes to transportation and other oil consumption patterns once COVID-19 mitigation efforts end present considerable uncertainty to the increase in liquid fuels consumption, even if GDP growth increases significantly.

Non-OPEC Petroleum and Other Liquid Fuels Supply

EIA forecasts that the supply of non-OPEC petroleum and other liquid fuels will decline by 2.4 million b/d in 2020, compared with a decline of 0.2 million b/d in the April STEO. The steeper decline largely reflects the newly implemented production cuts from non-OPEC participants in the OPEC+ agreement. EIA expects the largest non-OPEC production declines in 2020 to occur in Russia, the United States, and Canada.

EIA expects production of non-OPEC petroleum and other liquid fuels to increase in 2021. Production in countries that have implemented voluntary production cuts will generally rise in 2021 as global oil demand recovers. However, EIA forecasts production to continue to decline in the United States, where production is driven by price-sensitive shale operators.

EIA expects Russia to experience the largest liquid fuels production declines in 2020 among OPEC+ producers, with forecast declines of more than 0.8 million b/d compared with 2019. EIA expects Russia's liquid fuels production to rise in 2021.

EIA expects total production of liquid fuels in the United States to fall by 0.8 million b/d in 2020, largely as a result of reductions in drilling in price-sensitive tight oil regions. EIA expects U.S. supply to fall by another 0.6 million b/d in 2021.

EIA expects Canada's total liquid fuels production to fall by 0.4 million b/d in 2020. This decrease is a result of 2019 government-ordered production cuts in Alberta and economic shut-ins because of the effect of low oil prices and falling demand for oil exports. In 2021, EIA expects Canada's production to increase and return to near 2019 levels. EIA does not expect any additional production from new upstream projects to come online during the forecast period, only expansions of existing projects.

EIA expects Brazil's production of petroleum and other liquid fuels to grow more slowly than previously forecast. On April 1, Brazil's national oil company, Petroleo Brasileiro, S.A. (Petrobras), deepened its production cuts to 200,000 b/d. EIA expects this level of cuts to continue for the remainder of 2020. Petrobras will idle some shallow-water platforms with higher production costs in the Sergipe, Rio Grande do Norte, and Ceará states to achieve these cuts. In addition, production volumes from the P-70 floating, production, storage, and offloading vessel (FPSO) will be delayed until 2021. The P-70 was originally scheduled to begin producing in the first half of 2020, before it was damaged in a storm in February 2020. Growth in 2021 will be restrained as previously scheduled FPSOs (Carioca, Sepia, Guanabara) are now delayed because of the economic slowdown related to COVID-19 restrictions that are affecting production schedules. In 2020, EIA also expects biofuels to be affected by reduced ethanol demand, and it expects sugar cane millers to switch to sugar production as a result of pricing conditions.

Mexico agreed to 100,000 b/d of cuts under the OPEC+ agreement. EIA had previously forecast crude oil production to decline in Mexico in 2020 and 2021 because of natural declines in mature fields. EIA now expects additional declines as result of Mexico shutting in new priority wells to fulfill the OPEC+ obligation. Overall EIA expects Mexico's annual average liquid fuels production to fall by almost 0.1 million b/d in both 2020 and 2021.

Norway's Ministry of Petroleum and Energy announced unilateral production cuts on the Norwegian continental shelf to help stabilize world oil markets. Norway will limit production of crude oil to no more than 1.609 million b/d in June and no more than 1.725 million b/d for the remainder of 2020. EIA assumes Norway's crude oil production will adhere to these levels.

In Asia, EIA expects India to shut in about 120,000 b/d of production during the next few months as a result of the immediate economic impacts related to COVID-19 on labor mobility and other logistics. In addition, the significantly lower oil price environment will reduce capital expenditure by upstream investors in both China and India and shutter production at higher production cost fields, such as China's tight oil plays in the north central and northwest of the country and the mature fields that require enhanced oil recovery. EIA expects declines to deepen in 2020 and 2021. India plans to begin oil production from the deepwater KG-DWN-98/2 oil and natural gas project in early 2021, which will offset some production declines from mature basins in 2021.

EIA assumes that Malaysia will fully comply with the April 2020 OPEC+ agreement for the months of May and June 2020. Malaysia reports that the production cuts will come from the deepwater Kimanis crude oil grade.

In the non-OPEC Middle East, EIA expects Oman's production to decline in 2020, in contrast to last month's STEO, which forecasted growth. EIA assumes Oman will fully comply with the OPEC+ agreement for May and June 2020. Condensate production will grow slightly through the forecast period from new projects, but crude oil production will remain constrained by lower oil prices and falling investment.

OPEC Petroleum and Other Liquid Fuels Supply

OPEC and partner countries (OPEC+) agreed to new production cuts in early April that will remain in place throughout the STEO forecast period. EIA assumes OPEC countries will mostly adhere to announced cuts during the first two months of the agreement (May and June). This forecast assumes OPEC's production compliance relaxes later in the forecast period, as stated production cuts are reduced and global oil demand begins growing again.

EIA forecasts OPEC crude oil production will fall below 24.1 million b/d in June, a 6.3 million b/d decline from April when OPEC production increased following an inconclusive meeting in March. The forecast for June OPEC production does not account for additional voluntary cuts announced by the Saudi Energy Ministry on May 11. If OPEC production declines to less than 24.1 million b/d, it would be the group's lowest level of production since March 1995.

EIA expects OPEC production will begin increasing in July 2020 in response to rising global oil demand and prices. From that point EIA expects a gradual increase in OPEC crude oil production through the remainder of the forecast, with production rising to an average of 28.5 million b/d during the second half of 2021.

Part of this increase is the result of oil production resuming in Libya. After reaching production levels of 1.2 million b/d in late 2019, Libya's crude oil output averaged 80,000 b/d in April 2020. Most of the country's export ports closed and several oil fields were shut-in, including El Sharara and El Feel, in January 2020. With the ongoing civil war in Libya, EIA does not expect production to increase until late 2020. Once currently shuttered export terminals and oil fields reopen, EIA expects that Libya will boost production to near-capacity despite low oil prices in a relatively short time.

EIA expects that OPEC surplus crude oil production capacity, which averaged 2.5 million b/d in 2019, will average 5.8 million b/d during the third quarter of 2020. EIA expects it to decline to an average of 3.7 million b/d in 2021 with increased production as the targeted cuts are relaxed. These capacity increases include the Neutral Zone production ramp up that started in March 2020 that will add 0.6 million b/d of additional surplus capacity when completed in a year.

OECD Petroleum Inventories

An unprecedented drop in global oil demand in 2020 leads EIA to forecast that global oil inventories will build at an average rate of 2.6 million b/d for the year, the largest annual inventory build during the 40 years that EIA has tracked international data.

Unlike previous periods of significant global oil inventory builds, where oversupplied market conditions persisted for several quarters (for example, 1997–98 and 2014–16), EIA expects that inventory builds in 2020 will be of an unprecedented magnitude but will only occur for two quarters. Forecast builds average 9.1 million b/d during the first half of 2020, peaking at a build of 22.8 million b/d during April. EIA estimates that builds during the first half of 2020 could add 1.6 billion barrels to global inventories, likely leaving global storage near full capacity. EIA expects global liquid fuels inventories to draw at an average rate between 2.5 million b/d and 3.0 million b/d from the third quarter of 2020 through the end of 2021, given the implementation of OPEC+ production cuts beginning in May, economically driven reductions in U.S. oil production, and a return of global oil demand. Draws of this magnitude would largely work off the inventory builds accrued during the first half of 2020.

Crude Oil Prices

Brent crude oil spot prices averaged $18 per barrel (b) in April, down $13/b from March as global oil demand continued to fall and global oil inventories rose strongly. In particular, crude oil prices fell as concerns regarding the capacity of global oil storage to handle expected inventory builds increased. EIA expects that the rate of inventory builds peaked in April, and as oil demand begins to return and oil supply decreases, upward price pressures will begin to emerge. With global oil demand expected to exceed supply beginning in the second half of 2020 and continuing through the forecast period, prices could rise steadily beginning in the second half of this year. Although EIA forecasts significant inventory draws beginning in July, high existing inventory levels, high OPEC spare production capacity, and uncertainty about the trajectory of oil demand will likely limit, but not completely contain, upward crude oil price movements.

EIA expects Brent crude oil prices will rise to an average of $32/b during the second half of 2020 and $48/b on average in 2021, reaching $54/b by the end of the year. However, this price path reflects an expected of global oil consumption to 97.4 million b/d during the second half of 2020, along with relatively high compliance to announced OPEC+ production cuts, both of which are uncertain. Also, the degree to which the U.S. shale industry responds to the current low prices will affect the oil price path in the coming quarters.

U.S. Liquid Fuels

Consumption

EIA assumes significantly lower levels of U.S. liquid fuels consumption during much of 2020 as a result of the disruptions to economic and business activity because of the strict containment measures related to COVID-19 that have dramatically reduced all forms of travel. These impacts are expected to be most pronounced during the second quarter of 2020, when most containment measures and wide-scale reductions in business activity are assumed to be in place. EIA expects these impacts to persist through most of 2020, but in the second half of 2020, EIA expects liquid fuels consumption will gradually increase from second-quarter levels as some business activity resumes and stay-at-home orders gradually ease. EIA expects U.S. total liquid fuels consumption will rise from an average of 15.9 million b/d in the second quarter of 2020 to 18.7 million b/d in the third quarter of 2020 and then to average 19.8 million b/d in 2021, up 8% from 2020, but lower than 2019 levels. EIA forecasts travel disruptions will affect jet fuel consumption the most in percentage terms, with consumption expected to decline by 25% year-over-year for all of 2020 and by more than 50% year-over-year in the second quarter. EIA expects gasoline and distillate fuel consumption will both see consumption fall about 10% compared with 2019 levels.

EIA's current forecast for U.S. annual average hydrocarbon gas liquids (HGL) consumption reflects a steeper decline in 2020 followed by a slower recovery in 2021 compared with the previous forecast. The May STEO expects HGL consumption will decline by 7.4% in 2020 and increase by 5.3% in 2021. The current forecast expects a deeper slowdown in manufacturing that keeps petrochemical feedstock and gasoline blending demand for HGLs lower than 2019 levels in both 2020 and 2021. Ethane consumption begins to rise in the first quarter of 2021 as manufacturing begins to recover and as ethane-fed petrochemical plants increase utilization.

Crude Oil Supply

EIA's model for crude oil production in the Lower 48 states' includes structural parameters that reduce the forecast for rigs and wells when the West Texas Intermediate crude oil price falls below $45/b or the Henry Hub natural gas price falls below $2 per million British thermal units, based on historical trends in each region. In addition to this model-based drop, EIA assumes a further 30% reduction in drilling activity on average in the second quarter of 2020 and a 6% reduction in the third quarter of 2020 as a result of low oil prices related to the unprecedented effects of restrictions as a result of COVID-19; many producers have already announced plans to reduce capital spending and drilling levels.

EIA expects that steepest declines in U.S. crude oil production will be in the second quarter of 2020, with forecast month-over-month declines averaging 0.5 million b/d during those three months. EIA expects production to continue declining, albeit at a slower rate, through March 2021, when production bottoms out at 10.7 million b/d, which would be a 2.1 million b/d decline from the record monthly production reached in November 2019. EIA expects production to rise modestly through the end 2021 in response to rising crude oil prices. EIA forecasts annual

average crude oil production to be 11.7 million b/d in 2020 and 10.9 million b/d in 2021, both of which are about 0.1 million b/d lower than forecast in the April STEO.

The decline in U.S. crude oil production in 2020 and 2021, combined with rising U.S. liquid fuels consumption, results in the United States returning to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remaining a net importer in most months through the end of the forecast period.

Product Prices

EIA expects that restrictions related to COVID-19 will drive sharp reductions in crude oil prices and U.S. liquid fuels demand during the second quarter of 2020, which will significantly reduce prices for gasoline and diesel fuel during the same period. EIA forecasts that U.S. average retail prices for regular-grade gasoline will average $1.91 per gallon (gal) and diesel retail prices will average $2.22/gal in the second quarter of 2020.

The gasoline and diesel price declines largely reflect a drop in crude oil prices. Refinery margins, after falling significantly as gasoline and diesel demand fell quickly in March and April, have increased recently as refiners have reduced runs. EIA expects petroleum product prices will rise as crude oil prices rise in the coming quarters. However, EIA generally expects U.S. average gasoline prices to remain lower than $2/gal until March 2021.

Natural Gas

Natural Gas Consumption

EIA expects the most significant effects of COVID-19 related restrictions on natural gas demand to occur in the industrial sector. EIA forecasts that industrial demand for natural gas will decrease by 7% in 2020 compared with 2019. The decline reflects a reduction in economic activity, leading to a declining forecast natural gas-weighted manufacturing index through October 2020. The industrial demand for natural gas forecast is particularly sensitive to macroeconomic conditions, and the size and pace of the forecast economic contraction and the subsequent expected economic recovery significantly affect industrial demand for natural gas.

The May STEO assumes minor shifts in space heating demand in April as more people stayed at home rather than go to work or shop at retail establishments as a result of restrictions related to the COVID-19 pandemic. This shift increases residential natural gas demand for a given temperature level while decreasing commercial natural gas demand. Commercial natural gas demand will decrease further in the near term under the assumption that restaurants and other food establishments, which use more natural gas for cooking food and for hot water heating compared with other segments of the commercial sector, will see a particularly high number of closings.

The May STEO forecast assumes that a combination of lower global natural gas demand as a result of restriction related to the COVID-19 pandemic and an unfavorable liquefied natural gas (LNG) pricing environment will lower U.S. LNG exports, primarily in the third quarter of 2020.

Natural Gas Supply

EIA's model for natural gas production in the Lower 48 states includes structural parameters that reduce the forecast for rigs and wells when the West Texas Intermediate crude oil price falls lower than $45/b or the Henry Hub natural gas price falls lower than $2 per million British thermal units (MMBtu), based on historical trends. In addition to this model-based drop, EIA assumes a further 30% reduction in activity on average in the second quarter of 2020 and a 6% reduction in the third quarter of 2020 to account for the unprecedented effects of travel restrictions related to COVID-19 on the level of drilling activity; many producers have already announced plans to reduce capital spending and drilling levels.

Natural Gas Inventories

EIA's natural gas storage forecast assumes an injection season (March through October) storage build that is slightly higher than average because natural gas consumption is forecast to decline relatively quickly in the second quarter of 2020, while production also declines but at a slower rate. In addition, reductions in economic activity reduce natural-gas fired electricity generation. EIA assumes that end-of-October storage levels in 2020 will be almost 4.2 trillion cubic feet, which would be the largest U.S. natural gas storage inventory on record.

Natural Gas Prices

The May STEO assumes that the Henry Hub spot price will remain low compared with historical levels in the near term as reduced business activity and higher-than-average storage levels entering the summer injection season contribute to keeping prices low. In the third quarter of 2020, slowing natural gas production, combined with increasing industrial demand and higher winter demand for space heating, encourage increases in the natural gas price. EIA expects the Henry Hub spot prices will rise from an average of $2.14/MMBtu in 2020 to an average of $2.89/MMBtu in 2021.

Coal

Coal Supply

Coal production has continued to slow, primarily because of low electric power demand. Some large producers have stipulated that their mines will be shut down or idled for periods ranging from 14 to 30 days, while others have not implied a date to resume normal operations. EIA expects that these decreases in overall production will have a noticeable effect on supply, contributing to a steeper decline than would have occurred had these measures not been put into place.

Coal Consumption

EIA expects coal consumption to decline in 2020 as a result of an overall decline in electricity generation. However, EIA forecasts that coal consumption will rise in 2021 because of a general economic recovery that will increase overall electricity generation and an expected increase in

natural gas prices that will cause some coal-fired generation units to become more economic to dispatch. Secondary stocks (at power plants) remain high, and even with decreased production, coal plants do not expect shortfalls in the next few months. EIA projects that industrial consumption will also decline as coal coke demand is slowed by unfavorable market conditions and by significantly decreased raw steel production.

Coal Trade

EIA estimates that U.S. coal exports will decrease through 2020. Atlantic markets, which are the primary outlet for U.S. coal exports, are showing considerably decreased demand because of the global economic slowdown. India, the top destination for U.S. exports, has decreased demand for both steam and coking coals as a result of nationwide lockdowns. Smaller U.S. coal export destinations such as Egypt have cancelled proposed coal projects that would have relied on imported fuel. Japan, a large consumer of U.S. coking coal, idled many blast furnaces in the beginning of the second quarter of 2020. COVID-19 related lockdowns affecting large seaborne market suppliers, including Colombia and Indonesia, have stifled global supply, providing some support to international prices but not enough to overcome the overarching shortfalls in demand.

Coal Prices

EIA estimates the delivered coal price to U.S. electricity generators averaged $2.02 per million British thermal units (MMBtu) in 2019, which was 4 cents/MMBtu lower than in 2018. EIA forecasts that coal prices will decrease in 2020 to $1.99/MMBtu and increase in 2021 to $2.04/MMBtu.

Electricity

The restrictions related to the COVID-19 pandemic and the associated economic effects also create a high level of uncertainty regarding EIA's short-term outlook for U.S. electricity markets. EIA has developed some initial assumptions about potential effects. As EIA receives new survey data during the coming weeks, future STEO forecasts will incorporate this information.

Electricity Consumption

The current STEO forecast incorporates new macroeconomic projections, which lead to a forecast of declines in retail sales of electricity to the commercial and industrial sectors. Social distancing guidelines are likely to especially affect electricity consumption in the commercial sector where many businesses, such as lodging and food service establishments, will experience reduced activity. In addition, increased numbers of people working from home reduces electricity usage in office buildings. EIA assumes these social distancing effects will magnify the economic impact on commercial electricity consumption during the next three to six months, after which time commercial electricity usage is likely to begin to increase.

As people spend more time in their homes, weather-adjusted electricity consumption by the residential sector is likely to increase in the near term, in contrast to the effects on the

commercial and industrial sectors. EIA assumes, in particular, that household usage of electronic equipment such as computers and televisions will increase. Other uses of electricity, such as for cooking and for heating water, may also rise. Household use of air conditioning during the summer months is also likely to be greater than normal as more people stay home during the daytime.

Electricity Generation

Macroeconomic effects on electricity supply are also very uncertain because of rapidly changing economic conditions. The status of component supply chains and the construction workforce are likely to affect the building new generating capacity in the near term in many areas of the country. Most of the generating capacity that had been scheduled to come online in 2020 is fueled by renewable energy sources—including solar and wind—and by natural gas.

To represent these impacts on electricity supply, EIA assumes that some of the generating capacity previously reported to EIA as planned to come online in the next six months will be postponed to sometime beyond the STEO forecast period. Most of these postponements are in solar and wind. As EIA continues to collect updates for project development activities reported on our surveys, we will revise these assumptions in future STEO forecasts.

Electricity Prices

The forecast reduction in overall electricity demand resulting from the economic slowdown, along with lower expected natural gas fuel costs for power generation, drives EIA's expectation that wholesale electricity prices will be lower in 2020 throughout the country. The lower costs of electricity supply will likely not affect retail electricity prices in the near term but may be reflected in lower retail prices in the future as utilities make adjustments to their electric rates during the coming months.

U.S. Economic Assumptions and Energy-Related Carbon Dioxide Emissions

Recent Economic Indicators

The STEO is based on macroeconomic projections by Oxford Economics (for countries other than the United States) and by IHS Markit (for the United States). Given the tremendous uncertainty in both the spread and severity of COVID-19 and in the efforts to stop the spread of the virus, these forecasts are significantly more uncertain than normal.

The April version of the Oxford forecast used in this STEO represents a significant downward revision from the previous month, reflecting a greater understanding of the severity of the virus and the effects of the travel restrictions and stay-at-home orders. Using the Oxford data, EIA assumes that global oil-consumption weighted GDP will contract by 2.8% in the first quarter of 2020 and by 4.5% in the second quarter (quarter-over-quarter growth rates). With the assumption that most lockdowns are lifted sometime during the second quarter, growth returns in the second half of 2020, leading to an overall year-over-year growth rate for oil consumption-weighted GDP in 2020 of -4.1%. The recovery continues in 2021, leading to a 6.7% growth rate.

For the United States, EIA used the April 2, 2020 release of the IHS Markit U.S. Short-Term Macroeconomic model with EIA's energy prices. Since the release of the April STEO, the near-term outlook for GDP has significantly declined as policies to slow the spread of COVID-19 remain in place. U.S. real GDP in the May STEO is forecasted to decline by 7.5% in the second quarter of 2020 (quarter-over-quarter) as compared with a 3.5% decline forecast in the April STEO. Year-over-year, the decline in 2020 for the May STEO is 5.4% as compared to the 2.0% decline forecasted in the April STEO. As in the April STEO, the economy is forecasted to return to growth in the fourth quarter of 2020. Employment does not return to pre-pandemic levels by the end of the STEO forecast period.

Energy-Related Carbon Dioxide Emissions.

After decreasing by 2.8% in 2019, EIA forecasts that U.S. energy-related carbon dioxide (CO2) emissions will decrease by 11% (572 million metric tons) in 2020. This record decline is the result of restrictions on business and travel activity and slowing economic growth related to COVID-19. CO2 emissions decline from all fossil fuels, particularly coal (23%) and petroleum (11%). In 2021, EIA forecasts that energy-related CO2 emissions will increase by 5% as the economy recovers and stay-at-home orders are lifted. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Notable forecast changes

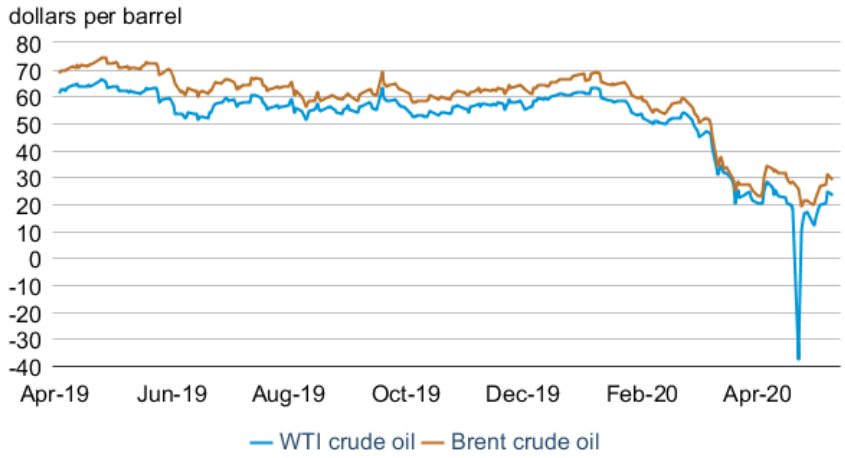
- Because of the rapidly changing situation in energy markets, EIA's forecast includes a significant number of notable forecast changes. Please see the detailed table of forecast changes for more information.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $29.46 per barrel (b) on May 7, 2020, an increase of $4.72/b from April 1, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $3.24/b during the same period, settling at $23.55/b on May 7 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

The oil futures market continued to exhibit significant volatility in April, marked in particular by the WTI front-month futures price closing at -$37.63/b on April 20, 2020. Although negative pricing has occurred in other commodity markets, it has never occurred in a highly visible and widely traded benchmark crude oil price. For a full explanation of this event, see *This Week in Petroleum*. Since April 21, crude oil prices have steadily increased and could indicate downside price pressure is easing. Many countries have begun to reopen their economies. In addition, the Organization of the Petroleum Exporting Countries (OPEC), along with Russia and a number of other non-OPEC producers (OPEC+), agreed to significant production reductions from May 2020 through April 2022, which should slow the pace of petroleum inventory builds. Although the outlook for global oil markets remains highly uncertain, April 2020 could mark the low-point for oil prices.

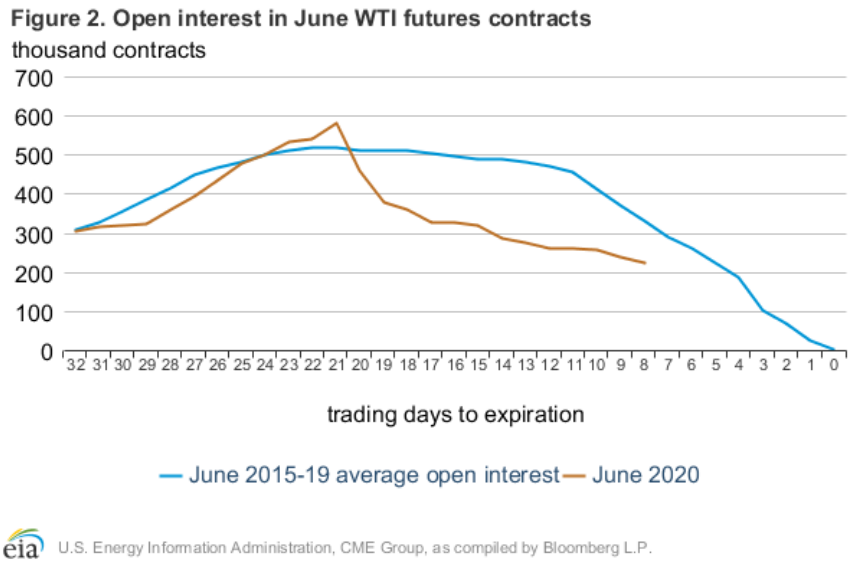
Voluntary production reductions from OPEC+ countries will not be sufficient to prevent significant inventory builds in May and June, however, as EIA expects global demand is forecast to remain subdued, albeit increasing from the lows of March and April. In the May STEO, EIA forecasts global liquid fuels inventories will increase at a pace of 10.1 million barrels per day (b/d) in May and build an additional 1.6 million b/d in June. In the United States, total commercial liquid fuels inventories increased by 2.7 million b/d in April 2020, which would be the largest build for any month since 1959 if confirmed in EIA's *Petroleum Supply Monthly*. Although petroleum inventory data outside the United States is unavailable in real-time, EIA

estimates a combination of on-land commercial storage, floating storage, and government strategic stocks will have to be used to accommodate the significant stock builds through June 2020.

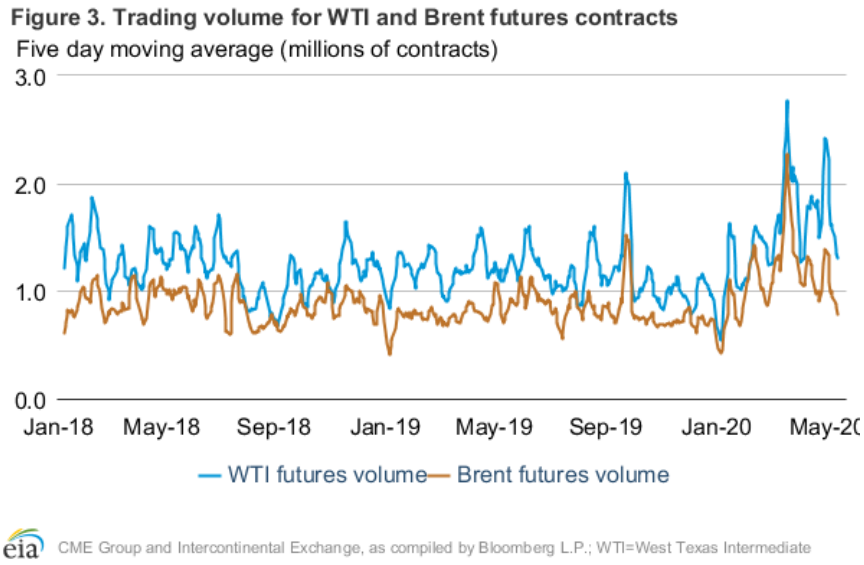
EIA forecasts inventories to begin drawing in July 2020, with draws continuing through the end of 2021. A combination of increased demand, declines in production from non-OPEC countries, and continued production restraint from OPEC and partner countries contribute to an average draw of 2.5 million b/d from July 2020 through December 2021. EIA expects continued inventory withdrawals will provide upward price pressure on crude oil prices, although the very high stock level will prevent oil prices from returning to $60/b throughout 2021. In the May STEO, EIA has increased its Brent crude oil price forecast from an average of $46/b in 2021 in last month's STEO to $48/b, largely as a result of the production agreement from OPEC and partner countries and the resulting inventory withdrawals. EIA forecasts Brent crude oil prices to average $34/b in 2020, $1/b higher than the April STEO forecast.

WTI open interest: Price volatility in WTI futures in recent weeks has likely been exacerbated by factors specific to the financial markets. As referenced in EIA's *This Week in Petroleum*, market participants trading the May 2020 WTI contract ahead of expiration paid sellers to avoid taking physical delivery in Cushing, Oklahoma, and settle the contract financially. After the front-month contract rolled to WTI for June 2020 delivery, several market participants that use WTI futures for financial exposure to the crude oil market made public announcements that they would close their positions in the June contract earlier than normal. As a result, open interest (the number of outstanding contracts yet to be settled financially or through physical delivery) in the June WTI futures contract has decreased to levels lower than normal.

For example, the United States Oil Fund (USOF) is the largest crude oil exchange-traded fund (ETF) by total assets. Although the ETF typically holds about 5%–10% of the front-month WTI futures contract's open interest, its holdings increased to about 20% of the open interest by early April. To avoid similar price volatility ahead of the June contract's expiration on May 19, 2020, both USOF and several other funds that hold WTI front-month futures contracts in financial products announced they would be exiting positions in the June contract and rolling to other delivery months. As a result, open interest in the June 2020 WTI futures contract has declined significantly **(Figure 2)**. The five-year (2015–19) pattern for the June WTI contract tends to see open interest remain at about 500,000 contracts until about 12–14 trading days left to expiration, when market participants begin closing positions to avoid settlement for physical delivery. In contrast, the June 2020 contract declined to 221,819 contracts as of May 7, 2020, eight trading days before expiration.

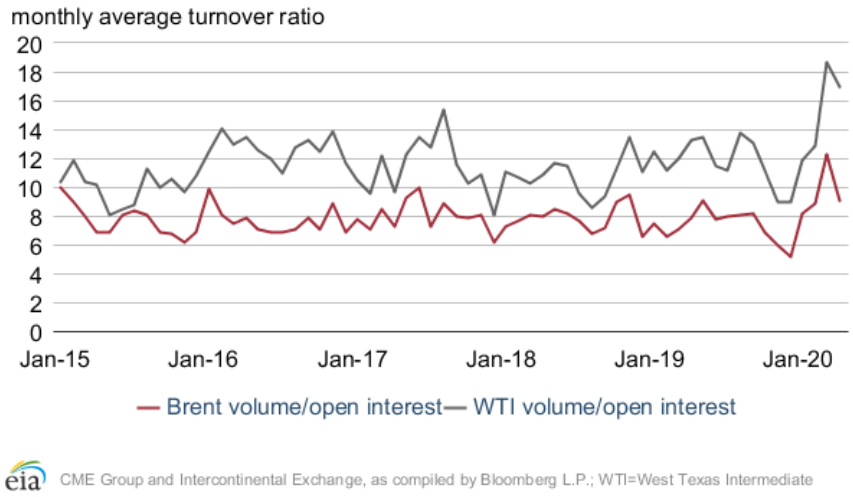


Crude oil trading volume and open interest: Trading volume for both Brent and WTI crude oil futures reached all-time high levels in March and have remained at elevated levels through the first week of May. The five-day moving average trading volume for all Brent and WTI futures contracts was 0.8 million and 1.3 million contracts, respectively, as of May 7, 2020 **(Figure 3)**.



One way to identify trading activity and liquidity is the turnover ratio, which measures the average number of times a futures contract trades each day. This value is calculated by dividing a given future contract's total monthly trading volume by its average daily open interest. In March and April, the turnover ratio for all WTI futures contracts increased to record high levels of 19 and 17 per day, respectively. The turnover ratio for Brent futures was lower than that for WTI and did not reach an all-time high, but it increased to the highest level since 2011 in March 2020, averaging 12 per day **(Figure 4)**. Trading activity typically increases when price volatility increases.

Figure 4. Crude oil futures total monthly volume divided by average monthly open interest

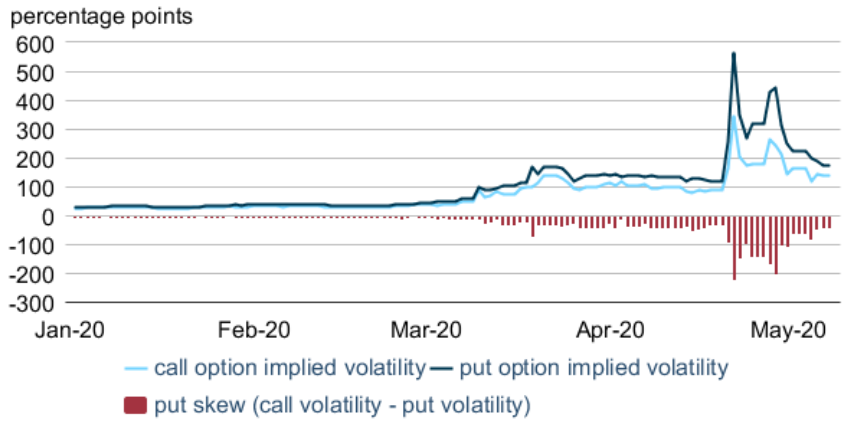


eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

***Financial option volatility**:* The prices of financial options on WTI futures contracts deviated significantly from their usual patterns throughout much of March and April. The value of NYMEX WTI call options and put options (which give the option holder the right to buy or sell, respectively, a WTI futures contract at a given price within a set timeframe) increases when oil price volatility rises and decreases when price volatility falls. Although, theoretically, with the same strike price and expiration date, the implied volatility of WTI call options should be equal to the implied volatility of WTI put options, the latter almost always exceeds the former. The difference between call and put option volatility (known as the put skew) of front-month WTI futures averaged -2.3 percentage points between 2004 and 2019—a persistence generally attributed to the tendency of market participants to be loss-adverse or to relatively prefer preventing losses over making larger gains.

The skew has grown significantly wider during the past several months **(Figure 5)**. Although the implied volatility of WTI as derived from both call options and put options increased during March and April, call option volatility grew less than put option volatility, leading the put skew for the June 2020 WTI contract to fall to less than -220 percentage points on April 21. This level was the lowest put skew for the front-month WTI futures since at least 2004, the earliest year for which data are available. Much of the overall increase in volatility can be attributed to the particular circumstances surrounding the May 2020 WTI futures contract, and the reaction of market participants to negative crude oil prices—which many had believed were incapable of falling below zero. The disproportionate increase in the level of volatility implied by put options, however, suggests very high demand for protection against further downside price movements, but it also reflects the high premiums that sellers of put options require to take on this risk.

Figure 5. Volatility of financial options for the June 2020 NYMEX WTI contract



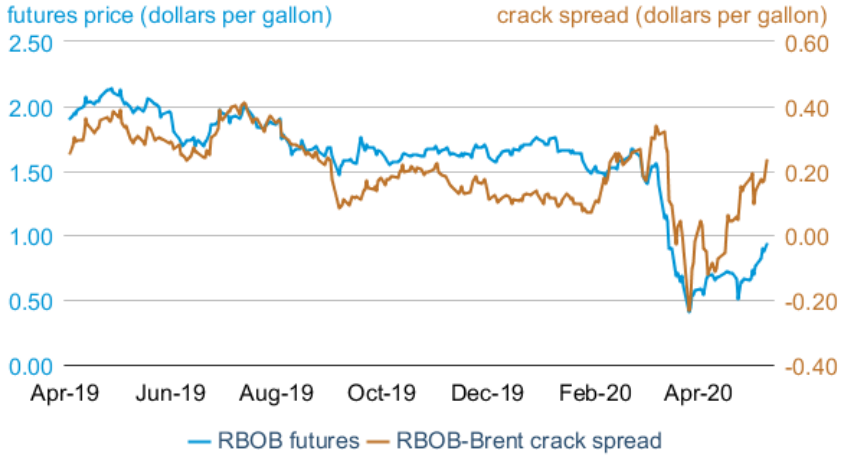
Note: Implied volatilities calculated using standard Black-Scholes assumptions (DFLT) on 25 delta calls and 25 delta puts as listed on Bloomberg.

eia U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at 93 cents per gallon (gal) on May 7, up 38 cents/gal from April 1, 2020 **(Figure 6)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 27 cents/gal to settle at 23 cents/gal during the same period. After briefly declining to negative values in late March and again in early April, the RBOB-Brent crack spread increased in the middle of April and continued to rise for the rest of the month.

Figure 6. Historical RBOB front-month futures prices and crack spread



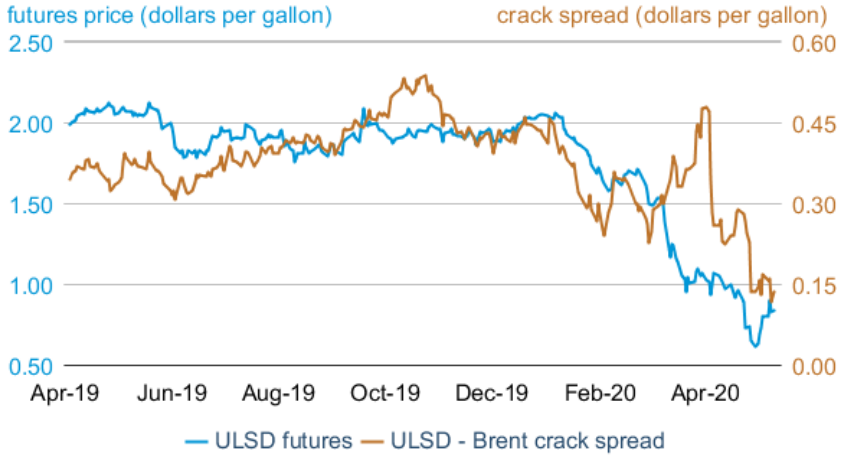
eia Source: CME Group, as compiled by Bloomberg L.P. Note: RBOB=reformulated blendstock for oxygenate blending

Finished motor gasoline consumption (measured by product supplied) grew to 6.7 million b/d for the week ending May 1, up from 5.1 million b/d on April 3, which contributed to the increases in RBOB front-month futures prices and the RBOB-Brent crack spread. Even with this

trend, April's finished motor gasoline consumption of 5.6 million b/d remains 40% below the 9.4 million b/d in April 2019. Personal travel numbers matched the trend of motor gasoline consumption. According to INRIX, compared with the week ending February 29, weekly personal travel was down 47% on April 3 and was down by 36% as of May 1. This lower overall consumption led to gasoline inventories reaching record levels, peaking at 263 million barrels for the week ending April 17.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) delivered in New York Harbor settled at 84 cents/gal on May 7, 2020, down 10 cents/gal from April 1, 2020 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 21 cents/gal to settle at 14 cents/gal during the same period. The ULSD-Brent crack spread ended March at the highest level for that month in five years, but it declined significantly the first week of April through the end of the month.

Figure 7. Historical ULSD front-month futures price and crack spread



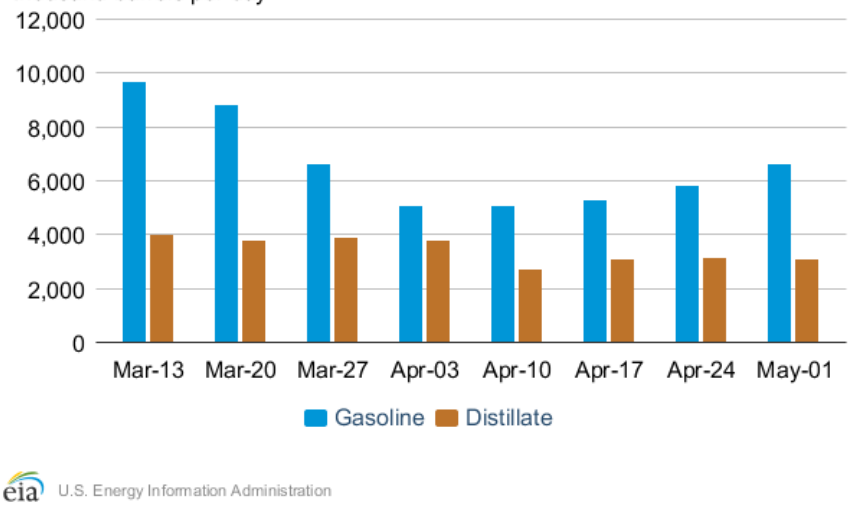
eia Source: CME Group, as compiled by Bloomberg L.P. Note: ULSD=ultra-low sulfur diesel

The ULSD-Brent crack spread declined as distillate consumption decreased. Although real-time data remain limited, EIA estimates that April 2020 distillate consumption was 3.0 million b/d, a decrease of 0.9 million b/d (23%) from April 2019. If confirmed in EIA's *Petroleum Supply Monthly*, this level will be the lowest monthly consumption level for the month of April since 1993. A possible explanation for the drop in consumption is less long-haul truck travel. For example, according to INRIX's data, for the week ending February 29 trucking was down 9% the week ending April 24. Even though distillate consumption has recently decreased, refiners have shifted more of their efforts toward refining distillate, likely because diesel demand initially decreased less than that for other fuels such as gasoline and jet fuel. The more delayed drop in distillate consumption initially supported distillate refining margins and encouraged refineries to increase distillate production. EIA estimates the refinery distillate yield increased to 39%, compared with 30% in April 2019, and refinery gasoline yield decreased to 40%, compared with 45% a year ago. As a result of the downward shift in demand and increased distillate yield,

ending stocks of distillate increased throughout the month, ending the month with 23 million more barrels (18%) than at the same time last year.

Gasoline and distillate consumption: When the United States proclaimed a national state of emergency on March 13, gasoline and distillate demand responded differently. From March 13 to April 3, gasoline consumption dropped 48%, from 9.7 million b/d to 5.1 million b/d **(Figure 8)**. In that same time frame, distillate consumption dropped 5%, from 4.0 million b/d to 3.8 million b/d. The next week, from April 3 to April 10, distillate declined 1.1 million b/d (28%), while gasoline increased slightly. From April 10 to May 1, distillate consumption increased by 0.4 million b/d (13%) and gasoline consumption increased by 1.6 million b/d (31%).

Figure 8. U.S. gasoline and distillate product supplied



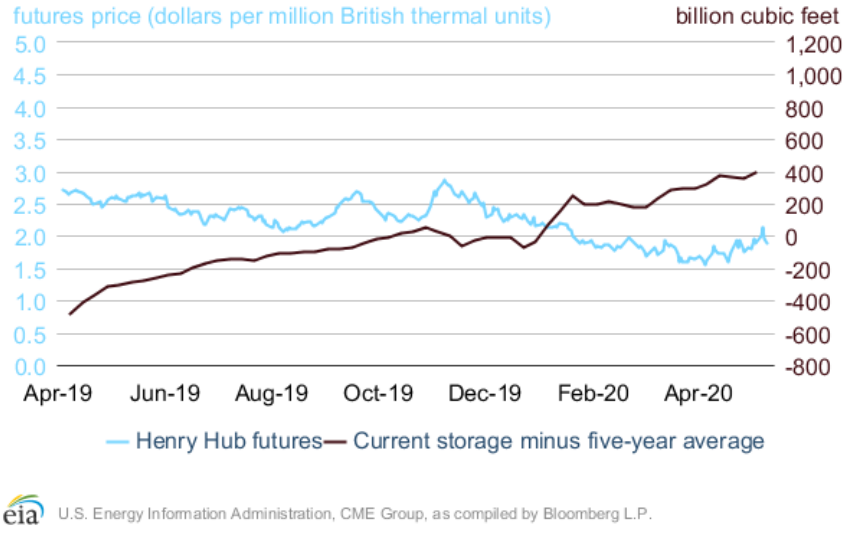
eia U.S. Energy Information Administration

The lag between the decreases in demand can likely be attributed to the difference in how restrictions to limit the spread of COVID-19 affect the uses of the two fuels. Gasoline consumption depends heavily on personal travel such as commuting to work or to social gatherings that were generally suspended by restrictions. As a result, gasoline consumption decreased immediately. Distillate consumption depends more on freight movements and likely was more affected by slowing economic growth than the restrictions themselves. Distillate is also used in activities that are less directly affected by restrictions, such as the diesel engines of heavy construction equipment and as heating oil both for heating buildings and for industrial heating. The restrictions may have indirectly affected these uses over time by means of reduced economic activity that eventually led to a decrease in consumer spending for all goods. Diesel fuel is also used in oil and natural gas drilling operations, which have decreased significantly.

Natural Gas

Prices: The front-month natural gas futures contract for June delivery at the Henry Hub settled at $1.89 per million British thermal units (MMBtu) on May 7, up 31 cents/MMBtu from April 1, 2020 **(Figure 9)**.

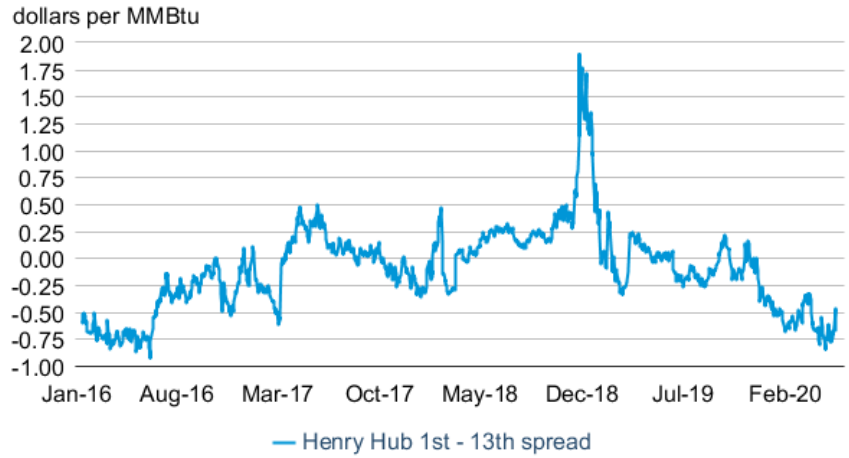
Figure 9. U.S. natural gas front-month futures prices and storage



U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

Futures price spreads: The natural gas 1st-13th price spread settled at -$0.67/MMBtu on May 7, continuing a period of contango (when near-term prices are lower than longer dated ones) which began in November 2019 **(Figure 10)**. In periods of contango, there is an incentive for market participants to store natural gas and sell it later at the higher priced future month contract. The 1st-13th spread has been in contango since late 2019 because of three major factors. First, mild winter weather contributed to higher inventories relative to the five-year average. Second, reduced demand for natural gas in the power and industrial sectors related to mitigation efforts related to COVID-19 has contributed to lower front-month prices relative to 13th-month prices. Finally, EIA expects U.S. production of dry natural gas to fall by more than consumption over the next year, placing upward pressure on future prices. EIA forecasts a decline of 0.2 Bcf/d and 4.9 Bcf/d in consumption and dry gas production, respectively, between June 2020 (the current front-month futures price) and June 2021 (the current 13th-month). Inventories are forecast to decline by 331 billion cubic feet (Bcf) between the same two months.

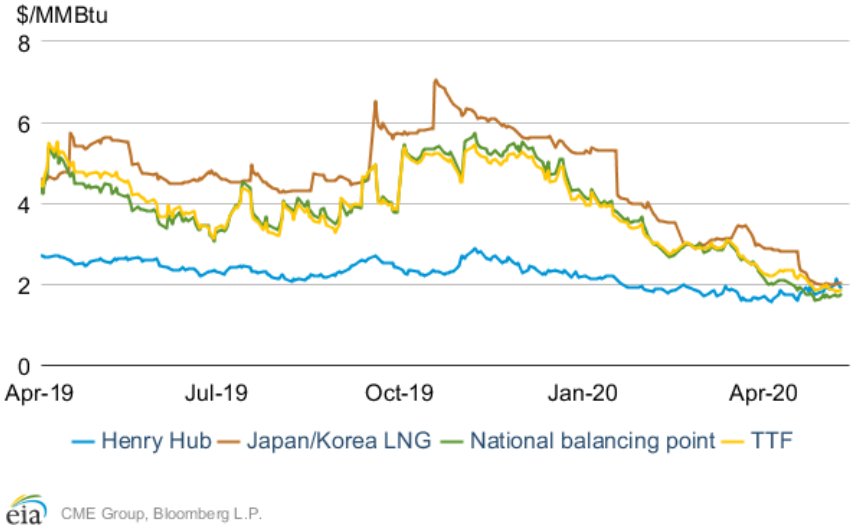
Figure 10. Natural gas 1st-13th futures price spread



CME Group

International natural gas prices: Similar to Henry Hub, major international front-month futures benchmarks in Europe (UK National Balancing Point, or NBP; Dutch Title Transfer Facility, or TTF) and Asia (Japan-Korea LNG, or JKM) experienced a significant decline in prices, with spreads between benchmarks also narrowing considerably because of a mild winter as well as the widespread international policy response related to COVID-19 **(Figure 11)**. Notably, TTF and NBP prices traded lower than the corresponding Henry Hub contract. The lack of opportunities for arbitrage stemming from lower spreads between international prices has important implications for the international trade of natural gas and liquefied natural gas (LNG). EIA forecasts in the May STEO that U.S. LNG exports will average 6.0 Bcf/d in 2020 and 7.3 Bcf/d in 2021. Although these levels still represent year-over-year increases, the rate of growth in exports is expected to decline from 67.9% year-over-year in 2019 to 21.1% in 2020 and 21.2% in 2021.

Figure 11. International natural gas prices

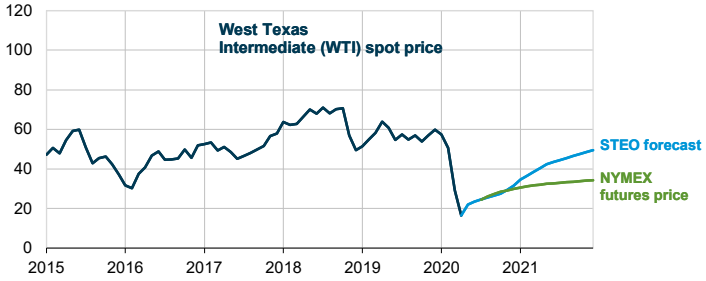


This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook

Chart Gallery for May 2020

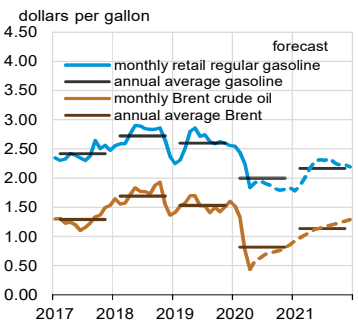
EIA is unable to construct NYMEX confidence intervals in this STEO, because of data issues.
EIA will update this figure if the data become available.



Note: Confidence interval derived from options market information for the five trading days ending May 7, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

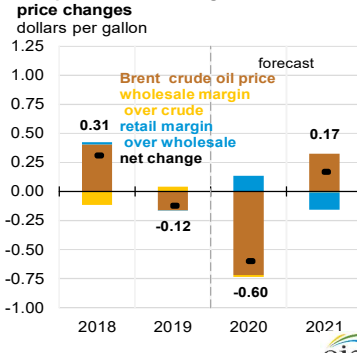
Sources: Short-Term Energy Outlook, May 2020, and CME Group

U.S. gasoline and crude oil prices

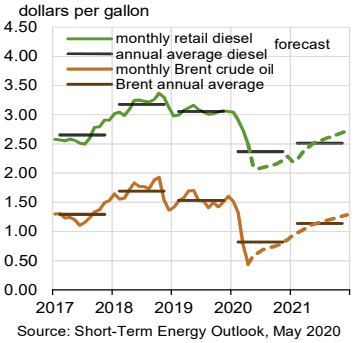


Source: Short-Term Energy Outlook, May 2020

Components of annual gasoline price changes

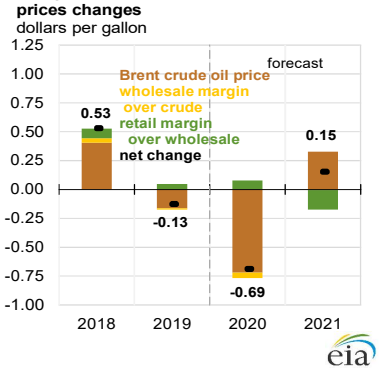


U.S. diesel and crude oil prices



Source: Short-Term Energy Outlook, May 2020

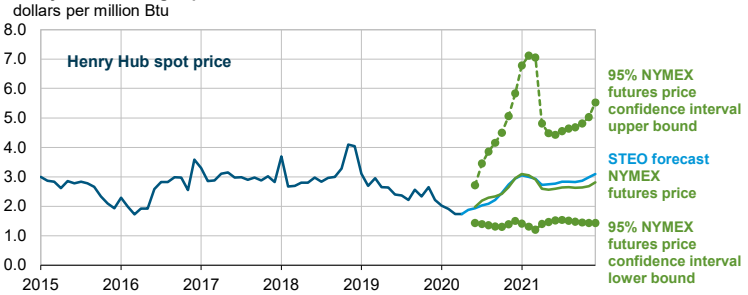
Components of annual diesel prices changes



eia

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu



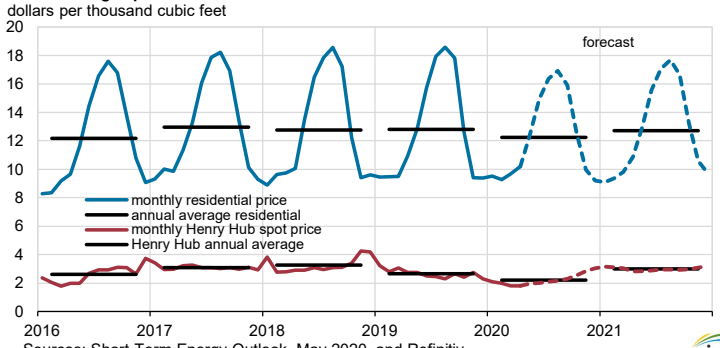
Note: Confidence interval derived from options market information for the five trading days ending May 7, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, May 2020, and CME Group

eia

U.S. natural gas prices

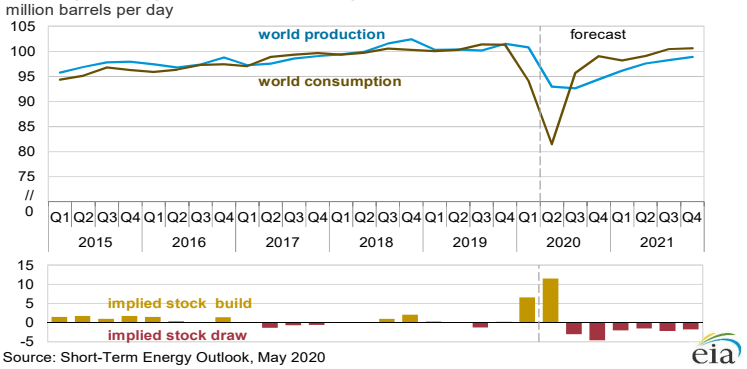
dollars per thousand cubic feet



Sources: Short-Term Energy Outlook, May 2020, and Refinitiv

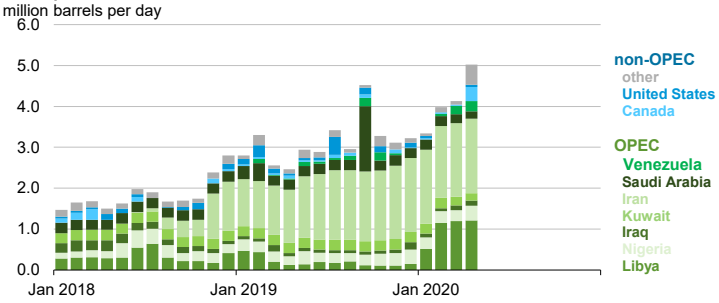
eia

World liquid fuels production and consumption balance
million barrels per day



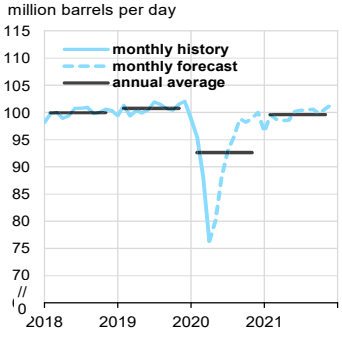
Source: Short-Term Energy Outlook, May 2020

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day

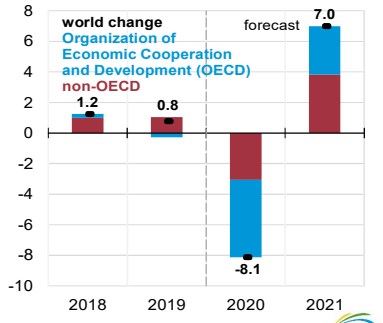


Source: Short-Term Energy Outlook, May 2020

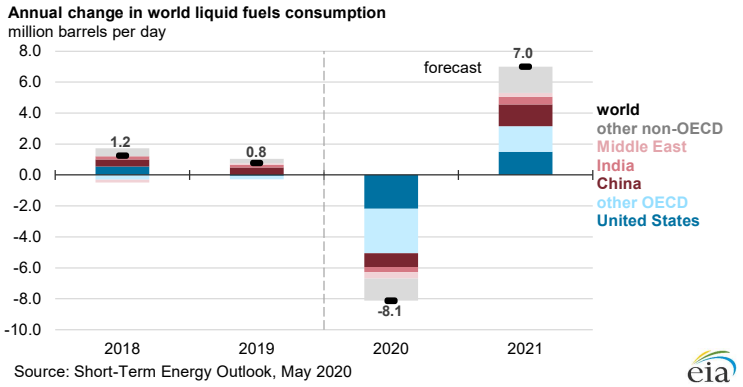
World liquid fuels consumption
million barrels per day

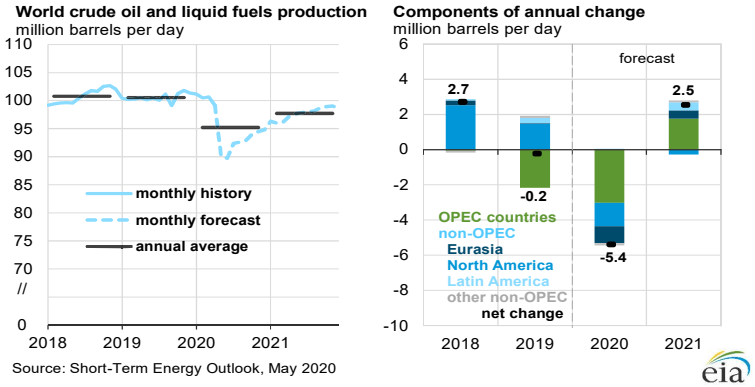


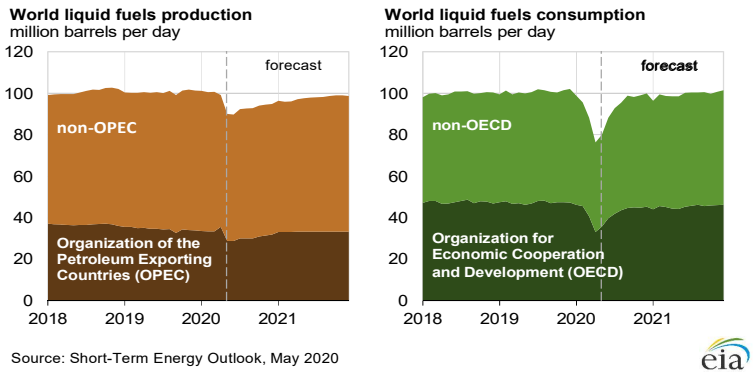
Components of annual change
million barrels per day



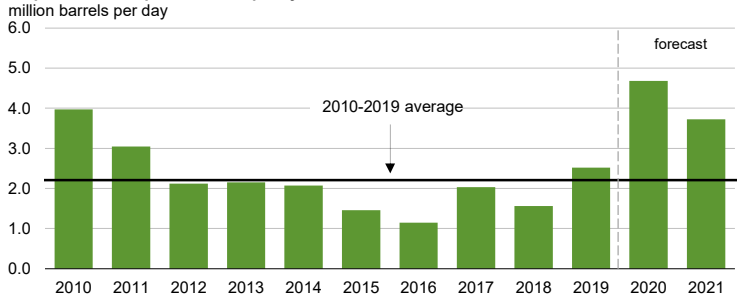
Source: Short-Term Energy Outlook, May 2020


Annual change in world liquid fuels consumption
million barrels per day
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
forecast
1.2
0.8
-8.1
7.0
2018
2019
2020
2021
world
other non-OECD
Middle East
India
China
other OECD
United States
Source: Short-Term Energy Outlook, May 2020
eia


World crude oil and liquid fuels production
million barrels per day
110
105
100
95
90
85
80
75
70
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Source: Short-Term Energy Outlook, May 2020
Components of annual change
million barrels per day
6
4
2
0
-2
-4
-6
-8
-10
forecast
2.7
-0.2
-5.4
2.5
OPEC countries
non-OPEC
Eurasia
North America
Latin America
other non-OPEC
net change
2018
2019
2020
2021
eia

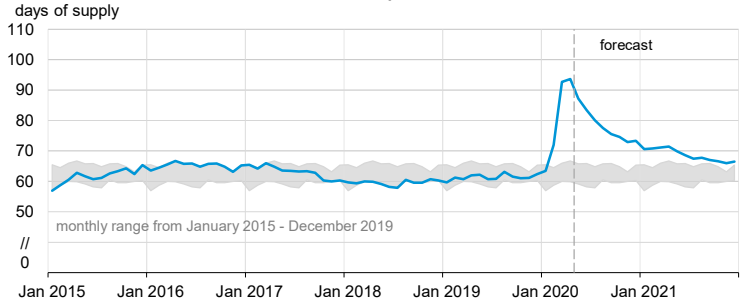

World liquid fuels production
million barrels per day
120
100
80
60
40
20
0
forecast
non-OPEC
Organization of the Petroleum Exporting Countries (OPEC)
2018
2019
2020
2021
Source: Short-Term Energy Outlook, May 2020
World liquid fuels consumption
million barrels per day
120
100
80
60
40
20
0
forecast
non-OECD
Organization for Economic Cooperation and Development (OECD)
2018
2019
2020
2021
eia

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



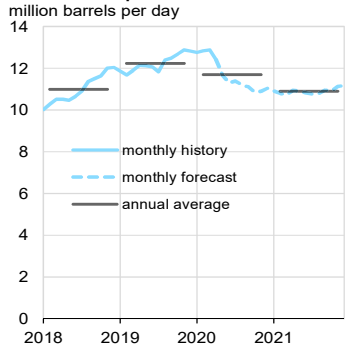
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: Short-Term Energy Outlook, May 2020

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

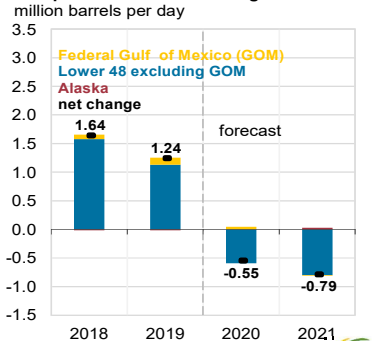


Source: Short-Term Energy Outlook, May 2020

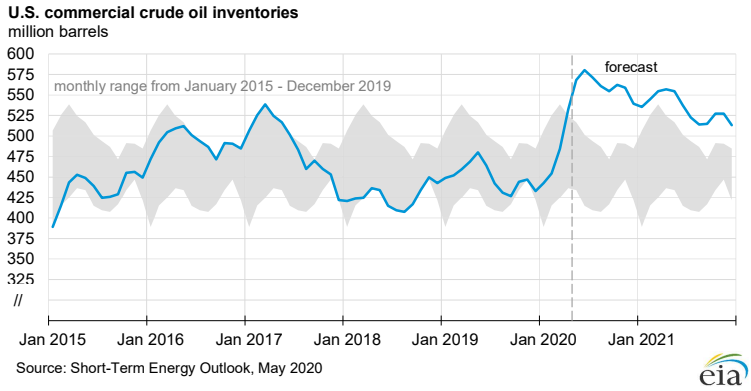
U.S. crude oil production
million barrels per day

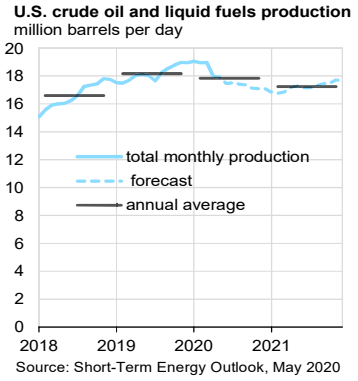


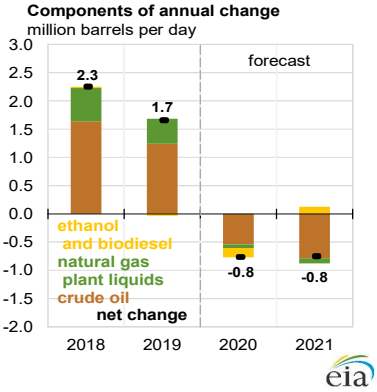
Components of annual change
million barrels per day

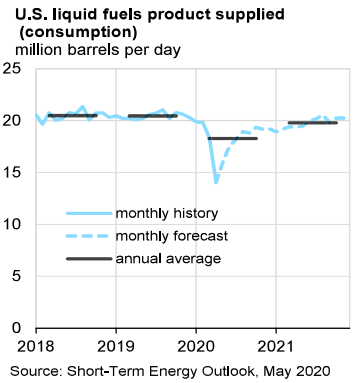


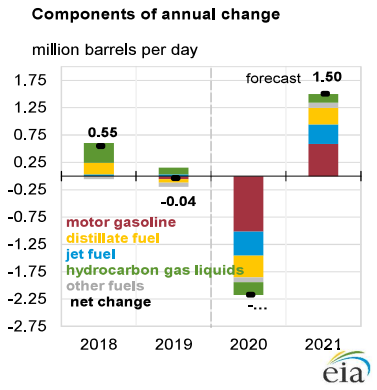
Source: Short-Term Energy Outlook, May 2020


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2015 - December 2019
forecast
Jan 2015
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Source: Short-Term Energy Outlook, May 2020
eia

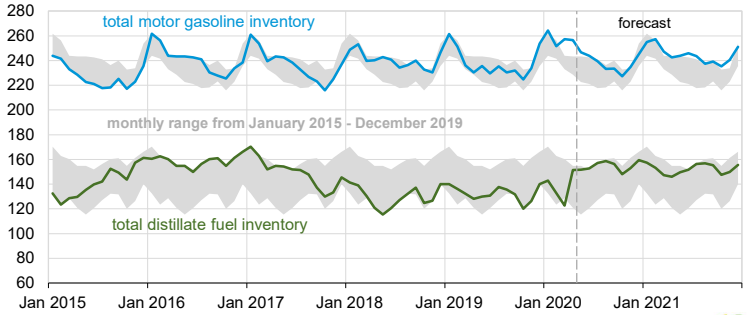

U.S. crude oil and liquid fuels production
million barrels per day
20
18
16
14
12
10
8
6
4
2
0
total monthly production
forecast
annual average
2018
2019
2020
2021
Source: Short-Term Energy Outlook, May 2020


Components of annual change
million barrels per day
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
forecast
2.3
1.7
-0.8
-0.8
ethanol
and biodiesel
natural gas
plant liquids
crude oil
net change
2018
2019
2020
2021
eia


U.S. liquid fuels product supplied
(consumption)
million barrels per day
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Source: Short-Term Energy Outlook, May 2020

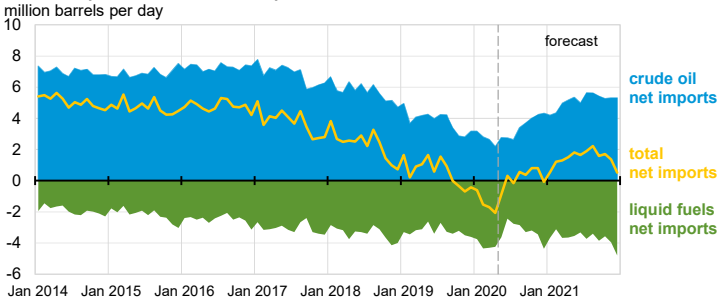

Components of annual change
million barrels per day
1.75
1.25
0.75
0.25
-0.25
-0.75
-1.25
-1.75
-2.25
-2.75
forecast
1.50
0.55
-0.04
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
net change
2018
2019
2020
2021
eia

U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, May 2020

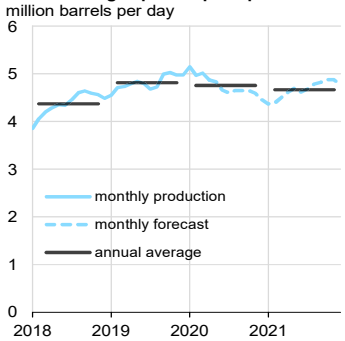
U.S. net imports of crude oil and liquid fuels
million barrels per day



Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

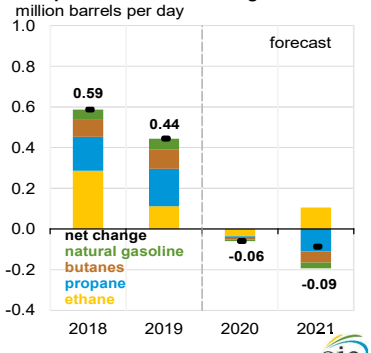
Source: Short-Term Energy Outlook, May 2020

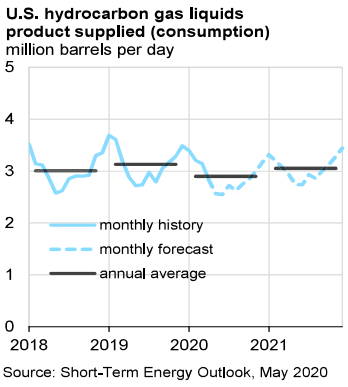
U.S. natural gas plant liquids production
million barrels per day

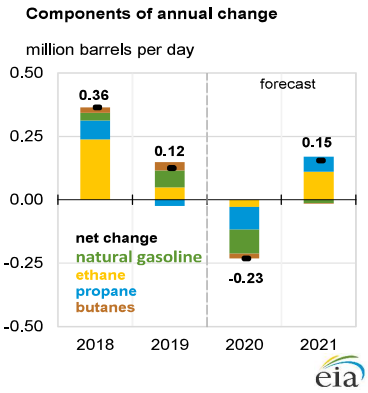


Source: Short-Term Energy Outlook, May 2020

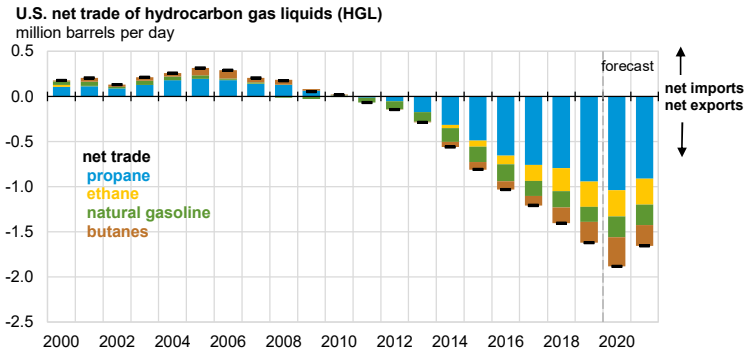
Components of annual change
million barrels per day



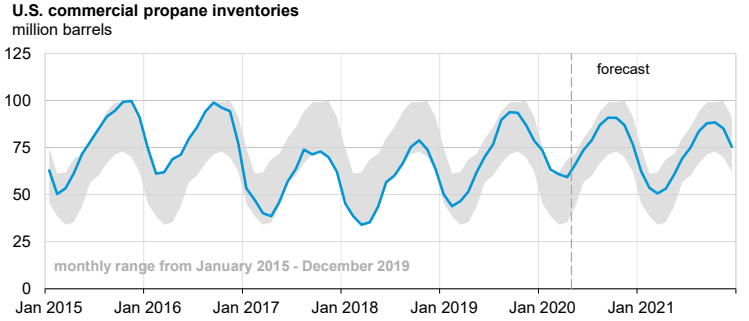




Source: Short-Term Energy Outlook, May 2020



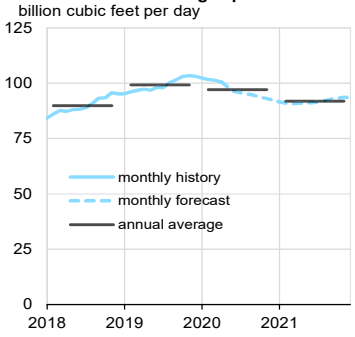
Source: Short-Term Energy Outlook, May 2020



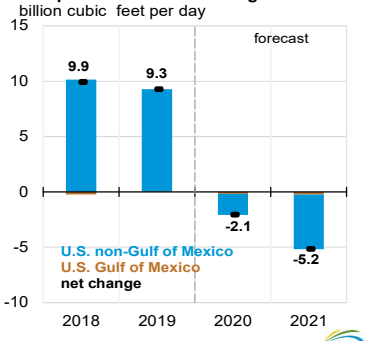
Note: Excludes refinery propylene.

Source: Short-Term Energy Outlook, May 2020

U.S. marketed natural gas production
billion cubic feet per day

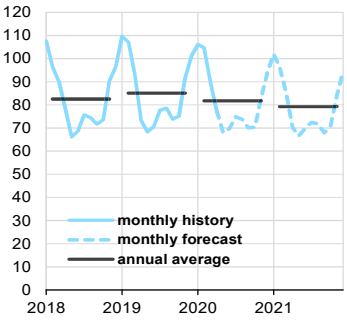


Components of annual change
billion cubic feet per day

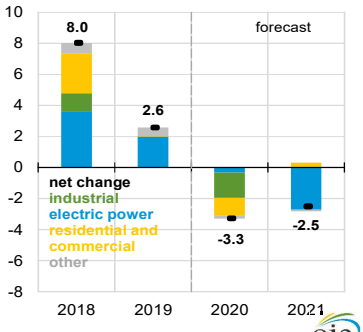


Source: Short-Term Energy Outlook, May 2020

U.S. natural gas consumption
billion cubic feet per day

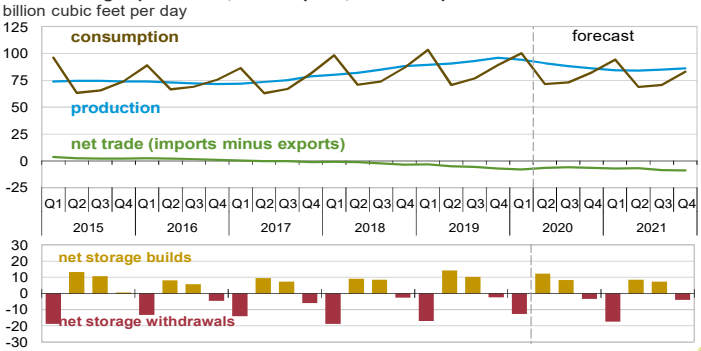


Components of annual change
billion cubic feet per day



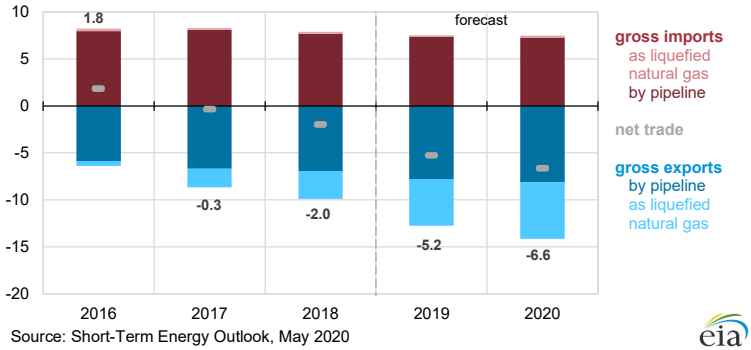
Source: Short-Term Energy Outlook, May 2020

U.S. natural gas production, consumption, and net imports
billion cubic feet per day



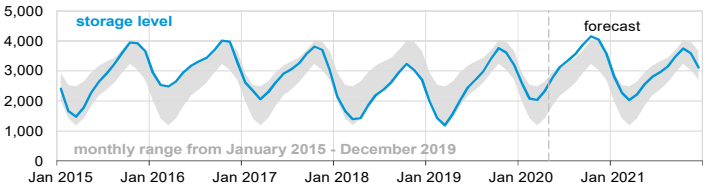
Source: Short-Term Energy Outlook, May 2020

U.S. annual natural gas trade
billion cubic feet per day

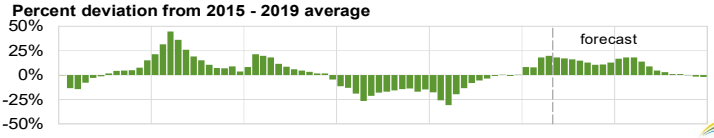


Source: Short-Term Energy Outlook, May 2020

U.S. working natural gas in storage
billion cubic feet

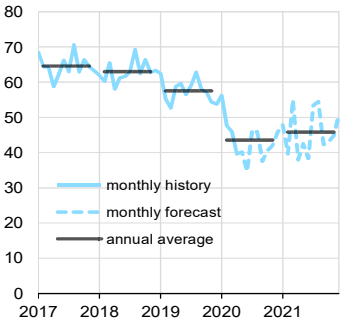


Percent deviation from 2015 - 2019 average

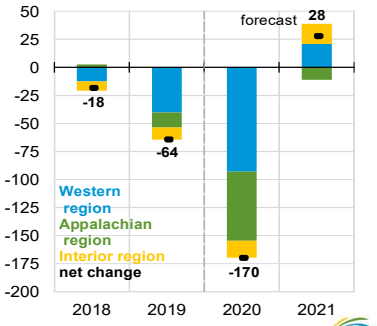


Source: Short-Term Energy Outlook, May 2020

U.S. coal production
million short tons

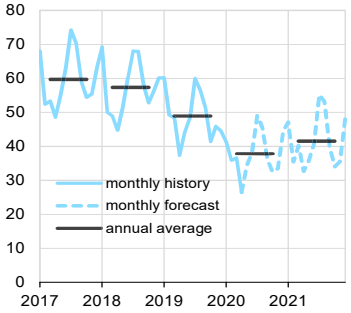


Components of annual change
million short tons



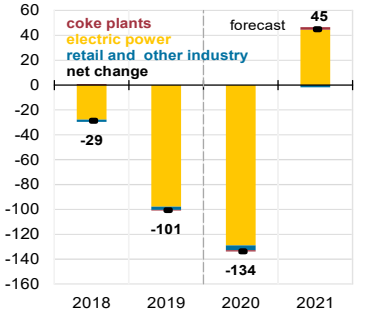
Source: Short-Term Energy Outlook, May 2020

U.S. coal consumption
million short tons



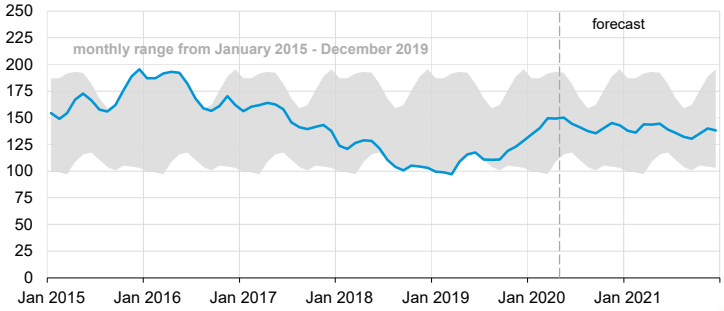
Source: Short-Term Energy Outlook, May 2020

Components of annual change
million short tons



eia

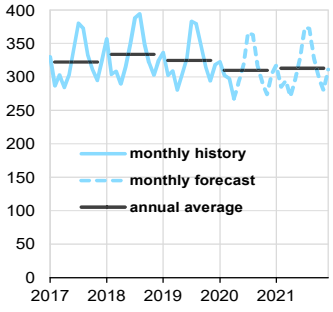
U.S. electric power coal inventories
million short tons



Source: Short-Term Energy Outlook, May 2020

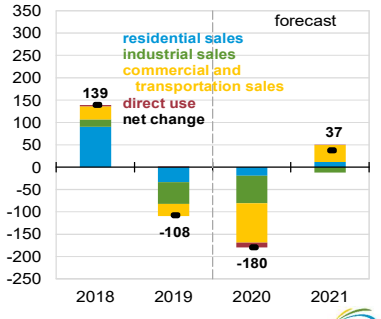
eia

U.S. electricity consumption
billion kilowatthours



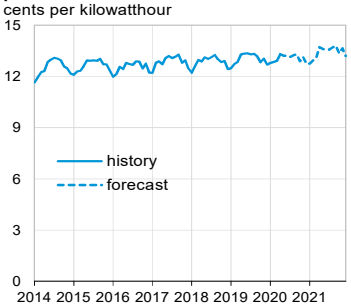
Source: Short-Term Energy Outlook, May 2020

Components of annual change
billion kilowatthours

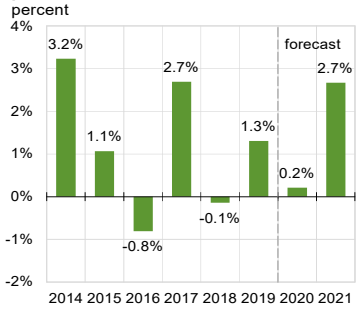


eia

U.S. monthly residential electricity price
cents per kilowatthour

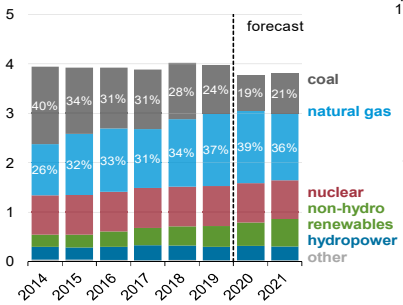


Annual growth in residential electricity prices
percent

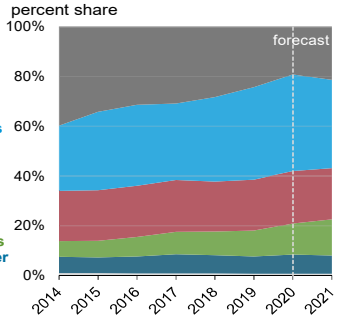


Source: Short-Term Energy Outlook, May 2020

U.S. electricity generation by fuel, all sectors
trillion kilowatthours

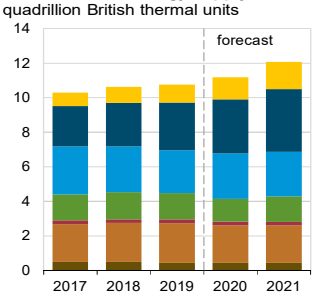


percent share

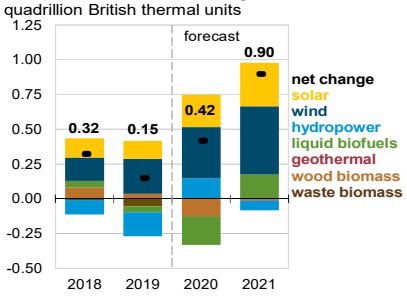


Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: Short-Term Energy Outlook, May 2020

U.S. renewable energy supply
quadrillion British thermal units

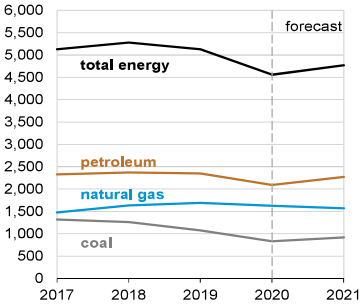


Components of annual change
quadrillion British thermal units

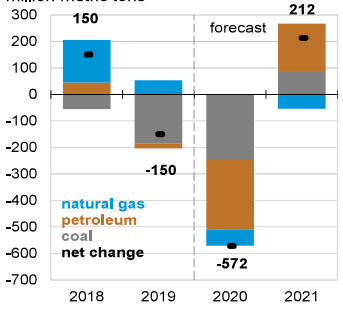


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, May 2020

U.S. annual carbon emissions by source
million metric tons

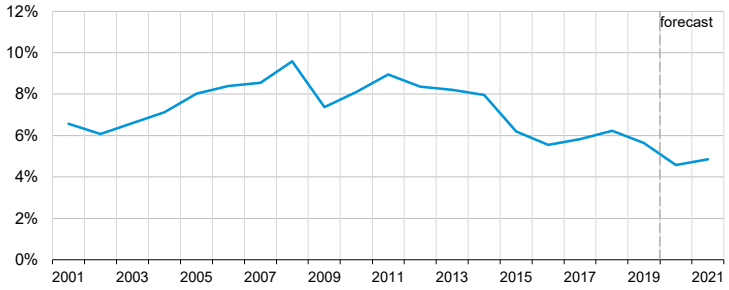


Components of annual change
million metric tons



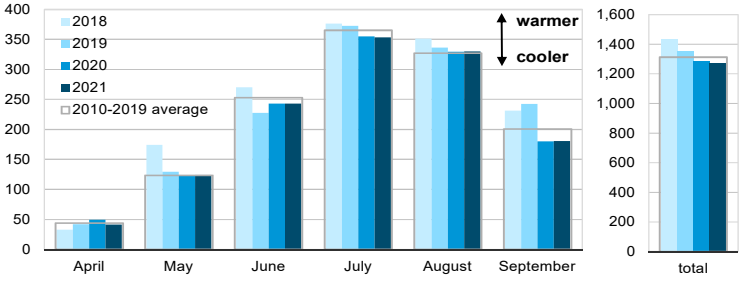
Source: Short-Term Energy Outlook, May 2020

U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, May 2020

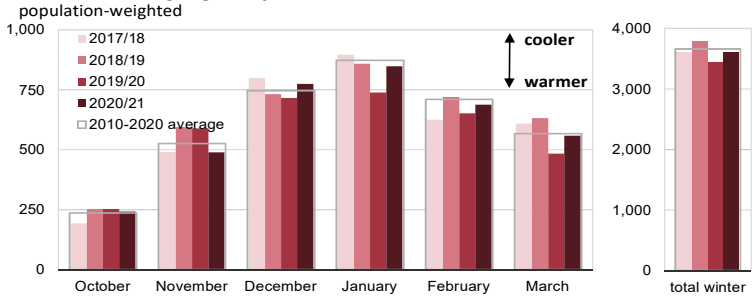
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, May 2020

U.S. winter heating degree days
population-weighted

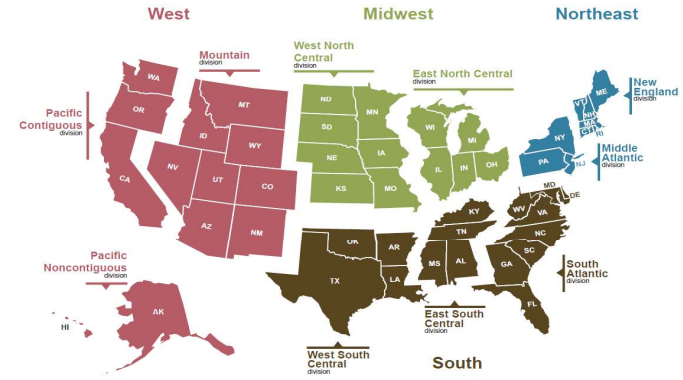


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, May 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

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Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.81**	**12.10**	**12.23**	**12.78**	**12.81**	*11.78*	*11.23*	*10.93*	*10.81*	*10.89*	*10.83*	*11.07*	**12.23**	*11.69*	*10.90*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**95.97**	**94.28**	*91.08*	*88.03*	*86.05*	*84.21*	*84.09*	*85.03*	*86.22*	**92.21**	*89.84*	*84.89*
Coal Production															
(million short tons)	**170**	**175**	**180**	**165**	**150**	*114*	*130*	*129*	*142*	*119*	*150*	*138*	**690**	*523*	*550*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.30**	**20.31**	**20.67**	**20.57**	**19.35**	*15.87*	*18.67*	*19.26*	*19.18*	*19.61*	*20.19*	*20.18*	**20.46**	*18.29*	*19.79*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.74**	**89.33**	**100.04**	*71.60*	*72.92*	*82.27*	*94.20*	*68.86*	*70.76*	*83.07*	**84.97**	*81.69*	*79.17*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**132**	**114**	*99*	*131*	*110*	*123*	*109*	*148*	*118*	**587**	*453*	*498*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.02**	**12.06**	**10.07**	**10.13**	*9.64*	*11.37*	*9.46*	*9.97*	*9.82*	*11.66*	*9.67*	**10.67**	*10.15*	*10.28*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.79**	**2.94**	*3.06*	*2.87*	*2.92*	*3.14*	*3.39*	*3.11*	*3.12*	**11.48**	*11.80*	*12.76*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.54**	**23.43**	**24.97**	**25.22**	**25.08**	*20.50*	*22.69*	*23.37*	*24.49*	*22.46*	*23.70*	*24.07*	**100.17**	*91.64*	*94.72*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	*20.64*	*25.47*	*29.50*	*36.63*	*42.16*	*45.48*	*48.53*	**57.02**	*30.10*	*43.31*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.89**	*1.85*	*2.11*	*2.71*	*2.99*	*2.74*	*2.83*	*2.98*	**2.57**	*2.14*	*2.89*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.97**	*2.02*	*1.98*	*1.99*	*2.02*	*2.05*	*2.03*	*2.04*	**2.02**	*1.99*	*2.04*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**19,048**	*17,627*	*17,617*	*17,885*	*18,532*	*19,108*	*19,455*	*19,682*	**19,073**	*18,044*	*19,194*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.3**	**0.6**	*-7.3*	*-7.9*	*-7.0*	*-2.7*	*8.4*	*10.4*	*10.1*	**2.3**	*-5.4*	*6.4*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.5**	*113.8*	*114.2*	*114.6*	*115.0*	*115.5*	*115.9*	*116.2*	**112.3**	*114.0*	*115.7*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	*1.5*	*1.4*	*1.4*	*1.4*	*1.5*	*1.5*	*1.4*	**1.8**	*1.5*	*1.4*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,073**	**15,206**	*15,536*	*15,609*	*15,320*	*15,442*	*15,564*	*15,662*	*15,758*	**14,974**	*15,418*	*15,606*
Percent change from prior year	**3.3**	**3.0**	**2.7**	**2.4**	**2.2**	*4.0*	*4.0*	*1.6*	*1.6*	*0.2*	*0.3*	*2.9*	**2.9**	*3.0*	*1.2*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**103.9**	*90.0*	*84.7*	*83.1*	*86.5*	*90.4*	*92.9*	*94.6*	**106.0**	*90.4*	*91.1*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.4**	*-14.8*	*-20.0*	*-21.5*	*-16.7*	*0.4*	*9.7*	*13.9*	**0.0**	*-14.7*	*0.8*
Weather															
U.S. Heating Degree-Days	**2,211**	**481**	**57**	**1,559**	**1,875**	*505*	*69*	*1,506*	*2,094*	*483*	*70*	*1,504*	**4,307**	*3,956*	*4,151*
U.S. Cooling Degree-Days	**45**	**399**	**952**	**105**	**71**	*416*	*864*	*96*	*46*	*409*	*864*	*96*	**1,501**	*1,447*	*1,415*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	*20.64*	*25.47*	*29.50*	*36.63*	*42.16*	*45.48*	*48.53*	**57.02**	*30.10*	*43.31*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.30**	**50.00**	*23.11*	*29.97*	*34.00*	*41.13*	*46.66*	*49.98*	*53.03*	**64.37**	*34.13*	*47.81*
U.S. Imported Average	**55.25**	**62.98**	**57.30**	**55.57**	**42.88**	*17.35*	*22.53*	*26.48*	*34.13*	*39.67*	*42.99*	*46.01*	**57.94**	*27.31*	*41.02*
U.S. Refiner Average Acquisition Cost	**56.93**	**63.55**	**58.67**	**58.05**	**45.37**	*19.61*	*24.93*	*28.99*	*35.52*	*41.20*	*44.49*	*47.53*	**59.33**	*30.23*	*42.34*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**148**	*83*	*105*	*107*	*120*	*151*	*154*	*148*	**186**	*112*	*144*
Diesel Fuel	**192**	**203**	**192**	**197**	**157**	*95*	*106*	*116*	*127*	*150*	*159*	*166*	**196**	*119*	*151*
Heating Oil	**189**	**195**	**184**	**191**	**155**	*86*	*94*	*108*	*128*	*144*	*155*	*165*	**190**	*113*	*139*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**160**	*83*	*103*	*113*	*127*	*149*	*158*	*165*	**197**	*120*	*151*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**162**	**161**	*80*	*91*	*103*	*86*	*97*	*104*	*111*	**158**	*105*	*100*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	*191*	*187*	*181*	*189*	*226*	*230*	*222*	**260**	*200*	*217*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**250**	*202*	*199*	*194*	*202*	*239*	*243*	*235*	**269**	*212*	*231*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	*222*	*212*	*222*	*227*	*249*	*260*	*269*	**306**	*237*	*252*
Heating Oil	**300**	**305**	**290**	**301**	**282**	*208*	*200*	*220*	*230*	*242*	*256*	*276*	**300**	*241*	*250*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.96**	*1.92*	*2.19*	*2.81*	*3.11*	*2.85*	*2.94*	*3.09*	**2.66**	*2.22*	*3.00*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.89**	*1.85*	*2.11*	*2.71*	*2.99*	*2.74*	*2.83*	*2.98*	**2.57**	*2.14*	*2.89*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.74**	**3.48**	*2.74*	*2.91*	*3.74*	*4.32*	*3.74*	*3.77*	*4.22*	**3.91**	*3.24*	*4.03*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.22**	**7.18**	*7.34*	*7.81*	*7.24*	*7.43*	*8.04*	*8.51*	*7.77*	**7.62**	*7.29*	*7.75*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.88**	**9.48**	*11.65*	*16.37*	*10.01*	*9.38*	*12.34*	*17.10*	*10.59*	**10.56**	*10.52*	*10.74*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.97**	*2.02*	*1.98*	*1.99*	*2.02*	*2.05*	*2.03*	*2.04*	**2.02**	*1.99*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.37**	*1.94*	*2.08*	*2.98*	*3.53*	*2.93*	*2.96*	*3.32*	**2.88**	*2.31*	*3.15*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.52**	**12.20**	*7.37*	*6.13*	*6.53*	*7.46*	*9.44*	*9.47*	*9.75*	**12.72**	*7.91*	*8.82*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.05**	*8.06*	*8.56*	*9.37*	*10.10*	*11.80*	*12.38*	*13.05*	**15.16**	*9.77*	*11.83*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.41**	*6.62*	*7.28*	*6.81*	*6.71*	*6.88*	*7.52*	*6.90*	**6.83**	*6.78*	*7.02*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.29**	*10.47*	*10.86*	*10.50*	*10.39*	*10.72*	*11.21*	*10.84*	**10.66**	*10.54*	*10.81*
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.85**	*13.24*	*13.22*	*12.91*	*12.92*	*13.64*	*13.68*	*13.38*	**13.04**	*13.06*	*13.41*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.04**	**31.29**	**31.45**	**32.75**	**32.94**	*29.60*	*29.56*	*29.93*	*29.80*	*30.14*	*30.25*	*31.02*	**31.64**	*30.50*	*30.31*
U.S. (50 States)	**18.85**	**19.32**	**19.42**	**20.21**	**20.27**	*18.52*	*18.06*	*17.87*	*17.61*	*18.03*	*18.07*	*18.41*	**19.45**	*18.68*	*18.03*
Canada	**5.44**	**5.47**	**5.47**	**5.62**	**5.65**	*4.41*	*4.86*	*5.28*	*5.35*	*5.43*	*5.47*	*5.70*	**5.50**	*5.05*	*5.49*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**1.99**	*1.81*	*1.77*	*1.74*	*1.79*	*1.80*	*1.76*	*1.74*	**1.92**	*1.83*	*1.77*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.02**	*4.86*	*4.86*	*5.03*	*5.06*	*4.88*	*4.95*	*5.17*	**4.77**	*4.94*	*5.01*
Non-OECD	**69.27**	**69.08**	**68.68**	**68.74**	**67.84**	*63.37*	*63.07*	*64.50*	*66.35*	*67.45*	*68.03*	*67.84*	**68.94**	*64.69*	*67.42*
OPEC	**35.45**	**34.90**	**33.93**	**34.19**	**33.59**	*31.15*	*30.09*	*31.50*	*33.21*	*33.35*	*33.39*	*33.42*	**34.61**	*31.58*	*33.35*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	*26.14*	*25.23*	*26.64*	*28.26*	*28.46*	*28.51*	*28.54*	**29.27**	*26.57*	*28.44*
Other Liquids (b)	**5.51**	**5.43**	**5.28**	**5.17**	**5.31**	*5.01*	*4.87*	*4.87*	*4.95*	*4.89*	*4.88*	*4.89*	**5.34**	*5.01*	*4.90*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.74**	*13.15*	*13.26*	*13.48*	*13.85*	*14.06*	*14.22*	*14.32*	**14.64**	*13.66*	*14.11*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.95**	*4.80*	*4.80*	*4.82*	*4.82*	*4.85*	*4.85*	*4.89*	**4.89**	*4.84*	*4.85*
Other Non-OECD	**14.07**	**14.83**	**15.27**	**15.01**	**14.56**	*14.26*	*14.91*	*14.69*	*14.47*	*15.19*	*15.57*	*15.21*	**14.80**	*14.60*	*15.11*
Total World Supply	**100.31**	**100.37**	**100.13**	**101.49**	**100.78**	*92.97*	*92.63*	*94.43*	*96.15*	*97.59*	*98.27*	*98.86*	**100.58**	*95.19*	*97.73*
Non-OPEC Supply	**64.87**	**65.47**	**66.20**	**67.30**	**67.19**	*61.81*	*62.53*	*62.92*	*62.94*	*64.24*	*64.88*	*65.44*	**65.97**	*63.61*	*64.38*
Consumption (million barrels per day) (c)															
OECD	**47.41**	**46.71**	**47.83**	**47.50**	**44.25**	*36.29*	*43.44*	*45.14*	*44.96*	*44.69*	*45.97*	*46.12*	**47.36**	*42.29*	*45.44*
U.S. (50 States)	**20.30**	**20.31**	**20.67**	**20.57**	**19.35**	*15.87*	*18.67*	*19.26*	*19.18*	*19.61*	*20.19*	*20.18*	**20.46**	*18.29*	*19.79*
U.S. Territories	**0.12**	**0.11**	**0.12**	**0.13**	**0.12**	*0.11*	*0.13*	*0.14*	*0.14*	*0.12*	*0.13*	*0.13*	**0.12**	*0.12*	*0.13*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.42**	*1.70*	*2.19*	*2.28*	*2.38*	*2.33*	*2.43*	*2.40*	**2.50**	*2.15*	*2.38*
Europe	**13.90**	**14.04**	**14.53**	**13.94**	**12.68**	*10.85*	*13.31*	*13.66*	*13.19*	*13.38*	*13.87*	*13.58*	**14.11**	*12.63*	*13.51*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.54**	*2.48*	*3.12*	*3.50*	*3.77*	*3.10*	*3.18*	*3.50*	**3.67**	*3.16*	*3.39*
Other OECD	**6.55**	**6.40**	**6.49**	**6.55**	**6.14**	*5.29*	*6.02*	*6.30*	*6.31*	*6.15*	*6.18*	*6.32*	**6.50**	*5.94*	*6.24*
Non-OECD	**52.58**	**53.54**	**53.55**	**53.81**	**49.89**	*45.19*	*52.22*	*53.91*	*53.21*	*54.39*	*54.49*	*54.50*	**53.38**	*50.32*	*54.15*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	**4.77**	*3.91*	*5.03*	*5.08*	*4.87*	*4.94*	*5.32*	*5.17*	**5.01**	*4.70*	*5.08*
Europe	**0.76**	**0.76**	**0.78**	**0.78**	**0.77**	*0.73*	*0.76*	*0.78*	*0.75*	*0.75*	*0.77*	*0.77*	**0.77**	*0.76*	*0.76*
China	**14.38**	**14.67**	**14.39**	**14.61**	**12.31**	*12.99*	*14.36*	*14.87*	*14.99*	*15.19*	*14.90*	*15.12*	**14.51**	*13.64*	*15.05*
Other Asia	**13.95**	**13.98**	**13.63**	**13.93**	**13.40**	*11.15*	*13.14*	*14.06*	*14.24*	*14.40*	*13.99*	*14.34*	**13.87**	*12.94*	*14.24*
Other Non-OECD	**18.66**	**19.22**	**19.59**	**19.38**	**18.64**	*16.40*	*18.92*	*19.12*	*18.37*	*19.10*	*19.53*	*19.10*	**19.21**	*18.28*	*19.03*
Total World Consumption	**99.99**	**100.25**	**101.38**	**101.31**	**94.14**	*81.48*	*95.66*	*99.05*	*98.18*	*99.08*	*100.46*	*100.63*	**100.74**	*92.61*	*99.60*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.26**	**-0.64**	**0.05**	**0.29**	**-0.32**	*-1.87*	*0.13*	*0.72*	*0.33*	*-0.29*	*-0.01*	*0.42*	**-0.01**	*-0.33*	*0.11*
Other OECD	**-0.21**	**0.02**	**-0.16**	**0.26**	**-1.85**	*-2.97*	*0.94*	*1.27*	*0.55*	*0.56*	*0.71*	*0.43*	**-0.02**	*-0.64*	*0.56*
Other Stock Draws and Balance	**-0.38**	**0.50**	**1.36**	**-0.74**	**-4.47**	*-6.65*	*1.97*	*2.64*	*1.14*	*1.22*	*1.50*	*0.91*	**0.19**	*-1.61*	*1.19*
Total Stock Draw	**-0.33**	**-0.12**	**1.25**	**-0.18**	**-6.63**	*-11.49*	*3.04*	*4.62*	*2.02*	*1.49*	*2.19*	*1.76*	**0.16**	*-2.58*	*1.87*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,311**	*1,458*	*1,446*	*1,393*	*1,376*	*1,405*	*1,408*	*1,372*	**1,282**	*1,393*	*1,372*
OECD Commercial Inventory	**2,858**	**2,919**	**2,929**	**2,888**	**3,085**	*3,502*	*3,404*	*3,235*	*3,168*	*3,146*	*3,083*	*3,007*	**2,888**	*3,235*	*3,007*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.19**	**26.70**	**26.82**	**27.76**	**27.92**	*24.74*	*24.69*	*24.90*	*24.75*	*25.26*	*25.30*	*25.85*	**26.87**	*25.56*	*25.29*
Canada	**5.44**	**5.47**	**5.47**	**5.62**	**5.65**	*4.41*	*4.86*	*5.28*	*5.35*	*5.43*	*5.47*	*5.70*	**5.50**	*5.05*	*5.49*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**1.99**	*1.81*	*1.77*	*1.74*	*1.79*	*1.80*	*1.76*	*1.74*	**1.92**	*1.83*	*1.77*
United States	**18.85**	**19.32**	**19.42**	**20.21**	**20.27**	*18.52*	*18.06*	*17.87*	*17.61*	*18.03*	*18.07*	*18.41*	**19.45**	*18.68*	*18.03*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**5.97**	*6.05*	*6.65*	*6.33*	*6.04*	*6.82*	*7.21*	*6.87*	**6.23**	*6.25*	*6.74*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.67**	*0.66*	*0.67*	*0.67*	*0.66*	*0.67*	*0.68*	*0.67*	**0.69**	*0.67*	*0.67*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.39**	*3.66*	*4.08*	*3.73*	*3.44*	*4.28*	*4.65*	*4.27*	**3.67**	*3.71*	*4.16*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	*0.83*	*0.84*	*0.88*	*0.89*	*0.83*	*0.84*	*0.87*	**0.92**	*0.86*	*0.86*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.53**	*0.39*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.53**	*0.50*	*0.53*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.48**	*0.51*	*0.52*	*0.53*	*0.52*	*0.51*	*0.52*	*0.52*	**0.42**	*0.51*	*0.52*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.45**	*4.34*	*4.30*	*4.44*	*4.47*	*4.30*	*4.37*	*4.60*	**4.12**	*4.38*	*4.44*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.05**	*2.00*	*2.03*	*2.07*	*2.12*	*2.06*	*2.10*	*2.20*	**1.75**	*2.04*	*2.12*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.23**	*1.22*	*1.10*	*1.18*	*1.17*	*1.08*	*1.10*	*1.23*	**1.17**	*1.18*	*1.15*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.74**	*13.15*	*13.26*	*13.48*	*13.85*	*14.06*	*14.22*	*14.32*	**14.64**	*13.66*	*14.11*
Azerbaijan	**0.82**	**0.79**	**0.78**	**0.77**	**0.78**	*0.66*	*0.69*	*0.71*	*0.74*	*0.74*	*0.74*	*0.74*	**0.79**	*0.71*	*0.74*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	*1.78*	*1.85*	*1.89*	*1.96*	*1.88*	*1.93*	*1.95*	**1.97**	*1.89*	*1.93*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.52**	*10.32*	*10.34*	*10.50*	*10.79*	*11.07*	*11.18*	*11.26*	**11.49**	*10.67*	*11.08*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.25**	*0.25*	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.11**	**3.11**	**3.12**	**3.12**	**3.21**	*3.09*	*3.10*	*3.13*	*3.19*	*3.19*	*3.19*	*3.19*	**3.11**	*3.13*	*3.19*
Oman	**0.98**	**0.98**	**0.98**	**0.98**	**1.01**	*0.88*	*0.89*	*0.92*	*0.94*	*0.94*	*0.94*	*0.94*	**0.98**	*0.93*	*0.94*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	*2.06*	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.48**	**9.51**	**9.36**	**9.47**	**9.43**	*8.98*	*9.07*	*9.20*	*9.24*	*9.22*	*9.22*	*9.24*	**9.45**	*9.17*	*9.23*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.49**	*0.52*	*0.53*	*0.55*	*0.54*	*0.53*	*0.53*	*0.52*	**0.49**	*0.52*	*0.53*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.95**	*4.80*	*4.80*	*4.82*	*4.82*	*4.85*	*4.85*	*4.89*	**4.89**	*4.84*	*4.85*
India	**1.01**	**0.99**	**0.98**	**0.99**	**0.94**	*0.79*	*0.81*	*0.88*	*0.92*	*0.90*	*0.92*	*0.91*	**0.99**	*0.86*	*0.91*
Indonesia	**0.93**	**0.93**	**0.91**	**0.91**	**0.91**	*0.89*	*0.89*	*0.88*	*0.86*	*0.86*	*0.85*	*0.85*	**0.92**	*0.89*	*0.86*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.72**	*0.61*	*0.65*	*0.66*	*0.68*	*0.67*	*0.67*	*0.66*	**0.71**	*0.66*	*0.67*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	**0.22**	*0.21*	*0.21*	*0.21*	*0.20*	*0.20*	*0.20*	*0.19*	**0.24**	*0.21*	*0.20*
Africa	**1.52**	**1.54**	**1.55**	**1.55**	**1.47**	*1.47*	*1.46*	*1.45*	*1.39*	*1.37*	*1.37*	*1.37*	**1.54**	*1.46*	*1.38*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	**0.60**	*0.60*	*0.60*	*0.60*	*0.56*	*0.56*	*0.56*	*0.56*	**0.65**	*0.60*	*0.56*
South Sudan	**0.17**	**0.18**	**0.18**	**0.18**	**0.18**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.19*	*0.19*
Total non-OPEC liquids	**64.87**	**65.47**	**66.20**	**67.30**	**67.19**	*61.81*	*62.53*	*62.92*	*62.94*	*64.24*	*64.88*	*65.44*	**65.97**	*63.61*	*64.38*
OPEC non-crude liquids	**5.51**	**5.43**	**5.28**	**5.17**	**5.31**	*5.01*	*4.87*	*4.87*	*4.95*	*4.89*	*4.88*	*4.89*	**5.34**	*5.01*	*4.90*
Non-OPEC + OPEC non-crude	**70.37**	**70.90**	**71.48**	**72.47**	**72.50**	*66.83*	*67.40*	*67.79*	*67.89*	*69.13*	*69.76*	*70.33*	**71.31**	*68.62*	*69.29*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.30**	**0.14**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.32**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.02**	-	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	-	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	-	-	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	-	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.20**	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	-	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	-	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	-	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	-	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.71**	-	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	-	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	-	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	-	-	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	*26.14*	*25.23*	*26.64*	*28.26*	*28.46*	*28.51*	*28.54*	**29.27**	*26.57*	*28.44*
Other Liquids (a)	**5.51**	**5.43**	**5.28**	**5.17**	**5.31**	*5.01*	*4.87*	*4.87*	*4.95*	*4.89*	*4.88*	*4.89*	**5.34**	*5.01*	*4.90*
Total OPEC Supply	**35.45**	**34.90**	**33.93**	**34.19**	**33.59**	*31.15*	*30.09*	*31.50*	*33.21*	*33.35*	*33.39*	*33.42*	**34.61**	*31.58*	*33.35*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	*26.01*	*26.06*	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.96*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.82**	*4.92*	*4.92*	*5.49*	*5.86*	*5.86*	*5.91*	*5.94*	**6.66**	*5.29*	*5.89*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.43**	*30.93*	*30.98*	*31.66*	*32.13*	*32.15*	*32.19*	*32.22*	**31.78**	*31.25*	*32.17*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	*4.79*	*5.75*	*5.03*	*3.87*	*3.69*	*3.68*	*3.68*	**2.52**	*4.68*	*3.73*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	*4.79*	*5.75*	*5.03*	*3.87*	*3.69*	*3.68*	*3.68*	**2.52**	*4.68*	*3.73*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.69**	**24.70**	**25.19**	**24.98**	**23.61**	*19.01*	*22.60*	*23.37*	*23.33*	*23.72*	*24.39*	*24.37*	**24.89**	*22.15*	*23.96*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.42**	*1.70*	*2.19*	*2.28*	*2.38*	*2.33*	*2.43*	*2.40*	**2.50**	*2.15*	*2.38*
Mexico	**1.93**	**1.94**	**1.93**	**1.86**	**1.83**	*1.43*	*1.73*	*1.82*	*1.76*	*1.78*	*1.77*	*1.78*	**1.92**	*1.70*	*1.77*
United States	**20.30**	**20.31**	**20.67**	**20.57**	**19.35**	*15.87*	*18.67*	*19.26*	*19.18*	*19.61*	*20.19*	*20.18*	**20.46**	*18.29*	*19.79*
Central and South America	**6.67**	**6.86**	**6.91**	**6.93**	**6.68**	*5.44*	*6.54*	*6.80*	*6.52*	*6.68*	*6.81*	*6.82*	**6.84**	*6.37*	*6.71*
Brazil	**3.01**	**3.14**	**3.18**	**3.18**	**3.05**	*2.43*	*2.99*	*3.13*	*3.00*	*3.08*	*3.18*	*3.18*	**3.13**	*2.90*	*3.11*
Europe	**14.67**	**14.81**	**15.31**	**14.73**	**13.45**	*11.58*	*14.07*	*14.44*	*13.94*	*14.14*	*14.63*	*14.35*	**14.88**	*13.39*	*14.27*
Eurasia	**4.83**	**4.90**	**5.17**	**5.12**	**4.77**	*3.91*	*5.03*	*5.08*	*4.87*	*4.94*	*5.32*	*5.17*	**5.01**	*4.70*	*5.08*
Russia	**3.67**	**3.76**	**3.97**	**3.91**	**3.60**	*2.77*	*3.79*	*3.82*	*3.66*	*3.75*	*4.07*	*3.91*	**3.83**	*3.49*	*3.85*
Middle East	**8.19**	**8.55**	**8.94**	**8.53**	**8.13**	*7.46*	*8.69*	*8.33*	*7.96*	*8.51*	*8.90*	*8.25*	**8.55**	*8.15*	*8.41*
Asia and Oceania	**36.43**	**35.92**	**35.42**	**36.39**	**32.95**	*29.91*	*34.34*	*36.35*	*36.99*	*36.51*	*35.91*	*36.96*	**36.04**	*33.40*	*36.59*
China	**14.38**	**14.67**	**14.39**	**14.61**	**12.31**	*12.99*	*14.36*	*14.87*	*14.99*	*15.19*	*14.90*	*15.12*	**14.51**	*13.64*	*15.05*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.54**	*2.48*	*3.12*	*3.50*	*3.77*	*3.10*	*3.18*	*3.50*	**3.67**	*3.16*	*3.39*
India	**4.82**	**4.76**	**4.49**	**4.73**	**4.58**	*3.79*	*4.29*	*4.78*	*4.91*	*4.97*	*4.64*	*4.93*	**4.70**	*4.36*	*4.86*
Africa	**4.51**	**4.51**	**4.43**	**4.63**	**4.55**	*4.17*	*4.39*	*4.68*	*4.57*	*4.58*	*4.50*	*4.70*	**4.52**	*4.45*	*4.59*
Total OECD Liquid Fuels Consumption	**47.41**	**46.71**	**47.83**	**47.50**	**44.25**	*36.29*	*43.44*	*45.14*	*44.96*	*44.69*	*45.97*	*46.12*	**47.36**	*42.29*	*45.44*
Total non-OECD Liquid Fuels Consumption	**52.58**	**53.54**	**53.55**	**53.81**	**49.89**	*45.19*	*52.22*	*53.91*	*53.21*	*54.39*	*54.49*	*54.50*	**53.38**	*50.32*	*54.15*
Total World Liquid Fuels Consumption	**99.99**	**100.25**	**101.38**	**101.31**	**94.14**	*81.48*	*95.66*	*99.05*	*98.18*	*99.08*	*100.46*	*100.63*	**100.74**	*92.61*	*99.60*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**111.8**	**112.6**	**112.9**	**112.8**	**109.6**	*104.7*	*107.4*	*109.8*	*112.7*	*114.8*	*116.1*	*116.8*	**112.5**	*107.9*	*115.1*
Percent change from prior year	**2.2**	**2.1**	**1.9**	**1.7**	**-1.9**	*-7.1*	*-4.8*	*-2.6*	*2.9*	*9.7*	*8.1*	*6.3*	**2.0**	*-4.1*	*6.7*
OECD Index, 2015 Q1 = 100	**108.7**	**109.7**	**110.1**	**109.7**	**108.1**	*99.0*	*101.4*	*104.3*	*107.9*	*110.7*	*112.0*	*112.2*	**109.6**	*103.2*	*110.7*
Percent change from prior year	**1.8**	**1.8**	**1.8**	**1.6**	**-0.5**	*-9.7*	*-7.9*	*-4.9*	*-0.2*	*11.7*	*10.5*	*7.6*	**1.7**	*-5.8*	*7.3*
Non-OECD Index, 2015 Q1 = 100	**114.7**	**115.4**	**115.5**	**115.8**	**111.0**	*110.2*	*113.3*	*115.3*	*117.5*	*118.9*	*120.0*	*121.2*	**115.4**	*112.5*	*119.4*
Percent change from prior year	**2.6**	**2.4**	**2.0**	**1.8**	**-3.2**	*-4.5*	*-1.9*	*-0.4*	*5.8*	*7.9*	*5.9*	*5.1*	**2.2**	*-2.5*	*6.2*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.27**	**105.90**	**106.40**	**106.22**	**106.87**	*109.37*	*109.22*	*108.43*	*107.40*	*106.70*	*106.13*	*105.25*	**105.95**	*108.47*	*106.37*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.0**	**1.5**	*3.3*	*2.6*	*2.1*	*0.5*	*-2.4*	*-2.8*	*-2.9*	**2.1**	*2.4*	*-1.9*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.81**	**12.10**	**12.23**	**12.78**	**12.81**	*11.78*	*11.23*	*10.93*	*10.81*	*10.89*	*10.83*	*11.07*	**12.23**	*11.69*	*10.90*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.49**	*0.44*	*0.45*	*0.49*	*0.50*	*0.50*	*0.46*	*0.49*	**0.47**	*0.46*	*0.49*
Federal Gulf of Mexico (b)	**1.85**	**1.93**	**1.82**	**1.94**	**2.01**	*1.89*	*1.91*	*1.91*	*1.97*	*1.94*	*1.86*	*1.88*	**1.88**	*1.93*	*1.91*
Lower 48 States (excl GOM)	**9.47**	**9.70**	**9.98**	**10.36**	**10.32**	*9.46*	*8.87*	*8.54*	*8.33*	*8.45*	*8.51*	*8.70*	**9.88**	*9.29*	*8.50*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.94**	**2.87**	*2.56*	*3.24*	*4.18*	*4.50*	*5.16*	*5.56*	*5.29*	**3.82**	*3.21*	*5.13*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	*-0.25*	*0.00*	*0.14*	*0.14*	*0.03*	*0.01*	*0.03*	**0.04**	*-0.03*	*0.05*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.07**	**-0.57**	*-1.05*	*0.28*	*0.17*	*-0.17*	*0.19*	*0.25*	*0.02*	**0.03**	*-0.29*	*0.07*
Crude Oil Adjustment (d)	**0.33**	**0.53**	**0.38**	**0.56**	**0.66**	*0.10*	*0.21*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.45**	*0.28*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.32**	**15.78**	*13.13*	*14.95*	*15.58*	*15.50*	*16.48*	*16.87*	*16.56*	**16.56**	*14.86*	*16.36*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.07**	*0.93*	*1.01*	*1.10*	*1.09*	*1.14*	*1.13*	*1.13*	**1.08**	*1.03*	*1.12*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**4.99**	**5.04**	*4.79*	*4.63*	*4.56*	*4.42*	*4.64*	*4.76*	*4.84*	**4.81**	*4.75*	*4.67*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.12**	*0.83*	*0.99*	*1.07*	*1.09*	*1.15*	*1.14*	*1.16*	**1.12**	*1.00*	*1.14*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	*0.69*	*0.85*	*0.93*	*0.94*	*0.97*	*0.98*	*0.99*	**1.03**	*0.87*	*0.97*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	*0.19*	*0.20*	*0.21*	*0.21*	*0.21*	*0.21*	*0.22*	**0.21**	*0.21*	*0.21*
Product Net Imports (c)	**-3.30**	**-3.04**	**-3.13**	**-3.43**	**-4.13**	*-3.43*	*-2.97*	*-3.67*	*-3.49*	*-3.50*	*-3.66*	*-4.10*	**-3.22**	*-3.55*	*-3.69*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.83**	**-1.99**	*-2.01*	*-1.83*	*-1.71*	*-1.56*	*-1.69*	*-1.69*	*-1.69*	**-1.62**	*-1.88*	*-1.66*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.50**	**0.34**	*0.20*	*0.44*	*0.37*	*0.35*	*0.45*	*0.44*	*0.32*	**0.41**	*0.34*	*0.39*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.12**	*-0.09*	*-0.10*	*-0.11*	*-0.14*	*-0.12*	*-0.12*	*-0.13*	**-0.06**	*-0.11*	*-0.13*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.46**	**0.42**	*0.24*	*0.44*	*0.21*	*0.48*	*0.70*	*0.48*	*0.21*	**0.60**	*0.33*	*0.47*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.87**	**-0.73**	*-0.01*	*-0.12*	*-0.47*	*-0.89*	*-0.90*	*-0.85*	*-0.91*	**-0.74**	*-0.33*	*-0.88*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.09**	**-0.08**	*0.02*	*-0.13*	*-0.05*	*-0.05*	*-0.04*	*0.03*	*0.00*	**-0.06**	*-0.06*	*-0.01*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-0.99**	**-1.20**	*-1.27*	*-1.15*	*-1.15*	*-1.01*	*-1.15*	*-1.21*	*-1.09*	**-1.12**	*-1.19*	*-1.12*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**-0.03**	**0.01**	*-0.01*	*-0.02*	*0.00*	*-0.02*	*-0.11*	*-0.06*	*0.00*	**-0.08**	*0.00*	*-0.05*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.54**	**-0.78**	*-0.50*	*-0.51*	*-0.76*	*-0.66*	*-0.64*	*-0.69*	*-0.81*	**-0.55**	*-0.64*	*-0.70*
Product Inventory Net Withdrawals	**0.44**	**-0.64**	**-0.36**	**0.26**	**0.25**	*-0.56*	*-0.15*	*0.41*	*0.36*	*-0.51*	*-0.27*	*0.37*	**-0.07**	*-0.01*	*-0.01*
Total Supply	**20.38**	**20.31**	**20.67**	**20.57**	**19.35**	*15.87*	*18.67*	*19.26*	*19.18*	*19.61*	*20.19*	*20.18*	**20.48**	*18.29*	*19.79*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.49**	**2.78**	**2.94**	**3.31**	**3.25**	*2.64*	*2.70*	*3.00*	*3.19*	*2.80*	*2.93*	*3.28*	**3.13**	*2.90*	*3.05*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.10**	**0.09**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.05**	*0.02*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.16**	**8.58**	*6.98*	*8.67*	*8.78*	*8.44*	*8.97*	*9.06*	*8.88*	**9.27**	*8.26*	*8.84*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.96**	**0.85**	*0.69*	*0.84*	*0.88*	*0.85*	*0.91*	*0.91*	*0.90*	**0.95**	*0.82*	*0.89*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.74**	**1.57**	*0.81*	*1.28*	*1.57*	*1.55*	*1.65*	*1.75*	*1.72*	**1.74**	*1.31*	*1.67*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.10**	**3.96**	*3.32*	*3.64*	*3.81*	*3.92*	*3.95*	*3.98*	*4.09*	**4.08**	*3.68*	*3.99*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.27**	**0.19**	*0.22*	*0.31*	*0.28*	*0.29*	*0.23*	*0.31*	*0.27*	**0.27**	*0.25*	*0.27*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.88**	**1.72**	*1.89*	*2.07*	*1.81*	*1.78*	*2.01*	*2.16*	*1.92*	**1.91**	*1.87*	*1.97*
Total Consumption	**20.30**	**20.31**	**20.67**	**20.57**	**19.35**	*15.87*	*18.67*	*19.26*	*19.18*	*19.61*	*20.19*	*20.18*	**20.46**	*18.29*	*19.79*
Total Petroleum and Other Liquids Net Imports	**0.95**	**1.10**	**0.83**	**-0.49**	**-1.27**	*-0.88*	*0.26*	*0.51*	*1.01*	*1.66*	*1.90*	*1.19*	**0.59**	*-0.34*	*1.44*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**432.9**	**484.4**	*580.3*	*554.6*	*539.2*	*554.5*	*537.4*	*514.8*	*513.1*	**432.9**	*539.2*	*513.1*
Hydrocarbon Gas Liquids	**156.9**	**224.1**	**262.8**	**211.7**	**178.0**	*223.7*	*257.9*	*214.1*	*174.5*	*221.3*	*256.5*	*214.1*	**211.7**	*214.1*	*214.1*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.4**	**100.2**	*91.5*	*89.7*	*83.6*	*93.6*	*91.4*	*90.9*	*85.1*	**89.4**	*83.6*	*85.1*
Other HC/Oxygenates	**30.8**	**29.0**	**28.4**	**27.8**	**32.9**	*28.4*	*23.7*	*22.7*	*23.1*	*22.1*	*21.4*	*22.0*	**27.8**	*22.7*	*22.0*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**253.8**	**257.3**	*243.9*	*233.4*	*245.2*	*247.2*	*245.8*	*239.2*	*251.2*	**253.8**	*245.2*	*251.2*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.0**	**21.5**	*25.0*	*24.8*	*25.0*	*24.1*	*22.6*	*23.5*	*24.0*	**26.0**	*25.0*	*24.0*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**227.9**	**235.8**	*218.9*	*208.6*	*220.2*	*223.1*	*223.3*	*215.7*	*227.2*	**227.9**	*220.2*	*227.2*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.5**	**38.9**	*40.7*	*42.6*	*41.1*	*40.5*	*41.3*	*43.4*	*40.4*	**40.5**	*41.1*	*40.4*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**140.0**	**122.7**	*152.7*	*156.6*	*159.3*	*147.4*	*151.6*	*155.3*	*155.7*	**140.0**	*159.3*	*155.7*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**30.9**	**36.0**	*35.1*	*31.7*	*30.4*	*32.3*	*33.5*	*31.2*	*32.8*	**30.9**	*30.4*	*32.8*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**54.6**	**60.2**	*61.5*	*55.4*	*57.3*	*62.6*	*61.1*	*55.1*	*57.2*	**54.6**	*57.3*	*57.2*
Total Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,311**	*1,458*	*1,446*	*1,393*	*1,376*	*1,405*	*1,408*	*1,372*	**1,282**	*1,393*	*1,372*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	*658*	*658*	*645*	*632*	*629*	*628*	*625*	**635**	*645*	*625*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.85**	**1.92**	*1.79*	*1.70*	*1.75*	*1.76*	*1.90*	*1.92*	*2.00*	**1.83**	*1.79*	*1.89*
Propane	**1.50**	**1.56**	**1.61**	**1.67**	**1.69**	*1.59*	*1.54*	*1.49*	*1.43*	*1.45*	*1.49*	*1.50*	**1.59**	*1.58*	*1.47*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.89**	*0.85*	*0.83*	*0.80*	*0.75*	*0.78*	*0.80*	*0.81*	**0.85**	*0.84*	*0.79*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.57**	**0.55**	*0.55*	*0.56*	*0.52*	*0.48*	*0.52*	*0.55*	*0.52*	**0.55**	*0.55*	*0.52*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	*0.01*	*0.00*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.28**	*0.25*	*0.28*	*0.29*	*0.28*	*0.30*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.26**	*0.24*	*0.26*	*0.28*	*0.28*	*0.29*	*0.28*	*0.29*	**0.28**	*0.26*	*0.29*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	*0.26*	*0.18*	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.01*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.31**	**-0.30**	*-0.27*	*-0.28*	*-0.30*	*-0.27*	*-0.29*	*-0.30*	*-0.29*	**-0.28**	*-0.29*	*-0.29*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.07**	**-1.08**	*-1.10*	*-0.97*	*-1.01*	*-0.87*	*-0.92*	*-0.88*	*-0.96*	**-0.94**	*-1.04*	*-0.91*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.25**	**-0.31**	*-0.42*	*-0.35*	*-0.21*	*-0.19*	*-0.25*	*-0.27*	*-0.21*	**-0.23**	*-0.32*	*-0.23*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.21**	**-0.30**	*-0.22*	*-0.23*	*-0.18*	*-0.22*	*-0.22*	*-0.24*	*-0.23*	**-0.17**	*-0.23*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.45**	*0.16*	*0.25*	*0.48*	*0.39*	*0.29*	*0.32*	*0.51*	**0.40**	*0.34*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.16**	*0.20*	*0.19*	*0.19*	*0.17*	*0.18*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.55**	**1.67**	*1.46*	*1.44*	*1.44*	*1.50*	*1.58*	*1.65*	*1.72*	**1.53**	*1.50*	*1.61*
Propane	**1.20**	**0.58**	**0.65**	**1.05**	**1.08**	*0.59*	*0.65*	*0.91*	*1.10*	*0.60*	*0.69*	*0.96*	**0.87**	*0.81*	*0.84*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.27**	*0.25*	*0.27*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.30**	*0.27*	*0.30*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.24**	**0.17**	*0.24*	*0.22*	*0.23*	*0.20*	*0.23*	*0.21*	*0.21*	**0.24**	*0.21*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.17**	**0.06**	*0.11*	*0.12*	*0.13*	*0.09*	*0.08*	*0.09*	*0.10*	**0.20**	*0.10*	*0.09*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**58.84**	**53.29**	*58.66*	*58.12*	*59.88*	*57.62*	*60.69*	*59.22*	*60.32*	**54.94**	*57.50*	*59.47*
Propane	**46.49**	**70.49**	**93.75**	**78.55**	**60.76**	*73.80*	*90.87*	*76.64*	*50.68*	*69.09*	*87.82*	*75.39*	**78.55**	*76.64*	*75.39*
Propylene (refinery-grade)	**1.68**	**1.76**	**2.65**	**1.66**	**1.57**	*2.14*	*2.67*	*3.19*	*3.17*	*3.64*	*4.08*	*4.48*	**1.66**	*3.19*	*4.48*
Butanes/Butylenes	**42.48**	**66.68**	**84.01**	**48.99**	**40.78**	*67.31*	*84.78*	*55.15*	*44.97*	*69.09*	*86.55*	*56.93*	**48.99**	*55.15*	*56.93*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.90**	**21.20**	*22.41*	*23.35*	*22.65*	*20.10*	*21.35*	*22.36*	*21.78*	**20.90**	*22.65*	*21.78*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.32**	**15.78**	*13.13*	*14.95*	*15.58*	*15.50*	*16.48*	*16.87*	*16.56*	**16.56**	*14.86*	*16.36*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	*0.36*	*0.44*	*0.67*	*0.57*	*0.47*	*0.51*	*0.69*	**0.57**	*0.52*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	*0.91*	*1.06*	*1.10*	*1.10*	*1.17*	*1.16*	*1.16*	**1.19**	*1.05*	*1.15*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.13**	*0.29*	*0.46*	*0.43*	*0.24*	*0.47*	*0.45*	*0.38*	**0.35**	*0.33*	*0.39*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.40**	**0.37**	*0.49*	*0.66*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.68**	*0.45*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**19.07**	**18.02**	*15.19*	*17.58*	*18.04*	*17.98*	*19.44*	*19.65*	*19.05*	**19.37**	*17.21*	*19.03*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.07**	*0.93*	*1.01*	*1.10*	*1.09*	*1.14*	*1.13*	*1.13*	**1.08**	*1.03*	*1.12*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.46**	*0.76*	*0.73*	*0.37*	*0.48*	*0.85*	*0.77*	*0.39*	**0.61**	*0.58*	*0.62*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.16**	**9.29**	*7.07*	*8.85*	*9.40*	*9.41*	*9.96*	*9.99*	*9.93*	**10.09**	*8.65*	*9.82*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	*0.81*	*1.43*	*1.60*	*1.59*	*1.70*	*1.74*	*1.69*	**1.80**	*1.37*	*1.68*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.91**	*4.85*	*4.76*	*4.92*	*4.77*	*5.08*	*5.16*	*5.12*	**5.14**	*4.86*	*5.03*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.31**	**0.24**	*0.22*	*0.29*	*0.26*	*0.32*	*0.35*	*0.34*	*0.30*	**0.36**	*0.25*	*0.33*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.46**	**2.57**	*2.40*	*2.52*	*2.59*	*2.50*	*2.63*	*2.78*	*2.76*	**2.45**	*2.52*	*2.67*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.17**	**19.09**	*16.12*	*18.59*	*19.14*	*19.07*	*20.58*	*20.78*	*20.18*	**20.44**	*18.24*	*20.16*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.86**	**16.36**	*13.66*	*15.44*	*15.93*	*15.83*	*16.71*	*17.12*	*16.80*	**16.98**	*15.35*	*16.62*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.81**	**18.98**	*18.98*	*18.98*	*19.00*	*19.00*	*19.00*	*19.00*	*19.03*	**18.80**	*18.98*	*19.01*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	*0.72*	*0.81*	*0.84*	*0.83*	*0.88*	*0.90*	*0.88*	**0.90**	*0.81*	*0.87*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**148**	*83*	*105*	*107*	*120*	*151*	*154*	*148*	**186**	*112*	*144*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	*189*	*178*	*172*	*184*	*216*	*222*	*216*	**251**	*194*	*210*
PADD 2	**223**	**269**	**257**	**244**	**226**	*169*	*175*	*170*	*176*	*220*	*221*	*210*	**249**	*185*	*208*
PADD 3	**206**	**246**	**234**	**224**	**210**	*162*	*160*	*155*	*167*	*198*	*202*	*194*	**228**	*172*	*191*
PADD 4	**226**	**285**	**270**	**276**	**246**	*188*	*181*	*174*	*183*	*218*	*227*	*216*	**265**	*198*	*212*
PADD 5	**297**	**356**	**331**	**350**	**311**	*261*	*253*	*245*	*243*	*283*	*287*	*280*	**334**	*268*	*274*
U.S. Average	**236**	**279**	**265**	**259**	**241**	*191*	*187*	*181*	*189*	*226*	*230*	*222*	**260**	*200*	*217*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**250**	*202*	*199*	*194*	*202*	*239*	*243*	*235*	**269**	*212*	*231*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**65.6**	**70.5**	*64.7*	*59.0*	*62.3*	*66.6*	*68.4*	*62.7*	*67.6*	**65.6**	*62.3*	*67.6*
PADD 2	**53.9**	**49.6**	**51.0**	**55.0**	**60.5**	*51.9*	*49.7*	*51.5*	*54.2*	*53.4*	*52.8*	*50.4*	**55.0**	*51.5*	*50.4*
PADD 3	**82.5**	**82.4**	**81.5**	**91.8**	**81.9**	*89.5*	*88.2*	*92.1*	*88.3*	*87.0*	*86.8*	*93.2*	**91.8**	*92.1*	*93.2*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.4**	*7.7*	*6.9*	*7.2*	*7.6*	*7.9*	*7.5*	*7.9*	**8.3**	*7.2*	*7.9*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**34.9**	*30.1*	*29.6*	*32.0*	*30.4*	*29.2*	*29.4*	*32.1*	**33.2**	*32.0*	*32.1*
U.S. Total	**236.1**	**229.7**	**231.9**	**253.8**	**257.3**	*243.9*	*233.4*	*245.2*	*247.2*	*245.8*	*239.2*	*251.2*	**253.8**	*245.2*	*251.2*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.0**	**21.5**	*25.0*	*24.8*	*25.0*	*24.1*	*22.6*	*23.5*	*24.0*	**26.0**	*25.0*	*24.0*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**227.9**	**235.8**	*218.9*	*208.6*	*220.2*	*223.1*	*223.3*	*215.7*	*227.2*	**227.9**	*220.2*	*227.2*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**103.16**	**101.79**	*98.38*	*95.14*	*93.05*	*91.11*	*91.04*	*92.11*	*93.46*	**99.17**	*97.07*	*91.94*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.98**	*0.81*	*0.77*	*0.94*	*1.00*	*0.87*	*0.80*	*0.95*	**0.90**	*0.87*	*0.90*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.72**	**2.73**	*2.44*	*2.47*	*2.41*	*2.43*	*2.34*	*2.20*	*2.16*	**2.69**	*2.51*	*2.28*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.51**	**98.08**	*95.13*	*91.90*	*89.71*	*87.69*	*87.83*	*89.11*	*90.35*	**95.57**	*93.69*	*88.75*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**95.97**	**94.28**	*91.08*	*88.03*	*86.05*	*84.21*	*84.09*	*85.03*	*86.22*	**92.21**	*89.84*	*84.89*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.26**	*0.10*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.18*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	*5.84*	*4.82*	*5.58*	*7.07*	*6.42*	*7.56*	*8.20*	**4.98**	*6.04*	*7.31*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.92**	*6.87*	*6.94*	*7.46*	*8.46*	*7.50*	*7.68*	*8.06*	**7.37**	*7.30*	*7.92*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.12**	*7.53*	*8.20*	*8.53*	*8.76*	*7.90*	*8.71*	*8.84*	**7.77**	*8.09*	*8.55*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	**0.19**	*0.17*	*0.16*	*0.16*	*0.15*	*0.15*	*0.15*	*0.16*	**0.17**	*0.17*	*0.15*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.44**	**12.71**	*-12.15*	*-8.16*	*3.29*	*17.32*	*-8.57*	*-7.31*	*3.97*	**-1.37**	*-1.08*	*1.29*
Total Supply	**103.21**	**71.52**	**77.14**	**91.43**	**99.31**	*72.70*	*74.13*	*83.04*	*94.63*	*69.03*	*69.47*	*81.58*	**85.77**	*82.28*	*78.62*
Balancing Item (b)	**0.11**	**-0.79**	**-0.39**	**-2.10**	**0.73**	*-1.10*	*-1.21*	*-0.77*	*-0.43*	*-0.17*	*1.29*	*1.49*	**-0.80**	*-0.59*	*0.55*
Total Primary Supply	**103.32**	**70.74**	**76.74**	**89.33**	**100.04**	*71.60*	*72.92*	*82.27*	*94.20*	*68.86*	*70.76*	*83.07*	**84.97**	*81.69*	*79.17*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.00**	**23.55**	*8.64*	*3.94*	*16.87*	*25.12*	*7.86*	*3.68*	*16.57*	**13.70**	*13.23*	*13.26*
Commercial	**16.19**	**6.36**	**4.68**	**11.45**	**14.17**	*6.40*	*4.66*	*10.78*	*15.38*	*6.50*	*4.69*	*10.49*	**9.65**	*9.00*	*9.24*
Industrial	**25.12**	**21.74**	**21.31**	**23.79**	**24.65**	*20.42*	*18.89*	*21.45*	*22.36*	*20.39*	*19.87*	*22.91*	**22.98**	*21.35*	*21.38*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	**29.36**	*28.83*	*38.41*	*25.96*	*23.79*	*27.12*	*35.28*	*25.47*	**30.98**	*30.65*	*27.94*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.29**	**5.22**	*5.05*	*4.88*	*4.77*	*4.68*	*4.67*	*4.73*	*4.80*	**5.09**	*4.98*	*4.72*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.56**	**2.93**	*2.10*	*1.98*	*2.27*	*2.71*	*2.14*	*2.34*	*2.67*	**2.44**	*2.32*	*2.47*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	**0.16**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.14**	*0.16*	*0.16*
Total Consumption	**103.32**	**70.74**	**76.74**	**89.33**	**100.04**	*71.60*	*72.92*	*82.27*	*94.20*	*68.86*	*70.76*	*83.07*	**84.97**	*81.69*	*79.17*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,189**	**2,033**	*3,138*	*3,889*	*3,586*	*2,027*	*2,807*	*3,480*	*3,114*	**3,189**	*3,586*	*3,114*
East Region (d)	**216**	**537**	**845**	**764**	**382**	*670*	*951*	*834*	*355*	*587*	*821*	*659*	**764**	*834*	*659*
Midwest Region (d)	**242**	**579**	**990**	**885**	**475**	*761*	*1,097*	*991*	*435*	*621*	*933*	*806*	**885**	*991*	*806*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**858**	*1,231*	*1,290*	*1,278*	*892*	*1,119*	*1,181*	*1,184*	**1,095**	*1,278*	*1,184*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	*160*	*207*	*171*	*119*	*159*	*199*	*163*	**167**	*171*	*163*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	*291*	*318*	*288*	*201*	*297*	*320*	*277*	**245**	*288*	*277*
Alaska	**30**	**33**	**37**	**33**	**24**	*25*	*25*	*25*	*25*	*25*	*25*	*25*	**33**	*25*	*25*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.96**	*1.92*	*2.19*	*2.81*	*3.11*	*2.85*	*2.94*	*3.09*	**2.66**	*2.22*	*3.00*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.05**	**13.69**	*13.89*	*16.57*	*12.75*	*12.69*	*13.90*	*16.91*	*13.06*	**14.78**	*13.61*	*13.26*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.38**	**10.78**	*12.15*	*16.01*	*10.16*	*9.44*	*11.91*	*16.55*	*10.89*	**11.74**	*11.11*	*10.66*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.68**	**6.96**	*9.54*	*15.72*	*7.90*	*7.56*	*10.68*	*16.44*	*8.24*	**8.41**	*8.09*	*8.73*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.16**	**7.31**	*9.92*	*16.20*	*8.48*	*7.69*	*10.81*	*16.94*	*9.00*	**8.81**	*8.48*	*9.00*
S. Atlantic	**11.63**	**18.34**	**26.03**	**12.90**	**12.01**	*15.95*	*21.83*	*11.91*	*10.84*	*16.19*	*22.36*	*12.43*	**13.83**	*13.27*	*12.87*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.43**	**9.68**	*13.81*	*20.83*	*12.68*	*10.56*	*15.34*	*22.09*	*13.51*	**11.05**	*11.58*	*12.69*
W. S. Central	**8.29**	**13.38**	**21.45**	**10.54**	**8.65**	*13.85*	*20.04*	*11.86*	*9.54*	*15.11*	*20.69*	*12.12*	**10.54**	*11.40*	*11.97*
Mountain	**7.73**	**9.46**	**13.40**	**7.75**	**7.48**	*8.93*	*12.70*	*7.76*	*7.79*	*9.76*	*13.58*	*8.50*	**8.37**	*8.15*	*8.77*
Pacific	**12.44**	**12.75**	**13.50**	**12.06**	**13.48**	*13.32*	*13.65*	*12.61*	*13.07*	*13.92*	*14.65*	*13.59*	**12.50**	*13.21*	*13.57*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.88**	**9.48**	*11.65*	*16.37*	*10.01*	*9.38*	*12.34*	*17.10*	*10.59*	**10.56**	*10.52*	*10.74*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**10.13**	**10.32**	*9.48*	*8.67*	*8.60*	*9.00*	*9.23*	*9.51*	*9.75*	**10.95**	*9.61*	*9.36*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.47**	**7.88**	*7.28*	*6.59*	*7.27*	*7.60*	*7.55*	*7.00*	*7.52*	**7.85**	*7.43*	*7.49*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.04**	**5.74**	*6.54*	*8.10*	*6.37*	*6.44*	*7.59*	*8.94*	*6.93*	**6.51**	*6.23*	*6.95*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.16**	**6.07**	*6.35*	*7.72*	*6.53*	*7.00*	*7.51*	*8.70*	*7.21*	**6.73**	*6.37*	*7.27*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.82**	**8.47**	*8.94*	*9.51*	*8.88*	*9.01*	*9.87*	*10.05*	*8.91*	**9.05**	*8.80*	*9.25*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.54**	**8.30**	*8.53*	*8.89*	*8.05*	*7.92*	*9.10*	*9.71*	*8.76*	**8.91**	*8.32*	*8.56*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.38**	**5.69**	*6.24*	*7.12*	*6.91*	*6.90*	*7.45*	*8.08*	*7.54*	**6.41**	*6.29*	*7.35*
Mountain	**6.40**	**6.72**	**7.41**	**6.16**	**6.06**	*6.26*	*7.18*	*6.40*	*6.82*	*7.23*	*8.09*	*7.17*	**6.47**	*6.31*	*7.14*
Pacific	**9.08**	**8.82**	**9.14**	**8.90**	**9.45**	*8.53*	*8.42*	*8.16*	*8.56*	*8.73*	*9.02*	*8.71*	**8.99**	*8.72*	*8.71*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.22**	**7.18**	*7.34*	*7.81*	*7.24*	*7.43*	*8.04*	*8.51*	*7.77*	**7.62**	*7.29*	*7.75*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.29**	**8.01**	*7.11*	*6.58*	*7.89*	*8.63*	*7.93*	*7.15*	*7.97*	**8.08**	*7.53*	*8.03*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.95**	**7.36**	*6.55*	*6.48*	*6.97*	*7.63*	*7.14*	*7.21*	*7.48*	**7.86**	*7.00*	*7.45*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.14**	**4.93**	*4.62*	*4.73*	*5.07*	*5.95*	*5.72*	*5.74*	*5.80*	**5.49**	*4.90*	*5.84*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.19**	**3.96**	*3.19*	*3.24*	*4.32*	*5.05*	*4.31*	*4.28*	*5.04*	**4.24**	*3.75*	*4.73*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.52**	**4.16**	*3.81*	*4.04*	*4.81*	*5.40*	*4.80*	*4.75*	*5.08*	**4.80**	*4.22*	*5.03*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.07**	**3.88**	*3.52*	*3.74*	*4.57*	*5.04*	*4.54*	*4.45*	*4.88*	**4.20**	*3.94*	*4.75*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.64**	**2.19**	*1.95*	*2.31*	*2.92*	*3.26*	*2.97*	*3.15*	*3.29*	**2.89**	*2.35*	*3.17*
Mountain	**5.31**	**4.80**	**5.00**	**4.72**	**4.45**	*4.34*	*4.76*	*5.08*	*5.48*	*5.29*	*5.62*	*5.73*	**4.96**	*4.66*	*5.54*
Pacific	**7.68**	**6.66**	**6.49**	**6.83**	**7.43**	*5.89*	*5.76*	*6.01*	*6.79*	*6.37*	*6.51*	*6.61*	**6.97**	*6.35*	*6.58*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.74**	**3.48**	*2.74*	*2.91*	*3.74*	*4.32*	*3.74*	*3.77*	*4.22*	**3.91**	*3.24*	*4.03*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**170.3**	**174.9**	**179.7**	**165.2**	**149.8**	*114.5*	*129.9*	*128.5*	*142.4*	*118.8*	*150.1*	*138.4*	**690.1**	*522.6*	*549.6*
Appalachia	**47.4**	**49.3**	**46.6**	**44.3**	**42.6**	*29.2*	*28.2*	*25.9*	*28.4*	*27.2*	*31.4*	*27.9*	**187.6**	*125.9*	*114.9*
Interior	**31.0**	**32.2**	**32.4**	**30.6**	**28.3**	*22.0*	*29.0*	*31.8*	*35.8*	*28.8*	*32.1*	*32.3*	**126.2**	*111.1*	*129.1*
Western	**91.9**	**93.4**	**102.4**	**90.3**	**78.8**	*62.5*	*72.7*	*70.8*	*78.2*	*62.7*	*86.6*	*78.2*	**378.0**	*284.9*	*305.7*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	**-0.2**	*1.4*	*2.1*	*-1.9*	*-0.1*	*1.1*	*1.8*	*-2.0*	**-2.7**	*1.4*	*0.7*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	*1.4*	*1.5*	*1.4*	*1.2*	*1.3*	*1.5*	*1.4*	**6.7**	*5.7*	*5.4*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	*16.2*	*14.0*	*13.0*	*22.4*	*18.0*	*15.6*	*14.5*	**92.9**	*63.2*	*70.5*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	*9.3*	*8.1*	*7.5*	*13.0*	*10.5*	*9.1*	*8.5*	**55.1**	*36.6*	*41.1*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	*6.9*	*5.9*	*5.5*	*9.3*	*7.5*	*6.5*	*6.0*	**37.7**	*26.6*	*29.4*
Total Primary Supply	**145.3**	**152.4**	**158.3**	**145.2**	**130.9**	*101.0*	*119.5*	*115.1*	*121.2*	*103.0*	*137.8*	*123.2*	**601.2**	*466.6*	*485.2*
Secondary Inventory Withdrawals	**6.2**	**-21.0**	**6.4**	**-17.5**	**-20.9**	*5.0*	*8.7*	*-7.2*	*-0.4*	*4.4*	*8.5*	*-7.5*	**-26.0**	*-14.5*	*5.1*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**153.8**	**133.7**	**167.0**	**130.0**	**112.3**	*108.2*	*130.6*	*110.1*	*122.7*	*109.5*	*148.3*	*117.8*	**584.6**	*461.2*	*498.3*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.3**	**4.9**	*3.4*	*3.4*	*5.4*	*4.6*	*4.5*	*4.4*	*5.5*	**17.9**	*17.0*	*19.1*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	**101.3**	*89.1*	*121.3*	*98.8*	*112.1*	*99.0*	*138.0*	*105.9*	**539.4**	*410.5*	*455.0*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.6**	*6.5*	*5.9*	*6.0*	*6.1*	*5.9*	*5.9*	*6.3*	**30.0**	*26.0*	*24.2*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.3*	*0.4*	*0.3*	*0.2*	*0.2*	*0.3*	**0.9**	*1.0*	*1.0*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.4**	*6.3*	*5.6*	*5.6*	*5.7*	*5.7*	*5.7*	*6.0*	**29.1**	*25.0*	*23.2*
Total Consumption	**157.9**	**129.9**	**167.8**	**131.8**	**113.8**	*99.0*	*130.6*	*110.1*	*122.7*	*109.5*	*148.3*	*117.8*	**587.3**	*453.5*	*498.3*
Discrepancy (c)	**-4.0**	**3.9**	**-0.8**	**-1.8**	**-1.5**	*9.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-2.8**	*7.7*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	**24.6**	*23.3*	*21.2*	*23.0*	*23.1*	*22.0*	*20.3*	*22.3*	**24.4**	*23.0*	*22.3*
Secondary Inventories	**102.2**	**123.2**	**116.8**	**134.3**	**155.3**	*150.3*	*141.6*	*148.8*	*149.2*	*144.8*	*136.3*	*143.8*	**134.3**	*148.8*	*143.8*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	**149.7**	*144.5*	*135.7*	*143.2*	*143.8*	*139.1*	*130.4*	*138.1*	**128.5**	*143.2*	*138.1*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.7**	*3.6*	*3.6*	*3.5*	*3.7*	*3.7*	*3.7*	*3.5*	**3.3**	*3.5*	*3.5*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**1.7**	*2.0*	*2.0*	*2.0*	*1.5*	*1.9*	*2.0*	*2.0*	**2.3**	*2.0*	*2.0*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	*0.179*	*0.227*	*0.265*	*0.263*	*0.255*	*0.251*	*0.253*	**0.268**	*0.235*	*0.256*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.97**	*2.02*	*1.98*	*1.99*	*2.02*	*2.05*	*2.03*	*2.04*	**2.02**	*1.99*	*2.04*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	**963**	*928*	*1,097*	*911*	*928*	*947*	*1,115*	*931*	**4,118**	*3,899*	*3,920*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	**925**	*899*	*1,068*	*884*	*899*	*918*	*1,084*	*901*	**3,956**	*3,775*	*3,801*
Industrial Sector (b)	**37**	**36**	**38**	**38**	**35**	*27*	*26*	*25*	*26*	*26*	*28*	*28*	**149**	*114*	*109*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*2*	*3*	*2*	*2*	*2*	*3*	*2*	**14**	*11*	*10*
Net Imports	**9**	**9**	**11**	**10**	**12**	*13*	*15*	*11*	*12*	*13*	*15*	*11*	**39**	*50*	*51*
Total Supply	**1,004**	**983**	**1,184**	**986**	**975**	*940*	*1,111*	*922*	*940*	*959*	*1,129*	*942*	**4,157**	*3,949*	*3,971*
Losses and Unaccounted for (c)	**57**	**71**	**74**	**59**	**53**	*63*	*65*	*52*	*43*	*66*	*57*	*53*	**262**	*233*	*218*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	**885**	*844*	*1013*	*839*	*864*	*861*	*1037*	*855*	**3750**	*3581*	*3618*
Residential Sector	**361**	**309**	**434**	**331**	**344**	*322*	*430*	*321*	*356*	*321*	*431*	*320*	**1435**	*1416*	*1428*
Commercial Sector	**320**	**328**	**382**	**325**	**313**	*300*	*349*	*305*	*299*	*320*	*369*	*316*	**1355**	*1267*	*1304*
Industrial Sector	**228**	**238**	**254**	**232**	**227**	*220*	*232*	*211*	*207*	*218*	*236*	*217*	**952**	*890*	*878*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*8*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	*33*	*33*	*32*	*33*	*33*	*35*	*34*	**146**	*135*	*135*
Total Consumption	**948**	**912**	**1110**	**927**	**922**	*877*	*1046*	*871*	*897*	*894*	*1073*	*890*	**3896**	*3716*	*3753*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,450**	**2,525**	*2,364*	*3,154*	*2,357*	*2,596*	*2,342*	*3,143*	*2,338*	**10,631**	*10,400*	*10,420*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.97**	*2.02*	*1.98*	*1.99*	*2.02*	*2.05*	*2.03*	*2.04*	**2.02**	*1.99*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.37**	*1.94*	*2.08*	*2.98*	*3.53*	*2.93*	*2.96*	*3.32*	**2.88**	*2.31*	*3.15*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.52**	**12.20**	*7.37*	*6.13*	*6.53*	*7.46*	*9.44*	*9.47*	*9.75*	**12.72**	*7.91*	*8.82*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.05**	*8.06*	*8.56*	*9.37*	*10.10*	*11.80*	*12.38*	*13.05*	**15.16**	*9.77*	*11.83*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.85**	*13.24*	*13.22*	*12.91*	*12.92*	*13.64*	*13.68*	*13.38*	**13.04**	*13.06*	*13.41*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.29**	*10.47*	*10.86*	*10.50*	*10.39*	*10.72*	*11.21*	*10.84*	**10.66**	*10.54*	*10.81*
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.41**	*6.62*	*7.28*	*6.81*	*6.71*	*6.88*	*7.52*	*6.90*	**6.83**	*6.78*	*7.02*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	*28.40*	*32.51*	*29.79*	*30.12*	*30.75*	*34.31*	*31.53*	**56.24**	*28.53*	*31.68*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	*22.18*	*24.63*	*29.72*	*31.30*	*27.99*	*30.02*	*31.75*	**38.15**	*26.29*	*30.26*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	*21.75*	*21.48*	*31.48*	*42.23*	*24.60*	*26.81*	*35.32*	**34.89**	*24.83*	*32.24*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	*20.46*	*20.86*	*22.64*	*24.62*	*23.51*	*25.38*	*24.71*	**30.56**	*21.45*	*24.55*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	*24.94*	*29.25*	*26.79*	*28.34*	*28.27*	*31.24*	*28.23*	**30.85**	*25.86*	*29.02*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	*25.54*	*29.64*	*27.27*	*27.21*	*28.28*	*31.09*	*27.74*	**29.51**	*26.72*	*28.58*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	*21.96*	*26.93*	*23.97*	*22.76*	*24.23*	*28.36*	*24.19*	**27.86**	*23.23*	*24.89*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	*26.71*	*32.36*	*29.74*	*29.82*	*30.78*	*33.84*	*30.61*	**30.25**	*28.10*	*31.26*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	*26.21*	*27.52*	*29.99*	*30.04*	*29.53*	*30.80*	*32.02*	**30.10**	*27.49*	*30.60*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	*17.29*	*20.46*	*23.34*	*25.01*	*21.38*	*24.09*	*25.75*	**36.12**	*20.97*	*24.06*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	*21.14*	*22.86*	*25.07*	*27.07*	*26.16*	*27.43*	*26.55*	**35.26**	*22.79*	*26.80*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	**11.8**	*10.2*	*13.2*	*10.9*	*12.4*	*10.2*	*13.0*	*10.7*	**46.1**	*46.0*	*46.3*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	**32.7**	*29.1*	*39.7*	*29.2*	*34.1*	*28.9*	*39.1*	*29.0*	**133.1**	*130.7*	*131.2*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	**47.3**	*40.0*	*52.6*	*42.7*	*49.0*	*40.0*	*52.5*	*42.4*	**185.9**	*182.6*	*183.8*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	**28.0**	*22.0*	*28.9*	*24.1*	*28.1*	*22.4*	*29.2*	*24.0*	**105.4**	*102.9*	*103.7*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	**83.9**	*85.7*	*109.4*	*80.9*	*89.6*	*85.1*	*110.5*	*80.8*	**368.5**	*359.9*	*366.0*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	**29.0**	*26.2*	*36.3*	*26.1*	*31.1*	*26.4*	*36.7*	*26.1*	**121.1**	*117.5*	*120.3*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	**49.9**	*53.0*	*75.3*	*48.2*	*50.7*	*52.2*	*75.7*	*48.5*	**227.1**	*226.4*	*227.1*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	**22.9**	*23.9*	*33.5*	*21.9*	*22.7*	*23.8*	*33.4*	*22.1*	**100.2**	*102.1*	*102.0*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	**37.3**	*30.8*	*39.5*	*35.7*	*37.0*	*30.9*	*39.4*	*35.7*	**143.1**	*143.3*	*142.9*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	**1.2**	*1.1*	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.2*	**4.7**	*4.8*	*4.8*
Total	**361.4**	**309.2**	**433.8**	**330.7**	**343.9**	*321.9*	*429.5*	*320.9*	*355.8*	*321.0*	*430.8*	*320.4*	**1,435.1**	*1,416.2*	*1,428.1*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	**12.1**	*11.3*	*13.2*	*11.9*	*11.7*	*11.4*	*13.2*	*12.0*	**51.2**	*48.4*	*48.3*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	**36.0**	*31.7*	*35.9*	*32.2*	*33.5*	*34.5*	*39.0*	*33.8*	**152.6**	*135.8*	*140.8*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	**43.3**	*38.7*	*44.9*	*40.6*	*41.3*	*42.0*	*48.2*	*42.6*	**181.6**	*167.5*	*174.1*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**25.1**	*22.4*	*26.4*	*24.1*	*24.5*	*24.0*	*27.5*	*24.8*	**102.5**	*97.9*	*100.8*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	**71.1**	*69.3*	*81.3*	*70.0*	*67.5*	*75.1*	*86.8*	*73.5*	**317.0**	*291.7*	*302.9*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	**20.8**	*21.1*	*25.0*	*20.5*	*20.0*	*22.0*	*26.2*	*21.1*	**92.3**	*87.4*	*89.4*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	**43.7**	*46.3*	*54.8*	*44.7*	*42.3*	*48.2*	*57.5*	*46.4*	**195.7**	*189.6*	*194.4*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	**22.8**	*23.3*	*26.6*	*22.4*	*21.8*	*24.5*	*28.1*	*23.4*	**98.2**	*95.1*	*97.8*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	**36.5**	*34.5*	*39.8*	*37.0*	*34.9*	*36.9*	*41.1*	*37.1*	**157.9**	*147.7*	*149.9*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	**1.4**	*1.3*	*1.3*	*1.5*	*1.5*	*1.4*	*1.5*	*1.5*	**5.7**	*5.5*	*5.9*
Total	**319.9**	**328.2**	**381.8**	**324.6**	**312.7**	*300.0*	*349.1*	*304.8*	*299.0*	*320.1*	*368.9*	*316.2*	**1,354.5**	*1,266.6*	*1,304.3*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	**3.7**	*3.5*	*3.7*	*3.5*	*3.4*	*3.4*	*3.7*	*3.5*	**15.4**	*14.4*	*14.0*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	**17.9**	*16.7*	*18.6*	*17.0*	*16.6*	*16.7*	*18.9*	*17.5*	**73.2**	*70.1*	*69.6*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	**42.9**	*38.9*	*40.1*	*36.6*	*36.6*	*36.5*	*38.8*	*35.9*	**181.5**	*158.5*	*147.8*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	**21.3**	*20.1*	*21.2*	*19.6*	*19.3*	*20.3*	*22.1*	*20.7*	**88.3**	*82.1*	*82.4*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	**32.7**	*32.1*	*33.2*	*30.6*	*30.2*	*32.0*	*33.8*	*31.4*	**137.5**	*128.6*	*127.5*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	**23.0**	*21.8*	*21.9*	*20.4*	*20.7*	*21.6*	*22.5*	*21.2*	**94.7**	*87.1*	*86.0*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	**45.3**	*45.3*	*47.0*	*43.5*	*42.3*	*45.8*	*48.8*	*45.6*	**189.5**	*181.1*	*182.6*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	**19.8**	*20.7*	*22.8*	*19.6*	*19.2*	*21.0*	*23.5*	*20.3*	**84.1**	*83.1*	*84.1*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	**18.9**	*19.9*	*22.5*	*19.3*	*17.9*	*19.6*	*22.3*	*19.2*	**83.1**	*80.7*	*79.0*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	*1.2*	**4.9**	*4.8*	*4.8*
Total	**228.2**	**237.7**	**254.2**	**232.1**	**226.7**	*220.3*	*232.1*	*211.3*	*207.4*	*218.0*	*235.8*	*216.7*	**952.1**	*890.4*	*877.8*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	**27.7**	*25.1*	*30.2*	*26.4*	*27.7*	*25.2*	*29.9*	*26.3*	**113.3**	*109.3*	*109.2*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	**87.5**	*78.4*	*95.2*	*79.4*	*85.3*	*81.0*	*98.0*	*81.2*	**362.8**	*340.5*	*345.5*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	**133.8**	*117.8*	*137.7*	*120.0*	*127.1*	*118.6*	*139.7*	*121.0*	**549.6**	*509.2*	*506.3*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	**74.3**	*64.5*	*76.4*	*67.9*	*71.9*	*66.7*	*78.8*	*69.6*	**296.2**	*283.0*	*287.0*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	**188.0**	*187.5*	*224.2*	*181.8*	*187.6*	*192.5*	*231.5*	*186.1*	**824.3**	*781.5*	*797.7*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	**72.8**	*69.1*	*83.1*	*67.0*	*71.8*	*70.0*	*85.4*	*68.4*	**308.1**	*292.0*	*295.7*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	**138.9**	*144.8*	*177.1*	*136.4*	*135.4*	*146.2*	*182.1*	*140.6*	**612.4**	*597.2*	*604.3*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	**65.6**	*67.9*	*82.9*	*64.0*	*63.7*	*69.3*	*85.0*	*65.9*	**282.7**	*280.4*	*284.0*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	**92.9**	*85.5*	*102.0*	*92.2*	*89.9*	*87.6*	*103.0*	*92.2*	**384.9**	*372.5*	*372.8*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.7**	*3.5*	*3.9*	*4.0*	*3.8*	*3.7*	*4.0*	*3.9*	**15.2**	*15.2*	*15.5*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	**885.2**	*844.0*	*1,012.8*	*839.0*	*864.3*	*860.9*	*1,037.5*	*855.3*	**3,749.5**	*3,581.0*	*3,617.9*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.57**	**20.70**	**20.87**	**21.74**	*21.13*	*20.17*	*20.30*	*21.26*	*21.39*	*21.16*	*21.96*	**21.14**	*20.81*	*21.42*
Middle Atlantic	**15.19**	**16.06**	**16.15**	**15.78**	**15.31**	*15.68*	*15.85*	*15.76*	*15.58*	*16.36*	*16.69*	*16.40*	**15.79**	*15.66*	*16.27*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.29**	**13.06**	*13.79*	*13.38*	*13.60*	*13.46*	*14.40*	*13.99*	*14.11*	**13.30**	*13.44*	*13.97*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.24**	**10.94**	*12.96*	*13.27*	*11.70*	*11.39*	*13.50*	*13.80*	*12.10*	**11.87**	*12.20*	*12.69*
S. Atlantic	**11.70**	**12.17**	**12.11**	**11.87**	**11.78**	*11.98*	*11.91*	*11.70*	*11.52*	*12.10*	*12.15*	*12.05*	**11.97**	*11.85*	*11.96*
E. S. Central	**11.10**	**11.70**	**11.37**	**11.23**	**11.19**	*11.63*	*11.60*	*11.80*	*11.47*	*12.08*	*11.98*	*12.14*	**11.34**	*11.55*	*11.91*
W. S. Central	**10.88**	**11.50**	**11.36**	**11.24**	**10.94**	*11.17*	*11.13*	*11.17*	*10.95*	*11.49*	*11.57*	*11.63*	**11.25**	*11.10*	*11.42*
Mountain	**11.51**	**12.18**	**12.23**	**11.59**	**11.41**	*12.12*	*12.22*	*11.69*	*11.67*	*12.51*	*12.66*	*12.09*	**11.91**	*11.90*	*12.28*
Pacific	**14.86**	**15.88**	**17.31**	**14.64**	**15.67**	*16.59*	*17.61*	*14.62*	*15.76*	*17.18*	*18.08*	*14.99*	**15.68**	*16.14*	*16.51*
U.S. Average	**12.68**	**13.33**	**13.27**	**12.85**	**12.85**	*13.24*	*13.22*	*12.91*	*12.92*	*13.64*	*13.68*	*13.38*	**13.04**	*13.06*	*13.41*
Commercial Sector															
New England	**16.83**	**16.24**	**15.97**	**15.76**	**16.37**	*15.89*	*15.67*	*15.52*	*16.28*	*16.08*	*16.19*	*16.26*	**16.19**	*15.86*	*16.20*
Middle Atlantic	**11.57**	**12.18**	**13.03**	**11.97**	**11.48**	*11.55*	*12.30*	*11.56*	*11.43*	*12.02*	*12.93*	*11.97*	**12.21**	*11.73*	*12.12*
E. N. Central	**10.14**	**10.29**	**10.09**	**10.05**	**9.92**	*10.19*	*10.08*	*10.15*	*10.15*	*10.49*	*10.42*	*10.45*	**10.14**	*10.08*	*10.38*
W. N. Central	**8.98**	**10.04**	**10.41**	**9.11**	**9.07**	*10.27*	*10.74*	*9.51*	*9.55*	*10.70*	*11.21*	*9.82*	**9.65**	*9.90*	*10.34*
S. Atlantic	**9.44**	**9.37**	**9.35**	**9.35**	**9.24**	*9.23*	*9.18*	*9.20*	*9.19*	*9.26*	*9.35*	*9.46*	**9.37**	*9.21*	*9.32*
E. S. Central	**10.70**	**10.70**	**10.65**	**10.62**	**10.68**	*10.75*	*10.98*	*11.21*	*11.22*	*11.14*	*11.32*	*11.49*	**10.67**	*10.91*	*11.29*
W. S. Central	**8.12**	**8.00**	**8.30**	**8.06**	**7.90**	*7.80*	*8.16*	*8.03*	*7.97*	*7.90*	*8.31*	*8.12*	**8.13**	*7.98*	*8.09*
Mountain	**9.20**	**9.71**	**10.00**	**9.18**	**8.96**	*9.57*	*9.96*	*9.24*	*9.11*	*9.82*	*10.26*	*9.48*	**9.55**	*9.45*	*9.71*
Pacific	**12.98**	**14.15**	**16.35**	**14.44**	**13.32**	*14.10*	*16.14*	*14.29*	*13.34*	*14.56*	*16.96*	*15.20*	**14.54**	*14.51*	*15.09*
U.S. Average	**10.43**	**10.64**	**11.00**	**10.53**	**10.29**	*10.47*	*10.86*	*10.50*	*10.39*	*10.72*	*11.21*	*10.84*	**10.66**	*10.54*	*10.81*
Industrial Sector															
New England	**13.45**	**12.89**	**12.66**	**12.70**	**12.58**	*12.18*	*12.29*	*12.60*	*12.80*	*12.50*	*12.57*	*12.70*	**12.92**	*12.41*	*12.64*
Middle Atlantic	**6.73**	**6.52**	**6.54**	**6.40**	**6.33**	*6.21*	*6.34*	*6.41*	*6.61*	*6.47*	*6.55*	*6.41*	**6.55**	*6.32*	*6.51*
E. N. Central	**7.03**	**6.84**	**6.83**	**6.76**	**6.60**	*6.75*	*6.90*	*6.98*	*6.96*	*7.06*	*7.16*	*7.13*	**6.87**	*6.80*	*7.08*
W. N. Central	**7.13**	**7.33**	**8.09**	**6.87**	**7.00**	*7.57*	*8.46*	*7.23*	*7.39*	*7.86*	*8.72*	*7.41*	**7.37**	*7.57*	*7.87*
S. Atlantic	**6.22**	**6.28**	**6.72**	**6.18**	**6.02**	*6.09*	*6.58*	*6.17*	*6.15*	*6.26*	*6.74*	*6.21*	**6.36**	*6.22*	*6.35*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.61**	**5.48**	*5.69*	*5.97*	*5.73*	*5.71*	*5.87*	*6.09*	*5.75*	**5.76**	*5.71*	*5.86*
W. S. Central	**5.25**	**5.28**	**6.05**	**5.29**	**5.12**	*5.24*	*6.05*	*5.47*	*5.50*	*5.54*	*6.35*	*5.56*	**5.48**	*5.48*	*5.75*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	**5.73**	*5.96*	*6.63*	*5.87*	*5.84*	*6.13*	*6.81*	*5.97*	**6.29**	*6.07*	*6.22*
Pacific	**8.65**	**9.45**	**11.26**	**10.16**	**8.81**	*9.56*	*11.47*	*10.48*	*9.20*	*9.97*	*11.96*	*10.85*	**9.95**	*10.14*	*10.57*
U.S. Average	**6.66**	**6.71**	**7.25**	**6.66**	**6.41**	*6.62*	*7.28*	*6.81*	*6.71*	*6.88*	*7.52*	*6.90*	**6.83**	*6.78*	*7.02*
All Sectors (a)															
New England	**18.35**	**17.72**	**17.50**	**17.34**	**18.11**	*17.47*	*17.19*	*17.07*	*18.05*	*17.72*	*17.86*	*18.06*	**17.73**	*17.46*	*17.92*
Middle Atlantic	**12.01**	**12.27**	**12.99**	**12.10**	**11.85**	*11.93*	*12.60*	*11.99*	*12.14*	*12.42*	*13.19*	*12.35*	**12.37**	*12.11*	*12.55*
E. N. Central	**10.13**	**10.12**	**10.20**	**10.03**	**9.96**	*10.28*	*10.41*	*10.41*	*10.50*	*10.75*	*10.86*	*10.74*	**10.12**	*10.26*	*10.71*
W. N. Central	**9.14**	**10.03**	**10.64**	**9.17**	**9.19**	*10.34*	*11.06*	*9.63*	*9.69*	*10.78*	*11.47*	*9.89*	**9.76**	*10.06*	*10.48*
S. Atlantic	**9.92**	**10.01**	**10.24**	**9.90**	**9.80**	*9.95*	*10.13*	*9.80*	*9.81*	*10.01*	*10.31*	*10.03*	**10.03**	*9.93*	*10.06*
E. S. Central	**9.30**	**9.43**	**9.65**	**9.27**	**9.24**	*9.49*	*9.93*	*9.77*	*9.74*	*9.87*	*10.23*	*9.96*	**9.42**	*9.62*	*9.96*
W. S. Central	**8.22**	**8.28**	**8.94**	**8.28**	**8.08**	*8.23*	*8.86*	*8.32*	*8.31*	*8.44*	*9.14*	*8.50*	**8.47**	*8.40*	*8.64*
Mountain	**9.12**	**9.43**	**9.98**	**8.98**	**8.84**	*9.36*	*9.95*	*9.05*	*9.04*	*9.63*	*10.25*	*9.27*	**9.42**	*9.34*	*9.60*
Pacific	**12.87**	**13.63**	**15.55**	**13.60**	**13.34**	*13.93*	*15.66*	*13.61*	*13.50*	*14.44*	*16.29*	*14.19*	**13.96**	*14.18*	*14.66*
U.S. Average	**10.37**	**10.52**	**11.03**	**10.38**	**10.29**	*10.52*	*11.04*	*10.49*	*10.54*	*10.83*	*11.40*	*10.79*	**10.60**	*10.60*	*10.92*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	**349.3**	*337.1*	*460.2*	*320.1*	*285.9*	*319.3*	*430.6*	*316.3*	**1,474.7**	*1,466.7*	*1,352.2*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	**177.1**	*157.5*	*214.2*	*175.4*	*199.3*	*174.4*	*246.9*	*189.6*	**959.5**	*724.2*	*810.3*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.2**	*189.1*	*208.2*	*198.3*	*198.4*	*189.6*	*204.3*	*190.1*	**809.4**	*799.8*	*782.4*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	**187.8**	*208.2*	*179.4*	*185.6*	*209.1*	*228.2*	*196.3*	*200.2*	**688.0**	*761.0*	*833.8*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	**74.6**	*83.8*	*68.0*	*62.9*	*72.5*	*81.5*	*64.2*	*62.0*	**272.4**	*289.2*	*280.1*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**85.7**	*87.8*	*72.0*	*94.2*	*103.3*	*101.6*	*83.7*	*104.2*	**299.8**	*339.7*	*392.9*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	**17.0**	*26.0*	*28.2*	*17.9*	*22.1*	*34.5*	*36.9*	*23.3*	**71.5**	*89.1*	*116.9*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**6.7**	*6.8*	*7.0*	*7.0*	*7.6*	*6.8*	*7.3*	*7.1*	**28.8**	*27.5*	*28.8*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	*3.8*	*4.3*	*3.6*	*3.5*	*3.8*	*4.2*	*3.6*	**15.6**	*15.5*	*15.1*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	*-0.6*	*-1.8*	*-1.4*	*-1.1*	*-0.7*	*-1.8*	*-1.3*	**-5.3**	*-4.8*	*-5.0*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	**4.2**	*4.3*	*4.3*	*3.4*	*4.9*	*4.2*	*4.4*	*3.1*	**17.3**	*16.2*	*16.6*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	**1.2**	*1.2*	*1.1*	*0.8*	*1.0*	*1.0*	*1.1*	*0.9*	**4.3**	*4.2*	*4.0*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	**1.9**	*1.9*	*1.9*	*1.7*	*1.7*	*1.9*	*1.8*	*1.7*	**7.7**	*7.4*	*7.0*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	**924.6**	*898.7*	*1,067.6*	*883.8*	*899.2*	*917.8*	*1,083.6*	*900.6*	**3,955.8**	*3,774.7*	*3,801.3*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	**12.0**	*10.8*	*13.8*	*9.5*	*8.4*	*8.2*	*13.2*	*10.2*	**46.9**	*46.1*	*40.0*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.1*	*0.1*	*0.4*	*0.0*	*0.1*	*0.3*	**0.5**	*0.3*	*0.9*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.4**	*5.3*	*7.2*	*6.2*	*7.1*	*7.1*	*7.2*	*5.6*	**29.8**	*26.1*	*27.0*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	**2.1**	*1.9*	*1.5*	*1.6*	*2.0*	*1.8*	*1.4*	*1.5*	**7.0**	*7.1*	*6.7*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	**2.6**	*2.8*	*2.6*	*2.7*	*3.4*	*2.8*	*2.7*	*2.8*	**10.3**	*10.7*	*11.7*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.3*	*0.4*	*0.5*	*1.3*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*2.3*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	**24.5**	*21.1*	*25.6*	*20.6*	*22.6*	*20.3*	*25.0*	*20.8*	**96.1**	*91.8*	*88.6*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**28.0**	**27.6**	*25.4*	*31.1*	*27.1*	*28.4*	*26.4*	*31.3*	*27.6*	**115.2**	*111.2*	*113.7*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	**12.8**	*14.2*	*21.6*	*15.1*	*12.1*	*18.1*	*22.3*	*16.3*	**54.0**	*63.7*	*68.8*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.0*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.8**	*9.4*	*8.8*	*9.1*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*38.1*	*30.3*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	**7.8**	*7.0*	*8.0*	*7.3*	*7.5*	*6.6*	*7.4*	*7.0*	**29.5**	*30.1*	*28.5*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	**1.8**	*1.9*	*1.6*	*1.9*	*2.3*	*2.3*	*2.1*	*2.8*	**6.5**	*7.2*	*9.6*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	**0.1**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	**0.9**	*0.6*	*0.6*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	**33.3**	*32.7*	*40.2*	*33.6*	*30.9*	*34.6*	*39.2*	*33.1*	**136.2**	*139.9*	*137.8*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	**35.0**	*33.9*	*41.9*	*34.7*	*35.8*	*35.4*	*42.6*	*35.7*	**150.6**	*145.5*	*149.5*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	**75.7**	*69.5*	*98.7*	*66.9*	*66.8*	*72.9*	*92.2*	*65.2*	**295.1**	*310.8*	*297.1*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	**35.8**	*24.8*	*29.4*	*30.5*	*47.3*	*28.7*	*41.5*	*37.7*	**184.3**	*120.4*	*155.1*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.6**	*66.9*	*71.0*	*69.4*	*67.6*	*65.7*	*71.8*	*68.2*	**277.9**	*275.9*	*273.2*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	**3.1**	*2.5*	*1.8*	*2.2*	*3.0*	*2.4*	*1.7*	*2.1*	**10.6**	*9.7*	*9.2*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	**9.8**	*10.3*	*8.0*	*10.2*	*11.1*	*11.8*	*9.1*	*10.9*	**34.1**	*38.2*	*42.9*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	**0.7**	*0.9*	*0.4*	*0.3*	*0.7*	*0.8*	*0.4*	*0.3*	**2.5**	*2.3*	*2.2*
Total generation	**205.4**	**185.6**	**224.1**	**189.2**	**193.7**	*174.9*	*209.3*	*179.5*	*196.5*	*182.2*	*216.6*	*184.4*	**804.4**	*757.4*	*779.7*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	**181.0**	*162.4*	*196.8*	*169.8*	*183.9*	*170.0*	*201.6*	*174.6*	**760.9**	*710.1*	*730.1*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	**63.4**	*64.2*	*80.7*	*62.0*	*58.0*	*61.2*	*72.9*	*60.5*	**252.9**	*270.3*	*252.6*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**24.4**	*36.6*	*39.9*	*28.0*	*29.6*	*34.1*	*44.3*	*29.7*	**159.8**	*128.9*	*137.7*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.1**	*49.4*	*55.5*	*52.7*	*52.3*	*52.3*	*55.4*	*51.4*	**211.0**	*210.6*	*211.5*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	**10.5**	*8.0*	*6.8*	*8.0*	*10.0*	*7.4*	*6.4*	*7.6*	**35.5**	*33.2*	*31.4*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	**3.2**	*4.7*	*4.6*	*3.3*	*4.1*	*6.0*	*5.9*	*4.0*	**13.2**	*15.8*	*20.0*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**0.0**	*0.1*	*-0.6*	*-0.4*	*-0.1*	*-0.1*	*-0.6*	*-0.4*	**-1.2**	*-0.9*	*-1.2*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	**154.5**	*163.0*	*186.8*	*153.6*	*154.0*	*160.9*	*184.2*	*152.9*	**671.1**	*657.9*	*651.9*
Net energy for load (f)	**163.9**	**158.5**	**197.9**	**157.3**	**159.5**	*163.9*	*190.0*	*154.1*	*158.8*	*158.8*	*187.0*	*153.4*	**677.6**	*667.5*	*658.1*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	**37.3**	*44.5*	*51.5*	*37.1*	*31.7*	*44.1*	*47.7*	*36.7*	**174.4**	*170.4*	*160.3*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.5**	*3.6*	*2.1*	*3.4*	*4.7*	*4.1*	*6.0*	*4.4*	**18.6**	*11.7*	*19.2*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	*7.4*	*7.5*	*7.7*	*7.8*	*7.0*	*7.2*	*7.4*	**29.1**	*29.9*	*29.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.7**	*2.3*	*2.1*	*1.9*	*2.2*	*3.0*	*2.8*	*2.3*	**6.2**	*8.0*	*10.3*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	*0.9*	*0.7*	*0.7*	*0.8*	*0.8*	*0.7*	*0.7*	**3.1**	*3.2*	*3.1*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	**49.7**	*58.8*	*64.1*	*50.8*	*47.3*	*59.1*	*64.4*	*51.6*	**231.7**	*223.4*	*222.4*
Net energy for load (f)	**48.0**	**58.4**	**69.4**	**53.1**	**48.3**	*57.1*	*65.2*	*49.7*	*46.1*	*57.5*	*66.5*	*51.0*	**229.0**	*220.3*	*221.1*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	**44.2**	*43.6*	*56.0*	*39.8*	*34.7*	*39.2*	*53.2*	*38.7*	**177.2**	*183.5*	*165.8*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	**52.9**	*48.2*	*63.8*	*51.9*	*59.4*	*53.9*	*71.1*	*58.2*	**276.2**	*216.8*	*242.6*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	*22.9*	*26.9*	*24.8*	*24.9*	*23.9*	*25.0*	*22.9*	**102.3**	*101.1*	*96.7*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	**2.3**	*2.3*	*1.7*	*1.8*	*2.3*	*2.2*	*1.6*	*1.8*	**8.0**	*8.2*	*7.9*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	**19.6**	*19.3*	*16.0*	*22.7*	*23.6*	*23.2*	*18.6*	*24.7*	**66.1**	*77.6*	*90.1*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	**1.6**	*1.8*	*1.7*	*0.8*	*1.3*	*1.6*	*1.6*	*0.9*	**6.0**	*5.9*	*5.4*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	**147.2**	*138.1*	*166.1*	*141.8*	*146.2*	*144.0*	*171.1*	*147.2*	**635.7**	*593.2*	*608.5*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	**151.7**	*142.0*	*168.3*	*144.6*	*147.6*	*148.1*	*172.1*	*148.4*	**645.6**	*606.6*	*616.2*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	**16.8**	*13.6*	*22.1*	*12.2*	*9.6*	*10.8*	*20.7*	*11.0*	**71.1**	*64.7*	*52.1*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	**19.5**	*8.0*	*23.0*	*12.3*	*15.6*	*10.5*	*22.4*	*12.3*	**93.3**	*62.7*	*60.8*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	*4.4*	*4.4*	*3.5*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.7*	*16.0*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	**4.0**	*3.7*	*2.6*	*2.9*	*3.8*	*3.5*	*2.4*	*2.8*	**13.7**	*13.2*	*12.5*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	**20.2**	*19.7*	*17.2*	*23.4*	*25.8*	*24.4*	*21.7*	*26.9*	**75.0**	*80.5*	*98.8*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	**0.2**	*0.3*	*0.1*	*0.1*	*0.1*	*0.3*	*0.0*	*0.1*	**0.8**	*0.6*	*0.5*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	**65.1**	*49.6*	*69.3*	*54.4*	*58.9*	*52.7*	*71.7*	*57.4*	**270.1**	*238.5*	*240.8*
Net energy for load (f)	**62.5**	**68.4**	**73.6**	**61.8**	**62.7**	*53.5*	*68.0*	*54.3*	*55.8*	*57.6*	*70.9*	*56.7*	**266.2**	*238.6*	*241.0*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	**36.7**	*40.1*	*50.1*	*28.8*	*22.8*	*30.5*	*47.0*	*26.1*	**180.1**	*155.7*	*126.4*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	**13.5**	*12.5*	*19.3*	*14.5*	*14.6*	*17.3*	*20.0*	*16.5*	**75.2**	*59.9*	*68.4*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.5**	*9.4*	*11.0*	*10.0*	*10.7*	*9.8*	*10.3*	*9.4*	**41.3**	*40.8*	*40.2*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	**0.3**	*0.2*	*0.1*	*0.1*	*0.3*	*0.2*	*0.1*	*0.1*	**0.7**	*0.7*	*0.7*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	**22.9**	*26.8*	*23.4*	*24.8*	*26.8*	*31.7*	*29.3*	*28.5*	**81.1**	*97.9*	*116.3*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.6**	*1.5*	*1.5*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	**84.3**	*89.4*	*104.2*	*78.6*	*75.6*	*89.9*	*107.1*	*80.9*	**380.2**	*356.5*	*353.5*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	**84.3**	*89.4*	*104.2*	*78.6*	*75.6*	*89.9*	*107.1*	*80.9*	**380.2**	*356.5*	*353.5*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	**21.7**	*10.7*	*22.8*	*14.2*	*16.3*	*9.4*	*20.2*	*15.2*	**89.2**	*69.5*	*61.1*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	**20.6**	*16.2*	*26.2*	*25.9*	*20.9*	*18.3*	*31.1*	*23.7*	**105.1**	*89.0*	*93.9*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.5**	*2.5*	*2.4*	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.9**	*9.8*	*8.4*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	**35.2**	*41.8*	*30.7*	*30.6*	*34.7*	*42.5*	*29.5*	*31.0*	**118.0**	*138.4*	*137.7*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	**13.7**	*14.4*	*13.2*	*14.3*	*17.8*	*17.4*	*15.7*	*16.7*	**48.4**	*55.6*	*67.6*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.8*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	**93.9**	*85.9*	*95.5*	*87.7*	*92.2*	*88.9*	*99.2*	*89.2*	**370.5**	*363.1*	*369.5*
Net energy for load (f)	**94.5**	**83.1**	**92.2**	**87.7**	**88.4**	*80.0*	*89.6*	*84.2*	*85.1*	*81.4*	*90.3*	*84.7*	**357.4**	*342.2*	*341.4*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	**12.0**	*14.5*	*16.5*	*10.7*	*10.7*	*15.7*	*17.8*	*12.7*	**56.5**	*53.7*	*56.8*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	**5.8**	*6.0*	*8.5*	*6.0*	*4.7*	*5.2*	*8.1*	*4.1*	**36.7**	*26.4*	*22.1*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	*7.6*	*8.6*	*7.6*	*8.4*	*7.6*	*8.6*	*7.6*	**31.9**	*32.1*	*32.2*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	**3.0**	*4.0*	*4.2*	*2.6*	*2.9*	*3.5*	*3.9*	*2.5*	**13.9**	*13.8*	*12.7*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	**2.5**	*3.0*	*2.7*	*2.7*	*4.0*	*4.3*	*3.7*	*3.6*	**9.9**	*11.0*	*15.5*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.0**	*0.0*	*0.1*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	**31.6**	*35.1*	*40.6*	*29.7*	*30.6*	*36.2*	*42.2*	*30.4*	**148.9**	*137.1*	*139.4*
Net energy for load (f)	**18.2**	**23.1**	**34.0**	**22.3**	**22.0**	*26.4*	*33.9*	*22.8*	*21.9*	*27.0*	*34.5*	*23.2*	**97.7**	*105.1*	*106.6*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	**15.9**	*10.7*	*25.6*	*22.9*	*14.0*	*8.6*	*22.6*	*22.8*	**74.2**	*75.2*	*68.1*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	*1.1*	*1.5*	*2.3*	*1.6*	*2.0*	*1.9*	*2.3*	**7.5**	*6.3*	*7.8*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.9**	*3.9*	*4.9*	*4.9*	*4.5*	*4.1*	*4.9*	*3.9*	**16.2**	*18.6*	*17.4*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	**5.9**	*11.8*	*10.1*	*5.2*	*5.6*	*11.1*	*9.5*	*5.0*	**34.0**	*33.1*	*31.2*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	**14.9**	*18.8*	*19.6*	*14.2*	*15.0*	*19.4*	*20.0*	*14.6*	**63.7**	*67.5*	*69.0*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	*0.2*	*0.2*	*0.0*	*0.0*	*0.2*	*0.2*	*0.0*	**0.2**	*0.4*	*0.4*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	**42.9**	*46.6*	*62.0*	*49.5*	*40.6*	*45.4*	*59.1*	*48.8*	**195.8**	*201.1*	*193.9*
Net energy for load (f)	**59.8**	**62.5**	**76.3**	**61.6**	**58.1**	*61.2*	*74.7*	*60.0*	*56.5*	*62.1*	*75.7*	*60.5*	**260.2**	*253.9*	*254.9*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	**0.035**	*0.035*	*0.039*	*0.033*	*0.032*	*0.034*	*0.038*	*0.033*	**0.142**	*0.142*	*0.138*
Hydroelectric Power (a)	**0.649**	**0.743**	**0.553**	**0.534**	**0.679**	*0.767*	*0.611*	*0.570*	*0.666*	*0.746*	*0.583*	*0.562*	**2.480**	*2.627*	*2.557*
Solar (b)	**0.122**	**0.201**	**0.208**	**0.128**	**0.157**	*0.240*	*0.259*	*0.165*	*0.204*	*0.318*	*0.340*	*0.215*	**0.659**	*0.821*	*1.077*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	**0.058**	*0.056*	*0.058*	*0.058*	*0.059*	*0.057*	*0.060*	*0.059*	**0.236**	*0.230*	*0.235*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	**0.047**	*0.050*	*0.051*	*0.051*	*0.060*	*0.049*	*0.055*	*0.052*	**0.211**	*0.199*	*0.215*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.790**	*0.809*	*0.664*	*0.868*	*0.952*	*0.936*	*0.771*	*0.960*	**2.762**	*3.130*	*3.620*
Subtotal	**1.603**	**1.813**	**1.526**	**1.547**	**1.765**	*1.956*	*1.682*	*1.744*	*1.973*	*2.141*	*1.847*	*1.880*	**6.490**	*7.148*	*7.841*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.196**	*0.133*	*0.166*	*0.182*	*0.180*	*0.189*	*0.191*	*0.195*	**0.799**	*0.677*	*0.754*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	*0.003*	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.007**	*0.010*	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.029**	*0.033*	*0.037*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.042**	*0.040*	*0.039*	*0.042*	*0.041*	*0.040*	*0.040*	*0.042*	**0.160**	*0.163*	*0.163*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.344**	*0.338*	*0.342*	*0.340*	*0.328*	*0.327*	*0.340*	*0.344*	**1.473**	*1.364*	*1.339*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.590**	*0.518*	*0.555*	*0.571*	*0.557*	*0.564*	*0.579*	*0.588*	**2.466**	*2.235*	*2.288*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.023*	*0.023*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.022**	**0.026**	*0.036*	*0.036*	*0.025*	*0.028*	*0.041*	*0.041*	*0.029*	**0.108**	*0.123*	*0.139*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	*0.008*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.020*	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.084*	*0.084*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.068**	*0.076*	*0.079*	*0.067*	*0.070*	*0.082*	*0.085*	*0.071*	**0.280**	*0.290*	*0.309*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.060**	*0.089*	*0.089*	*0.061*	*0.066*	*0.100*	*0.102*	*0.070*	**0.257**	*0.299*	*0.337*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.128**	*0.132*	*0.133*	*0.133*	*0.128*	*0.132*	*0.133*	*0.133*	**0.529**	*0.526*	*0.526*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	**0.197**	*0.231*	*0.232*	*0.204*	*0.203*	*0.242*	*0.245*	*0.214*	**0.825**	*0.865*	*0.903*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.067**	*0.066*	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.264*	*0.337*
Ethanol (f)	**0.274**	**0.293**	**0.291**	**0.296**	**0.256**	*0.210*	*0.260*	*0.269*	*0.254*	*0.276*	*0.280*	*0.277*	**1.154**	*0.995*	*1.087*
Subtotal	**0.333**	**0.365**	**0.361**	**0.361**	**0.322**	*0.276*	*0.323*	*0.338*	*0.338*	*0.365*	*0.358*	*0.362*	**1.419**	*1.259*	*1.424*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.067**	*0.066*	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.264*	*0.337*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.196**	*0.133*	*0.166*	*0.182*	*0.180*	*0.189*	*0.191*	*0.195*	**0.799**	*0.677*	*0.754*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.307**	**0.266**	*0.219*	*0.270*	*0.279*	*0.264*	*0.287*	*0.291*	*0.288*	**1.199**	*1.033*	*1.129*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.051**	*0.052*	*0.056*	*0.050*	*0.049*	*0.051*	*0.055*	*0.050*	**0.209**	*0.208*	*0.205*
Hydroelectric Power (a)	**0.652**	**0.747**	**0.556**	**0.537**	**0.682**	*0.770*	*0.614*	*0.573*	*0.669*	*0.749*	*0.586*	*0.565*	**2.492**	*2.639*	*2.569*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.248**	*0.375*	*0.394*	*0.257*	*0.305*	*0.469*	*0.494*	*0.322*	**1.043**	*1.275*	*1.590*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.110**	*0.104*	*0.106*	*0.109*	*0.109*	*0.106*	*0.108*	*0.110*	**0.433**	*0.429*	*0.433*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.540**	*0.540*	*0.548*	*0.545*	*0.537*	*0.528*	*0.550*	*0.550*	**2.297**	*2.173*	*2.164*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.790**	*0.809*	*0.664*	*0.868*	*0.952*	*0.936*	*0.771*	*0.960*	**2.762**	*3.130*	*3.620*
Total Consumption	**2.809**	**3.084**	**2.798**	**2.791**	**2.943**	*3.058*	*2.871*	*2.924*	*3.142*	*3.393*	*3.113*	*3.116*	**11.481**	*11.797*	*12.764*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,915**	**6,868**	**6,769**	**6,776**	**6,777**	*6,699*	*6,735*	*6,739*	*6,742*	*6,761*	*6,681*	*6,769*	**6,776**	*6,739*	*6,769*
Waste	**4,112**	**4,080**	**4,070**	**4,049**	**4,050**	*3,972*	*4,009*	*4,012*	*4,015*	*4,034*	*3,954*	*4,042*	**4,049**	*4,012*	*4,042*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,574**	**79,553**	**79,377**	**79,433**	**79,443**	*79,489*	*79,617*	*79,632*	*79,726*	*79,684*	*79,761*	*79,781*	**79,433**	*79,632*	*79,781*
Geothermal	**2,488**	**2,488**	**2,488**	**2,508**	**2,508**	*2,508*	*2,508*	*2,508*	*2,508*	*2,508*	*2,508*	*2,550*	**2,508**	*2,508*	*2,550*
Large-Scale Solar (b)	**32,664**	**33,129**	**33,789**	**36,870**	**38,692**	*40,722*	*41,969*	*49,573*	*50,244*	*54,329*	*55,782*	*60,633*	**36,870**	*49,573*	*60,633*
Wind	**96,610**	**98,085**	**99,661**	**103,451**	**105,620**	*106,839*	*109,819*	*123,845*	*123,857*	*125,144*	*125,670*	*129,095*	**103,451**	*123,845*	*129,095*
Other Sectors (c)															
Biomass	**6,569**	**6,518**	**6,518**	**6,452**	**6,460**	*6,456*	*6,456*	*6,456*	*6,462*	*6,409*	*6,409*	*6,409*	**6,452**	*6,456*	*6,409*
Waste	**782**	**784**	**784**	**784**	**784**	*800*	*800*	*800*	*800*	*799*	*799*	*799*	**784**	*800*	*799*
Wood	**5,787**	**5,734**	**5,734**	**5,668**	**5,676**	*5,656*	*5,656*	*5,656*	*5,662*	*5,610*	*5,610*	*5,610*	**5,668**	*5,656*	*5,610*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*289*	*289*	*291*	*289*	*289*	**289**	*289*	*289*
Large-Scale Solar (b)	**408**	**414**	**425**	**430**	**430**	*435*	*437*	*437*	*437*	*437*	*438*	*438*	**430**	*437*	*438*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	**24,216**	*24,543*	*25,195*	*26,211*	*27,229*	*28,400*	*29,738*	*31,151*	**23,211**	*26,211*	*31,151*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	**14,943**	*15,136*	*15,574*	*16,251*	*16,903*	*17,694*	*18,639*	*19,644*	**14,229**	*16,251*	*19,644*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	**7,408**	*7,500*	*7,665*	*7,947*	*8,252*	*8,572*	*8,903*	*9,248*	**7,186**	*7,947*	*9,248*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	**1,865**	*1,907*	*1,956*	*2,013*	*2,073*	*2,134*	*2,196*	*2,259*	**1,796**	*2,013*	*2,259*
Wind	**118**	**118**	**118**	**118**	**123**	*292*	*292*	*292*	*292*	*292*	*292*	*292*	**118**	*292*	*292*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**6.7**	*6.8*	*7.0*	*7.0*	*7.6*	*6.8*	*7.3*	*7.1*	**28.8**	*27.5*	*28.8*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	**3.8**	*3.7*	*3.9*	*3.8*	*3.9*	*3.8*	*3.9*	*3.9*	**15.7**	*15.2*	*15.5*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	**2.9**	*3.1*	*3.1*	*3.1*	*3.7*	*3.0*	*3.4*	*3.2*	**13.0**	*12.3*	*13.3*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	**74.6**	*83.8*	*68.0*	*62.9*	*72.5*	*81.5*	*64.2*	*62.0*	**272.4**	*289.2*	*280.1*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	*3.8*	*4.3*	*3.6*	*3.5*	*3.8*	*4.2*	*3.6*	**15.6**	*15.5*	*15.1*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	**17.0**	*26.0*	*28.2*	*17.9*	*22.1*	*34.5*	*36.9*	*23.3*	**71.5**	*89.1*	*116.9*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**85.7**	*87.8*	*72.0*	*94.2*	*103.3*	*101.6*	*83.7*	*104.2*	**299.8**	*339.7*	*392.9*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	**7.4**	*7.3*	*7.6*	*7.4*	*7.3*	*7.3*	*7.6*	*7.4*	**29.7**	*29.7*	*29.6*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	**6.7**	*6.6*	*6.9*	*6.6*	*6.6*	*6.6*	*6.9*	*6.6*	**26.8**	*26.9*	*26.8*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	**1.3**	*1.3*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.7*	*0.7*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.5**	*12.4*	*12.2*	*8.4*	*9.4*	*14.0*	*14.3*	*9.9*	**35.0**	*41.5*	*47.6*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.1**	*7.5*	*7.5*	*5.1*	*5.7*	*8.6*	*8.8*	*6.1*	**20.9**	*25.2*	*29.2*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	**2.7**	*3.8*	*3.7*	*2.6*	*2.9*	*4.3*	*4.3*	*3.0*	**11.1**	*12.7*	*14.5*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	*1.0*	*1.0*	*0.7*	*0.8*	*1.1*	*1.2*	*0.8*	**3.0**	*3.5*	*3.9*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.5*	*0.7*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**19,048**	*17,627*	*17,617*	*17,885*	*18,532*	*19,108*	*19,455*	*19,682*	**19,073**	*18,044*	*19,194*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,353**	**13,414**	**13,301**	*12,018*	*12,266*	*12,640*	*12,989*	*13,371*	*13,590*	*13,788*	**13,280**	*12,556*	*13,435*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,330**	**3,326**	**3,305**	*2,943*	*2,780*	*2,780*	*2,901*	*3,040*	*3,151*	*3,226*	**3,336**	*2,952*	*3,080*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**67**	**18**	**-34**	*-60*	*-356*	*-433*	*-172*	*23*	*169*	*222*	**68**	*-221*	*61*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,331**	**3,344**	*3,348*	*3,365*	*3,375*	*3,390*	*3,403*	*3,416*	*3,422*	**3,299**	*3,358*	*3,408*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,536**	**2,504**	*2,386*	*2,384*	*2,422*	*2,522*	*2,594*	*2,650*	*2,684*	**2,533**	*2,424*	*2,613*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,514**	**3,437**	**3,358**	*3,030*	*2,824*	*2,923*	*3,119*	*3,353*	*3,565*	*3,721*	**3,487**	*3,034*	*3,439*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,073**	**15,206**	*15,536*	*15,609*	*15,320*	*15,442*	*15,564*	*15,662*	*15,758*	**14,974**	*15,418*	*15,606*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**152.2**	*144.6*	*139.8*	*138.2*	*138.8*	*140.9*	*143.6*	*146.2*	**150.9**	*143.7*	*142.4*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	*8.7*	*10.1*	*10.6*	*10.0*	*8.8*	*7.4*	*6.2*	**3.7**	*8.3*	*8.1*
Housing Starts															
(millions - SAAR)	**1.21**	**1.26**	**1.28**	**1.44**	**1.47**	*0.98*	*0.95*	*1.02*	*1.07*	*1.13*	*1.17*	*1.22*	**1.30**	*1.10*	*1.15*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.4**	*96.2*	*91.2*	*89.5*	*92.5*	*95.8*	*98.0*	*99.4*	**109.5**	*96.1*	*96.4*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**103.9**	*90.0*	*84.7*	*83.1*	*86.5*	*90.4*	*92.9*	*94.6*	**106.0**	*90.4*	*91.1*
Food	**115.1**	**115.3**	**114.6**	**116.0**	**116.8**	*119.3*	*121.0*	*121.2*	*121.3*	*121.4*	*121.6*	*121.8*	**115.3**	*119.6*	*121.5*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.1**	*86.5*	*82.3*	*80.7*	*81.4*	*82.8*	*84.1*	*84.8*	**93.0**	*85.9*	*83.3*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.8**	**105.5**	*102.0*	*92.8*	*91.6*	*94.2*	*97.1*	*98.5*	*99.8*	**105.7**	*98.0*	*97.4*
Chemicals	**101.4**	**99.9**	**100.6**	**100.2**	**99.2**	*97.2*	*97.4*	*98.1*	*99.6*	*101.4*	*102.5*	*103.5*	**100.5**	*98.0*	*101.8*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.1**	**120.5**	*105.4*	*97.9*	*96.4*	*98.1*	*100.2*	*103.6*	*106.9*	**119.4**	*105.0*	*102.2*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.8**	*80.9*	*77.2*	*76.8*	*79.1*	*82.6*	*84.0*	*85.0*	**96.9**	*82.4*	*82.6*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.3**	**106.3**	*94.8*	*90.0*	*88.8*	*91.1*	*94.1*	*96.4*	*98.1*	**106.2**	*95.0*	*94.9*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.5**	**98.3**	*89.5*	*84.9*	*83.9*	*85.6*	*87.8*	*89.7*	*91.1*	**98.3**	*89.1*	*88.6*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**105.0**	*93.8*	*89.9*	*89.3*	*91.8*	*94.8*	*96.7*	*98.2*	**105.8**	*94.5*	*95.4*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**108.0**	*98.4*	*93.9*	*93.3*	*95.7*	*98.8*	*100.6*	*102.1*	**108.1**	*98.4*	*99.3*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	*2.54*	*2.56*	*2.58*	*2.60*	*2.62*	*2.64*	*2.64*	**2.56**	*2.57*	*2.63*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	*1.90*	*1.91*	*1.93*	*1.95*	*1.98*	*1.99*	*1.99*	**2.00**	*1.93*	*1.98*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.96**	**1.96**	**1.74**	*1.04*	*1.20*	*1.26*	*1.31*	*1.53*	*1.60*	*1.61*	**1.95**	*1.31*	*1.51*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.5**	*113.8*	*114.2*	*114.6*	*115.0*	*115.5*	*115.9*	*116.2*	**112.3**	*114.0*	*115.7*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,297**	**9,333**	**9,289**	**8,899**	**7,978**	*6,912*	*8,547*	*8,552*	*8,036*	*9,041*	*9,067*	*8,804*	**8,957**	*8,000*	*8,740*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**707**	**688**	**599**	*494*	*706*	*676*	*679*	*715*	*754*	*743*	**681**	*619*	*723*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**334**	*221*	*374*	*375*	*395*	*436*	*446*	*429*	**410**	*326*	*427*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	*211.6*	*176.3*	*175.5*	*175.9*	*187.5*	*181.1*	*189.3*	**265.4**	*203.6*	*183.4*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	*0.179*	*0.227*	*0.265*	*0.263*	*0.255*	*0.251*	*0.253*	**0.268**	*0.235*	*0.256*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	**553**	*441*	*536*	*558*	*544*	*562*	*582*	*583*	**2,354**	*2,088*	*2,270*
Natural Gas	**507**	**350**	**384**	**448**	**496**	*354*	*365*	*412*	*462*	*341*	*354*	*416*	**1,689**	*1,628*	*1,573*
Coal	**289**	**239**	**307**	**242**	**209**	*181*	*238*	*204*	*226*	*202*	*271*	*218*	**1,076**	*832*	*917*
Total Energy (c)	**1,374**	**1,178**	**1,291**	**1,288**	**1,261**	*979*	*1,142*	*1,177*	*1,235*	*1,107*	*1,210*	*1,220*	**5,130**	*4,559*	*4,771*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,004**	**1,009**	**997**	*919*	*920*	*935*	*969*	*998*	*1,018*	*1,031*	**1,002**	*943*	*1,004*
Middle Atlantic	**2,772**	**2,782**	**2,791**	**2,802**	**2,773**	*2,548*	*2,551*	*2,596*	*2,701*	*2,790*	*2,847*	*2,886*	**2,787**	*2,617*	*2,806*
E. N. Central	**2,528**	**2,535**	**2,545**	**2,557**	**2,530**	*2,337*	*2,338*	*2,377*	*2,452*	*2,526*	*2,568*	*2,592*	**2,541**	*2,395*	*2,535*
W. N. Central	**1,181**	**1,187**	**1,193**	**1,198**	**1,187**	*1,108*	*1,109*	*1,124*	*1,161*	*1,194*	*1,214*	*1,226*	**1,190**	*1,132*	*1,199*
S. Atlantic	**3,353**	**3,367**	**3,383**	**3,403**	**3,376**	*3,130*	*3,128*	*3,178*	*3,300*	*3,406*	*3,472*	*3,515*	**3,376**	*3,203*	*3,423*
E. S. Central	**832**	**835**	**840**	**844**	**836**	*777*	*778*	*790*	*818*	*843*	*857*	*865*	**838**	*795*	*846*
W. S. Central	**2,347**	**2,370**	**2,392**	**2,406**	**2,384**	*2,205*	*2,177*	*2,201*	*2,272*	*2,338*	*2,374*	*2,399*	**2,379**	*2,242*	*2,346*
Mountain	**1,252**	**1,261**	**1,269**	**1,277**	**1,265**	*1,168*	*1,168*	*1,183*	*1,227*	*1,266*	*1,294*	*1,312*	**1,265**	*1,196*	*1,275*
Pacific	**3,700**	**3,719**	**3,739**	**3,761**	**3,733**	*3,467*	*3,478*	*3,534*	*3,666*	*3,780*	*3,846*	*3,891*	**3,730**	*3,553*	*3,796*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.4**	**98.6**	**98.8**	**98.8**	**96.1**	*82.4*	*77.6*	*76.0*	*79.3*	*83.0*	*85.5*	*87.1*	**98.9**	*83.0*	*83.7*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**96.3**	*83.7*	*78.7*	*77.0*	*80.3*	*83.6*	*85.9*	*87.3*	**98.4**	*83.9*	*84.3*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**104.5**	*89.4*	*83.6*	*81.7*	*84.4*	*88.0*	*90.4*	*92.1*	**107.3**	*89.8*	*88.7*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.0**	*89.1*	*84.2*	*82.9*	*86.7*	*90.7*	*93.3*	*95.0*	**105.4**	*89.8*	*91.4*
S. Atlantic	**111.0**	**110.3**	**110.8**	**111.1**	**109.0**	*94.7*	*88.8*	*86.9*	*90.5*	*94.4*	*97.1*	*98.8*	**110.8**	*94.8*	*95.2*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**107.8**	*93.0*	*87.1*	*85.1*	*88.0*	*91.6*	*94.3*	*96.2*	**110.2**	*93.3*	*92.5*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**100.2**	*87.4*	*82.1*	*80.2*	*83.7*	*87.5*	*89.8*	*91.3*	**101.4**	*87.5*	*88.1*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.6**	*100.1*	*94.8*	*93.1*	*97.2*	*101.5*	*104.5*	*106.2*	**116.3**	*100.7*	*102.3*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.7**	*88.8*	*84.3*	*83.1*	*87.0*	*91.1*	*93.8*	*95.4*	**104.4**	*89.7*	*91.8*
Real Personal Income (Billion $2009)															
New England	**904**	**905**	**901**	**904**	**911**	*902*	*903*	*892*	*902*	*914*	*925*	*935*	**903**	*902*	*919*
Middle Atlantic	**2,302**	**2,315**	**2,312**	**2,317**	**2,333**	*2,311*	*2,311*	*2,277*	*2,309*	*2,341*	*2,366*	*2,388*	**2,312**	*2,308*	*2,351*
E. N. Central	**2,428**	**2,432**	**2,442**	**2,454**	**2,467**	*2,470*	*2,466*	*2,420*	*2,437*	*2,465*	*2,491*	*2,516*	**2,439**	*2,456*	*2,477*
W. N. Central	**1,146**	**1,147**	**1,162**	**1,166**	**1,171**	*1,172*	*1,167*	*1,147*	*1,156*	*1,168*	*1,183*	*1,198*	**1,155**	*1,164*	*1,176*
S. Atlantic	**3,214**	**3,231**	**3,241**	**3,256**	**3,287**	*3,319*	*3,315*	*3,244*	*3,274*	*3,313*	*3,355*	*3,396*	**3,235**	*3,291*	*3,334*
E. S. Central	**887**	**890**	**894**	**899**	**907**	*918*	*920*	*898*	*905*	*915*	*923*	*931*	**893**	*911*	*918*
W. S. Central	**1,985**	**1,993**	**2,005**	**2,015**	**2,034**	*2,032*	*2,023*	*1,984*	*2,005*	*2,027*	*2,046*	*2,066*	**1,999**	*2,018*	*2,036*
Mountain	**1,168**	**1,177**	**1,188**	**1,193**	**1,202**	*1,203*	*1,202*	*1,180*	*1,192*	*1,208*	*1,224*	*1,240*	**1,181**	*1,197*	*1,216*
Pacific	**2,807**	**2,834**	**2,828**	**2,842**	**2,865**	*2,848*	*2,848*	*2,807*	*2,843*	*2,883*	*2,921*	*2,956*	**2,828**	*2,842*	*2,901*
Households (Thousands)															
New England	**5,936**	**5,941**	**5,957**	**5,966**	**5,972**	*5,972*	*5,971*	*5,972*	*5,973*	*5,976*	*5,985*	*5,997*	**5,966**	*5,972*	*5,997*
Middle Atlantic	**16,243**	**16,263**	**16,305**	**16,328**	**16,343**	*16,341*	*16,337*	*16,341*	*16,344*	*16,352*	*16,376*	*16,409*	**16,328**	*16,341*	*16,409*
E. N. Central	**19,087**	**19,112**	**19,166**	**19,197**	**19,221**	*19,230*	*19,233*	*19,246*	*19,255*	*19,267*	*19,299*	*19,342*	**19,197**	*19,246*	*19,342*
W. N. Central	**8,688**	**8,708**	**8,740**	**8,760**	**8,776**	*8,782*	*8,787*	*8,797*	*8,803*	*8,813*	*8,833*	*8,857*	**8,760**	*8,797*	*8,857*
S. Atlantic	**25,689**	**25,762**	**25,877**	**25,965**	**26,046**	*26,098*	*26,144*	*26,201*	*26,257*	*26,320*	*26,406*	*26,510*	**25,965**	*26,201*	*26,510*
E. S. Central	**7,651**	**7,663**	**7,689**	**7,706**	**7,720**	*7,726*	*7,730*	*7,739*	*7,745*	*7,754*	*7,772*	*7,794*	**7,706**	*7,739*	*7,794*
W. S. Central	**14,813**	**14,856**	**14,923**	**14,974**	**15,020**	*15,052*	*15,082*	*15,119*	*15,155*	*15,196*	*15,252*	*15,314*	**14,974**	*15,119*	*15,314*
Mountain	**9,404**	**9,448**	**9,506**	**9,551**	**9,593**	*9,624*	*9,652*	*9,683*	*9,712*	*9,742*	*9,781*	*9,825*	**9,551**	*9,683*	*9,825*
Pacific	**18,903**	**18,932**	**18,994**	**19,034**	**19,070**	*19,090*	*19,111*	*19,147*	*19,182*	*19,220*	*19,275*	*19,336*	**19,034**	*19,147*	*19,336*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.6**	*7.2*	*6.9*	*6.9*	*6.9*	*7.0*	*7.1*	*7.3*	**7.5**	*7.1*	*7.1*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.2**	*19.1*	*18.4*	*18.3*	*18.4*	*18.6*	*19.0*	*19.3*	**20.0**	*19.0*	*18.8*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	*21.2*	*20.5*	*20.3*	*20.3*	*20.6*	*21.0*	*21.3*	**22.3**	*21.1*	*20.8*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	*10.4*	*10.1*	*10.0*	*10.0*	*10.1*	*10.3*	*10.4*	**10.8**	*10.3*	*10.2*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	*27.9*	*26.9*	*26.6*	*26.8*	*27.3*	*27.9*	*28.4*	**29.1**	*27.7*	*27.6*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.4**	*8.0*	*7.7*	*7.6*	*7.7*	*7.8*	*7.9*	*8.0*	**8.3**	*7.9*	*7.9*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	*17.2*	*16.5*	*16.3*	*16.3*	*16.6*	*16.8*	*17.1*	**17.8**	*17.0*	*16.7*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	*10.6*	*10.3*	*10.1*	*10.2*	*10.4*	*10.6*	*10.9*	**11.1**	*10.6*	*10.5*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.1**	*22.9*	*22.2*	*21.9*	*22.0*	*22.3*	*22.8*	*23.2*	**23.8**	*22.8*	*22.6*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,226**	**896**	**136**	**2,280**	**2,724**	*893*	*125*	*2,162*	*3,169*	*881*	*129*	*2,162*	**6,537**	*5,904*	*6,341*
Middle Atlantic	**2,987**	**634**	**68**	**2,066**	**2,471**	*715*	*78*	*1,983*	*2,931*	*704*	*77*	*1,983*	**5,755**	*5,247*	*5,695*
E. N. Central	**3,328**	**762**	**65**	**2,279**	**2,788**	*804*	*115*	*2,228*	*3,151*	*732*	*116*	*2,228*	**6,434**	*5,934*	*6,227*
W. N. Central	**3,645**	**772**	**107**	**2,548**	**3,035**	*775*	*152*	*2,407*	*3,237*	*700*	*152*	*2,407*	**7,072**	*6,369*	*6,497*
South Atlantic	**1,334**	**128**	**2**	**918**	**1,105**	*215*	*12*	*951*	*1,378*	*183*	*12*	*950*	**2,382**	*2,283*	*2,523*
E. S. Central	**1,713**	**193**	**1**	**1,273**	**1,484**	*303*	*19*	*1,284*	*1,783*	*231*	*19*	*1,284*	**3,181**	*3,089*	*3,317*
W. S. Central	**1,208**	**90**	**0**	**852**	**973**	*116*	*4*	*763*	*1,103*	*77*	*4*	*763*	**2,151**	*1,856*	*1,947*
Mountain	**2,431**	**786**	**127**	**1,965**	**2,218**	*687*	*137*	*1,798*	*2,186*	*690*	*139*	*1,797*	**5,309**	*4,840*	*4,812*
Pacific	**1,690**	**578**	**96**	**1,184**	**1,538**	*513*	*80*	*1,170*	*1,497*	*578*	*83*	*1,171*	**3,547**	*3,301*	*3,329*
U.S. Average	**2,211**	**481**	**57**	**1,559**	**1,875**	*505*	*69*	*1,506*	*2,094*	*483*	*70*	*1,504*	**4,307**	*3,956*	*4,151*
Heating Degree Days, Prior 10-year Average															
New England	**3,166**	**820**	**111**	**2,122**	**3,152**	*823*	*105*	*2,128*	*3,132*	*848*	*108*	*2,116*	**6,218**	*6,207*	*6,204*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	*644*	*69*	*1,945*	*2,913*	*665*	*71*	*1,927*	**5,623**	*5,606*	*5,576*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	*698*	*102*	*2,197*	*3,157*	*727*	*104*	*2,183*	**6,203**	*6,195*	*6,170*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	*702*	*131*	*2,379*	*3,247*	*726*	*131*	*2,377*	**6,477**	*6,500*	*6,480*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	*169*	*10*	*951*	*1,393*	*177*	*10*	*922*	**2,631**	*2,589*	*2,501*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,850**	*214*	*15*	*1,277*	*1,772*	*228*	*16*	*1,255*	**3,392**	*3,356*	*3,270*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	*83*	*3*	*794*	*1,140*	*87*	*3*	*789*	**2,079**	*2,079*	*2,019*
Mountain	**2,164**	**714**	**139**	**1,856**	**2,193**	*718*	*135*	*1,844*	*2,182*	*703*	*135*	*1,846*	**4,873**	*4,890*	*4,866*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	*580*	*85*	*1,162*	*1,462*	*551*	*82*	*1,156*	**3,283**	*3,284*	*3,251*
U.S. Average	**2,151**	**475**	**68**	**1,518**	**2,149**	*472*	*64*	*1,509*	*2,108*	*478*	*64*	*1,493*	**4,212**	*4,194*	*4,144*
Cooling Degree Days															
New England	**0**	**67**	**465**	**0**	**0**	*98*	*427*	*1*	*0*	*80*	*405*	*1*	**532**	*527*	*487*
Middle Atlantic	**0**	**145**	**629**	**8**	**0**	*168*	*553*	*4*	*0*	*150*	*540*	*4*	**782**	*725*	*695*
E. N. Central	**0**	**175**	**649**	**6**	**2**	*213*	*541*	*7*	*0*	*217*	*542*	*7*	**830**	*764*	*767*
W. N. Central	**0**	**223**	**728**	**2**	**6**	*254*	*670*	*11*	*3*	*266*	*675*	*11*	**954**	*941*	*955*
South Atlantic	**152**	**756**	**1,297**	**308**	**198**	*697*	*1,173*	*235*	*128*	*674*	*1,180*	*235*	**2,513**	*2,302*	*2,217*
E. S. Central	**28**	**548**	**1,215**	**87**	**72**	*490*	*1,047*	*68*	*30*	*539*	*1,063*	*68*	**1,878**	*1,677*	*1,699*
W. S. Central	**73**	**821**	**1,695**	**169**	**174**	*905*	*1,517*	*211*	*97*	*888*	*1,522*	*211*	**2,757**	*2,807*	*2,718*
Mountain	**10**	**342**	**985**	**60**	**9**	*439*	*949*	*79*	*19*	*426*	*941*	*79*	**1,396**	*1,476*	*1,465*
Pacific	**21**	**166**	**588**	**68**	**24**	*178*	*598*	*59*	*27*	*168*	*587*	*59*	**842**	*860*	*842*
U.S. Average	**45**	**399**	**952**	**105**	**71**	*416*	*864*	*96*	*46*	*409*	*864*	*96*	**1,501**	*1,447*	*1,415*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	*83*	*470*	*1*	*0*	*80*	*462*	*1*	**536**	*554*	*543*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	*170*	*609*	*6*	*0*	*164*	*597*	*6*	**760**	*785*	*767*
E. N. Central	**3**	**242**	**548**	**7**	**3**	*240*	*578*	*8*	*3*	*234*	*565*	*7*	**799**	*829*	*809*
W. N. Central	**7**	**298**	**669**	**11**	**7**	*296*	*697*	*11*	*7*	*290*	*687*	*11*	**985**	*1,011*	*995*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	*696*	*1,202*	*247*	*143*	*688*	*1,190*	*254*	**2,224**	*2,272*	*2,275*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	*557*	*1,082*	*72*	*42*	*538*	*1,063*	*73*	**1,706**	*1,746*	*1,716*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	*892*	*1,576*	*207*	*114*	*887*	*1,569*	*210*	**2,758**	*2,775*	*2,780*
Mountain	**25**	**438**	**932**	**81**	**24**	*432*	*939*	*81*	*24*	*442*	*940*	*82*	**1,476**	*1,476*	*1,488*
Pacific	**31**	**185**	**631**	**76**	**31**	*185*	*624*	*78*	*31*	*191*	*636*	*79*	**923**	*918*	*936*
U.S. Average	**46**	**417**	**873**	**97**	**47**	*420*	*892*	*100*	*52*	*417*	*887*	*102*	**1,433**	*1,459*	*1,458*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

June 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- Although revisions to EIA's forecasts in the June STEO are generally smaller than they have been in recent months, this forecast remains subject to heightened levels of uncertainty because mitigation and reopening efforts related to the 2019 novel coronavirus disease (COVID-19) continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy supply and demand patterns in 2020, particularly for petroleum and other liquid fuels. Uncertainties persist across EIA's outlook for other energy sources, including natural gas, electricity, coal, and renewables.

- Daily Brent crude oil spot prices averaged $29 per barrel (b) in May, up $11/b from the average in April. Oil prices rose in May as initial data show global oil demand was higher than EIA had forecast and as adherence to announced production cuts by Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) was high. EIA expects monthly Brent prices will average $37/b during the second half of 2020 and rise to an average of $48/b in 2021. The forecast of rising crude oil prices reflects expected declines in global oil inventories during the second half of 2020 and through 2021. EIA expects high inventory levels and spare crude oil production capacity will limit upward price pressures in the coming months, but as inventories decline into 2021, those upward price pressures will increase.

- EIA forecasts that demand for global petroleum and liquid fuels will average 83.8 million barrels per day (b/d) in the second quarter of 2020, 16.6 million b/d lower than at the same time last year. Lower demand is the result of COVID-19-related shutdowns throughout much of the world. As stay-at-home orders are eased, EIA expects liquid fuels consumption will rise to an average of 94.9 million b/d in the third quarter (down 6.7 million b/d year over year). EIA forecasts that consumption of petroleum and liquid fuels globally will average 92.5 million b/d for all of 2020, down 8.3 million b/d from 2019, before increasing by 7.2 million b/d in 2021.

- EIA expects the supply of liquid fuels globally will average 92.6 million b/d in the second quarter of 2020, down 7.9 million b/d year over year. The declines reflect voluntary supply cuts by OPEC+ and reductions in drilling activity in the United States because of low oil prices. Supply of oil fell by less than demand in the second

quarter, and EIA expects supply to be slower to increase. In the forecast, the global supply of oil declines to 92.0 million b/d in the third quarter before rising to an annual average of 97.4 million b/d in 2021. EIA expects OPEC to drive supply growth in 2021.

- EIA expects that global liquid fuels inventories will grow by an average of 2.2 million b/d in 2020. EIA estimates inventories rose from January through May at an average rate of 9.4 million b/d. The builds, which peaked during April, were the result of a sharp decline in global oil demand because of widespread travel limitations and reduced economic activity. EIA estimates that global oil inventories at the end of May stood 1.4 billion barrels higher than they were at the end of 2019. However, EIA now expects global oil inventories will begin declining in June, a month earlier than previously forecast, with draws continuing through the end of 2021. The sooner-than-expected draws are the result of sharper declines in global oil production during June and higher global oil demand than previously expected. EIA expects global liquid fuels inventories will fall at an average rate of 2.5 million b/d from June 2020 through the end of 2021.

- EIA forecasts U.S. liquid fuels consumption will average 15.7 million b/d in the second quarter of 2020, down 4.6 million b/d (23%) from the same period in 2019. The decline reflects travel restrictions and reduced economic activity related to COVID-19 mitigation efforts. EIA expects the largest declines in U.S. oil consumption have already occurred and demand will generally rise during the next 18 months. EIA forecasts U.S. liquid fuels consumption will average 18.4 million b/d in the third quarter of 2020 (down 2.3 million b/d year-over-year) before rising to an average of 19.5 million b/d in 2021. Although that level would be 1.4 million b/d more than EIA's forecast 2020 consumption, it would be 1.0 million b/d less than the 2019 average.

- Declines in U.S. liquid fuels consumption vary across products. EIA expects jet fuel consumption to fall by 64% year-over-year in the second quarter of 2020, while gasoline consumption falls by 26% and distillate consumption falls by 17%. EIA forecasts the consumption of all three fuels to rise in the third quarter and into 2021 but to remain lower than 2019 levels.

- EIA estimates U.S. crude oil production fell from a record 12.9 million b/d in November 2019 to 11.4 million b/d in May 2020 as Baker Hughes reported the fewest active drilling wells in the United States in their records which go back to 1987. EIA expects U.S. crude oil production will continue to decline, to 10.6 million b/d in March 2021, then increase slightly through the end of 2021. EIA forecasts that U.S. crude oil production will average 11.6 million b/d in 2020, down 0.7 million b/d from 2019. In 2021, EIA expects U.S. crude oil production will average 10.8 million b/d. This 2020 production decline would mark the first annual decline since 2016. Typically, price changes affect production after about a six-month lag.

However, current market conditions have shortened this lag as many producers have already curtailed production and reduced capital spending and drilling in response to lower prices.

Natural Gas

- In May, the Henry Hub natural gas spot price averaged $1.75 per million British thermal units (MMBtu). EIA forecasts that relatively low natural gas demand will keep spot prices lower than $2/MMBtu through August. However, EIA expects prices will generally rise through the end of 2021. EIA expects that natural gas price increases will be sharpest this fall and winter when they rise from an average of $2.06/MMBtu in September to $3.08/MMBtu in January. Despite EIA's forecast of record end-of-October storage levels, EIA expects that rising demand heading into winter, combined with reduced production, will cause upward price pressures. EIA forecasts that Henry Hub natural gas spot prices will average $2.04/MMBtu in 2020 and $3.08/MMBtu in 2021.

- EIA expects that total U.S. consumption of natural gas will average 81.9 billion cubic feet per day (Bcf/d) in 2020, down 3.6% from 2019. The decline primarily reflects less consumption in the industrial-sector, which EIA forecasts will average 21.0 Bcf/d in 2020, down 8.7% from 2019 as a result of reduced manufacturing activity.

- U.S. dry natural gas production set an annual record in 2019, averaging 92.2 Bcf/d. EIA forecasts dry natural gas production will average 89.7 Bcf/d in 2020, with monthly production falling from 96.2 Bcf/d in November 2019 to 83.6 Bcf/d in March 2021, before increasing slightly. Natural gas production declines the most in the Appalachian and Permian regions. In the Appalachian region, low natural gas prices are discouraging producers from engaging in natural gas-directed drilling, and in the Permian region, low crude oil prices reduce associated natural gas output from oil-directed wells. In 2021, EIA's forecast production of dry natural gas in the United States averages 85.4 Bcf/d. EIA expects production to begin rising in the second quarter of 2021 in response to higher prices.

- EIA estimates that total U.S. working natural gas in storage ended May at almost 2.8 trillion cubic feet (Tcf), 18% more than the five-year (2015–19) average. In the forecast, inventories rise by 2.1 Tcf during the April-through-October injection season to reach more than 4.1 Tcf on October 31, which would be a record.

- EIA forecasts that U.S. liquefied natural gas exports will average 5.6 Bcf/d in the second quarter of 2020 and 3.7 Bcf/d in the third quarter of 2020. EIA expects that U.S. liquefied natural gas exports will decline through the end of the summer as a result of reduced global demand for natural gas.

Electricity, coal, renewables, and emissions

- EIA forecasts 5.7% less electricity consumption in the United States in 2020, compared with 2019. The largest decline by consumption sector on a percentage basis occurs in the commercial sector, where EIA expects retail sales of electricity to fall by 9.1% this year. Forecast industrial retail electricity sales fall by 6.7%. EIA forecasts residential sector retail sales will decrease by 1.5% in 2020. Milder expected temperatures compared with 2019 reduce EIA's forecast of electricity consumption for space heating and cooling, but that effect is partly offset by an assumed increase in electricity use by more people who are working from home. In 2021, EIA forecasts total U.S. electricity consumption will rise by 1.0%.

- EIA expects the share of U.S. utility-scale electricity generation from natural gas-fired power plants will increase from 37% in 2019 to 41% this year. In 2021, the forecast natural gas share declines to 36% in response to higher natural gas prices. Coal's forecast share of electricity generation falls from 24% in 2019 to 17% in 2020 and then increases to 20% in 2021. Electricity generation from renewable energy sources rise from 17% in 2019 to 21% in 2020 and to 23% in 2021. The increase in the share from renewables is the result of expected additions to wind and solar generating capacity. Expected nuclear generation declines slightly in both 2020 and 2021, but its generation share rises from 20% in 2019 to an average of 22% in 2020 and 21% in 2021 because total U.S. generation falls by more than nuclear generation.

- EIA forecasts that renewable energy will be the fastest-growing source of electricity generation in 2020. EIA expects the electric power sector will add 23.2 gigawatts of new wind capacity and 12.6 gigawatts of utility-scale solar capacity in 2020. However, these future capacity additions are subject to a high degree of uncertainty, and EIA continues to monitor reported planned capacity builds.

- EIA expects coal production will decrease by 25% to 530 million short tons (MMst) in 2020. Metallurgical coal mines in Appalachia have slowed production based on reduced demand from global steel production and coking coal, and EIA forecasts production in that region will decline by 35% this year. EIA forecasts Western region production to decline by 25%, partly because of slowing demand for steam coal from key importers such as India and a decline in U.S. coal-fired generation in 2020. In 2021, EIA forecasts coal production will rise to 549 MMst because of forecast rising natural gas prices and rising demand for U.S. exports.

- After decreasing by 2.8% in 2019, EIA forecasts that U.S. energy-related carbon dioxide (CO2) emissions will decrease by 14% (714 million metric tons) in 2020. This record decline is the result of less energy consumption related to restrictions on business and travel activity and slowing economic growth related to COVID-19 mitigation efforts. CO2 emissions decline with reduced consumption of all fossil

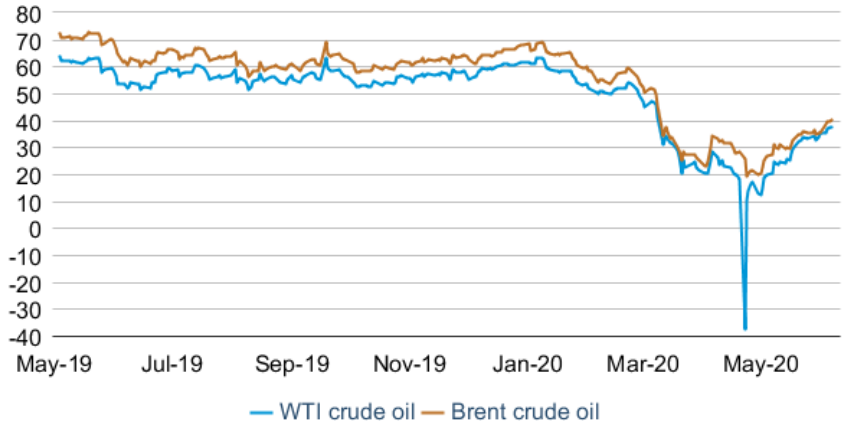
fuels, particularly coal (33%) and petroleum (13%). In 2021, EIA forecasts that energy-related CO2 emissions will increase by 5%, as the economy recovers and stay-at-home orders are lifted, for a net decrease in energy-related CO2 emissions of 9% for 2020 and 2021 combined. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $39.99 per barrel (b) on June 4, 2020, an increase of $13.55/b from May 1, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $17.63/b during the same period, settling at $37.41/b on June 4 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

The average daily settlement price for Brent front-month futures contracts increased by 22% from April to May, the largest percentage increase for any month since March 1999. However, even with this increase, prices remain significantly lower than the first-quarter 2020 average. Several factors likely provided support to crude oil prices. Initial oil consumption data and additional efforts by major oil producers indicate that the oversupply in global oil markets has not been as severe as EIA had forecast in the May STEO. As U.S. states and countries in the Organization of Economic Cooperation and Development (OECD) began to reopen from lockdown, early indicators of petroleum consumption have shown increases from the low April levels. EIA estimates that the global consumption of petroleum and other liquid fuels averaged 82.9 million barrels per day (b/d) in May, up 3.7 million b/d from April consumption and 2.9 million b/d more than forecast in the May STEO.

In addition, global oil production has been declining as a result of voluntary production cuts from members of the Organization of the Petroleum Exporting Countries and partner countries

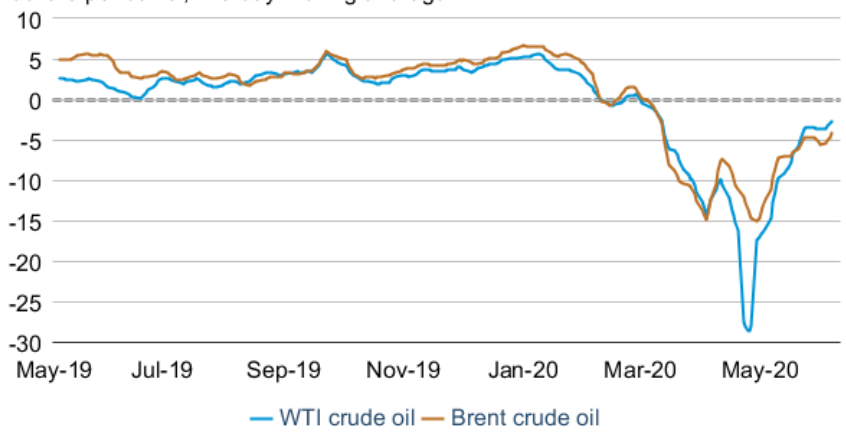
(OPEC+), as well as from rapid declines in tight oil production in the United States. EIA's estimate of global liquid fuels supply in May is 0.5 million b/d lower than forecast in last month's STEO. In addition to OPEC+'s initial production cuts—totaling 9.7 million b/d—Saudi Arabia, Kuwait, and the United Arab Emirates announced additional reductions of approximately 1.2 million b/d for June 2020 beyond their initial commitments. Partly based on these cuts, EIA has revised down the forecast for supply of petroleum liquids globally during June by 2.2 million b/d compared with last month's forecast.

EIA completed this forecast before OPEC+ announced on June 6 that it would extend production cuts from May and June through July. Leading up to this decision, talks of extended production management contributed to higher crude oil prices. This STEO does not reflect an extension of the May and June cuts.

Taken together, the faster recovery of global oil demand and steeper declines in global oil production are bringing markets closer to balance sooner than EIA forecast in the May STEO. EIA forecasts global petroleum inventory withdrawals in June 2020, averaging 1.9 million b/d, compared with a 1.6 million b/d inventory build EIA had forecast in the May STEO. EIA forecasts global inventory withdrawals will average 3.0 million b/d for the second half of 2020.

The Brent and WTI futures curves have returned to shapes similar to those observed in early March, before many countries entered lockdown and before the OPEC+ production agreement. From May 1 to June 4, the five-day moving average of the Brent 1st–13th spreads increased by $8.19/b to settle at -$4.27/b and WTI 1st–13th spreads increased by $13.17/b to settle at -$2.79/b, respectively **(Figure 2)**. The structure of the futures curve remains in contango (when near-term prices are lower than longer-dated ones), reflecting high levels of oil inventories but also suggesting that storing oil on vessels may no longer be necessary to balance the markets.

Figure 2. Crude oil front-month to 13th month futures price spread



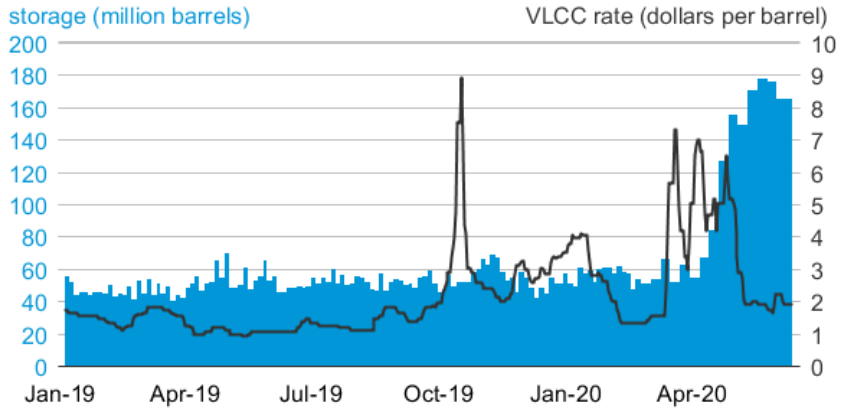
Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

***Floating crude oil stocks*:** According to energy analytics company Vortexa, global stocks of crude oil stored in waterborne tankers reached 181 million barrels in May 2020, the most since

data collection began in January 2016 **(Figure 3)**. Storing crude oil in tankers is more expensive than storing it onshore, and floating storage is typically only used as a last resort because tanker owners must be compensated for both the operational costs of their vessels and the revenues they would have otherwise collected from delivering crude oil. The rapid increase of relatively expensive floating storage volumes is further evidence of the magnitude and speed of the global liquid fuels stock builds in the first half of 2020, which EIA estimates peaked in April at 21.5 million b/d.

Floating storage volumes have already begun declining as global supply and demand balances return to equilibrium. After reaching 181 million barrels in the week of May 15, floating volumes fell to 178 million barrels on May 22 and 164 million barrels on May 29. Tanker rates have also declined, which is often a leading indicator of floating storage volumes because charter rates are set in advance of physical loading. Although tanker rates rose in March and remained elevated throughout most of April, rates declined sharply in late April. The benchmark rate to ship crude oil on the Arabian Gulf to Japan route aboard a Very Large Crude Carrier (VLCC) declined from $6.48/b on April 22 to $1.97/b on June 4.

Figure 3. Floating crude oil storage

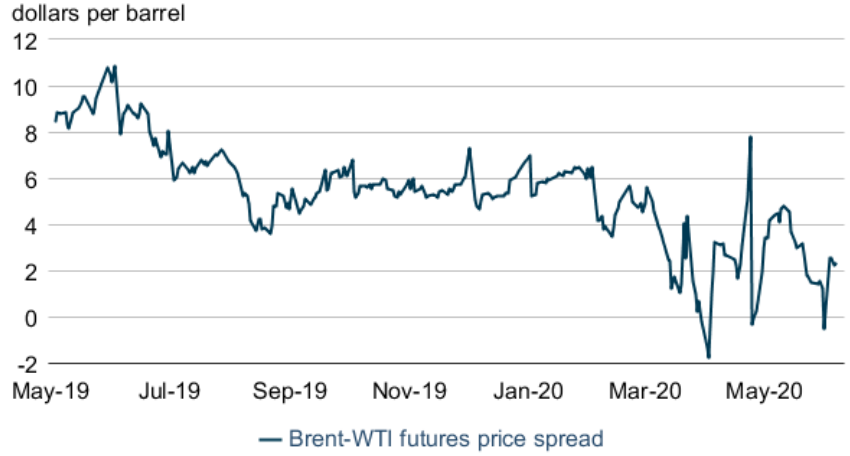


eia Source: Vortexa, as compiled by Bloomberg, L.P.
Note: VLCC=very large crude carrier

Brent–WTI spread: Rapid declines in U.S. crude oil production could be contributing to a narrowing of the Brent–WTI futures price spread. The Brent–WTI spread decreased by $1.88/b since May 1, 2020, settling at $2.27/b on June 4 **(Figure 4)**. The Brent–WTI spread (calculated as front-month Brent crude oil futures prices minus second-month WTI prices, which compares crude oils by aligned delivery date) generally reflects the cost of exporting U.S. crude oil to Asia relative to the cost of exporting North Sea crude oil to Asia. This spread regularly traded lower than $2/b in 2016, another year in which U.S. crude oil production declined. This year, the rapid decline in U.S. crude oil production is reducing the supply of exportable crude oil and could be increasing the relative value of U.S. crude oil compared with other waterborne crude oils such as Brent, particularly now that European and Asian refiners have begun increasing crude oil runs. In addition, crude oil production from the North Sea is generally less price responsive than onshore

U.S. crude oil production, keeping Brent-linked crude oil production comparatively elevated. EIA estimates that, of the 4.5 million b/d decline in total non-OPEC liquids production from April to May, 1.0 million b/d of the decline was from United States crude oil production. EIA forecasts further declines in U.S. crude oil production through March 2021, when it will average 10.6 million b/d, a decline of 2.2 million b/d from its November 2019 peak.

Figure 4. Brent-WTI futures price spread

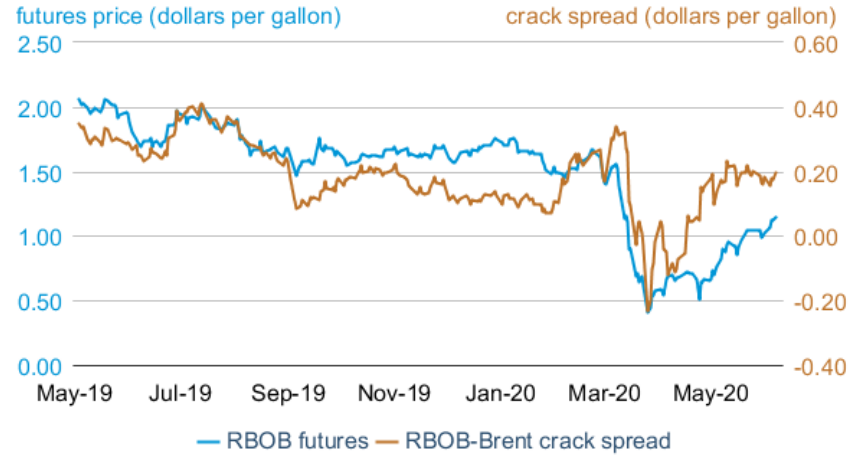


Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.15 per gallon (gal) on June 4, up 38 cents/gal from May 1, 2020 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 6 cents/gal to settle at 20 cents/gal during the same period. In May, crack spreads ranged from a minimum of 14 cents/gal, a record-low crack spread for that month since 2006 (when RBOB contracts began selling), to a maximum of 23 cents/gal.

Figure 5. Historical RBOB front-month futures prices and crack spread

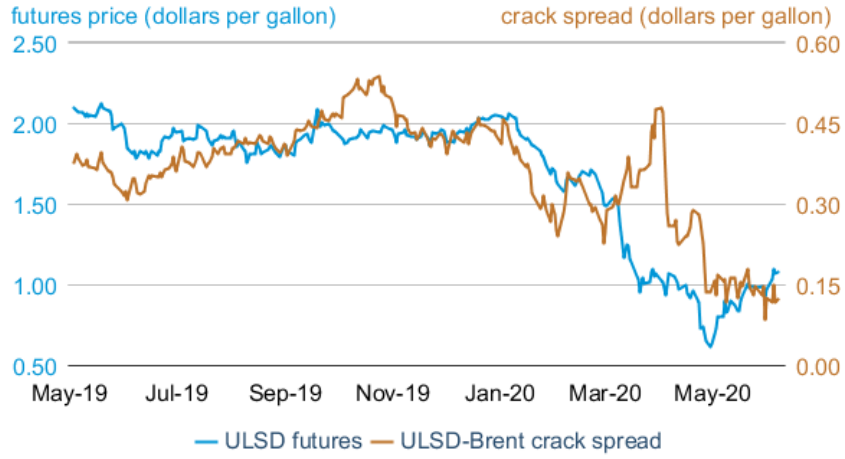


Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending

May marked the first time the crack spread was positive for each trading day of a month since February, the last complete month before the March 13 proclamation of a national state of emergency in the United States. Increasing gasoline demand and relaxed lockdowns related to COVID-19 mitigation efforts provided some strength to the crack spread. EIA estimates that the consumption of finished motor gasoline increased to 7.3 million b/d in May from 5.7 million b/d in April. Personal travel numbers matched the trend of motor gasoline consumption. According to INRIX, compared with the last pre-lockdown week ending February 29, weekly personal travel was down 16% on May 29—compared with 47% on April 3. This increase in consumption, along with reduced refinery runs, contributed to gasoline inventories decreasing from record high levels in mid-April to an estimated 256 million barrels at the end of May. Increased net imports of gasoline partly offset the effect of rising consumption on gasoline inventories. EIA estimates a 0.7 million b/d increase in month-over-month net imports to 0.3 million b/d.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at $1.07/gal on June 4, 2020, up 28 cents/gal from May 1, 2020 **(Figure 6)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 4 cents/gal to settle at 12 cents/gal during the same period. The average ULSD–Brent crack spread for May at 14 cents/gal was less than the five-year (2015–19) average of 34 cents/gal.

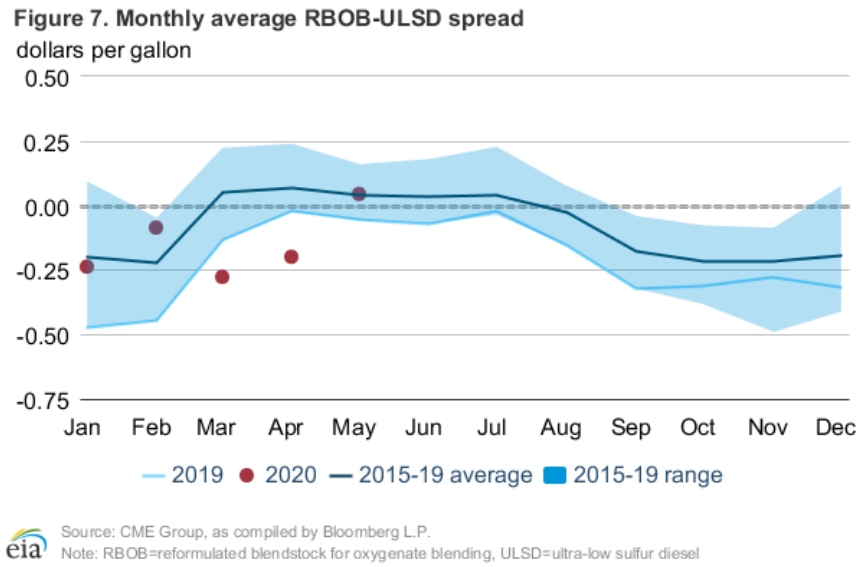
Figure 6. Historical ULSD front-month futures price and crack spread



Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

EIA estimates May 2020 distillate consumption was 3.4 million b/d, down 0.7 million b/d (17%) from May 2019, but up 0.3 million b/d (11%) from April 2020. This increase can partially be explained by the increase in long-haul trucking as economic activity begins to recover. According to INRIX, which compared traffic data for the week ending May 22 with that of the week ending February 29, trucking was down 5% from pre-lockdown levels. Meanwhile, if confirmed by EIA's *Petroleum Supply Monthly*, distillate imports for the four weeks ending May 29 increased to their highest May levels since 2007, and exports decreased to their lowest May levels since 2011. Overall, net exports of distillate in May were 0.8 million b/d, down 0.6 million b/d from April. This decrease likely contributed to the increase in inventories, with distillate inventories rising to 174 million barrels at the end of May, 44 million barrels more than in May 2019 and the highest May-ending level since 1980.

RBOB–ULSD product spread: RBOB front-month futures averaged 4 cents/gal more than ULSD front-month futures in May 2020 after averaging 20 cents/gal less in April **(Figure 7)**. Although a positive spread has historically occurred during the summer months, the monthly average RBOB–ULSD front-month futures spread has not been positive since March 2018.



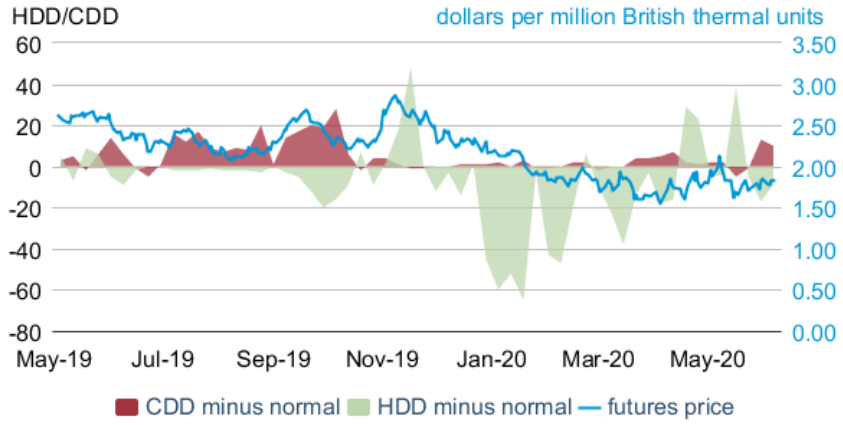
The reversion to the five-year average, after two consecutive months of being lower than it had been in the past five years, indicates a shift in the relative strength of gasoline markets compared with diesel markets. Although diesel demand decreased less than gasoline demand during the initial stages of COVID-19-related restrictions, gasoline demand has recently begun to increase more than diesel. This shift back toward gasoline demand is also reflected by refinery yields.

April refinery yields were unusual because the initial drop in distillate consumption relative to gasoline consumption was small, which supported distillate refining margins that encouraged refineries to increase distillate production. May refinery gasoline yields reverted back to levels similar to historical yields as the recent shift toward gasoline demand has supported increased gasoline production. EIA estimates that the May refinery gasoline yield increased to 46% compared with 40% in April, while the refinery distillate yield decreased to 36%, compared with 39% a month ago. Retail prices have reflected the same trend as front-month futures prices. Regular gasoline retail prices have increased every week in May, but regular diesel retail prices decreased every week until May 25.

Natural Gas

Prices: The front-month natural gas futures contract at the Henry Hub settled at $1.82 per million British thermal units (MMBtu) on June 4, down 7 cents/MMBtu compared with May 1 **(Figure 8)**.

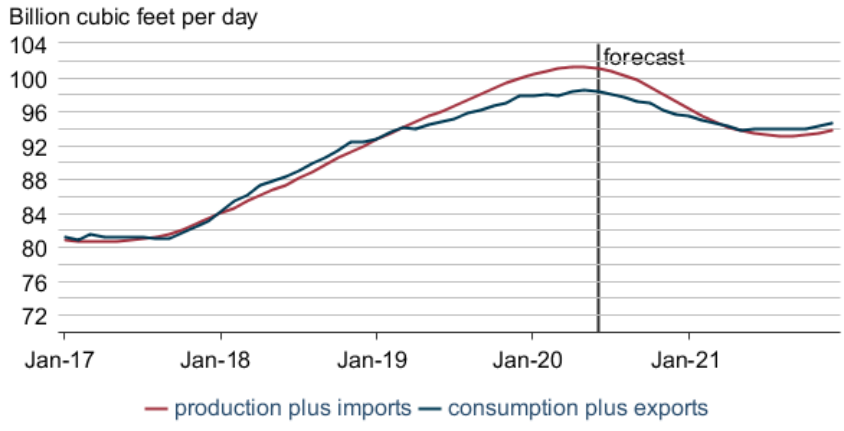
Figure 8. Natural gas front-month futures prices and actual minus historical average HDD and CDD



Source: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD stands for heating degree days, CDD stands for cooling degree days

EIA estimates that total U.S. natural gas consumption in May 2020 was slightly higher than in May 2019 because of more residential and electric power sector natural gas consumption relative to the same time in 2019. These increases were partly offset by year-over-year decreases in industrial natural gas consumption, which likely occurred because of a slowdown in economic activity related to COVID-19 mitigation efforts. EIA forecasts that both production (including imports) and consumption (including exports) will begin to decline from the middle of 2020 to the end of 2021 and that this version of consumption will exceed production by the end of 2021 **(seen as a 12-month moving average in Figure 9)**. The more rapid decline in production plus imports is expected to provide support for natural gas prices. EIA forecasts that Henry Hub natural gas spot prices will increase for the rest of 2020 and will average $3.08 /MMBtu in 2021, which is higher than the $2.04/MMBtu average for 2020.

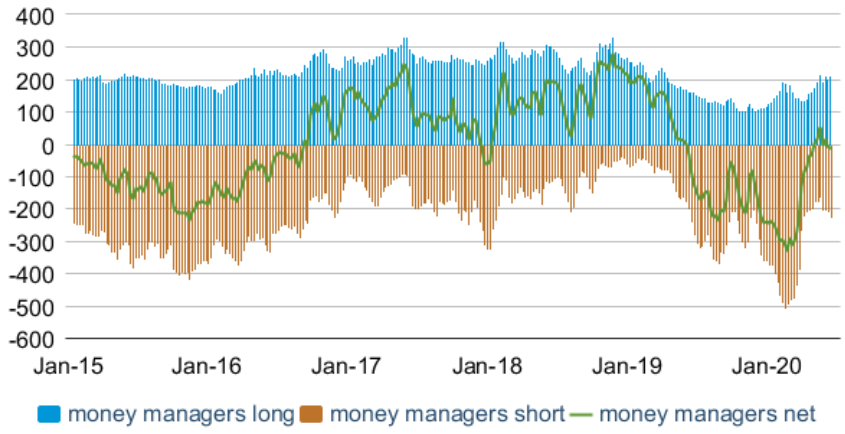
Figure 9. Natural gas production plus imports and consumption plus exports, 12-month moving average



Source: U.S. Energy Information Administration

Money managers open interest: The net positions taken by money managers in natural gas futures markets reveal these traders' expectations regarding future movements in contract prices for this market participant category. A short position—selling a futures contract—typically indicates expected price declines because the trader would profit from a decline in prices. Meanwhile, a long position—buying a futures contract—typically indicates expected price increases because a trader would profit from the higher price in the future. On February 4, 2020, following a very mild winter, money managers had accumulated the largest net short position in the history of the Commodity Futures Trading Commission's (CFTC) weekly report on the commitments of traders. Over the course of April and May 2020, net positions reversed from net short to a marginal net long **(Figure 10)**. The movement was fueled primarily by reduced gross short positions, and the relatively even split between gross short and gross long positions indicates the likely heightened uncertainty in futures markets at the present time.

Figure 10. Money managers open interest in natural gas futures contracts



eia Source: Commodity Futures Trading Commission, as compiled by Bloomberg, L.P.

Notable forecast changes

- Because of the rapidly changing situation in energy markets, EIA's current forecast includes a significant number of notable forecast changes. You can find more information in the detailed table of forecast changes.

- EIA used the May 2020 IHS Markit macroeconomic forecast in this STEO. Using this forecast, EIA assumes U.S. gross domestic product (GDP) will decline by 7.4% in 2020, compared with a decline of 5.4% in the May STEO. In addition, the IHS forecast used in the June STEO includes average non-farm employment of 130.6 million for 2020 and 136.0 for 2021, down by 13.0 million jobs and 6.3 million jobs, respectively, from the May STEO.

- The Brent crude oil spot price forecast for 2020 in this month's STEO is $38 per barrel (b), up from a forecast of $34/b last month. The higher Brent crude oil price forecast reflects

increases in crude oil prices during May from their multiyear low levels in April. The higher prices were driven by a combination of announced OPEC+ cuts to oil production, declining U.S. crude oil production, and rising oil demand related to relaxed COVID-19 stay-at-home orders.

- In the June STEO, EIA forecasts U.S. crude oil production to average 11.6 million b/d in 2020 and 10.8 million b/d in 2021. Both forecasts are about 0.1 million b/d lower than in the May STEO. Lower drilling activity offsets the effect of higher forecast crude oil prices, resulting in the lower forecast production. Drilling activity during May fell by more than EIA expected, lowering the starting point for active drilling rigs in the forecast.

- EIA expects U.S. gasoline consumption to average 8.1 million b/d in 2020 and 8.7 million b/d in 2021. These forecasts are 0.2 million b/d and 0.1 million b/d lower, respectively, than forecast in the May STEO and reflect lower assumed employment levels compared with last month.

- Overall U.S. petroleum and other liquids consumption in this forecast averages 18.1 million b/d in 2020 (0.2 million b/d lower than in the May STEO) and 19.5 million b/d in 2021 (0.3 million b/d lower than in the May STEO). The lower forecast is the result of both less gasoline consumption and less distillate and jet fuel consumption, which results from a lower assumed GDP.

- EIA forecasts industrial natural gas consumption to decline 8.7% in 2020 in the June STEO. This change compares with a forecast 7.1% decline in the May STEO. The downward revision in industrial natural gas consumption is primarily driven by lower levels of assumed economic activity in this forecast, with the natural gas-weighted manufacturing index declining by 11% in 2020 in the June STEO compared with a 9% decline in the May STEO.

- EIA forecasts that U.S. liquefied natural gas exports will average 3.7 Bcf/d in the third quarter of 2020, down by 1.2 Bcf/d from the May STEO, based on lower global demand for natural gas.

- EIA lowered its forecast for Henry Hub natural gas spot prices for the rest of 2020, while raising the price forecast for 2021. EIA forecast prices to average $2.26/MMBtu for the second half of 2020, down 15 cents/MMBtu from the May STEO. The lower forecast is the result of lower-than-expected natural gas consumption (including exports) during this period. For 2021, EIA expects Henry Hub prices to average $3.08/MMBtu, up 19 cents/MMBtu from the May STEO. With lower production in 2020 because of lower prices, EIA expects prices will move higher to encourage more production to balance the market in 2021.

- EIA forecasts that total U.S. retail sales electricity in 2020 will decline by 5.5% relative to 2019 in the current STEO, compared with a forecast decline of 4.5% in the previous STEO. Most of the decline is attributable to the updated macroeconomic projections, which assume a larger decline in the GDP than previously expected. EIA continues to assume that

social distancing guidelines will magnify the economic-related decline in retail sales of electricity to the commercial sector. EIA believes that the forecast decline in industrial electricity sales this year is fully captured by the assumed decline in overall manufacturing activity. An assumption about increased use by households of electricity for electronics, appliances, and other devices is reflected in EIA's forecast for residential retail electricity sales, as in the previous STEO.

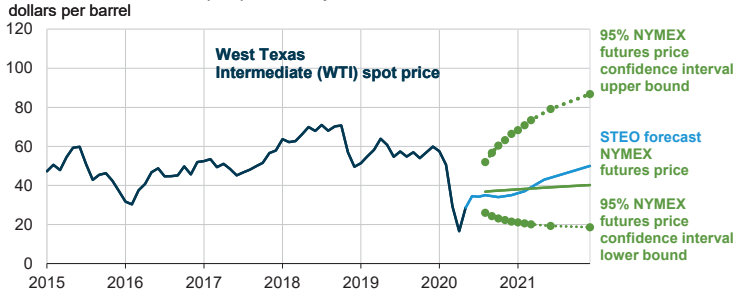
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Short-Term Energy Outlook
Chart Gallery

June 9, 2020

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

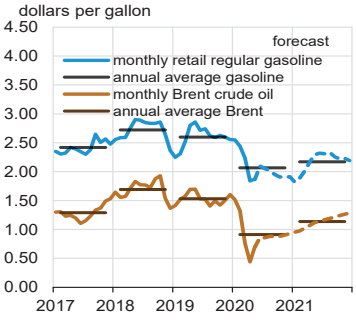


Note: Confidence interval derived from options market information for the five trading days ending Jun 4, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, June 2020, CME Group, and Bloomberg, L.P.

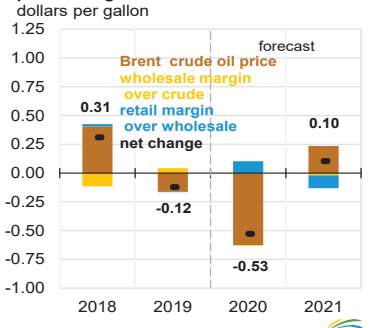
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U.S. gasoline and crude oil prices
dollars per gallon



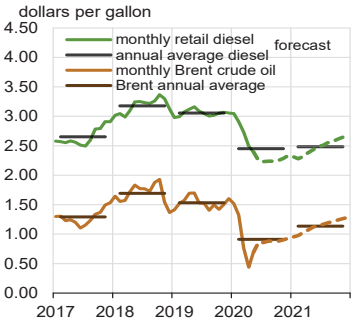
Source: Short-Term Energy Outlook, June 2020

Components of annual gasoline price changes
dollars per gallon



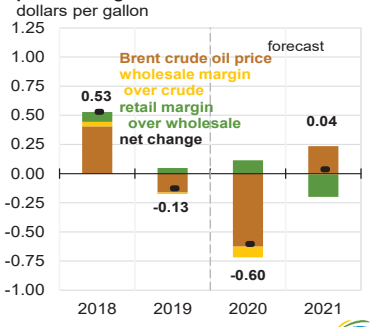
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U.S. diesel and crude oil prices

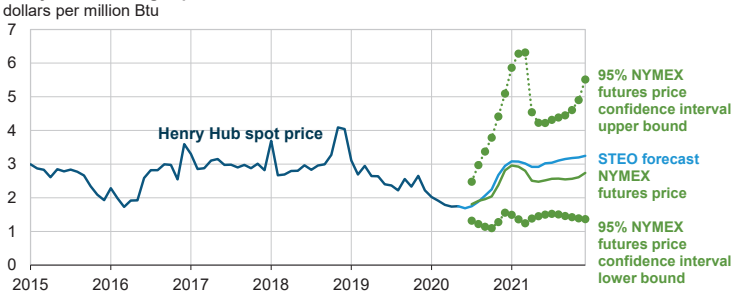


Source: Short-Term Energy Outlook, June 2020

Components of annual diesel prices changes



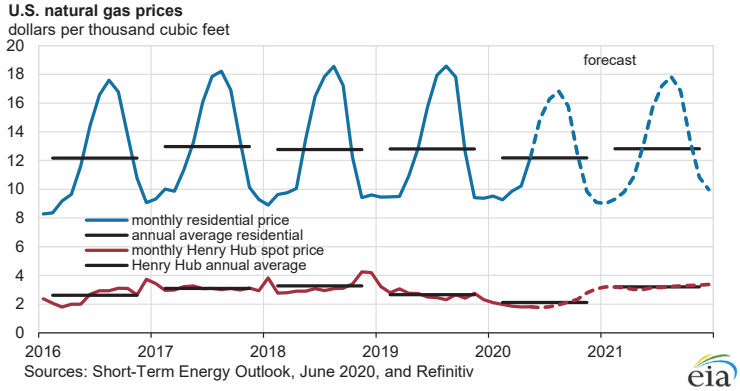
Henry Hub natural gas price and NYMEX confidence intervals



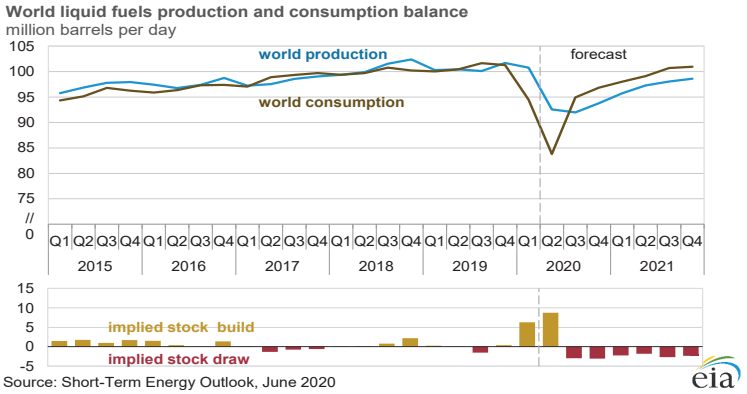
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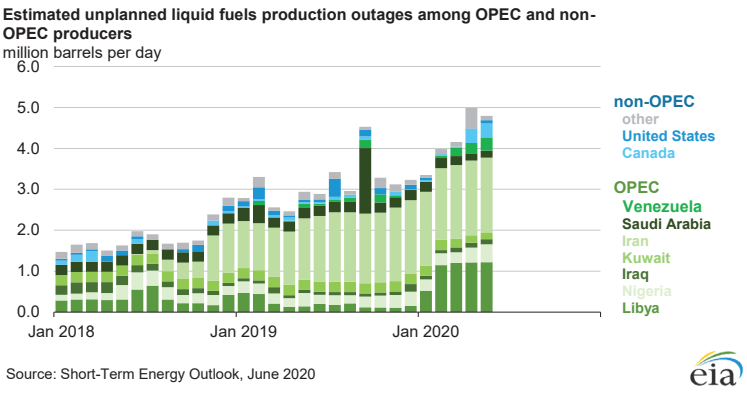
Sources: Short-Term Energy Outlook, June 2020, and CME Group

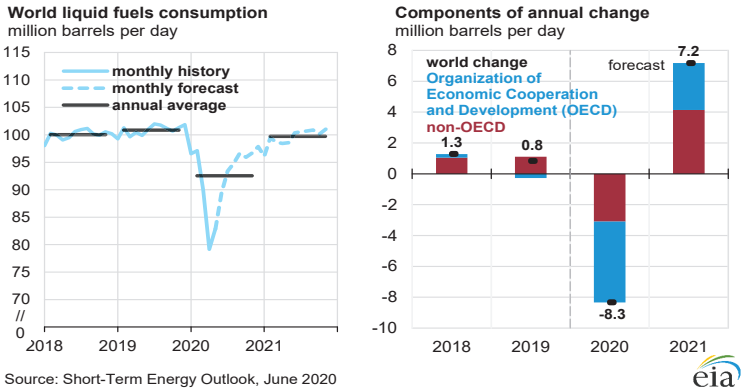
U.S. natural gas prices

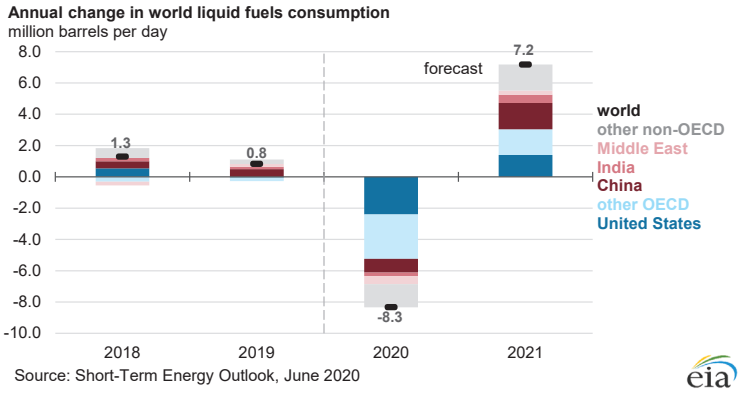


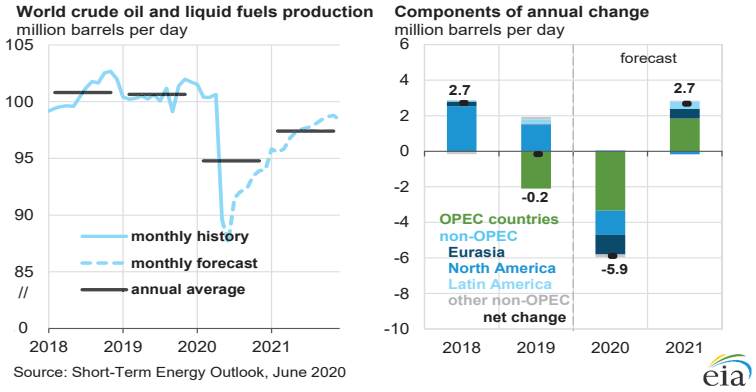
Sources: Short-Term Energy Outlook, June 2020, and Refinitiv

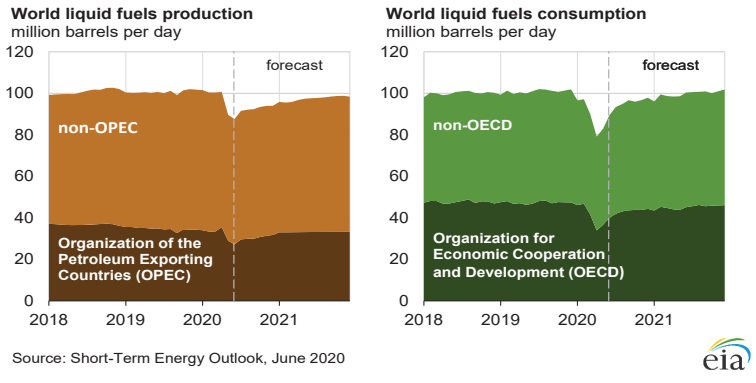

World liquid fuels production and consumption balance
million barrels per day
world production
world consumption
forecast
105
100
95
90
85
80
75
0
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2015 2016 2017 2018 2019 2020 2021
15
10
5
0
-5
implied stock build
implied stock draw
Source: Short-Term Energy Outlook, June 2020
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jan 2018
Jan 2019
Jan 2020
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: Short-Term Energy Outlook, June 2020
eia

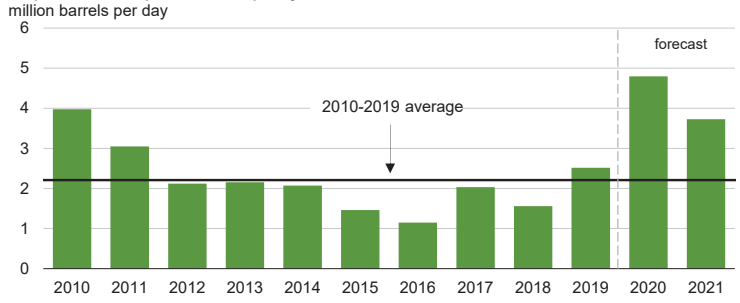

World liquid fuels consumption
million barrels per day
monthly history
monthly forecast
annual average
115
110
105
100
95
90
85
80
75
70
0
2018
2019
2020
2021
Components of annual change
million barrels per day
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
8
6
4
2
0
-2
-4
-6
-8
-10
1.3
0.8
-8.3
7.2
2018
2019
2020
2021
Source: Short-Term Energy Outlook, June 2020
eia


Annual change in world liquid fuels consumption
million barrels per day
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
forecast
1.3
0.8
-8.3
7.2
2018
2019
2020
2021
world
other non-OECD
Middle East
India
China
other OECD
United States
Source: Short-Term Energy Outlook, June 2020
eia


World crude oil and liquid fuels production
million barrels per day
105
100
95
90
85
0
2018
2019
2020
2021
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
6
4
2
0
-2
-4
-6
-8
-10
forecast
2.7
-0.2
-5.9
2.7
OPEC countries
non-OPEC
Eurasia
North America
Latin America
other non-OPEC
net change
2018
2019
2020
2021
Source: Short-Term Energy Outlook, June 2020
eia

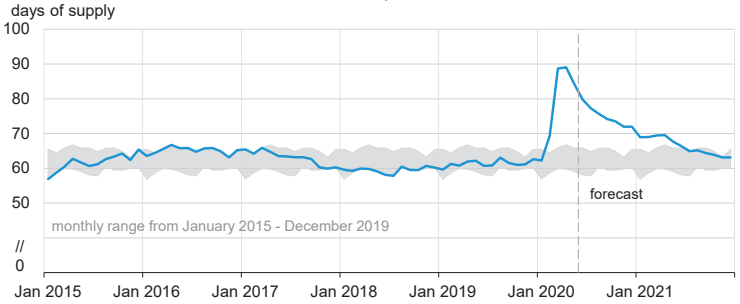

World liquid fuels production
million barrels per day
120
100
80
60
40
20
0
forecast
non-OPEC
Organization of the Petroleum Exporting Countries (OPEC)
2018
2019
2020
2021
World liquid fuels consumption
million barrels per day
120
100
80
60
40
20
0
forecast
non-OECD
Organization for Economic Cooperation and Development (OECD)
2018
2019
2020
2021
Source: Short-Term Energy Outlook, June 2020
eia

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



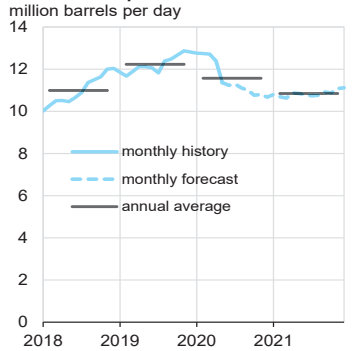
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: Short-Term Energy Outlook, June 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

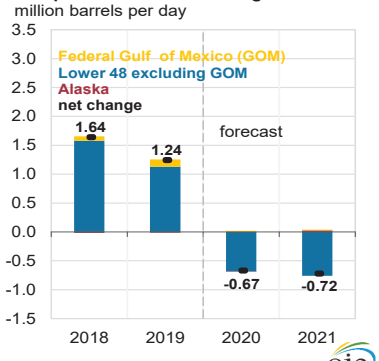


Source: Short-Term Energy Outlook, June 2020

U.S. crude oil production
million barrels per day

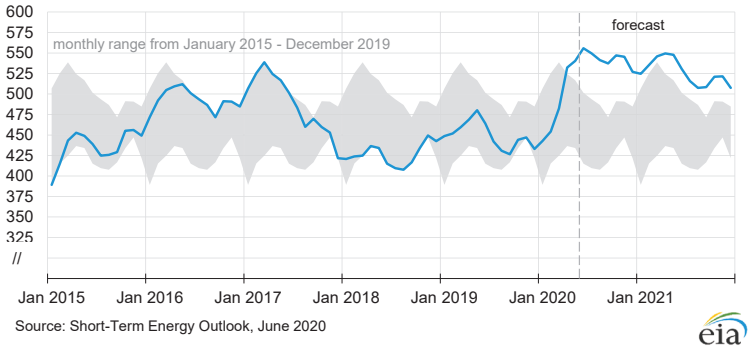


Components of annual change
million barrels per day



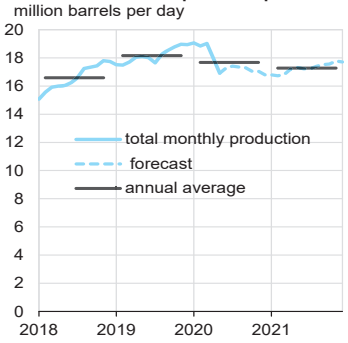
Source: Short-Term Energy Outlook, June 2020

U.S. commercial crude oil inventories
million barrels



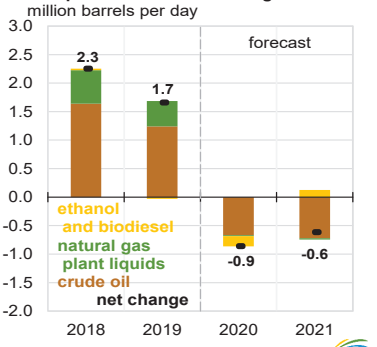
Source: Short-Term Energy Outlook, June 2020

U.S. crude oil and liquid fuels production
million barrels per day

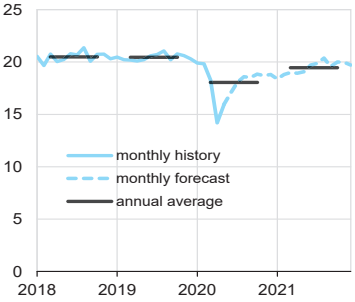


Source: Short-Term Energy Outlook, June 2020

Components of annual change
million barrels per day

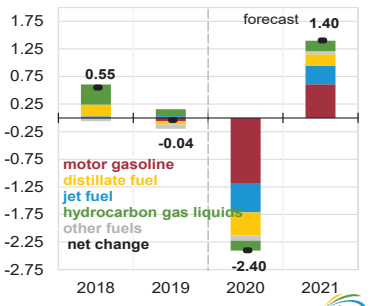


U.S. liquid fuels product supplied (consumption)
million barrels per day

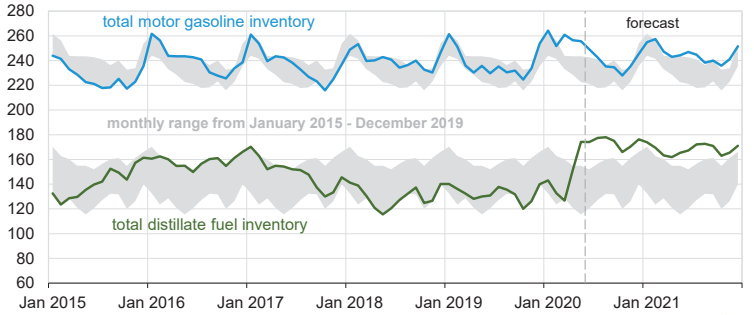


Source: Short-Term Energy Outlook, June 2020

Components of annual change
million barrels per day

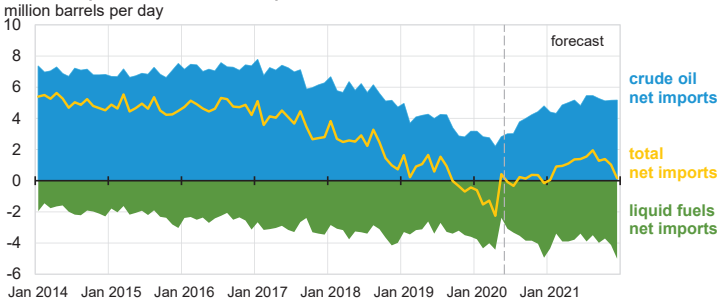


U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, June 2020

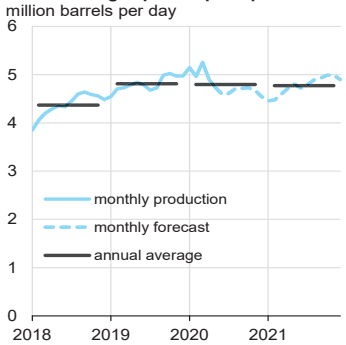
U.S. net imports of crude oil and liquid fuels
million barrels per day



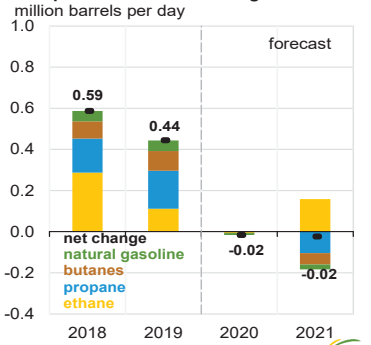
Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, June 2020

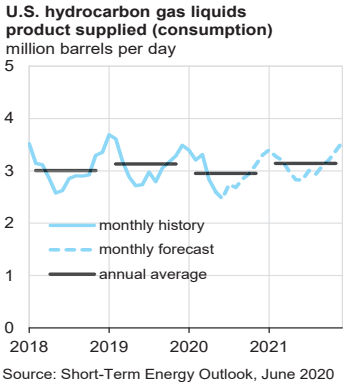
U.S. natural gas plant liquids production
million barrels per day

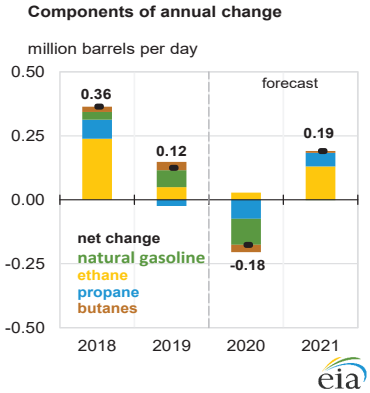


Components of annual change
million barrels per day

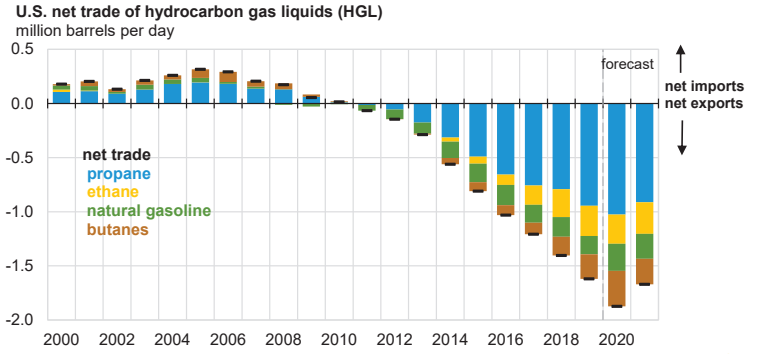


Source: Short-Term Energy Outlook, June 2020

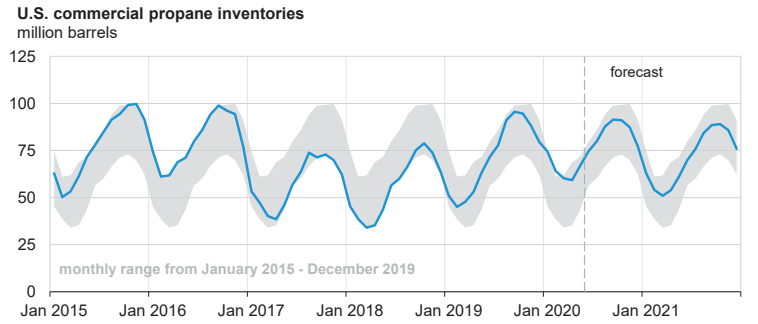




Source: Short-Term Energy Outlook, June 2020

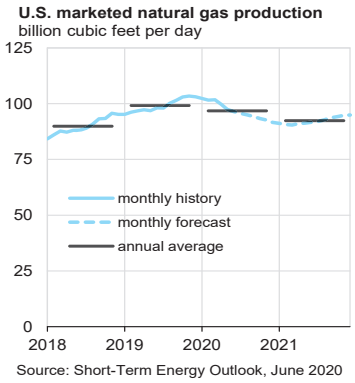


Source: Short-Term Energy Outlook, June 2020

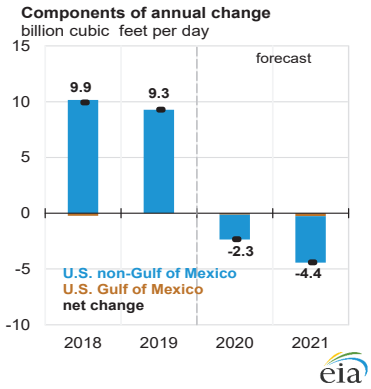


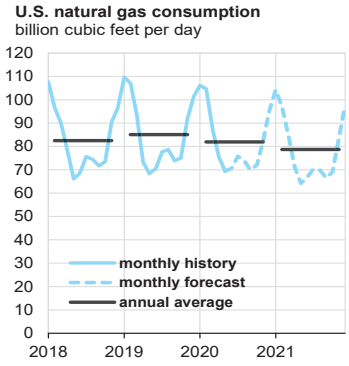
Note: Excludes refinery propylene.

Source: Short-Term Energy Outlook, June 2020

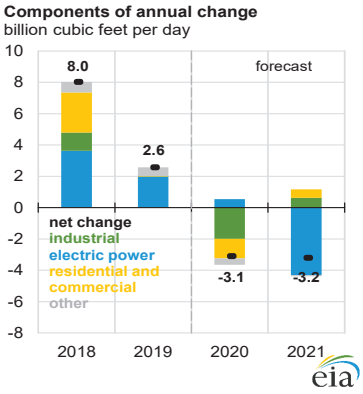


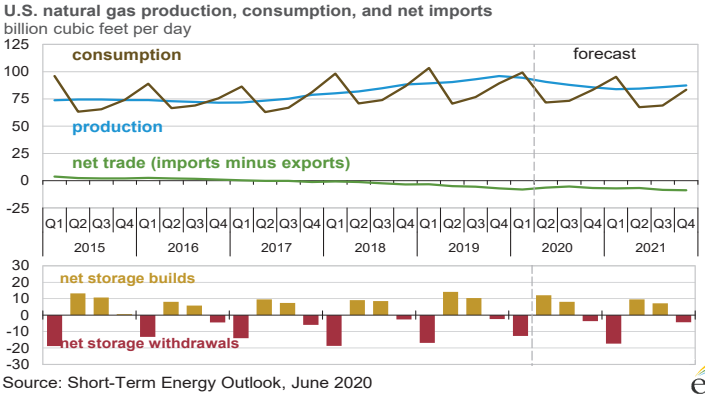
Source: Short-Term Energy Outlook, June 2020



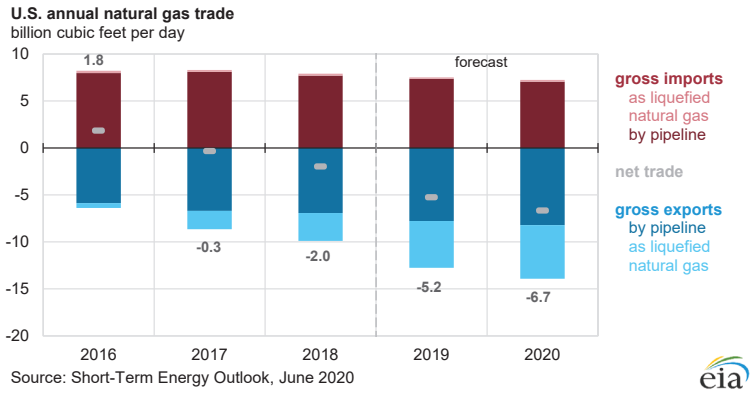


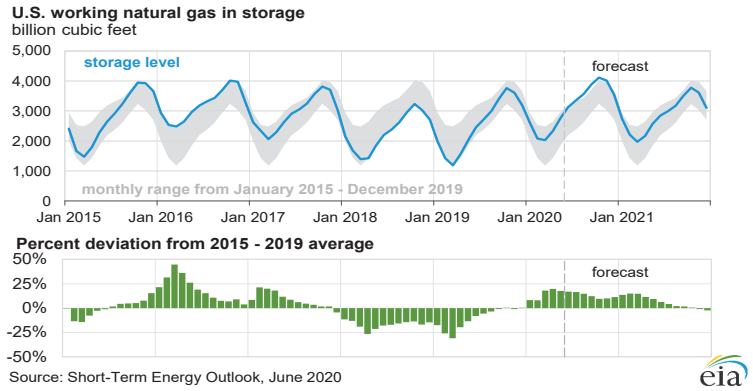
Source: Short-Term Energy Outlook, June 2020

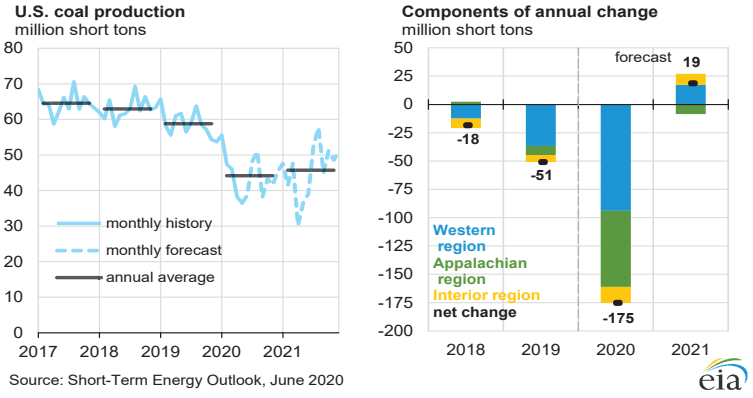


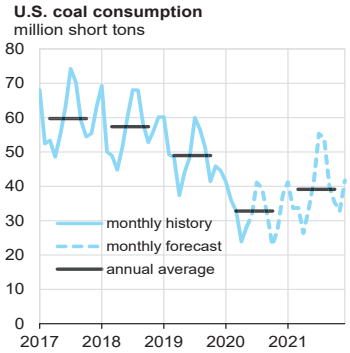


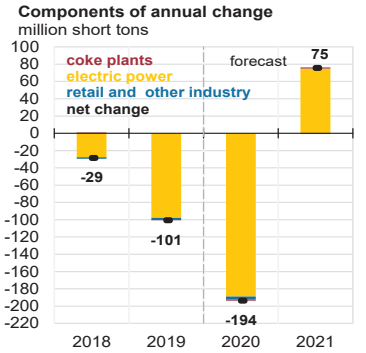
Source: Short-Term Energy Outlook, June 2020


U.S. annual natural gas trade
billion cubic feet per day
10
5
0
-5
-10
-15
-20
1.8
-0.3
-2.0
-5.2
-6.7
forecast
2016
2017
2018
2019
2020
gross imports
as liquefied
natural gas
by pipeline
net trade
gross exports
by pipeline
as liquefied
natural gas
Source: Short-Term Energy Outlook, June 2020
eia

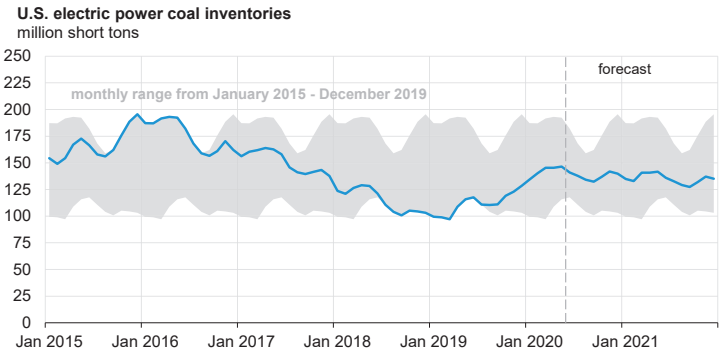

U.S. working natural gas in storage
billion cubic feet
5,000
4,000
3,000
2,000
1,000
0
storage level
forecast
monthly range from January 2015 - December 2019
Jan 2015
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Percent deviation from 2015 - 2019 average
50%
25%
0%
-25%
-50%
forecast
Source: Short-Term Energy Outlook, June 2020
eia


U.S. coal production
million short tons
80
70
60
50
40
30
20
10
0
monthly history
monthly forecast
annual average
2017
2018
2019
2020
2021
Source: Short-Term Energy Outlook, June 2020
Components of annual change
million short tons
50
25
0
-25
-50
-75
-100
-125
-150
-175
-200
forecast
19
-18
-51
-175
Western region
Appalachian region
Interior region
net change
2018
2019
2020
2021
eia

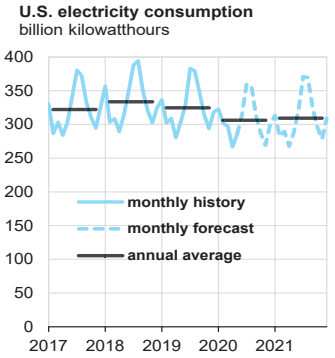


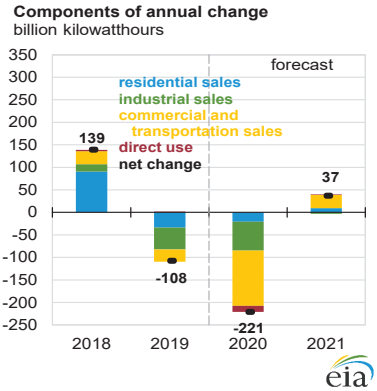


Source: Short-Term Energy Outlook, June 2020



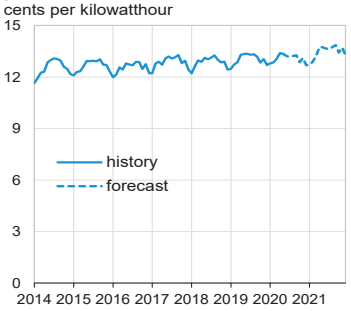
Source: Short-Term Energy Outlook, June 2020



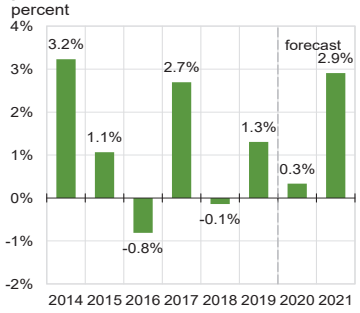


Source: Short-Term Energy Outlook, June 2020

U.S. monthly residential electricity price
cents per kilowatthour



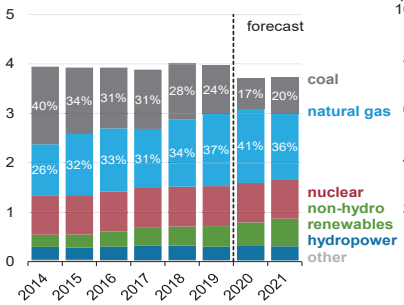
Annual growth in residential electricity prices
percent



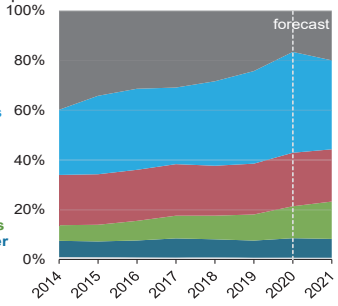
Source: Short-Term Energy Outlook, June 2020

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U.S. electricity generation by fuel, all sectors
trillion kilowatthours



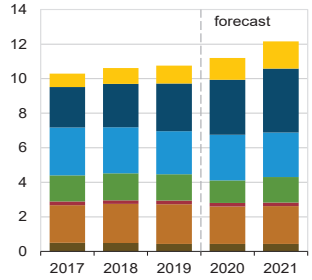
percent share



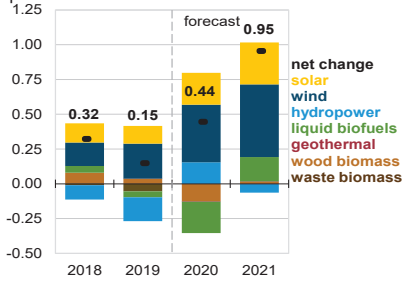
Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: Short-Term Energy Outlook, June 2020

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U.S. renewable energy supply
quadrillion British thermal units



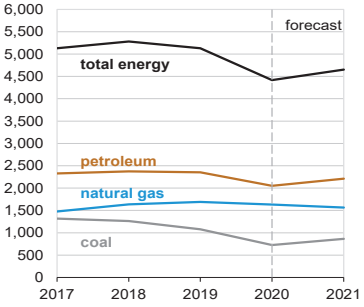
Components of annual change
quadrillion British thermal units



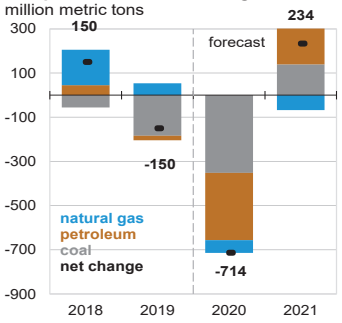
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, June 2020

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U.S. annual carbon emissions by source
million metric tons

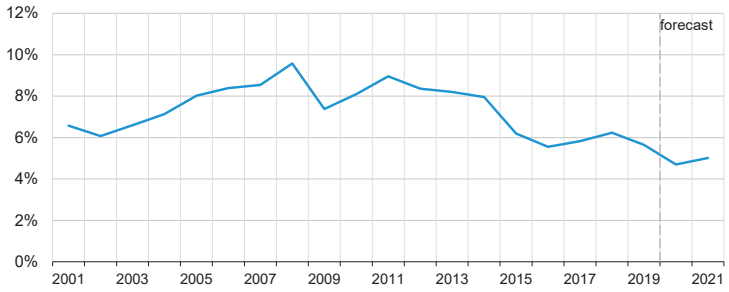


Components of annual change
million metric tons



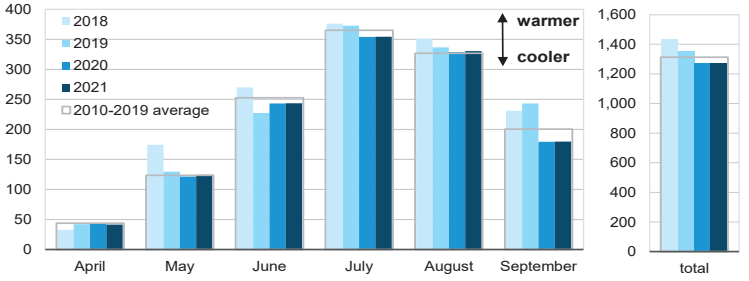
Source: Short-Term Energy Outlook, June 2020

U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, June 2020

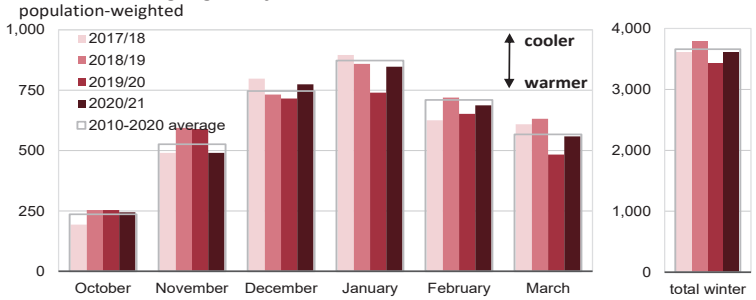
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, June 2020

U.S. winter heating degree days
population-weighted

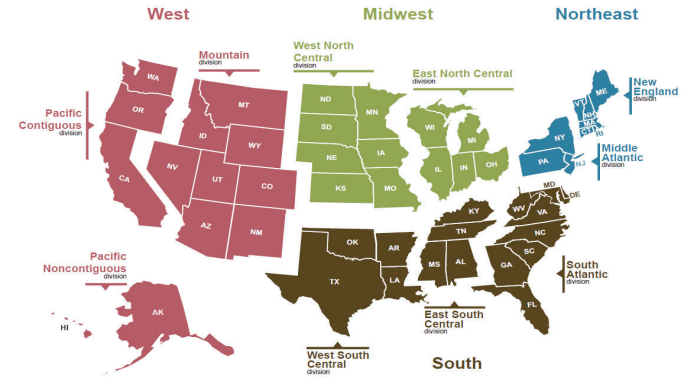


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, June 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.81**	**12.10**	**12.23**	**12.78**	**12.74**	*11.65*	*11.13*	*10.74*	*10.71*	*10.83*	*10.80*	*11.02*	**12.23**	*11.56*	*10.84*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**95.97**	**94.47**	*90.60*	*87.95*	*85.66*	*83.96*	*84.44*	*85.75*	*87.34*	**92.21**	*89.65*	*85.39*
Coal Production															
(million short tons)	**180**	**179**	**181**	**165**	**149**	*113*	*137*	*130*	*137*	*106*	*155*	*151*	**705**	*530*	*549*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	*15.72*	*18.39*	*18.79*	*18.73*	*19.24*	*19.95*	*19.90*	**20.46**	*18.06*	*19.46*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	*71.78*	*73.24*	*83.30*	*95.27*	*67.37*	*68.91*	*83.35*	**84.97**	*81.87*	*78.66*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**132**	**110**	*84*	*112*	*88*	*108*	*101*	*149*	*110*	**587**	*394*	*469*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.02**	**12.06**	**10.07**	**10.13**	*9.53*	*11.19*	*9.30*	*9.83*	*9.65*	*11.57*	*9.61*	**10.67**	*10.04*	*10.17*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.79**	**2.92**	*3.07*	*2.88*	*2.94*	*3.18*	*3.40*	*3.13*	*3.14*	**11.48**	*11.81*	*12.84*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.54**	**23.43**	**24.97**	**25.22**	**25.01**	*20.16*	*22.23*	*22.81*	*24.12*	*21.97*	*23.42*	*23.83*	**100.17**	*90.22*	*93.34*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	*26.47*	*34.57*	*34.50*	*37.44*	*42.66*	*45.98*	*49.03*	**57.02**	*35.14*	*43.88*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	*1.73*	*1.90*	*2.62*	*3.06*	*2.96*	*3.10*	*3.21*	**2.57**	*2.04*	*3.08*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	*2.04*	*2.00*	*2.00*	*2.03*	*2.04*	*2.03*	*2.04*	**2.02**	*1.98*	*2.03*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**18,988**	*16,940*	*17,175*	*17,551*	*18,064*	*18,487*	*18,753*	*18,928*	**19,073**	*17,664*	*18,558*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.3**	**0.3**	*-10.9*	*-10.2*	*-8.7*	*-4.9*	*9.1*	*9.2*	*7.8*	**2.3**	*-7.4*	*5.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	*113.2*	*113.6*	*113.7*	*113.8*	*113.9*	*114.0*	*114.1*	**112.3**	*113.5*	*114.0*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	*0.9*	*0.8*	*0.6*	*0.3*	*0.7*	*0.4*	*0.3*	**1.8**	*1.0*	*0.4*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,073**	**15,093**	*15,380*	*15,851*	*15,407*	*15,327*	*15,452*	*15,532*	*15,511*	**14,974**	*15,433*	*15,455*
Percent change from prior year	**3.3**	**3.0**	**2.7**	**2.4**	**1.4**	*3.0*	*5.6*	*2.2*	*1.6*	*0.5*	*-2.0*	*0.7*	**2.9**	*3.1*	*0.1*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**104.1**	*81.4*	*87.2*	*89.4*	*93.3*	*97.0*	*98.9*	*99.9*	**106.0**	*90.5*	*97.3*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.2**	*-23.0*	*-17.6*	*-15.5*	*-10.3*	*19.2*	*13.4*	*11.7*	**0.0**	*-14.6*	*7.5*
Weather															
U.S. Heating Degree-Days	**2,210**	**480**	**56**	**1,558**	**1,875**	*547*	*70*	*1,509*	*2,093*	*483*	*72*	*1,507*	**4,305**	*4,001*	*4,154*
U.S. Cooling Degree-Days	**46**	**399**	**953**	**106**	**71**	*408*	*862*	*95*	*46*	*409*	*865*	*96*	**1,503**	*1,437*	*1,416*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	*26.47*	*34.57*	*34.50*	*37.44*	*42.66*	*45.98*	*49.03*	**57.02**	*35.14*	*43.88*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.30**	**49.97**	*27.87*	*36.65*	*38.00*	*41.44*	*46.66*	*49.98*	*53.03*	**64.37**	*38.02*	*47.88*
U.S. Imported Average	**55.25**	**62.98**	**57.30**	**55.57**	**43.45**	*23.88*	*31.54*	*31.45*	*34.91*	*40.17*	*43.49*	*46.51*	**57.94**	*32.55*	*41.54*
U.S. Refiner Average Acquisition Cost	**56.93**	**63.55**	**58.67**	**58.05**	**47.51**	*25.59*	*34.02*	*33.94*	*36.35*	*41.70*	*44.99*	*48.03*	**59.33**	*35.71*	*42.91*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**152**	*98*	*120*	*117*	*122*	*151*	*154*	*147*	**186**	*123*	*144*
Diesel Fuel	**192**	**203**	**192**	**197**	**160**	*99*	*114*	*119*	*125*	*144*	*154*	*161*	**196**	*124*	*147*
Heating Oil	**189**	**195**	**184**	**191**	**160**	*90*	*101*	*111*	*126*	*138*	*150*	*160*	**190**	*116*	*135*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**165**	*76*	*93*	*97*	*115*	*132*	*143*	*154*	**197**	*115*	*137*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**162**	**176**	*97*	*113*	*117*	*90*	*98*	*105*	*112*	**158**	*122*	*102*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	*195*	*201*	*191*	*191*	*226*	*230*	*221*	**260**	*207*	*218*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**251**	*204*	*213*	*204*	*204*	*239*	*243*	*235*	**269**	*218*	*231*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	*237*	*224*	*229*	*231*	*243*	*254*	*264*	**306**	*245*	*249*
Heating Oil	**300**	**305**	**290**	**301**	**280**	*206*	*207*	*225*	*233*	*240*	*253*	*273*	**300**	*243*	*250*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	*1.79*	*1.97*	*2.72*	*3.17*	*3.07*	*3.22*	*3.33*	**2.66**	*2.12*	*3.20*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	*1.73*	*1.90*	*2.62*	*3.06*	*2.96*	*3.10*	*3.21*	**2.57**	*2.04*	*3.08*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	*2.65*	*2.69*	*3.65*	*4.41*	*3.94*	*4.03*	*4.51*	**3.91**	*3.16*	*4.24*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	*7.39*	*7.71*	*7.09*	*7.35*	*8.07*	*8.66*	*7.99*	**7.62**	*7.26*	*7.80*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	*11.62*	*16.29*	*9.87*	*9.32*	*12.28*	*17.26*	*10.82*	**10.56**	*10.46*	*10.67*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	*2.04*	*2.00*	*2.00*	*2.03*	*2.04*	*2.03*	*2.04*	**2.02**	*1.98*	*2.03*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.40**	*1.79*	*1.82*	*2.83*	*3.59*	*3.18*	*3.29*	*3.59*	**2.88**	*2.17*	*3.40*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.52**	**12.50**	*7.47*	*6.84*	*7.09*	*7.79*	*9.29*	*9.31*	*9.60*	**12.72**	*8.29*	*8.85*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.45**	*8.35*	*9.15*	*9.60*	*9.99*	*11.34*	*11.99*	*12.68*	**15.16**	*10.09*	*11.54*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	*6.62*	*7.25*	*6.79*	*6.69*	*6.92*	*7.59*	*6.94*	**6.83**	*6.76*	*7.05*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	*10.54*	*10.88*	*10.47*	*10.42*	*10.75*	*11.24*	*10.90*	**10.66**	*10.57*	*10.85*
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	*13.31*	*13.21*	*12.87*	*12.92*	*13.70*	*13.73*	*13.45*	**13.04**	*13.08*	*13.46*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.04**	**31.29**	**31.45**	**32.76**	**32.88**	*29.62*	*29.47*	*29.75*	*29.74*	*30.13*	*30.32*	*31.05*	**31.64**	*30.42*	*30.32*
U.S. (50 States)	**18.85**	**19.32**	**19.42**	**20.21**	**20.22**	*18.33*	*18.01*	*17.75*	*17.57*	*18.06*	*18.14*	*18.46*	**19.45**	*18.57*	*18.06*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.63**	*4.60*	*4.84*	*5.29*	*5.36*	*5.45*	*5.49*	*5.71*	**5.50**	*5.09*	*5.50*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	*1.86*	*1.77*	*1.74*	*1.79*	*1.80*	*1.76*	*1.74*	**1.92**	*1.84*	*1.77*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.03**	*4.83*	*4.85*	*4.96*	*5.02*	*4.84*	*4.94*	*5.14*	**4.77**	*4.92*	*4.98*
Non-OECD	**69.27**	**69.15**	**68.68**	**68.94**	**67.89**	*62.94*	*62.49*	*64.03*	*66.00*	*67.13*	*67.72*	*67.55*	**69.01**	*64.33*	*67.11*
OPEC	**35.44**	**34.97**	**33.93**	**34.38**	**33.63**	*30.57*	*29.84*	*31.33*	*33.04*	*33.18*	*33.22*	*33.25*	**34.67**	*31.34*	*33.17*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.29**	*25.79*	*25.15*	*26.64*	*28.26*	*28.46*	*28.51*	*28.54*	**29.27**	*26.46*	*28.44*
Other Liquids (b)	**5.50**	**5.50**	**5.27**	**5.37**	**5.34**	*4.77*	*4.69*	*4.69*	*4.78*	*4.72*	*4.71*	*4.71*	**5.41**	*4.87*	*4.73*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.74**	*13.15*	*12.98*	*13.24*	*13.69*	*14.01*	*14.19*	*14.33*	**14.64**	*13.53*	*14.06*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.96**	*4.83*	*4.80*	*4.82*	*4.82*	*4.85*	*4.85*	*4.89*	**4.89**	*4.85*	*4.85*
Other Non-OECD	**14.07**	**14.83**	**15.27**	**15.01**	**14.56**	*14.39*	*14.88*	*14.64*	*14.46*	*15.10*	*15.46*	*15.08*	**14.80**	*14.62*	*15.03*
Total World Supply	**100.31**	**100.44**	**100.13**	**101.70**	**100.77**	*92.56*	*91.97*	*93.78*	*95.74*	*97.27*	*98.04*	*98.60*	**100.65**	*94.76*	*97.42*
Non-OPEC Supply	**64.87**	**65.48**	**66.20**	**67.32**	**67.14**	*61.99*	*62.13*	*62.45*	*62.71*	*64.09*	*64.82*	*65.36*	**65.98**	*63.42*	*64.25*
Consumption (million barrels per day) (c)															
OECD	**47.44**	**46.74**	**47.84**	**47.51**	**44.80**	*36.84*	*42.89*	*44.01*	*44.52*	*44.37*	*45.83*	*45.99*	**47.38**	*42.14*	*45.18*
U.S. (50 States)	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	*15.72*	*18.39*	*18.79*	*18.73*	*19.24*	*19.95*	*19.90*	**20.46**	*18.06*	*19.46*
U.S. Territories	**0.15**	**0.13**	**0.14**	**0.15**	**0.15**	*0.13*	*0.14*	*0.15*	*0.15*	*0.14*	*0.14*	*0.15*	**0.14**	*0.14*	*0.14*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.44**	*1.76*	*2.24*	*2.27*	*2.39*	*2.34*	*2.44*	*2.42*	**2.50**	*2.18*	*2.40*
Europe	**13.91**	**14.04**	**14.52**	**13.94**	**12.98**	*11.18*	*13.09*	*13.12*	*13.19*	*13.42*	*13.94*	*13.68*	**14.10**	*12.60*	*13.56*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.69**	*2.67*	*3.07*	*3.43*	*3.75*	*3.08*	*3.17*	*3.49*	**3.67**	*3.22*	*3.37*
Other OECD	**6.55**	**6.40**	**6.49**	**6.55**	**6.20**	*5.39*	*5.96*	*6.26*	*6.30*	*6.16*	*6.19*	*6.35*	**6.50**	*5.95*	*6.25*
Non-OECD	**52.59**	**53.72**	**53.82**	**53.78**	**49.68**	*46.97*	*52.03*	*52.82*	*53.50*	*54.74*	*54.89*	*54.96*	**53.48**	*50.39*	*54.53*
Eurasia	**4.94**	**5.00**	**5.38**	**5.23**	**4.77**	*4.35*	*5.16*	*5.11*	*4.95*	*5.02*	*5.42*	*5.27*	**5.14**	*4.85*	*5.17*
Europe	**0.77**	**0.76**	**0.78**	**0.78**	**0.74**	*0.72*	*0.75*	*0.76*	*0.75*	*0.75*	*0.77*	*0.77*	**0.77**	*0.74*	*0.76*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.07**	*12.73*	*14.16*	*14.58*	*15.22*	*15.45*	*15.17*	*15.42*	**14.51**	*13.64*	*15.32*
Other Asia	**13.84**	**14.00**	**13.60**	**13.94**	**13.26**	*12.28*	*13.13*	*13.73*	*14.36*	*14.54*	*14.14*	*14.51*	**13.84**	*13.10*	*14.39*
Other Non-OECD	**18.60**	**19.31**	**19.70**	**19.24**	**17.84**	*16.89*	*18.84*	*18.65*	*18.21*	*18.96*	*19.40*	*18.98*	**19.21**	*18.06*	*18.89*
Total World Consumption	**100.04**	**100.46**	**101.66**	**101.29**	**94.48**	*83.81*	*94.92*	*96.83*	*98.02*	*99.11*	*100.72*	*100.95*	**100.87**	*92.53*	*99.71*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.26**	**-0.64**	**0.05**	**0.29**	**-0.43**	*-1.86*	*0.15*	*0.69*	*0.31*	*-0.32*	*-0.01*	*0.42*	**-0.01**	*-0.36*	*0.10*
Other OECD	**-0.23**	**0.01**	**-0.16**	**0.27**	**-0.95**	*-2.10*	*0.90*	*0.76*	*0.64*	*0.68*	*0.86*	*0.62*	**-0.03**	*-0.34*	*0.70*
Other Stock Draws and Balance	**-0.31**	**0.64**	**1.64**	**-0.98**	**-4.91**	*-4.79*	*1.91*	*1.60*	*1.32*	*1.48*	*1.83*	*1.31*	**0.25**	*-1.53*	*1.49*
Total Stock Draw	**-0.27**	**0.01**	**1.53**	**-0.41**	**-6.29**	*-8.75*	*2.96*	*3.06*	*2.27*	*1.84*	*2.68*	*2.35*	**0.22**	*-2.23*	*2.29*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,321**	*1,465*	*1,451*	*1,400*	*1,386*	*1,418*	*1,420*	*1,384*	**1,282**	*1,400*	*1,384*
OECD Commercial Inventory	**2,860**	**2,921**	**2,932**	**2,890**	**3,016**	*3,351*	*3,254*	*3,133*	*3,060*	*3,031*	*2,953*	*2,860*	**2,890**	*3,133*	*2,860*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.19**	**26.70**	**26.82**	**27.77**	**27.85**	*24.79*	*24.62*	*24.78*	*24.72*	*25.30*	*25.38*	*25.92*	**26.87**	*25.51*	*25.33*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.63**	*4.60*	*4.84*	*5.29*	*5.36*	*5.45*	*5.49*	*5.71*	**5.50**	*5.09*	*5.50*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	*1.86*	*1.77*	*1.74*	*1.79*	*1.80*	*1.76*	*1.74*	**1.92**	*1.84*	*1.77*
United States	**18.85**	**19.32**	**19.42**	**20.21**	**20.22**	*18.33*	*18.01*	*17.75*	*17.57*	*18.06*	*18.14*	*18.46*	**19.45**	*18.57*	*18.06*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**6.03**	*6.10*	*6.63*	*6.32*	*6.06*	*6.77*	*7.14*	*6.79*	**6.23**	*6.27*	*6.69*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.67**	*0.58*	*0.67*	*0.67*	*0.66*	*0.67*	*0.68*	*0.67*	**0.69**	*0.65*	*0.67*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.43**	*3.79*	*4.07*	*3.72*	*3.48*	*4.27*	*4.64*	*4.26*	**3.67**	*3.75*	*4.17*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	*0.84*	*0.84*	*0.88*	*0.87*	*0.81*	*0.82*	*0.85*	**0.92**	*0.86*	*0.84*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	*0.39*	*0.53*	*0.53*	*0.52*	*0.51*	*0.49*	*0.48*	**0.53**	*0.50*	*0.50*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.49**	*0.50*	*0.52*	*0.53*	*0.52*	*0.51*	*0.51*	*0.52*	**0.42**	*0.51*	*0.52*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.42**	*4.31*	*4.29*	*4.38*	*4.44*	*4.26*	*4.37*	*4.57*	**4.12**	*4.35*	*4.41*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.06**	*2.04*	*2.03*	*2.06*	*2.13*	*2.09*	*2.13*	*2.23*	**1.75**	*2.04*	*2.14*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.19**	*1.14*	*1.11*	*1.15*	*1.14*	*1.01*	*1.07*	*1.16*	**1.17**	*1.15*	*1.09*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.74**	*13.15*	*12.98*	*13.24*	*13.69*	*14.01*	*14.19*	*14.33*	**14.64**	*13.53*	*14.06*
Azerbaijan	**0.82**	**0.79**	**0.78**	**0.77**	**0.78**	*0.71*	*0.70*	*0.72*	*0.75*	*0.75*	*0.75*	*0.75*	**0.79**	*0.73*	*0.75*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	*1.82*	*1.85*	*1.89*	*1.97*	*1.91*	*1.94*	*1.98*	**1.97**	*1.91*	*1.95*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.52**	*10.23*	*10.04*	*10.24*	*10.61*	*10.98*	*11.13*	*11.23*	**11.49**	*10.51*	*10.99*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.24**	*0.25*	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.11**	**3.11**	**3.12**	**3.12**	**3.20**	*3.14*	*3.10*	*3.13*	*3.19*	*3.19*	*3.19*	*3.19*	**3.11**	*3.14*	*3.19*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	**1.01**	*0.93*	*0.89*	*0.92*	*0.94*	*0.94*	*0.94*	*0.94*	**0.98**	*0.94*	*0.94*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	*2.06*	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.48**	**9.51**	**9.37**	**9.47**	**9.43**	*9.05*	*9.06*	*9.16*	*9.23*	*9.21*	*9.20*	*9.21*	**9.46**	*9.18*	*9.21*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.50**	*0.51*	*0.52*	*0.54*	*0.54*	*0.53*	*0.53*	*0.52*	**0.49**	*0.52*	*0.53*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.96**	*4.83*	*4.80*	*4.82*	*4.82*	*4.85*	*4.85*	*4.89*	**4.89**	*4.85*	*4.85*
India	**1.01**	**0.99**	**0.98**	**0.99**	**0.96**	*0.84*	*0.82*	*0.88*	*0.92*	*0.90*	*0.92*	*0.91*	**0.99**	*0.87*	*0.91*
Indonesia	**0.93**	**0.94**	**0.92**	**0.91**	**0.88**	*0.89*	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	*0.83*	**0.93**	*0.88*	*0.84*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.73**	*0.61*	*0.65*	*0.66*	*0.68*	*0.67*	*0.67*	*0.66*	**0.71**	*0.66*	*0.67*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	**0.22**	*0.21*	*0.21*	*0.21*	*0.20*	*0.20*	*0.19*	*0.19*	**0.24**	*0.21*	*0.20*
Africa	**1.52**	**1.54**	**1.55**	**1.54**	**1.47**	*1.45*	*1.44*	*1.43*	*1.37*	*1.36*	*1.36*	*1.36*	**1.54**	*1.45*	*1.36*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	**0.60**	*0.60*	*0.60*	*0.60*	*0.56*	*0.56*	*0.56*	*0.56*	**0.65**	*0.60*	*0.56*
South Sudan	**0.17**	**0.18**	**0.18**	**0.18**	**0.18**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.18**	*0.17*	*0.17*
Total non-OPEC liquids	**64.87**	**65.48**	**66.20**	**67.32**	**67.14**	*61.99*	*62.13*	*62.45*	*62.71*	*64.09*	*64.82*	*65.36*	**65.98**	*63.42*	*64.25*
OPEC non-crude liquids	**5.50**	**5.50**	**5.27**	**5.37**	**5.34**	*4.77*	*4.69*	*4.69*	*4.78*	*4.72*	*4.71*	*4.71*	**5.41**	*4.87*	*4.73*
Non-OPEC + OPEC non-crude	**70.37**	**70.97**	**71.48**	**72.69**	**72.48**	*66.77*	*66.82*	*67.14*	*67.48*	*68.80*	*69.53*	*70.07*	**71.38**	*68.29*	*68.98*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.31**	**0.16**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.33**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.03**	-	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	-	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	-	-	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	-	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.19**	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	-	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	-	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	-	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	-	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.72**	-	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	-	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	-	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	-	-	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.29**	*25.79*	*25.15*	*26.64*	*28.26*	*28.46*	*28.51*	*28.54*	**29.27**	*26.46*	*28.44*
Other Liquids (a)	**5.50**	**5.50**	**5.27**	**5.37**	**5.34**	*4.77*	*4.69*	*4.69*	*4.78*	*4.72*	*4.71*	*4.71*	**5.41**	*4.87*	*4.73*
Total OPEC Supply	**35.44**	**34.97**	**33.93**	**34.38**	**33.63**	*30.57*	*29.84*	*31.33*	*33.04*	*33.18*	*33.22*	*33.25*	**34.67**	*31.34*	*33.17*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	*26.01*	*26.06*	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.96*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.83**	*4.95*	*4.91*	*5.49*	*5.86*	*5.86*	*5.91*	*5.94*	**6.66**	*5.30*	*5.89*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.44**	*30.96*	*30.98*	*31.66*	*32.13*	*32.15*	*32.19*	*32.22*	**31.78**	*31.26*	*32.17*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	*5.17*	*5.83*	*5.03*	*3.87*	*3.69*	*3.68*	*3.68*	**2.52**	*4.80*	*3.73*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	*5.17*	*5.83*	*5.03*	*3.87*	*3.69*	*3.68*	*3.68*	**2.52**	*4.80*	*3.73*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.69**	**24.70**	**25.19**	**24.98**	**23.57**	*19.02*	*22.34*	*22.86*	*22.89*	*23.37*	*24.18*	*24.12*	**24.89**	*21.95*	*23.64*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.44**	*1.76*	*2.24*	*2.27*	*2.39*	*2.34*	*2.44*	*2.42*	**2.50**	*2.18*	*2.40*
Mexico	**1.93**	**1.94**	**1.93**	**1.86**	**1.78**	*1.53*	*1.70*	*1.80*	*1.77*	*1.79*	*1.78*	*1.79*	**1.92**	*1.70*	*1.78*
United States	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	*15.72*	*18.39*	*18.79*	*18.73*	*19.24*	*19.95*	*19.90*	**20.46**	*18.06*	*19.46*
Central and South America	**6.70**	**6.82**	**6.92**	**6.93**	**6.32**	*5.78*	*6.57*	*6.66*	*6.57*	*6.73*	*6.87*	*6.89*	**6.84**	*6.33*	*6.77*
Brazil	**3.03**	**3.10**	**3.19**	**3.18**	**2.84**	*2.44*	*2.99*	*3.05*	*2.98*	*3.07*	*3.17*	*3.17*	**3.13**	*2.83*	*3.10*
Europe	**14.67**	**14.81**	**15.30**	**14.72**	**13.72**	*11.90*	*13.84*	*13.88*	*13.95*	*14.18*	*14.71*	*14.45*	**14.88**	*13.34*	*14.32*
Eurasia	**4.94**	**5.00**	**5.38**	**5.23**	**4.77**	*4.35*	*5.16*	*5.11*	*4.95*	*5.02*	*5.42*	*5.27*	**5.14**	*4.85*	*5.17*
Russia	**3.64**	**3.74**	**4.04**	**3.89**	**3.50**	*3.13*	*3.85*	*3.79*	*3.66*	*3.76*	*4.08*	*3.93*	**3.83**	*3.57*	*3.86*
Middle East	**8.11**	**8.67**	**9.04**	**8.39**	**7.82**	*7.54*	*8.65*	*8.13*	*7.84*	*8.40*	*8.79*	*8.15*	**8.55**	*8.04*	*8.30*
Asia and Oceania	**36.42**	**35.94**	**35.39**	**36.41**	**33.89**	*30.99*	*34.05*	*35.66*	*37.32*	*36.89*	*36.32*	*37.44*	**36.04**	*33.65*	*36.99*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.07**	*12.73*	*14.16*	*14.58*	*15.22*	*15.45*	*15.17*	*15.42*	**14.51**	*13.64*	*15.32*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.69**	*2.67*	*3.07*	*3.43*	*3.75*	*3.08*	*3.17*	*3.49*	**3.67**	*3.22*	*3.37*
India	**4.74**	**4.80**	**4.48**	**4.77**	**4.58**	*4.17*	*4.38*	*4.75*	*5.04*	*5.11*	*4.78*	*5.08*	**4.70**	*4.47*	*5.00*
Africa	**4.50**	**4.52**	**4.44**	**4.63**	**4.38**	*4.24*	*4.31*	*4.53*	*4.50*	*4.51*	*4.43*	*4.63*	**4.52**	*4.37*	*4.52*
Total OECD Liquid Fuels Consumption	**47.44**	**46.74**	**47.84**	**47.51**	**44.80**	*36.84*	*42.89*	*44.01*	*44.52*	*44.37*	*45.83*	*45.99*	**47.38**	*42.14*	*45.18*
Total non-OECD Liquid Fuels Consumption	**52.59**	**53.72**	**53.82**	**53.78**	**49.68**	*46.97*	*52.03*	*52.82*	*53.50*	*54.74*	*54.89*	*54.96*	**53.48**	*50.39*	*54.53*
Total World Liquid Fuels Consumption	**100.04**	**100.46**	**101.66**	**101.29**	**94.48**	*83.81*	*94.92*	*96.83*	*98.02*	*99.11*	*100.72*	*100.95*	**100.87**	*92.53*	*99.71*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**111.8**	**112.7**	**112.9**	**112.7**	**109.5**	*103.0*	*106.3*	*108.7*	*111.5*	*113.7*	*115.0*	*115.8*	**112.5**	*106.9*	*114.0*
Percent change from prior year	**2.3**	**2.1**	**1.9**	**1.6**	**-2.1**	*-8.6*	*-5.8*	*-3.5*	*1.8*	*10.4*	*8.2*	*6.5*	**2.0**	*-5.0*	*6.7*
OECD Index, 2015 Q1 = 100	**108.7**	**109.7**	**110.1**	**109.6**	**107.9**	*97.4*	*100.4*	*103.1*	*106.4*	*109.1*	*110.6*	*111.1*	**109.6**	*102.2*	*109.3*
Percent change from prior year	**1.8**	**1.8**	**1.8**	**1.5**	**-0.8**	*-11.3*	*-8.8*	*-6.0*	*-1.4*	*12.0*	*10.2*	*7.8*	**1.7**	*-6.7*	*7.0*
Non-OECD Index, 2015 Q1 = 100	**114.8**	**115.6**	**115.6**	**115.6**	**111.1**	*108.6*	*112.2*	*114.3*	*116.6*	*118.2*	*119.3*	*120.5*	**115.4**	*111.6*	*118.7*
Percent change from prior year	**2.7**	**2.5**	**2.1**	**1.7**	**-3.2**	*-6.0*	*-2.9*	*-1.1*	*4.9*	*8.8*	*6.4*	*5.4*	**2.2**	*-3.3*	*6.4*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.27**	**105.91**	**106.45**	**106.32**	**106.97**	*109.06*	*108.89*	*107.90*	*106.99*	*106.45*	*105.97*	*105.14*	**105.99**	*108.20*	*106.14*
Percent change from prior year	**4.5**	**3.0**	**0.8**	**0.0**	**1.6**	*3.0*	*2.3*	*1.5*	*0.0*	*-2.4*	*-2.7*	*-2.6*	**2.0**	*2.1*	*-1.9*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.81**	**12.10**	**12.23**	**12.78**	**12.74**	*11.65*	*11.13*	*10.74*	*10.71*	*10.83*	*10.80*	*11.02*	**12.23**	*11.56*	*10.84*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.48**	*0.44*	*0.45*	*0.49*	*0.50*	*0.50*	*0.46*	*0.49*	**0.47**	*0.46*	*0.49*
Federal Gulf of Mexico (b)	**1.85**	**1.93**	**1.82**	**1.94**	**1.96**	*1.84*	*1.91*	*1.91*	*1.97*	*1.95*	*1.86*	*1.88*	**1.88**	*1.90*	*1.92*
Lower 48 States (excl GOM)	**9.47**	**9.70**	**9.98**	**10.36**	**10.30**	*9.38*	*8.78*	*8.35*	*8.24*	*8.39*	*8.48*	*8.65*	**9.88**	*9.20*	*8.44*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.94**	**2.90**	*2.66*	*3.58*	*4.47*	*4.52*	*4.98*	*5.39*	*5.14*	**3.82**	*3.41*	*5.01*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	*-0.27*	*0.00*	*0.14*	*0.14*	*0.03*	*0.01*	*0.03*	**0.04**	*-0.03*	*0.05*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.07**	**-0.54**	*-0.81*	*0.20*	*0.11*	*-0.21*	*0.17*	*0.24*	*0.01*	**0.03**	*-0.26*	*0.05*
Crude Oil Adjustment (d)	**0.33**	**0.53**	**0.38**	**0.56**	**0.67**	*-0.13*	*0.21*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.45**	*0.23*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.32**	**15.77**	*13.11*	*15.12*	*15.62*	*15.38*	*16.23*	*16.67*	*16.36*	**16.56**	*14.91*	*16.16*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.02**	*0.93*	*1.03*	*1.10*	*1.08*	*1.13*	*1.12*	*1.12*	**1.08**	*1.02*	*1.11*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**4.99**	**5.12**	*4.74*	*4.68*	*4.65*	*4.51*	*4.75*	*4.87*	*4.96*	**4.81**	*4.80*	*4.77*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.11**	*0.81*	*0.97*	*1.04*	*1.07*	*1.13*	*1.13*	*1.15*	**1.12**	*0.98*	*1.12*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	*0.67*	*0.83*	*0.90*	*0.92*	*0.96*	*0.97*	*0.98*	**1.03**	*0.85*	*0.96*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	*0.19*	*0.21*	*0.21*	*0.20*	*0.21*	*0.21*	*0.21*	**0.21**	*0.21*	*0.21*
Product Net Imports (c)	**-3.30**	**-3.04**	**-3.13**	**-3.43**	**-4.03**	*-3.29*	*-3.57*	*-4.28*	*-3.90*	*-3.70*	*-3.79*	*-4.28*	**-3.22**	*-3.79*	*-3.92*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.83**	**-1.99**	*-1.99*	*-1.84*	*-1.68*	*-1.54*	*-1.70*	*-1.72*	*-1.71*	**-1.62**	*-1.87*	*-1.67*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.50**	**0.31**	*0.20*	*0.45*	*0.37*	*0.35*	*0.44*	*0.44*	*0.32*	**0.41**	*0.33*	*0.39*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.10**	*-0.09*	*-0.10*	*-0.11*	*-0.14*	*-0.12*	*-0.12*	*-0.13*	**-0.06**	*-0.10*	*-0.13*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.46**	**0.39**	*0.15*	*0.40*	*0.21*	*0.47*	*0.71*	*0.47*	*0.21*	**0.60**	*0.29*	*0.47*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.87**	**-0.72**	*-0.02*	*-0.46*	*-0.82*	*-1.08*	*-0.96*	*-0.90*	*-0.99*	**-0.74**	*-0.51*	*-0.98*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.09**	**-0.07**	*0.00*	*-0.13*	*-0.15*	*-0.15*	*-0.14*	*0.01*	*-0.06*	**-0.06**	*-0.09*	*-0.08*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-0.99**	**-1.19**	*-1.10*	*-1.28*	*-1.25*	*-1.09*	*-1.16*	*-1.23*	*-1.10*	**-1.12**	*-1.20*	*-1.15*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**-0.03**	**-0.02**	*0.04*	*-0.02*	*-0.01*	*-0.02*	*-0.11*	*-0.05*	*0.00*	**-0.08**	*0.00*	*-0.04*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.54**	**-0.65**	*-0.48*	*-0.58*	*-0.84*	*-0.69*	*-0.65*	*-0.70*	*-0.81*	**-0.55**	*-0.64*	*-0.71*
Product Inventory Net Withdrawals	**0.44**	**-0.64**	**-0.36**	**0.26**	**0.11**	*-0.78*	*-0.05*	*0.44*	*0.37*	*-0.52*	*-0.27*	*0.39*	**-0.07**	*-0.07*	*-0.01*
Total Supply	**20.38**	**20.31**	**20.67**	**20.57**	**19.33**	*15.72*	*18.39*	*18.79*	*18.73*	*19.24*	*19.95*	*19.90*	**20.48**	*18.06*	*19.46*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.49**	**2.78**	**2.94**	**3.31**	**3.31**	*2.63*	*2.75*	*3.12*	*3.29*	*2.88*	*3.01*	*3.38*	**3.13**	*2.95*	*3.14*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.10**	**0.14**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.05**	*0.04*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.16**	**8.49**	*6.98*	*8.42*	*8.48*	*8.22*	*8.86*	*8.97*	*8.75*	**9.27**	*8.09*	*8.70*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.96**	**0.85**	*0.70*	*0.82*	*0.85*	*0.82*	*0.90*	*0.90*	*0.89*	**0.95**	*0.80*	*0.88*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.74**	**1.56**	*0.65*	*1.22*	*1.39*	*1.38*	*1.49*	*1.68*	*1.62*	**1.74**	*1.20*	*1.54*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.10**	**3.97**	*3.31*	*3.61*	*3.76*	*3.82*	*3.82*	*3.86*	*3.98*	**4.08**	*3.66*	*3.87*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.27**	**0.17**	*0.21*	*0.31*	*0.28*	*0.29*	*0.23*	*0.31*	*0.27*	**0.27**	*0.24*	*0.27*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.88**	**1.68**	*1.93*	*2.07*	*1.77*	*1.73*	*1.96*	*2.12*	*1.89*	**1.91**	*1.86*	*1.92*
Total Consumption	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	*15.72*	*18.39*	*18.79*	*18.73*	*19.24*	*19.95*	*19.90*	**20.46**	*18.06*	*19.46*
Total Petroleum and Other Liquids Net Imports	**0.95**	**1.10**	**0.83**	**-0.49**	**-1.13**	*-0.62*	*0.01*	*0.19*	*0.62*	*1.29*	*1.60*	*0.86*	**0.59**	*-0.38*	*1.09*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**432.9**	**482.5**	*555.8*	*537.3*	*527.0*	*545.9*	*530.6*	*508.4*	*507.5*	**432.9**	*527.0*	*507.5*
Hydrocarbon Gas Liquids	**156.9**	**224.1**	**262.8**	**211.7**	**180.8**	*225.6*	*257.8*	*214.2*	*175.0*	*222.3*	*257.6*	*214.9*	**211.7**	*214.2*	*214.9*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.4**	**100.1**	*90.5*	*89.5*	*83.5*	*93.6*	*91.3*	*90.8*	*85.0*	**89.4**	*83.5*	*85.0*
Other HC/Oxygenates	**30.8**	**29.0**	**28.4**	**27.8**	**33.6**	*26.8*	*22.2*	*21.2*	*21.6*	*20.5*	*19.8*	*20.5*	**27.8**	*21.2*	*20.5*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**253.8**	**260.8**	*249.2*	*234.5*	*245.4*	*247.2*	*246.9*	*240.0*	*251.5*	**253.8**	*245.4*	*251.5*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.0**	**22.6**	*26.0*	*24.8*	*25.0*	*24.1*	*22.6*	*23.6*	*24.1*	**26.0**	*25.0*	*24.1*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**227.9**	**238.3**	*223.3*	*209.7*	*220.4*	*223.1*	*224.3*	*216.4*	*227.4*	**227.9**	*220.4*	*227.4*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.5**	**39.9**	*40.8*	*42.8*	*41.2*	*40.6*	*41.4*	*43.5*	*40.5*	**40.5**	*41.2*	*40.5*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**140.0**	**126.7**	*174.0*	*175.1*	*176.3*	*163.3*	*167.2*	*170.9*	*171.1*	**140.0**	*176.3*	*171.1*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**30.9**	**34.4**	*37.0*	*32.8*	*31.0*	*32.7*	*33.8*	*31.5*	*33.1*	**30.9**	*31.0*	*33.1*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**54.6**	**62.0**	*65.5*	*59.0*	*60.6*	*65.5*	*63.8*	*57.7*	*59.6*	**54.6**	*60.6*	*59.6*
Total Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,321**	*1,465*	*1,451*	*1,400*	*1,386*	*1,418*	*1,420*	*1,384*	**1,282**	*1,400*	*1,384*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	*660*	*660*	*647*	*634*	*631*	*630*	*628*	**635**	*647*	*628*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.85**	**1.93**	*1.75*	*1.75*	*1.85*	*1.86*	*1.98*	*1.99*	*2.07*	**1.83**	*1.82*	*1.98*
Propane	**1.50**	**1.56**	**1.61**	**1.67**	**1.72**	*1.59*	*1.54*	*1.49*	*1.42*	*1.46*	*1.51*	*1.53*	**1.59**	*1.58*	*1.48*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.91**	*0.85*	*0.83*	*0.80*	*0.75*	*0.78*	*0.81*	*0.82*	**0.85**	*0.85*	*0.79*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.57**	**0.56**	*0.54*	*0.56*	*0.52*	*0.48*	*0.52*	*0.56*	*0.53*	**0.55**	*0.55*	*0.52*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	*0.00*	*0.00*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	*0.24*	*0.27*	*0.29*	*0.28*	*0.30*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.25**	*0.24*	*0.27*	*0.28*	*0.28*	*0.29*	*0.28*	*0.29*	**0.28**	*0.26*	*0.29*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	*0.24*	*0.18*	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.01*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.31**	**-0.30**	*-0.25*	*-0.25*	*-0.28*	*-0.27*	*-0.29*	*-0.31*	*-0.30*	**-0.28**	*-0.27*	*-0.29*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.07**	**-1.12**	*-1.04*	*-0.95*	*-0.98*	*-0.86*	*-0.93*	*-0.89*	*-0.96*	**-0.94**	*-1.03*	*-0.91*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.25**	**-0.30**	*-0.44*	*-0.36*	*-0.22*	*-0.19*	*-0.25*	*-0.27*	*-0.22*	**-0.23**	*-0.33*	*-0.24*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.21**	**-0.27**	*-0.25*	*-0.27*	*-0.20*	*-0.22*	*-0.22*	*-0.24*	*-0.23*	**-0.17**	*-0.25*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.46**	*0.16*	*0.26*	*0.48*	*0.39*	*0.29*	*0.32*	*0.51*	**0.40**	*0.34*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.15**	*0.16*	*0.18*	*0.19*	*0.17*	*0.18*	*0.19*	*0.18*	**0.17**	*0.17*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.55**	**1.70**	*1.43*	*1.53*	*1.56*	*1.59*	*1.66*	*1.72*	*1.78*	**1.53**	*1.56*	*1.69*
Propane	**1.20**	**0.58**	**0.65**	**1.05**	**1.09**	*0.61*	*0.66*	*0.94*	*1.11*	*0.60*	*0.69*	*0.99*	**0.87**	*0.82*	*0.85*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.26**	*0.25*	*0.28*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.30**	*0.27*	*0.30*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.24**	**0.17**	*0.24*	*0.20*	*0.22*	*0.20*	*0.24*	*0.21*	*0.21*	**0.24**	*0.21*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.17**	**0.09**	*0.10*	*0.09*	*0.12*	*0.09*	*0.09*	*0.10*	*0.10*	**0.20**	*0.10*	*0.10*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**58.84**	**52.57**	*56.69*	*55.06*	*56.99*	*55.46*	*58.93*	*57.71*	*58.93*	**54.94**	*55.33*	*57.77*
Propane	**47.77**	**71.72**	**95.60**	**79.63**	**60.28**	*74.75*	*91.44*	*77.05*	*51.05*	*69.81*	*88.57*	*75.97*	**79.63**	*77.05*	*75.97*
Propylene (at refineries only)	**1.68**	**1.76**	**2.65**	**1.66**	**1.41**	*2.13*	*2.66*	*3.18*	*3.16*	*3.63*	*4.07*	*4.47*	**1.66**	*3.18*	*4.47*
Butanes/Butylenes	**39.30**	**70.72**	**85.88**	**52.15**	**43.58**	*67.29*	*84.75*	*55.13*	*44.95*	*69.07*	*86.53*	*56.90*	**52.15**	*55.13*	*56.90*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.90**	**23.99**	*25.13*	*25.88*	*25.00*	*22.29*	*23.34*	*24.16*	*23.40*	**20.90**	*25.00*	*23.40*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.32**	**15.77**	*13.11*	*15.12*	*15.62*	*15.38*	*16.23*	*16.67*	*16.36*	**16.56**	*14.91*	*16.16*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	*0.32*	*0.44*	*0.67*	*0.57*	*0.47*	*0.51*	*0.69*	**0.57**	*0.51*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	*0.91*	*1.04*	*1.07*	*1.08*	*1.16*	*1.15*	*1.14*	**1.19**	*1.04*	*1.13*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.05**	*0.31*	*0.46*	*0.43*	*0.24*	*0.47*	*0.45*	*0.38*	**0.35**	*0.31*	*0.38*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.40**	**0.41**	*0.37*	*0.65*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.68**	*0.42*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**19.07**	**17.97**	*15.01*	*17.71*	*18.06*	*17.84*	*19.17*	*19.44*	*18.83*	**19.37**	*17.19*	*18.82*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.02**	*0.93*	*1.03*	*1.10*	*1.08*	*1.13*	*1.12*	*1.12*	**1.08**	*1.02*	*1.11*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.47**	*0.72*	*0.73*	*0.37*	*0.48*	*0.85*	*0.77*	*0.39*	**0.61**	*0.57*	*0.62*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.16**	**9.30**	*7.05*	*8.94*	*9.44*	*9.38*	*9.91*	*9.95*	*9.88*	**10.09**	*8.69*	*9.78*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	*0.66*	*1.37*	*1.52*	*1.53*	*1.63*	*1.69*	*1.65*	**1.80**	*1.30*	*1.62*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.95**	*4.86*	*4.83*	*4.94*	*4.73*	*4.97*	*5.06*	*5.02*	**5.14**	*4.90*	*4.95*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.31**	**0.23**	*0.20*	*0.29*	*0.26*	*0.32*	*0.34*	*0.34*	*0.29*	**0.36**	*0.25*	*0.32*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.46**	**2.41**	*2.45*	*2.58*	*2.62*	*2.48*	*2.59*	*2.75*	*2.72*	**2.45**	*2.52*	*2.64*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.17**	**18.99**	*15.95*	*18.74*	*19.16*	*18.92*	*20.30*	*20.56*	*19.95*	**20.44**	*18.21*	*19.94*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.86**	**16.36**	*13.60*	*15.58*	*15.97*	*15.72*	*16.49*	*16.94*	*16.62*	**16.98**	*15.38*	*16.45*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.81**	**18.98**	*18.98*	*18.98*	*19.00*	*19.00*	*19.00*	*19.00*	*19.03*	**18.80**	*18.98*	*19.01*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	*0.72*	*0.82*	*0.84*	*0.83*	*0.87*	*0.89*	*0.87*	**0.90**	*0.81*	*0.87*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**152**	*98*	*120*	*117*	*122*	*151*	*154*	*147*	**186**	*123*	*144*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	*191*	*191*	*182*	*186*	*216*	*223*	*216*	**251**	*200*	*211*
PADD 2	**223**	**269**	**257**	**244**	**226**	*178*	*188*	*179*	*178*	*220*	*221*	*210*	**249**	*193*	*208*
PADD 3	**206**	**246**	**234**	**224**	**210**	*164*	*175*	*165*	*169*	*199*	*203*	*194*	**228**	*179*	*192*
PADD 4	**226**	**285**	**270**	**276**	**247**	*191*	*196*	*185*	*186*	*219*	*228*	*216*	**265**	*205*	*213*
PADD 5	**297**	**356**	**331**	**350**	**311**	*261*	*268*	*256*	*245*	*284*	*288*	*280*	**334**	*275*	*275*
U.S. Average	**236**	**279**	**265**	**259**	**241**	*195*	*201*	*191*	*191*	*226*	*230*	*221*	**260**	*207*	*218*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**251**	*204*	*213*	*204*	*204*	*239*	*243*	*235*	**269**	*218*	*231*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**65.6**	**71.0**	*68.7*	*59.9*	*62.5*	*66.6*	*69.1*	*63.3*	*67.8*	**65.6**	*62.5*	*67.8*
PADD 2	**53.9**	**49.6**	**51.0**	**55.0**	**60.2**	*52.8*	*49.9*	*51.5*	*54.3*	*53.5*	*52.9*	*50.5*	**55.0**	*51.5*	*50.5*
PADD 3	**82.5**	**82.4**	**81.5**	**91.8**	**84.8**	*90.5*	*88.4*	*92.2*	*88.3*	*87.3*	*87.0*	*93.2*	**91.8**	*92.2*	*93.2*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.2**	*7.5*	*6.9*	*7.2*	*7.6*	*7.8*	*7.5*	*7.8*	**8.3**	*7.2*	*7.8*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**35.6**	*29.7*	*29.5*	*32.0*	*30.4*	*29.2*	*29.4*	*32.1*	**33.2**	*32.0*	*32.1*
U.S. Total	**236.1**	**229.7**	**231.9**	**253.8**	**260.8**	*249.2*	*234.5*	*245.4*	*247.2*	*246.9*	*240.0*	*251.5*	**253.8**	*245.4*	*251.5*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.0**	**22.6**	*26.0*	*24.8*	*25.0*	*24.1*	*22.6*	*23.6*	*24.1*	**26.0**	*25.0*	*24.1*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**227.9**	**238.3**	*223.3*	*209.7*	*220.4*	*223.1*	*224.3*	*216.4*	*227.4*	**227.9**	*220.4*	*227.4*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**103.16**	**101.90**	*97.78*	*94.98*	*92.55*	*90.78*	*91.35*	*92.82*	*94.60*	**99.17**	*96.79*	*92.40*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.96**	*0.80*	*0.77*	*0.94*	*0.99*	*0.87*	*0.80*	*0.95*	**0.90**	*0.87*	*0.90*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.72**	**2.72**	*2.56*	*2.53*	*2.46*	*2.46*	*2.36*	*2.21*	*2.17*	**2.69**	*2.57*	*2.30*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.51**	**98.21**	*94.42*	*91.68*	*89.16*	*87.33*	*88.12*	*89.81*	*91.48*	**95.57**	*93.35*	*89.20*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**95.97**	**94.47**	*90.60*	*87.95*	*85.66*	*83.96*	*84.44*	*85.75*	*87.34*	**92.21**	*89.65*	*85.39*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	*0.10*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.18*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	*5.64*	*3.66*	*5.60*	*7.07*	*6.42*	*7.56*	*8.20*	**4.98**	*5.70*	*7.31*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.64**	*6.66*	*6.55*	*7.38*	*8.45*	*7.50*	*7.68*	*8.06*	**7.37**	*7.06*	*7.92*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.13**	*7.53*	*8.46*	*8.69*	*8.85*	*7.94*	*8.73*	*8.85*	**7.77**	*8.20*	*8.59*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	**0.19**	*0.16*	*0.16*	*0.15*	*0.15*	*0.15*	*0.15*	*0.16*	**0.17**	*0.17*	*0.15*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.44**	**12.74**	*-12.08*	*-8.09*	*3.69*	*17.36*	*-9.63*	*-7.16*	*4.41*	**-1.37**	*-0.94*	*1.19*
Total Supply	**103.21**	**71.52**	**77.14**	**91.43**	**99.24**	*72.28*	*74.64*	*82.78*	*94.33*	*68.28*	*70.31*	*83.13*	**85.77**	*82.21*	*78.96*
Balancing Item (b)	**0.11**	**-0.79**	**-0.39**	**-2.10**	**0.01**	*-0.51*	*-1.40*	*0.53*	*0.94*	*-0.91*	*-1.40*	*0.23*	**-0.80**	*-0.34*	*-0.29*
Total Primary Supply	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	*71.78*	*73.24*	*83.30*	*95.27*	*67.37*	*68.91*	*83.35*	**84.97**	*81.87*	*78.66*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.00**	**22.79**	*8.61*	*3.69*	*16.81*	*26.47*	*7.33*	*3.18*	*16.64*	**13.70**	*12.96*	*13.35*
Commercial	**16.19**	**6.36**	**4.68**	**11.45**	**14.07**	*6.83*	*4.80*	*10.88*	*15.35*	*6.61*	*4.79*	*10.53*	**9.65**	*9.14*	*9.30*
Industrial	**25.12**	**21.74**	**21.31**	**23.79**	**24.55**	*19.40*	*18.66*	*21.34*	*22.30*	*20.55*	*20.27*	*23.32*	**22.98**	*20.98*	*21.61*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	**29.60**	*29.83*	*39.39*	*27.24*	*23.80*	*26.05*	*33.58*	*25.35*	**30.98**	*31.52*	*27.21*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.29**	**5.23**	*5.02*	*4.87*	*4.75*	*4.66*	*4.69*	*4.76*	*4.85*	**5.09**	*4.97*	*4.74*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.56**	**2.85**	*1.92*	*1.66*	*2.11*	*2.53*	*1.97*	*2.16*	*2.49*	**2.44**	*2.13*	*2.29*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	**0.16**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.14**	*0.16*	*0.16*
Total Consumption	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	*71.78*	*73.24*	*83.30*	*95.27*	*67.37*	*68.91*	*83.35*	**84.97**	*81.87*	*78.66*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,189**	**2,030**	*3,129*	*3,873*	*3,534*	*1,971*	*2,847*	*3,506*	*3,100*	**3,189**	*3,534*	*3,100*
East Region (d)	**216**	**537**	**845**	**764**	**385**	*662*	*937*	*798*	*319*	*573*	*813*	*643*	**764**	*798*	*643*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	*770*	*1,106*	*993*	*433*	*654*	*953*	*809*	**885**	*993*	*809*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**857**	*1,199*	*1,262*	*1,246*	*865*	*1,132*	*1,190*	*1,179*	**1,095**	*1,246*	*1,179*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	*167*	*216*	*178*	*124*	*162*	*202*	*165*	**167**	*178*	*165*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	*306*	*328*	*294*	*205*	*300*	*324*	*279*	**245**	*294*	*279*
Alaska	**30**	**33**	**37**	**33**	**23**	*25*	*25*	*25*	*25*	*25*	*25*	*25*	**33**	*25*	*25*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	*1.79*	*1.97*	*2.72*	*3.17*	*3.07*	*3.22*	*3.33*	**2.66**	*2.12*	*3.20*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.05**	**13.80**	*14.13*	*16.61*	*12.66*	*12.61*	*13.87*	*17.00*	*13.26*	**14.78**	*13.69*	*13.28*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.38**	**10.80**	*11.95*	*15.75*	*10.01*	*9.40*	*12.01*	*16.76*	*11.15*	**11.74**	*11.04*	*10.75*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.68**	**6.99**	*9.58*	*15.68*	*7.82*	*7.53*	*10.74*	*16.62*	*8.48*	**8.41**	*8.11*	*8.80*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.16**	**7.30**	*9.86*	*16.08*	*8.33*	*7.59*	*10.79*	*17.06*	*9.24*	**8.81**	*8.42*	*9.02*
S. Atlantic	**11.63**	**18.34**	**26.03**	**12.90**	**12.17**	*16.33*	*21.88*	*11.84*	*10.79*	*16.22*	*22.49*	*12.66*	**13.83**	*13.36*	*12.92*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.43**	**9.74**	*13.96*	*20.61*	*12.44*	*10.44*	*15.34*	*22.31*	*13.85*	**11.05**	*11.62*	*12.72*
W. S. Central	**8.29**	**13.38**	**21.45**	**10.54**	**8.55**	*13.91*	*19.79*	*11.60*	*9.46*	*15.11*	*20.93*	*12.50*	**10.54**	*11.32*	*12.04*
Mountain	**7.73**	**9.46**	**13.40**	**7.75**	**7.52**	*9.10*	*12.75*	*7.71*	*7.78*	*9.80*	*13.71*	*8.72*	**8.37**	*8.17*	*8.85*
Pacific	**12.44**	**12.75**	**13.50**	**12.06**	**13.41**	*13.21*	*13.52*	*12.48*	*13.02*	*13.97*	*14.80*	*13.80*	**12.50**	*13.11*	*13.64*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	*11.62*	*16.29*	*9.87*	*9.32*	*12.28*	*17.26*	*10.82*	**10.56**	*10.46*	*10.67*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**10.13**	**10.38**	*9.63*	*8.48*	*8.56*	*9.09*	*9.46*	*9.81*	*10.04*	**10.95**	*9.92*	*9.61*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.47**	**7.91**	*7.32*	*6.50*	*7.15*	*7.50*	*7.54*	*7.10*	*7.70*	**7.85**	*7.40*	*7.52*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.04**	**5.75**	*6.62*	*8.05*	*6.23*	*6.38*	*7.63*	*9.12*	*7.20*	**6.51**	*6.20*	*7.03*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.16**	**5.97**	*6.08*	*7.50*	*6.37*	*6.96*	*7.59*	*8.89*	*7.45*	**6.73**	*6.21*	*7.36*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.82**	**8.56**	*9.07*	*9.37*	*8.68*	*8.85*	*9.83*	*10.19*	*9.15*	**9.05**	*8.78*	*9.27*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.54**	**8.36**	*8.63*	*8.79*	*7.91*	*7.87*	*9.16*	*9.87*	*9.00*	**8.91**	*8.31*	*8.65*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.38**	**5.70**	*6.29*	*6.95*	*6.75*	*6.89*	*7.55*	*8.28*	*7.83*	**6.41**	*6.23*	*7.48*
Mountain	**6.40**	**6.72**	**7.41**	**6.16**	**6.07**	*6.30*	*7.15*	*6.32*	*6.77*	*7.24*	*8.19*	*7.35*	**6.47**	*6.29*	*7.18*
Pacific	**9.08**	**8.82**	**9.14**	**8.90**	**9.60**	*8.87*	*8.46*	*8.07*	*8.54*	*8.80*	*9.19*	*8.92*	**8.99**	*8.81*	*8.81*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	*7.39*	*7.71*	*7.09*	*7.35*	*8.07*	*8.66*	*7.99*	**7.62**	*7.26*	*7.80*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.29**	**8.09**	*7.32*	*6.47*	*7.70*	*8.49*	*7.91*	*7.30*	*8.22*	**8.08**	*7.53*	*8.07*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.95**	**7.46**	*6.81*	*6.47*	*6.87*	*7.58*	*7.19*	*7.37*	*7.71*	**7.86**	*7.04*	*7.52*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.14**	**4.88**	*4.49*	*4.53*	*4.95*	*5.98*	*5.88*	*5.99*	*6.07*	**5.49**	*4.79*	*5.99*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.19**	**3.94**	*3.09*	*3.03*	*4.18*	*5.06*	*4.45*	*4.49*	*5.28*	**4.24**	*3.64*	*4.87*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.52**	**4.17**	*3.77*	*3.80*	*4.66*	*5.41*	*4.95*	*4.99*	*5.36*	**4.80**	*4.13*	*5.19*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.07**	**3.90**	*3.48*	*3.49*	*4.42*	*5.05*	*4.70*	*4.72*	*5.17*	**4.20**	*3.84*	*4.93*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.64**	**2.17**	*1.89*	*2.09*	*2.82*	*3.33*	*3.16*	*3.41*	*3.56*	**2.89**	*2.24*	*3.36*
Mountain	**5.31**	**4.80**	**5.00**	**4.72**	**4.41**	*4.22*	*4.57*	*4.90*	*5.39*	*5.32*	*5.76*	*5.95*	**4.96**	*4.53*	*5.60*
Pacific	**7.68**	**6.66**	**6.49**	**6.83**	**7.54**	*6.02*	*5.67*	*5.88*	*6.76*	*6.45*	*6.70*	*6.86*	**6.97**	*6.34*	*6.70*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	*2.65*	*2.69*	*3.65*	*4.41*	*3.94*	*4.03*	*4.51*	**3.91**	*3.16*	*4.24*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**179.5**	**179.2**	**181.4**	**165.2**	**149.1**	*113.4*	*137.3*	*130.2*	*136.6*	*105.8*	*155.1*	*151.2*	**705.3**	*530.0*	*548.7*
Appalachia	**49.6**	**52.5**	**46.6**	**44.3**	**39.7**	*30.6*	*29.9*	*25.5*	*26.9*	*24.5*	*33.5*	*32.4*	**193.0**	*125.7*	*117.2*
Interior	**35.4**	**32.3**	**32.4**	**30.6**	**25.8**	*22.0*	*33.5*	*35.3*	*35.9*	*25.5*	*31.9*	*33.0*	**130.7**	*116.6*	*126.3*
Western	**94.5**	**94.4**	**102.4**	**90.3**	**83.6**	*60.8*	*73.9*	*69.4*	*73.9*	*55.8*	*89.7*	*85.7*	**381.7**	*287.7*	*305.1*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	**-0.1**	*1.3*	*1.8*	*-2.0*	*0.0*	*1.4*	*1.7*	*-2.3*	**-2.7**	*1.0*	*0.8*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	*1.3*	*1.5*	*1.4*	*1.2*	*1.3*	*1.5*	*1.4*	**6.7**	*5.5*	*5.4*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	*16.3*	*14.0*	*13.3*	*22.6*	*17.7*	*15.2*	*14.5*	**92.9**	*63.6*	*70.0*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	*10.0*	*8.1*	*7.6*	*13.0*	*10.4*	*9.0*	*8.3*	**55.1**	*37.3*	*40.8*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	*6.3*	*5.9*	*5.7*	*9.5*	*7.2*	*6.3*	*6.2*	**37.7**	*26.3*	*29.2*
Total Primary Supply	**154.5**	**156.7**	**159.9**	**145.2**	**130.3**	*99.7*	*126.6*	*116.3*	*115.3*	*90.7*	*143.0*	*135.9*	**616.4**	*472.9*	*484.9*
Secondary Inventory Withdrawals	**6.2**	**-21.0**	**6.4**	**-17.5**	**-16.7**	*4.2*	*8.5*	*-7.3*	*-0.6*	*4.4*	*8.6*	*-7.6*	**-26.0**	*-11.3*	*4.8*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**163.1**	**138.0**	**168.6**	**130.0**	**115.9**	*106.2*	*137.4*	*111.3*	*116.7*	*97.1*	*153.6*	*130.3*	**599.7**	*470.8*	*497.6*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.3**	**4.9**	*3.5*	*3.8*	*4.4*	*4.3*	*4.2*	*4.2*	*5.2*	**17.9**	*16.6*	*18.0*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	**97.5**	*73.6*	*102.3*	*77.1*	*97.7*	*90.6*	*139.0*	*98.0*	**539.4**	*350.5*	*425.4*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.6**	*6.5*	*6.1*	*6.3*	*6.4*	*6.2*	*6.3*	*6.7*	**30.0**	*26.5*	*25.6*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	*0.4*	*0.6*	*0.6*	*0.5*	*0.3*	*0.3*	*0.3*	**0.9**	*1.9*	*1.4*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.5**	*6.0*	*5.5*	*5.7*	*5.9*	*5.9*	*6.0*	*6.4*	**29.1**	*24.6*	*24.2*
Total Consumption	**157.9**	**129.9**	**167.8**	**131.8**	**110.0**	*83.6*	*112.2*	*87.8*	*108.5*	*101.1*	*149.5*	*109.9*	**587.3**	*393.6*	*469.0*
Discrepancy (c)	**5.2**	**8.2**	**0.8**	**-1.9**	**5.9**	*22.7*	*25.2*	*23.5*	*8.2*	*-4.0*	*4.1*	*20.4*	**12.4**	*77.2*	*28.6*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	**24.6**	*23.3*	*21.5*	*23.5*	*23.5*	*22.1*	*20.4*	*22.7*	**24.4**	*23.5*	*22.7*
Secondary Inventories	**102.2**	**123.2**	**116.8**	**134.3**	**151.0**	*146.8*	*138.3*	*145.6*	*146.2*	*141.9*	*133.3*	*140.9*	**134.3**	*145.6*	*140.9*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	**145.5**	*141.0*	*132.4*	*139.9*	*140.7*	*136.1*	*127.4*	*135.2*	**128.5**	*139.9*	*135.2*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.7**	*3.6*	*3.6*	*3.5*	*3.8*	*3.7*	*3.7*	*3.6*	**3.3**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**1.7**	*2.0*	*2.1*	*2.0*	*1.6*	*2.0*	*2.1*	*2.0*	**2.3**	*2.0*	*2.0*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	*0.183*	*0.230*	*0.264*	*0.261*	*0.255*	*0.258*	*0.267*	**0.268**	*0.236*	*0.260*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	*2.04*	*2.00*	*2.00*	*2.03*	*2.04*	*2.03*	*2.04*	**2.02**	*1.98*	*2.03*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	**962**	*917*	*1,079*	*896*	*915*	*930*	*1,106*	*925*	**4,118**	*3,853*	*3,877*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	**921**	*882*	*1,042*	*861*	*879*	*894*	*1,067*	*887*	**3,956**	*3,706*	*3,728*
Industrial Sector (b)	**37**	**36**	**38**	**38**	**38**	*32*	*33*	*32*	*33*	*33*	*35*	*35*	**149**	*135*	*136*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*3*	*3*	*3*	*3*	*4*	*3*	**14**	*13*	*13*
Net Imports	**9**	**9**	**11**	**10**	**12**	*13*	*15*	*11*	*12*	*13*	*14*	*11*	**39**	*51*	*50*
Total Supply	**1,004**	**983**	**1,184**	**986**	**974**	*930*	*1,094*	*907*	*927*	*943*	*1,121*	*936*	**4,157**	*3,904*	*3,927*
Losses and Unaccounted for (c)	**57**	**71**	**74**	**59**	**52**	*62*	*64*	*51*	*43*	*64*	*56*	*52*	**262**	*230*	*216*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	**885**	*835*	*997*	*825*	*853*	*846*	*1029*	*850*	**3750**	*3542*	*3577*
Residential Sector	**361**	**309**	**434**	**331**	**340**	*323*	*430*	*322*	*352*	*319*	*432*	*321*	**1435**	*1414*	*1424*
Commercial Sector	**320**	**328**	**382**	**325**	**313**	*295*	*334*	*290*	*287*	*307*	*359*	*309*	**1355**	*1232*	*1261*
Industrial Sector	**228**	**238**	**254**	**232**	**231**	*215*	*231*	*211*	*211*	*218*	*237*	*218*	**952**	*888*	*885*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*8*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	*32*	*33*	*31*	*32*	*33*	*35*	*34*	**146**	*133*	*134*
Total Consumption	**948**	**912**	**1110**	**927**	**922**	*867*	*1030*	*856*	*885*	*879*	*1064*	*884*	**3896**	*3675*	*3711*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,450**	**2,495**	*2,371*	*3,159*	*2,362*	*2,570*	*2,330*	*3,149*	*2,341*	**10,631**	*10,386*	*10,389*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	*2.04*	*2.00*	*2.00*	*2.03*	*2.04*	*2.03*	*2.04*	**2.02**	*1.98*	*2.03*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.40**	*1.79*	*1.82*	*2.83*	*3.59*	*3.18*	*3.29*	*3.59*	**2.88**	*2.17*	*3.40*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.52**	**12.50**	*7.47*	*6.84*	*7.09*	*7.79*	*9.29*	*9.31*	*9.60*	**12.72**	*8.29*	*8.85*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.45**	*8.35*	*9.15*	*9.60*	*9.99*	*11.34*	*11.99*	*12.68*	**15.16**	*10.09*	*11.54*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	*13.31*	*13.21*	*12.87*	*12.92*	*13.70*	*13.73*	*13.45*	**13.04**	*13.08*	*13.46*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	*10.54*	*10.88*	*10.47*	*10.42*	*10.75*	*11.24*	*10.90*	**10.66**	*10.57*	*10.85*
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	*6.62*	*7.25*	*6.79*	*6.69*	*6.92*	*7.59*	*6.94*	**6.83**	*6.76*	*7.05*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	*24.91*	*27.99*	*27.78*	*28.58*	*31.54*	*35.78*	*30.84*	**56.24**	*26.02*	*31.68*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	*19.50*	*27.79*	*30.13*	*32.10*	*29.19*	*32.34*	*33.90*	**38.15**	*26.51*	*31.88*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	*19.68*	*19.70*	*26.42*	*37.34*	*21.42*	*24.36*	*28.46*	**34.89**	*22.60*	*27.90*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	*18.04*	*19.45*	*20.05*	*22.36*	*21.84*	*24.15*	*22.91*	**30.56**	*19.84*	*22.82*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	*22.28*	*28.28*	*26.52*	*27.82*	*28.55*	*31.46*	*28.59*	**30.85**	*24.89*	*29.11*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	*23.91*	*30.27*	*28.15*	*28.62*	*29.80*	*32.61*	*30.22*	**29.51**	*26.69*	*30.31*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	*20.38*	*26.58*	*23.38*	*22.38*	*24.30*	*28.37*	*24.93*	**27.86**	*22.60*	*25.00*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	*21.95*	*31.40*	*28.84*	*29.41*	*31.35*	*34.80*	*31.21*	**30.25**	*26.44*	*31.69*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	*21.03*	*26.76*	*29.19*	*30.12*	*30.30*	*32.13*	*32.04*	**30.10**	*25.80*	*31.15*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	*15.97*	*22.96*	*25.60*	*26.95*	*23.00*	*27.21*	*28.70*	**36.12**	*21.83*	*26.46*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	*18.87*	*24.52*	*25.61*	*26.76*	*26.91*	*28.38*	*27.81*	**35.26**	*22.77*	*27.47*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	**11.7**	*10.3*	*13.3*	*11.0*	*12.4*	*10.1*	*13.1*	*10.8*	**46.1**	*46.2*	*46.5*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	**32.2**	*29.7*	*39.8*	*29.3*	*33.6*	*28.9*	*39.3*	*29.1*	**133.1**	*130.9*	*131.0*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	**46.4**	*40.8*	*52.7*	*42.8*	*48.3*	*40.0*	*52.6*	*42.5*	**185.9**	*182.7*	*183.5*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	**27.6**	*22.4*	*29.4*	*24.4*	*27.9*	*22.4*	*29.5*	*24.4*	**105.4**	*103.8*	*104.1*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	**83.7**	*85.0*	*109.3*	*81.0*	*89.6*	*83.1*	*110.5*	*80.7*	**368.5**	*359.0*	*364.0*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	**29.0**	*26.4*	*36.2*	*26.1*	*31.1*	*26.1*	*37.0*	*26.1*	**121.1**	*117.8*	*120.2*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	**48.6**	*52.3*	*75.2*	*48.1*	*49.1*	*52.6*	*75.9*	*48.2*	**227.1**	*224.3*	*225.8*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	**22.5**	*24.2*	*33.4*	*21.9*	*22.3*	*24.1*	*33.2*	*22.0*	**100.2**	*102.0*	*101.6*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	**36.7**	*30.8*	*39.5*	*35.8*	*36.4*	*30.9*	*39.2*	*35.9*	**143.1**	*142.8*	*142.4*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.2*	**4.7**	*4.9*	*4.8*
Total	**361.4**	**309.2**	**433.8**	**330.7**	**339.7**	*322.8*	*430.1*	*321.6*	*352.2*	*319.3*	*431.5*	*320.8*	**1,435.1**	*1,414.2*	*1,423.8*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	**12.2**	*11.0*	*12.7*	*11.5*	*11.5*	*11.1*	*13.1*	*11.8*	**51.2**	*47.4*	*47.5*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	**35.9**	*30.2*	*33.2*	*29.5*	*31.1*	*32.0*	*37.1*	*32.5*	**152.6**	*128.9*	*132.8*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	**43.1**	*37.8*	*42.1*	*37.9*	*38.9*	*40.0*	*46.5*	*41.2*	**181.6**	*161.0*	*166.5*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**24.7**	*22.7*	*25.9*	*23.5*	*23.6*	*23.3*	*27.0*	*24.4*	**102.5**	*96.8*	*98.3*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	**71.4**	*68.0*	*77.0*	*66.2*	*65.1*	*70.9*	*84.2*	*71.7*	**317.0**	*282.6*	*291.8*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	**20.7**	*20.2*	*23.8*	*19.7*	*19.4*	*21.0*	*25.5*	*20.7*	**92.3**	*84.4*	*86.6*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	**43.9**	*45.5*	*52.8*	*43.0*	*41.3*	*47.4*	*56.5*	*45.4*	**195.7**	*185.2*	*190.6*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	**22.5**	*23.0*	*25.6*	*21.4*	*20.8*	*24.0*	*27.4*	*22.9*	**98.2**	*92.6*	*95.2*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	**36.9**	*35.1*	*38.9*	*35.7*	*33.9*	*35.3*	*39.8*	*36.4*	**157.9**	*146.6*	*145.4*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	**1.4**	*1.6*	*1.7*	*1.6*	*1.5*	*1.5*	*1.5*	*1.5*	**5.7**	*6.3*	*6.1*
Total	**319.9**	**328.2**	**381.8**	**324.6**	**312.7**	*295.2*	*333.7*	*290.1*	*287.1*	*306.6*	*358.7*	*308.6*	**1,354.5**	*1,231.7*	*1,260.9*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	**3.7**	*3.3*	*3.7*	*3.5*	*3.4*	*3.3*	*3.7*	*3.5*	**15.4**	*14.2*	*13.9*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	**18.0**	*16.4*	*18.5*	*17.0*	*16.7*	*16.6*	*19.0*	*17.6*	**73.2**	*69.9*	*69.8*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	**44.0**	*37.9*	*39.8*	*36.6*	*37.6*	*36.7*	*39.2*	*36.3*	**181.5**	*158.2*	*149.9*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	**21.7**	*19.4*	*21.0*	*19.6*	*19.8*	*20.2*	*22.3*	*21.0*	**88.3**	*81.7*	*83.3*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	**33.0**	*30.8*	*33.0*	*30.6*	*30.6*	*31.4*	*34.1*	*31.7*	**137.5**	*127.4*	*127.8*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	**23.3**	*20.8*	*21.3*	*20.2*	*20.9*	*21.2*	*22.1*	*21.2*	**94.7**	*85.5*	*85.3*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	**46.5**	*45.0*	*46.8*	*43.5*	*43.5*	*46.6*	*49.2*	*46.0*	**189.5**	*181.8*	*185.4*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	**20.0**	*20.9*	*23.0*	*19.7*	*19.4*	*21.6*	*23.8*	*20.5*	**84.1**	*83.6*	*85.2*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	**19.2**	*19.8*	*22.7*	*19.4*	*18.2*	*19.6*	*22.5*	*19.3*	**83.1**	*81.1*	*79.6*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	*1.2*	**4.9**	*4.8*	*4.8*
Total	**228.2**	**237.7**	**254.2**	**232.1**	**230.5**	*215.4*	*231.1*	*211.1*	*211.2*	*218.2*	*237.2*	*218.3*	**952.1**	*888.1*	*884.9*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	**27.7**	*24.8*	*29.8*	*26.1*	*27.5*	*24.6*	*30.1*	*26.3*	**113.3**	*108.3*	*108.5*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	**87.0**	*77.3*	*92.6*	*76.8*	*82.5*	*78.5*	*96.4*	*80.2*	**362.8**	*333.7*	*337.7*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	**133.7**	*116.6*	*134.8*	*117.4*	*124.9*	*116.8*	*138.5*	*120.2*	**549.6**	*502.5*	*500.5*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	**74.0**	*64.5*	*76.3*	*67.5*	*71.3*	*65.9*	*78.8*	*69.8*	**296.2**	*282.4*	*285.8*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	**188.4**	*184.1*	*219.7*	*178.1*	*185.6*	*185.7*	*229.1*	*184.5*	**824.3**	*770.3*	*784.9*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	**73.0**	*67.4*	*81.3*	*65.9*	*71.4*	*68.3*	*84.6*	*67.9*	**308.1**	*287.6*	*292.1*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	**139.1**	*142.9*	*175.0*	*134.6*	*134.0*	*146.6*	*181.6*	*139.7*	**612.4**	*591.5*	*601.9*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	**65.0**	*68.2*	*82.0*	*63.0*	*62.5*	*69.7*	*84.5*	*65.4*	**282.7**	*278.3*	*282.1*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	**93.1**	*85.9*	*101.3*	*91.1*	*88.8*	*86.0*	*101.8*	*91.8*	**384.9**	*371.4*	*368.3*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.8**	*3.8*	*4.2*	*4.1*	*3.9*	*3.8*	*4.0*	*4.0*	**15.2**	*15.9*	*15.7*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	**884.8**	*835.3*	*996.9*	*824.8*	*852.5*	*845.9*	*1,029.3*	*849.7*	**3,749.5**	*3,541.8*	*3,577.5*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.57**	**20.70**	**20.87**	**21.75**	*21.10*	*20.11*	*20.15*	*21.06*	*21.21*	*20.99*	*21.95*	**21.14**	*20.75*	*21.28*
Middle Atlantic	**15.19**	**16.06**	**16.15**	**15.78**	**15.47**	*15.92*	*15.89*	*15.65*	*15.62*	*16.68*	*16.95*	*16.61*	**15.79**	*15.74*	*16.47*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.29**	**13.10**	*13.77*	*13.34*	*13.56*	*13.50*	*14.46*	*14.04*	*14.15*	**13.30**	*13.43*	*14.01*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.24**	**10.99**	*12.92*	*13.20*	*11.66*	*11.43*	*13.57*	*13.82*	*12.08*	**11.87**	*12.19*	*12.72*
S. Atlantic	**11.70**	**12.17**	**12.11**	**11.87**	**11.80**	*12.02*	*11.88*	*11.63*	*11.47*	*12.11*	*12.16*	*12.09*	**11.97**	*11.84*	*11.96*
E. S. Central	**11.10**	**11.70**	**11.37**	**11.23**	**11.25**	*11.71*	*11.64*	*11.86*	*11.65*	*12.22*	*12.02*	*12.18*	**11.34**	*11.61*	*12.00*
W. S. Central	**10.88**	**11.50**	**11.36**	**11.24**	**11.05**	*11.30*	*11.14*	*11.11*	*10.98*	*11.56*	*11.65*	*11.75*	**11.25**	*11.15*	*11.50*
Mountain	**11.51**	**12.18**	**12.23**	**11.59**	**11.42**	*12.13*	*12.20*	*11.66*	*11.65*	*12.56*	*12.71*	*12.12*	**11.91**	*11.90*	*12.31*
Pacific	**14.86**	**15.88**	**17.31**	**14.64**	**15.69**	*16.64*	*17.57*	*14.56*	*15.68*	*17.16*	*18.10*	*15.01*	**15.68**	*16.13*	*16.50*
U.S. Average	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	*13.31*	*13.21*	*12.87*	*12.92*	*13.70*	*13.73*	*13.45*	**13.04**	*13.08*	*13.46*
Commercial Sector															
New England	**16.83**	**16.24**	**15.97**	**15.76**	**16.23**	*15.68*	*15.57*	*15.44*	*16.05*	*15.77*	*16.01*	*16.24*	**16.19**	*15.73*	*16.02*
Middle Atlantic	**11.57**	**12.18**	**13.03**	**11.97**	**11.69**	*11.74*	*12.18*	*11.32*	*11.44*	*12.20*	*13.03*	*12.05*	**12.21**	*11.74*	*12.22*
E. N. Central	**10.14**	**10.29**	**10.09**	**10.05**	**9.95**	*10.21*	*10.08*	*10.14*	*10.17*	*10.53*	*10.48*	*10.51*	**10.14**	*10.09*	*10.42*
W. N. Central	**8.98**	**10.04**	**10.41**	**9.11**	**9.07**	*10.19*	*10.72*	*9.52*	*9.59*	*10.76*	*11.28*	*9.87*	**9.65**	*9.88*	*10.40*
S. Atlantic	**9.44**	**9.37**	**9.35**	**9.35**	**9.26**	*9.25*	*9.20*	*9.21*	*9.20*	*9.26*	*9.37*	*9.53*	**9.37**	*9.23*	*9.34*
E. S. Central	**10.70**	**10.70**	**10.65**	**10.62**	**10.75**	*10.96*	*11.14*	*11.36*	*11.49*	*11.38*	*11.43*	*11.58*	**10.67**	*11.05*	*11.47*
W. S. Central	**8.12**	**8.00**	**8.30**	**8.06**	**7.89**	*7.83*	*8.18*	*8.03*	*7.95*	*7.94*	*8.39*	*8.22*	**8.13**	*7.99*	*8.14*
Mountain	**9.20**	**9.71**	**10.00**	**9.18**	**8.99**	*9.62*	*9.97*	*9.21*	*9.12*	*9.89*	*10.32*	*9.53*	**9.55**	*9.47*	*9.76*
Pacific	**12.98**	**14.15**	**16.35**	**14.44**	**13.52**	*14.23*	*16.08*	*14.17*	*13.39*	*14.53*	*16.85*	*15.19*	**14.54**	*14.53*	*15.07*
U.S. Average	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	*10.54*	*10.88*	*10.47*	*10.42*	*10.75*	*11.24*	*10.90*	**10.66**	*10.57*	*10.85*
Industrial Sector															
New England	**13.45**	**12.89**	**12.66**	**12.70**	**12.74**	*12.28*	*12.26*	*12.59*	*12.95*	*12.78*	*12.77*	*12.82*	**12.92**	*12.47*	*12.83*
Middle Atlantic	**6.73**	**6.52**	**6.54**	**6.40**	**6.34**	*6.16*	*6.24*	*6.37*	*6.63*	*6.54*	*6.64*	*6.47*	**6.55**	*6.28*	*6.57*
E. N. Central	**7.03**	**6.84**	**6.83**	**6.76**	**6.51**	*6.66*	*6.83*	*6.96*	*6.88*	*7.00*	*7.18*	*7.15*	**6.87**	*6.73*	*7.05*
W. N. Central	**7.13**	**7.33**	**8.09**	**6.87**	**6.94**	*7.59*	*8.46*	*7.22*	*7.33*	*7.84*	*8.72*	*7.40*	**7.37**	*7.55*	*7.84*
S. Atlantic	**6.22**	**6.28**	**6.72**	**6.18**	**5.97**	*6.03*	*6.52*	*6.14*	*6.10*	*6.28*	*6.80*	*6.25*	**6.36**	*6.17*	*6.37*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.61**	**5.45**	*5.67*	*5.93*	*5.72*	*5.69*	*5.88*	*6.14*	*5.77*	**5.76**	*5.68*	*5.87*
W. S. Central	**5.25**	**5.28**	**6.05**	**5.29**	**5.05**	*5.20*	*5.97*	*5.44*	*5.49*	*5.55*	*6.41*	*5.60*	**5.48**	*5.42*	*5.78*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	**5.73**	*5.93*	*6.59*	*5.86*	*5.84*	*6.16*	*6.86*	*6.00*	**6.29**	*6.05*	*6.24*
Pacific	**8.65**	**9.45**	**11.26**	**10.16**	**8.97**	*9.93*	*11.65*	*10.57*	*9.45*	*10.41*	*12.24*	*10.98*	**9.95**	*10.33*	*10.85*
U.S. Average	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	*6.62*	*7.25*	*6.79*	*6.69*	*6.92*	*7.59*	*6.94*	**6.83**	*6.76*	*7.05*
All Sectors (a)															
New England	**18.35**	**17.72**	**17.50**	**17.34**	**18.07**	*17.45*	*17.15*	*17.01*	*17.90*	*17.56*	*17.76*	*18.09*	**17.73**	*17.42*	*17.83*
Middle Atlantic	**12.01**	**12.27**	**12.99**	**12.10**	**11.97**	*12.14*	*12.57*	*11.87*	*12.16*	*12.64*	*13.35*	*12.47*	**12.37**	*12.15*	*12.69*
E. N. Central	**10.13**	**10.12**	**10.20**	**10.03**	**9.91**	*10.30*	*10.39*	*10.39*	*10.46*	*10.76*	*10.89*	*10.78*	**10.12**	*10.24*	*10.73*
W. N. Central	**9.14**	**10.03**	**10.64**	**9.17**	**9.16**	*10.35*	*11.05*	*9.63*	*9.68*	*10.82*	*11.51*	*9.90*	**9.76**	*10.06*	*10.50*
S. Atlantic	**9.92**	**10.01**	**10.24**	**9.90**	**9.80**	*9.99*	*10.13*	*9.78*	*9.78*	*10.03*	*10.33*	*10.08*	**10.03**	*9.94*	*10.07*
E. S. Central	**9.30**	**9.43**	**9.65**	**9.27**	**9.26**	*9.62*	*10.00*	*9.83*	*9.86*	*10.00*	*10.31*	*10.00*	**9.42**	*9.68*	*10.05*
W. S. Central	**8.22**	**8.28**	**8.94**	**8.28**	**8.04**	*8.27*	*8.86*	*8.30*	*8.26*	*8.48*	*9.22*	*8.57*	**8.47**	*8.40*	*8.67*
Mountain	**9.12**	**9.43**	**9.98**	**8.98**	**8.83**	*9.38*	*9.93*	*9.02*	*9.01*	*9.66*	*10.28*	*9.30*	**9.42**	*9.33*	*9.62*
Pacific	**12.87**	**13.63**	**15.55**	**13.60**	**13.42**	*14.09*	*15.65*	*13.54*	*13.51*	*14.52*	*16.30*	*14.22*	**13.96**	*14.22*	*14.69*
U.S. Average	**10.37**	**10.52**	**11.03**	**10.38**	**10.29**	*10.60*	*11.04*	*10.46*	*10.53*	*10.87*	*11.44*	*10.84*	**10.60**	*10.61*	*10.95*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	**355.0**	*345.6*	*469.3*	*335.3*	*291.5*	*310.7*	*414.9*	*318.3*	**1,474.7**	*1,505.2*	*1,335.4*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	**170.2**	*129.4*	*179.3*	*133.8*	*169.0*	*158.5*	*245.3*	*170.3*	**959.5**	*612.7*	*743.1*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.2**	*189.0*	*206.9*	*198.3*	*198.3*	*189.6*	*204.3*	*192.1*	**809.4**	*798.3*	*784.3*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	**185.5**	*210.8*	*181.2*	*189.1*	*213.9*	*228.9*	*197.3*	*202.2*	**688.0**	*766.6*	*842.2*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	*86.5*	*68.7*	*63.5*	*74.8*	*81.6*	*63.7*	*61.5*	**272.4**	*290.0*	*281.6*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	*88.1*	*73.0*	*96.7*	*106.5*	*102.9*	*85.5*	*106.6*	**299.8**	*344.8*	*401.5*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	*26.0*	*28.5*	*18.4*	*21.3*	*34.0*	*36.6*	*23.1*	**71.5**	*89.2*	*115.0*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	*6.5*	*6.7*	*6.7*	*7.6*	*6.7*	*7.3*	*7.1*	**28.8**	*26.9*	*28.8*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	*3.8*	*4.3*	*3.8*	*3.6*	*3.8*	*4.2*	*3.8*	**15.6**	*15.6*	*15.4*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	*-0.7*	*-1.8*	*-1.3*	*-1.1*	*-0.7*	*-1.8*	*-1.3*	**-5.3**	*-4.8*	*-4.8*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	**4.0**	*4.5*	*4.5*	*3.4*	*5.0*	*4.2*	*4.4*	*3.1*	**17.3**	*16.3*	*16.8*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	**1.1**	*1.1*	*1.1*	*0.7*	*0.9*	*1.1*	*1.1*	*0.9*	**4.3**	*4.0*	*3.9*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	**1.9**	*2.0*	*1.9*	*1.8*	*1.7*	*1.9*	*1.7*	*1.7*	**7.7**	*7.6*	*7.0*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	**920.9**	*881.6*	*1,042.5*	*861.1*	*879.3*	*894.2*	*1,067.3*	*887.2*	**3,955.8**	*3,706.0*	*3,727.9*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	**11.1**	*10.5*	*14.7*	*9.9*	*7.1*	*8.9*	*13.8*	*10.9*	**46.9**	*46.2*	*40.8*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.1*	*0.1*	*0.4*	*0.0*	*0.1*	*0.1*	**0.5**	*0.3*	*0.6*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.3**	*5.2*	*7.2*	*6.2*	*7.0*	*7.1*	*7.2*	*5.6*	**29.8**	*26.0*	*26.9*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	**2.1**	*1.9*	*1.5*	*1.6*	*2.1*	*1.8*	*1.4*	*1.5*	**7.0**	*7.1*	*6.9*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	**2.6**	*2.7*	*2.7*	*2.7*	*3.5*	*2.9*	*2.7*	*2.9*	**10.3**	*10.7*	*12.0*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.3*	*0.4*	*0.4*	*1.2*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*2.3*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	**23.5**	*20.8*	*26.5*	*20.9*	*21.3*	*21.1*	*25.6*	*21.4*	**96.1**	*91.7*	*89.4*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**28.0**	**27.7**	*25.7*	*31.1*	*26.9*	*28.1*	*25.7*	*31.1*	*27.3*	**115.2**	*111.4*	*112.3*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	**12.8**	*15.3*	*21.5*	*16.7*	*14.5*	*18.1*	*22.8*	*18.9*	**54.0**	*66.2*	*74.4*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.1**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.7**	*9.3*	*8.8*	*9.1*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*37.9*	*30.2*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	**7.8**	*7.0*	*7.9*	*7.4*	*8.0*	*6.6*	*7.4*	*7.1*	**29.5**	*30.1*	*29.1*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	**1.9**	*1.9*	*1.6*	*1.8*	*2.2*	*2.1*	*2.0*	*2.6*	**6.5**	*7.2*	*8.8*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	**0.2**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	**0.9**	*0.7*	*0.7*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	**33.5**	*33.6*	*40.0*	*35.1*	*33.7*	*34.5*	*39.5*	*35.5*	**136.2**	*142.2*	*143.2*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	**35.2**	*33.7*	*41.8*	*34.3*	*35.3*	*34.6*	*42.0*	*35.2*	**150.6**	*145.0*	*147.0*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	**77.9**	*73.9*	*100.6*	*70.7*	*74.1*	*74.4*	*92.2*	*68.8*	**295.1**	*323.1*	*309.5*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	**33.7**	*22.8*	*23.6*	*20.5*	*36.3*	*22.7*	*32.6*	*26.5*	**184.3**	*100.6*	*118.2*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.9**	*66.4*	*71.0*	*69.4*	*67.5*	*65.7*	*71.8*	*68.2*	**277.9**	*275.7*	*273.2*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	**3.2**	*2.6*	*1.8*	*2.2*	*3.3*	*2.4*	*1.7*	*2.1*	**10.6**	*9.8*	*9.6*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	**10.0**	*10.6*	*7.9*	*10.4*	*11.7*	*12.1*	*9.1*	*11.2*	**34.1**	*39.0*	*44.1*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	**0.6**	*0.8*	*0.4*	*0.4*	*0.7*	*0.8*	*0.4*	*0.3*	**2.5**	*2.2*	*2.2*
Total generation	**205.4**	**185.6**	**224.1**	**189.2**	**194.4**	*177.2*	*205.3*	*173.5*	*193.6*	*178.2*	*207.8*	*177.1*	**804.4**	*750.4*	*756.7*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	**181.9**	*164.3*	*195.3*	*167.1*	*180.6*	*165.6*	*198.3*	*171.8*	**760.9**	*708.6*	*716.2*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	**61.9**	*61.1*	*77.6*	*62.1*	*58.1*	*57.3*	*72.6*	*63.0*	**252.9**	*262.7*	*251.0*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**23.9**	*22.2*	*29.0*	*20.3*	*22.0*	*28.8*	*41.6*	*25.9*	**159.8**	*95.4*	*118.4*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.0**	*50.2*	*54.9*	*52.6*	*52.3*	*52.3*	*55.4*	*52.5*	**211.0**	*210.7*	*212.5*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	**11.1**	*7.9*	*6.7*	*8.0*	*11.3*	*7.3*	*6.4*	*7.6*	**35.5**	*33.7*	*32.5*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	**3.3**	*4.5*	*4.4*	*3.2*	*3.7*	*5.2*	*5.2*	*3.6*	**13.2**	*15.3*	*17.6*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	*0.0*	*-0.6*	*-0.4*	*-0.1*	*0.0*	*-0.6*	*-0.4*	**-1.2**	*-0.9*	*-1.1*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	**153.1**	*145.9*	*172.0*	*145.9*	*147.2*	*151.0*	*180.6*	*152.2*	**671.1**	*616.9*	*630.9*
Net energy for load (f)	**163.9**	**158.5**	**197.9**	**157.3**	**160.3**	*142.9*	*173.2*	*142.7*	*151.1*	*149.7*	*182.1*	*149.6*	**677.6**	*619.1*	*632.4*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	**40.1**	*45.8*	*51.9*	*37.7*	*34.0*	*39.8*	*46.5*	*35.9*	**174.4**	*175.5*	*156.2*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.1**	*1.9*	*1.9*	*2.4*	*4.3*	*7.2*	*6.6*	*4.8*	**18.6**	*8.2*	*22.8*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	*7.5*	*7.5*	*7.7*	*7.8*	*7.0*	*7.2*	*7.4*	**29.1**	*29.9*	*29.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.8**	*2.4*	*2.3*	*2.0*	*2.5*	*3.2*	*3.0*	*2.5*	**6.2**	*8.4*	*11.2*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	*0.9*	*0.7*	*0.7*	*0.8*	*0.8*	*0.7*	*0.7*	**3.1**	*3.1*	*3.0*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	**52.2**	*58.5*	*64.3*	*50.4*	*49.5*	*58.0*	*64.0*	*51.3*	**231.7**	*225.4*	*222.8*
Net energy for load (f)	**48.0**	**58.4**	**69.4**	**53.1**	**48.6**	*56.6*	*65.2*	*49.3*	*45.7*	*56.2*	*65.7*	*50.3*	**229.0**	*219.7*	*217.9*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	**44.1**	*43.6*	*58.5*	*43.5*	*34.8*	*37.7*	*49.7*	*39.4*	**177.2**	*189.7*	*161.6*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	**51.1**	*43.2*	*56.8*	*39.8*	*47.8*	*48.9*	*71.6*	*49.4*	**276.2**	*190.8*	*217.6*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	*22.2*	*26.3*	*24.8*	*24.9*	*23.9*	*25.0*	*23.5*	**102.3**	*99.8*	*97.3*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	**2.3**	*2.3*	*1.7*	*1.8*	*2.4*	*2.2*	*1.6*	*1.8*	**8.0**	*8.2*	*8.0*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	**20.2**	*19.6*	*16.1*	*23.2*	*24.9*	*23.7*	*19.2*	*25.6*	**66.1**	*79.0*	*93.4*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	**1.4**	*1.8*	*1.7*	*0.8*	*1.3*	*1.6*	*1.6*	*0.9*	**6.0**	*5.7*	*5.4*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	**145.8**	*132.6*	*161.1*	*133.9*	*136.1*	*138.1*	*168.7*	*140.4*	**635.7**	*573.4*	*583.3*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	**152.5**	*138.7*	*163.5*	*139.7*	*142.9*	*142.8*	*168.0*	*144.8*	**645.6**	*594.4*	*598.5*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	**17.3**	*15.3*	*24.1*	*13.0*	*11.5*	*12.2*	*20.7*	*11.3*	**71.1**	*69.7*	*55.6*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	**17.0**	*8.8*	*20.8*	*10.8*	*11.2*	*7.6*	*22.0*	*11.6*	**93.3**	*57.3*	*52.3*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	*4.4*	*4.4*	*3.5*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.7*	*16.0*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	**4.2**	*3.6*	*2.6*	*2.9*	*4.2*	*3.3*	*2.4*	*2.8*	**13.7**	*13.3*	*12.8*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	**20.6**	*19.2*	*17.3*	*23.8*	*26.2*	*23.3*	*21.6*	*27.0*	**75.0**	*80.8*	*98.1*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	**0.1**	*0.3*	*0.1*	*0.1*	*0.1*	*0.2*	*0.0*	*0.1*	**0.8**	*0.7*	*0.5*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	**63.6**	*51.5*	*69.2*	*54.1*	*57.3*	*49.8*	*71.0*	*57.3*	**270.1**	*238.4*	*235.4*
Net energy for load (f)	**62.5**	**68.4**	**73.6**	**61.8**	**63.1**	*58.1*	*68.2*	*53.8*	*55.0*	*56.1*	*70.1*	*56.2*	**266.2**	*243.3*	*237.4*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	**36.8**	*42.0*	*54.5*	*29.6*	*20.8*	*31.0*	*41.2*	*22.7*	**180.1**	*163.0*	*115.7*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	**13.1**	*9.8*	*12.6*	*11.4*	*14.6*	*15.4*	*24.2*	*17.9*	**75.2**	*46.9*	*72.0*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	*9.7*	*11.0*	*10.0*	*10.7*	*9.8*	*10.3*	*9.6*	**41.3**	*41.0*	*40.4*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	**0.3**	*0.3*	*0.1*	*0.1*	*0.3*	*0.2*	*0.1*	*0.1*	**0.7**	*0.7*	*0.7*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	**22.7**	*27.0*	*24.3*	*26.0*	*28.1*	*33.3*	*30.7*	*29.8*	**81.1**	*100.0*	*121.9*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	**1.6**	*1.5*	*1.5*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	**83.7**	*89.1*	*102.8*	*77.5*	*74.8*	*90.2*	*106.9*	*80.4*	**380.2**	*353.2*	*352.2*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	**83.7**	*89.1*	*102.8*	*77.5*	*74.8*	*90.2*	*106.9*	*80.4*	**380.2**	*353.2*	*352.2*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	**23.5**	*14.2*	*23.2*	*15.8*	*13.4*	*10.1*	*16.0*	*12.7*	**89.2**	*76.8*	*52.2*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	**22.0**	*12.3*	*24.4*	*21.5*	*25.4*	*18.5*	*34.7*	*26.8*	**105.1**	*80.2*	*105.4*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.4**	*2.5*	*2.4*	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.9**	*9.8*	*8.4*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	**33.9**	*45.3*	*32.0*	*31.1*	*36.9*	*43.2*	*29.1*	*30.5*	**118.0**	*142.2*	*139.6*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	**13.8**	*14.8*	*13.5*	*14.9*	*17.7*	*17.9*	*15.8*	*16.8*	**48.4**	*57.0*	*68.2*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.8*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	**95.9**	*89.3*	*95.7*	*85.9*	*96.2*	*91.0*	*98.3*	*89.3*	**370.5**	*366.9*	*374.8*
Net energy for load (f)	**94.5**	**83.1**	**92.1**	**87.7**	**87.8**	*80.5*	*89.2*	*83.6*	*84.4*	*80.9*	*89.6*	*84.5*	**357.4**	*341.1*	*339.3*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	**11.9**	*13.9*	*18.3*	*11.6*	*8.8*	*12.8*	*16.9*	*12.0*	**56.5**	*55.7*	*50.5*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	**5.3**	*6.7*	*8.2*	*4.6*	*5.0*	*6.3*	*9.5*	*4.7*	**36.7**	*24.7*	*25.5*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	*7.6*	*8.6*	*7.6*	*8.4*	*7.6*	*8.6*	*7.6*	**31.9**	*32.1*	*32.3*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	**2.6**	*3.8*	*4.2*	*2.7*	*2.7*	*3.4*	*3.9*	*2.5*	**13.9**	*13.2*	*12.4*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	**2.5**	*3.0*	*2.8*	*2.7*	*3.9*	*4.2*	*3.8*	*3.7*	**9.9**	*10.9*	*15.6*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.0**	*0.0*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	**30.5**	*35.0*	*42.1*	*29.2*	*28.8*	*34.3*	*42.8*	*30.4*	**148.9**	*136.8*	*136.3*
Net energy for load (f)	**18.2**	**23.1**	**34.1**	**22.3**	**21.8**	*26.6*	*33.7*	*22.6*	*21.7*	*26.9*	*34.4*	*23.0*	**97.8**	*104.7*	*106.0*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	**16.8**	*9.4*	*23.7*	*23.7*	*13.6*	*7.5*	*21.8*	*21.9*	**74.2**	*73.6*	*64.8*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	*1.1*	*1.6*	*2.1*	*1.5*	*2.6*	*1.9*	*2.4*	**7.5**	*6.3*	*8.5*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.8**	*4.1*	*4.7*	*4.9*	*4.5*	*4.1*	*4.9*	*4.1*	**16.2**	*18.6*	*17.6*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	**3.2**	*11.4*	*10.0*	*5.3*	*3.1*	*10.8*	*9.4*	*5.0*	**34.0**	*29.9*	*28.3*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	**14.5**	*18.2*	*19.2*	*14.4*	*14.4*	*18.9*	*19.8*	*14.7*	**63.7**	*66.4*	*67.8*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	*0.2*	*0.2*	*0.0*	*-0.1*	*0.2*	*0.2*	*0.0*	**0.2**	*0.4*	*0.3*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	**40.8**	*44.4*	*59.4*	*50.5*	*37.1*	*44.2*	*58.1*	*48.0*	**195.8**	*195.1*	*187.3*
Net energy for load (f)	**59.9**	**62.5**	**76.3**	**61.6**	**57.6**	*61.6*	*74.3*	*59.4*	*56.0*	*61.7*	*75.1*	*60.2*	**260.2**	*252.9*	*253.0*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	**0.034**	*0.035*	*0.039*	*0.035*	*0.033*	*0.034*	*0.038*	*0.035*	**0.142**	*0.143*	*0.140*
Hydroelectric Power (a)	**0.649**	**0.743**	**0.553**	**0.534**	**0.651**	*0.789*	*0.620*	*0.574*	*0.687*	*0.745*	*0.582*	*0.560*	**2.480**	*2.634*	*2.573*
Solar (b)	**0.122**	**0.201**	**0.208**	**0.128**	**0.151**	*0.239*	*0.263*	*0.169*	*0.196*	*0.313*	*0.337*	*0.213*	**0.659**	*0.822*	*1.059*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	**0.060**	*0.055*	*0.057*	*0.057*	*0.060*	*0.057*	*0.059*	*0.059*	**0.236**	*0.229*	*0.235*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	**0.050**	*0.045*	*0.047*	*0.048*	*0.059*	*0.048*	*0.055*	*0.052*	**0.211**	*0.190*	*0.214*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.802**	*0.811*	*0.673*	*0.891*	*0.982*	*0.948*	*0.788*	*0.982*	**2.762**	*3.177*	*3.699*
Subtotal	**1.603**	**1.813**	**1.526**	**1.547**	**1.748**	*1.974*	*1.698*	*1.774*	*2.017*	*2.144*	*1.859*	*1.901*	**6.490**	*7.195*	*7.920*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	*0.129*	*0.162*	*0.175*	*0.175*	*0.186*	*0.189*	*0.192*	**0.799**	*0.663*	*0.742*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	*0.003*	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.007**	*0.010*	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.029**	*0.033*	*0.037*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.043**	*0.040*	*0.040*	*0.042*	*0.042*	*0.040*	*0.040*	*0.042*	**0.160**	*0.164*	*0.164*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.343**	*0.338*	*0.346*	*0.345*	*0.335*	*0.333*	*0.346*	*0.349*	**1.473**	*1.372*	*1.363*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.591**	*0.514*	*0.554*	*0.571*	*0.560*	*0.567*	*0.582*	*0.591*	**2.466**	*2.230*	*2.301*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.005**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.022*	*0.022*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.022**	**0.026**	*0.036*	*0.036*	*0.025*	*0.029*	*0.041*	*0.042*	*0.029*	**0.108**	*0.123*	*0.141*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	*0.008*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.020*	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.084*	*0.084*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.067**	*0.076*	*0.079*	*0.067*	*0.070*	*0.082*	*0.085*	*0.071*	**0.280**	*0.289*	*0.309*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.059**	*0.088*	*0.088*	*0.060*	*0.065*	*0.100*	*0.102*	*0.070*	**0.257**	*0.295*	*0.337*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.127**	*0.132*	*0.133*	*0.133*	*0.127*	*0.132*	*0.133*	*0.133*	**0.529**	*0.525*	*0.525*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	**0.195**	*0.229*	*0.232*	*0.203*	*0.202*	*0.242*	*0.245*	*0.213*	**0.825**	*0.860*	*0.902*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.061**	*0.065*	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.258*	*0.337*
Ethanol (f)	**0.274**	**0.293**	**0.291**	**0.296**	**0.257**	*0.213*	*0.253*	*0.260*	*0.247*	*0.273*	*0.277*	*0.273*	**1.154**	*0.982*	*1.071*
Subtotal	**0.333**	**0.365**	**0.361**	**0.361**	**0.318**	*0.277*	*0.316*	*0.328*	*0.332*	*0.362*	*0.356*	*0.358*	**1.419**	*1.240*	*1.408*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.061**	*0.065*	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.258*	*0.337*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	*0.129*	*0.162*	*0.175*	*0.175*	*0.186*	*0.189*	*0.192*	**0.799**	*0.663*	*0.742*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.307**	**0.267**	*0.221*	*0.263*	*0.270*	*0.257*	*0.284*	*0.288*	*0.284*	**1.199**	*1.020*	*1.112*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.050**	*0.051*	*0.055*	*0.051*	*0.049*	*0.051*	*0.055*	*0.051*	**0.209**	*0.208*	*0.206*
Hydroelectric Power (a)	**0.652**	**0.747**	**0.556**	**0.537**	**0.655**	*0.792*	*0.623*	*0.577*	*0.690*	*0.748*	*0.585*	*0.563*	**2.492**	*2.646*	*2.585*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.240**	*0.373*	*0.397*	*0.261*	*0.297*	*0.465*	*0.492*	*0.320*	**1.043**	*1.272*	*1.574*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.112**	*0.103*	*0.105*	*0.108*	*0.111*	*0.105*	*0.107*	*0.110*	**0.433**	*0.429*	*0.434*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.540**	*0.535*	*0.548*	*0.548*	*0.542*	*0.532*	*0.556*	*0.556*	**2.297**	*2.171*	*2.186*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.802**	*0.811*	*0.673*	*0.891*	*0.982*	*0.948*	*0.788*	*0.982*	**2.762**	*3.177*	*3.699*
Total Consumption	**2.809**	**3.084**	**2.798**	**2.791**	**2.920**	*3.072*	*2.879*	*2.943*	*3.180*	*3.397*	*3.127*	*3.136*	**11.481**	*11.814*	*12.840*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,913**	**6,866**	**6,767**	**6,775**	**6,775**	*6,701*	*6,734*	*6,736*	*6,736*	*6,738*	*6,658*	*6,746*	**6,775**	*6,736*	*6,746*
Waste	**4,110**	**4,078**	**4,069**	**4,048**	**4,049**	*3,975*	*4,008*	*4,009*	*4,009*	*4,011*	*3,931*	*4,019*	**4,048**	*4,009*	*4,019*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,627**	**79,605**	**79,479**	**79,536**	**79,549**	*79,585*	*79,709*	*79,735*	*79,817*	*79,775*	*79,852*	*79,871*	**79,536**	*79,735*	*79,871*
Geothermal	**2,488**	**2,488**	**2,488**	**2,508**	**2,508**	*2,508*	*2,508*	*2,508*	*2,508*	*2,508*	*2,508*	*2,550*	**2,508**	*2,508*	*2,550*
Large-Scale Solar (b)	**32,781**	**33,243**	**33,903**	**36,985**	**38,768**	*41,649*	*43,199*	*49,584*	*50,007*	*54,219*	*55,475*	*60,278*	**36,985**	*49,584*	*60,278*
Wind	**96,612**	**98,087**	**99,668**	**103,501**	**105,848**	*108,561*	*112,664*	*126,747*	*127,283*	*128,368*	*128,894*	*132,975*	**103,501**	*126,747*	*132,975*
Other Sectors (c)															
Biomass	**6,569**	**6,518**	**6,518**	**6,452**	**6,460**	*6,460*	*6,476*	*6,456*	*6,468*	*6,415*	*6,415*	*6,415*	**6,452**	*6,456*	*6,415*
Waste	**782**	**784**	**784**	**784**	**784**	*784*	*800*	*800*	*800*	*799*	*799*	*799*	**784**	*800*	*799*
Wood	**5,787**	**5,734**	**5,734**	**5,668**	**5,676**	*5,676*	*5,676*	*5,656*	*5,668*	*5,616*	*5,616*	*5,616*	**5,668**	*5,656*	*5,616*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*289*	*289*	*292*	*290*	*290*	**289**	*289*	*290*
Large-Scale Solar (b)	**408**	**414**	**425**	**431**	**431**	*441*	*441*	*443*	*443*	*443*	*444*	*444*	**431**	*443*	*444*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	**24,259**	*24,818*	*25,451*	*26,352*	*27,405*	*28,607*	*29,913*	*31,297*	**23,211**	*26,352*	*31,297*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	**14,963**	*15,326*	*15,734*	*16,296*	*16,981*	*17,803*	*18,673*	*19,595*	**14,229**	*16,296*	*19,595*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	**7,429**	*7,578*	*7,754*	*8,034*	*8,341*	*8,661*	*9,031*	*9,426*	**7,186**	*8,034*	*9,426*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	**1,867**	*1,914*	*1,964*	*2,022*	*2,082*	*2,143*	*2,209*	*2,277*	**1,796**	*2,022*	*2,277*
Wind	**118**	**118**	**118**	**118**	**118**	*353*	*353*	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	*6.5*	*6.7*	*6.7*	*7.6*	*6.7*	*7.3*	*7.1*	**28.8**	*26.9*	*28.8*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	**4.0**	*3.7*	*3.8*	*3.8*	*4.0*	*3.8*	*3.9*	*3.9*	**15.7**	*15.2*	*15.5*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	**3.1**	*2.8*	*2.9*	*3.0*	*3.7*	*2.9*	*3.4*	*3.2*	**13.0**	*11.7*	*13.2*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	*86.5*	*68.7*	*63.5*	*74.8*	*81.6*	*63.7*	*61.5*	**272.4**	*290.0*	*281.6*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	*3.8*	*4.3*	*3.8*	*3.6*	*3.8*	*4.2*	*3.8*	**15.6**	*15.6*	*15.4*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	*26.0*	*28.5*	*18.4*	*21.3*	*34.0*	*36.6*	*23.1*	**71.5**	*89.2*	*115.0*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	*88.1*	*73.0*	*96.7*	*106.5*	*102.9*	*85.5*	*106.6*	**299.8**	*344.8*	*401.5*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	**7.4**	*7.3*	*7.6*	*7.4*	*7.3*	*7.3*	*7.6*	*7.4*	**29.7**	*29.6*	*29.6*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	**6.7**	*6.6*	*6.9*	*6.6*	*6.6*	*6.6*	*6.9*	*6.6*	**26.8**	*26.8*	*26.8*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	**1.3**	*1.3*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.7*	*0.7*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.3**	*12.1*	*12.2*	*8.4*	*9.4*	*14.1*	*14.3*	*9.9*	**35.0**	*41.0*	*47.7*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	*7.3*	*7.4*	*5.0*	*5.6*	*8.6*	*8.8*	*6.1*	**20.9**	*24.7*	*29.1*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	**2.6**	*3.8*	*3.8*	*2.6*	*3.0*	*4.3*	*4.4*	*3.0*	**11.1**	*12.8*	*14.7*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	*1.0*	*1.0*	*0.7*	*0.8*	*1.1*	*1.2*	*0.8*	**3.0**	*3.5*	*3.9*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.6*	*0.9*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**18,988**	*16,940*	*17,175*	*17,551*	*18,064*	*18,487*	*18,753*	*18,928*	**19,073**	*17,664*	*18,558*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,353**	**13,414**	**13,153**	*11,442*	*11,823*	*12,259*	*12,484*	*12,705*	*12,887*	*13,046*	**13,280**	*12,169*	*12,781*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,330**	**3,326**	**3,304**	*2,932*	*2,780*	*2,825*	*2,916*	*3,020*	*3,096*	*3,139*	**3,336**	*2,960*	*3,043*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**67**	**18**	**-9**	*-114*	*-289*	*-392*	*-116*	*48*	*124*	*161*	**68**	*-201*	*54*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,331**	**3,337**	*3,309*	*3,349*	*3,373*	*3,402*	*3,417*	*3,433*	*3,447*	**3,299**	*3,342*	*3,425*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,536**	**2,479**	*2,181*	*2,161*	*2,270*	*2,377*	*2,466*	*2,540*	*2,593*	**2,533**	*2,273*	*2,494*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,514**	**3,437**	**3,297**	*2,843*	*2,652*	*2,809*	*3,019*	*3,184*	*3,350*	*3,491*	**3,487**	*2,900*	*3,261*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,073**	**15,093**	*15,380*	*15,851*	*15,407*	*15,327*	*15,452*	*15,532*	*15,511*	**14,974**	*15,433*	*15,455*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**152.1**	*124.7*	*121.1*	*124.7*	*130.2*	*135.0*	*138.3*	*140.7*	**150.9**	*130.6*	*136.0*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	*18.0*	*19.6*	*18.3*	*15.8*	*13.9*	*12.6*	*11.7*	**3.7**	*14.9*	*13.5*
Housing Starts															
(millions - SAAR)	**1.21**	**1.26**	**1.28**	**1.44**	**1.47**	*0.96*	*0.94*	*1.04*	*1.16*	*1.24*	*1.28*	*1.30*	**1.30**	*1.10*	*1.25*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.6**	*88.6*	*92.0*	*93.6*	*96.8*	*100.0*	*102.0*	*103.1*	**109.5**	*95.5*	*100.5*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**104.1**	*81.4*	*87.2*	*89.4*	*93.3*	*97.0*	*98.9*	*99.9*	**106.0**	*90.5*	*97.3*
Food	**115.1**	**115.3**	**114.6**	**116.1**	**116.6**	*112.8*	*117.0*	*118.3*	*119.6*	*120.8*	*121.6*	*122.3*	**115.3**	*116.2*	*121.1*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.6**	*89.2*	*85.7*	*85.1*	*85.5*	*86.6*	*88.0*	*88.8*	**93.0**	*88.7*	*87.2*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.9**	**105.0**	*91.7*	*94.7*	*94.7*	*96.8*	*100.0*	*101.6*	*102.5*	**105.7**	*96.5*	*100.2*
Chemicals	**101.4**	**99.9**	**100.6**	**100.3**	**99.0**	*94.2*	*94.5*	*94.9*	*97.1*	*99.8*	*101.7*	*102.8*	**100.5**	*95.6*	*100.3*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.3**	**121.4**	*100.0*	*95.5*	*94.3*	*96.1*	*98.6*	*101.8*	*105.6*	**119.4**	*102.8*	*100.5*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.3**	*77.2*	*77.8*	*77.5*	*79.5*	*83.4*	*85.7*	*86.8*	**96.9**	*81.7*	*83.8*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.4**	**106.2**	*89.8*	*90.0*	*90.4*	*93.2*	*96.7*	*99.2*	*100.8*	**106.2**	*94.1*	*97.5*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.6**	**98.5**	*84.7*	*84.3*	*84.4*	*86.4*	*89.0*	*91.1*	*92.9*	**98.3**	*88.0*	*89.9*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**104.9**	*89.5*	*89.1*	*89.3*	*92.0*	*95.8*	*98.4*	*100.0*	**105.8**	*93.2*	*96.5*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**107.4**	*93.9*	*92.9*	*92.7*	*95.5*	*99.6*	*102.3*	*103.9*	**108.1**	*96.7*	*100.3*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	*2.57*	*2.58*	*2.59*	*2.60*	*2.62*	*2.63*	*2.64*	**2.56**	*2.58*	*2.62*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	*1.90*	*1.93*	*1.96*	*1.99*	*2.03*	*2.04*	*2.05*	**2.00**	*1.94*	*2.03*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.95**	**1.93**	**1.74**	*1.11*	*1.34*	*1.36*	*1.32*	*1.52*	*1.59*	*1.60*	**1.94**	*1.39*	*1.51*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	*113.2*	*113.6*	*113.7*	*113.8*	*113.9*	*114.0*	*114.1*	**112.3**	*113.5*	*114.0*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,295**	**9,331**	**9,286**	**8,899**	**7,764**	*6,561*	*8,161*	*8,208*	*7,776*	*8,871*	*8,929*	*8,676*	**8,955**	*7,676*	*8,567*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**707**	**688**	**599**	*495*	*702*	*665*	*665*	*698*	*735*	*723*	**681**	*616*	*705*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**334**	*218*	*368*	*367*	*386*	*425*	*434*	*416*	**410**	*322*	*415*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	*213.1*	*175.5*	*172.9*	*172.2*	*182.3*	*175.4*	*182.8*	**265.4**	*203.1*	*178.2*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	*0.183*	*0.230*	*0.264*	*0.261*	*0.255*	*0.258*	*0.267*	**0.268**	*0.236*	*0.260*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	**552**	*435*	*524*	*538*	*526*	*546*	*570*	*570*	**2,354**	*2,050*	*2,212*
Natural Gas	**507**	**350**	**384**	**448**	**492**	*355*	*366*	*417*	*468*	*333*	*345*	*418*	**1,689**	*1,631*	*1,563*
Coal	**289**	**239**	**307**	**242**	**202**	*154*	*205*	*163*	*201*	*186*	*273*	*203*	**1,076**	*724*	*864*
Total Energy (c)	**1,374**	**1,178**	**1,291**	**1,288**	**1,250**	*946*	*1,099*	*1,121*	*1,197*	*1,068*	*1,191*	*1,194*	**5,131**	*4,416*	*4,650*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,004**	**1,009**	**994**	*883*	*897*	*918*	*944*	*966*	*981*	*991*	**1,002**	*923*	*970*
Middle Atlantic	**2,772**	**2,782**	**2,791**	**2,802**	**2,765**	*2,449*	*2,487*	*2,548*	*2,632*	*2,700*	*2,744*	*2,776*	**2,787**	*2,562*	*2,713*
E. N. Central	**2,528**	**2,535**	**2,545**	**2,557**	**2,522**	*2,246*	*2,280*	*2,332*	*2,390*	*2,443*	*2,476*	*2,493*	**2,541**	*2,345*	*2,450*
W. N. Central	**1,181**	**1,187**	**1,193**	**1,198**	**1,183**	*1,065*	*1,081*	*1,104*	*1,132*	*1,155*	*1,170*	*1,179*	**1,190**	*1,108*	*1,159*
S. Atlantic	**3,353**	**3,367**	**3,383**	**3,403**	**3,366**	*3,008*	*3,050*	*3,119*	*3,217*	*3,295*	*3,347*	*3,380*	**3,376**	*3,136*	*3,310*
E. S. Central	**832**	**835**	**840**	**844**	**834**	*746*	*759*	*776*	*797*	*816*	*826*	*832*	**838**	*779*	*818*
W. S. Central	**2,347**	**2,370**	**2,392**	**2,406**	**2,376**	*2,119*	*2,123*	*2,160*	*2,215*	*2,262*	*2,288*	*2,307*	**2,379**	*2,194*	*2,268*
Mountain	**1,252**	**1,261**	**1,269**	**1,277**	**1,261**	*1,122*	*1,139*	*1,160*	*1,196*	*1,225*	*1,247*	*1,262*	**1,265**	*1,171*	*1,232*
Pacific	**3,700**	**3,719**	**3,739**	**3,761**	**3,721**	*3,332*	*3,390*	*3,468*	*3,574*	*3,657*	*3,707*	*3,742*	**3,730**	*3,478*	*3,670*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.4**	**98.6**	**98.8**	**98.8**	**96.3**	*74.5*	*79.9*	*81.8*	*85.5*	*89.0*	*91.0*	*92.0*	**98.9**	*83.1*	*89.4*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**96.5**	*75.7*	*81.0*	*82.9*	*86.6*	*89.7*	*91.4*	*92.2*	**98.4**	*84.0*	*90.0*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**104.7**	*80.9*	*86.1*	*88.0*	*91.0*	*94.4*	*96.2*	*97.2*	**107.3**	*89.9*	*94.7*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.2**	*80.5*	*86.7*	*89.2*	*93.5*	*97.3*	*99.3*	*100.3*	**105.4**	*89.9*	*97.6*
S. Atlantic	**111.0**	**110.3**	**110.8**	**111.1**	**109.3**	*85.6*	*91.4*	*93.5*	*97.7*	*101.3*	*103.3*	*104.4*	**110.8**	*95.0*	*101.7*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**108.1**	*84.1*	*89.7*	*91.6*	*94.9*	*98.3*	*100.4*	*101.6*	**110.2**	*93.4*	*98.8*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**100.4**	*79.1*	*84.5*	*86.3*	*90.3*	*93.9*	*95.6*	*96.4*	**101.4**	*87.6*	*94.0*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.9**	*90.5*	*97.7*	*100.2*	*104.8*	*109.0*	*111.2*	*112.2*	**116.3**	*100.8*	*109.3*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.9**	*80.3*	*86.8*	*89.4*	*93.9*	*97.8*	*99.8*	*100.7*	**104.4**	*89.9*	*98.0*
Real Personal Income (Billion $2009)															
New England	**904**	**905**	**901**	**904**	**905**	*876*	*896*	*884*	*886*	*897*	*904*	*909*	**903**	*890*	*899*
Middle Atlantic	**2,302**	**2,315**	**2,312**	**2,317**	**2,319**	*2,243*	*2,292*	*2,258*	*2,267*	*2,297*	*2,313*	*2,321*	**2,312**	*2,278*	*2,299*
E. N. Central	**2,428**	**2,432**	**2,442**	**2,454**	**2,452**	*2,397*	*2,445*	*2,400*	*2,393*	*2,418*	*2,436*	*2,445*	**2,439**	*2,424*	*2,423*
W. N. Central	**1,146**	**1,147**	**1,162**	**1,166**	**1,164**	*1,138*	*1,157*	*1,137*	*1,135*	*1,146*	*1,157*	*1,164*	**1,155**	*1,149*	*1,150*
S. Atlantic	**3,214**	**3,231**	**3,241**	**3,256**	**3,267**	*3,221*	*3,288*	*3,217*	*3,214*	*3,251*	*3,280*	*3,300*	**3,235**	*3,248*	*3,261*
E. S. Central	**887**	**890**	**894**	**899**	**901**	*891*	*913*	*890*	*888*	*897*	*902*	*904*	**893**	*899*	*898*
W. S. Central	**1,985**	**1,993**	**2,005**	**2,015**	**2,022**	*1,972*	*2,006*	*1,967*	*1,969*	*1,989*	*2,000*	*2,008*	**1,999**	*1,992*	*1,992*
Mountain	**1,168**	**1,177**	**1,188**	**1,193**	**1,194**	*1,168*	*1,192*	*1,170*	*1,170*	*1,185*	*1,197*	*1,205*	**1,181**	*1,181*	*1,189*
Pacific	**2,807**	**2,834**	**2,828**	**2,842**	**2,848**	*2,764*	*2,824*	*2,784*	*2,791*	*2,829*	*2,856*	*2,873*	**2,828**	*2,805*	*2,837*
Households (Thousands)															
New England	**5,936**	**5,941**	**5,957**	**5,966**	**5,972**	*5,971*	*5,970*	*5,972*	*5,973*	*5,976*	*5,984*	*5,996*	**5,966**	*5,972*	*5,996*
Middle Atlantic	**16,243**	**16,263**	**16,305**	**16,328**	**16,343**	*16,339*	*16,335*	*16,340*	*16,344*	*16,352*	*16,374*	*16,406*	**16,328**	*16,340*	*16,406*
E. N. Central	**19,087**	**19,112**	**19,166**	**19,197**	**19,221**	*19,227*	*19,231*	*19,245*	*19,255*	*19,267*	*19,297*	*19,338*	**19,197**	*19,245*	*19,338*
W. N. Central	**8,688**	**8,708**	**8,740**	**8,760**	**8,776**	*8,781*	*8,787*	*8,796*	*8,803*	*8,814*	*8,832*	*8,855*	**8,760**	*8,796*	*8,855*
S. Atlantic	**25,689**	**25,762**	**25,877**	**25,965**	**26,046**	*26,095*	*26,141*	*26,200*	*26,256*	*26,320*	*26,404*	*26,506*	**25,965**	*26,200*	*26,506*
E. S. Central	**7,651**	**7,663**	**7,689**	**7,706**	**7,720**	*7,725*	*7,729*	*7,738*	*7,745*	*7,754*	*7,772*	*7,793*	**7,706**	*7,738*	*7,793*
W. S. Central	**14,813**	**14,856**	**14,923**	**14,974**	**15,021**	*15,050*	*15,080*	*15,119*	*15,155*	*15,196*	*15,250*	*15,312*	**14,974**	*15,119*	*15,312*
Mountain	**9,404**	**9,448**	**9,506**	**9,551**	**9,593**	*9,622*	*9,651*	*9,683*	*9,711*	*9,742*	*9,780*	*9,823*	**9,551**	*9,683*	*9,823*
Pacific	**18,903**	**18,932**	**18,994**	**19,034**	**19,071**	*19,087*	*19,109*	*19,146*	*19,182*	*19,220*	*19,273*	*19,333*	**19,034**	*19,146*	*19,333*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.6**	*6.2*	*6.0*	*6.2*	*6.5*	*6.7*	*6.9*	*7.0*	**7.5**	*6.5*	*6.8*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.1**	*16.5*	*16.0*	*16.5*	*17.2*	*17.8*	*18.3*	*18.6*	**20.0**	*17.3*	*18.0*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	*18.3*	*17.8*	*18.3*	*19.1*	*19.8*	*20.2*	*20.5*	**22.3**	*19.2*	*19.9*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	*8.9*	*8.7*	*9.0*	*9.4*	*9.7*	*9.9*	*10.0*	**10.8**	*9.4*	*9.7*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	*24.0*	*23.3*	*24.0*	*25.1*	*26.1*	*26.8*	*27.4*	**29.1**	*25.2*	*26.4*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.3**	*6.9*	*6.7*	*6.9*	*7.2*	*7.5*	*7.6*	*7.7*	**8.3**	*7.2*	*7.5*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	*14.8*	*14.3*	*14.7*	*15.3*	*15.9*	*16.2*	*16.5*	**17.8**	*15.5*	*16.0*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	*9.2*	*8.9*	*9.1*	*9.6*	*9.9*	*10.2*	*10.5*	**11.1**	*9.6*	*10.1*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.0**	*19.7*	*19.2*	*19.8*	*20.7*	*21.4*	*21.9*	*22.3*	**23.8**	*20.7*	*21.6*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,222**	**893**	**135**	**2,277**	**2,726**	*996*	*124*	*2,161*	*3,171*	*878*	*127*	*2,161*	**6,527**	*6,007*	*6,336*
Middle Atlantic	**2,988**	**633**	**68**	**2,065**	**2,473**	*843*	*78*	*1,982*	*2,931*	*703*	*78*	*1,982*	**5,754**	*5,377*	*5,693*
E. N. Central	**3,326**	**761**	**64**	**2,278**	**2,785**	*878*	*115*	*2,228*	*3,151*	*731*	*119*	*2,228*	**6,430**	*6,006*	*6,229*
W. N. Central	**3,647**	**772**	**107**	**2,546**	**3,037**	*834*	*152*	*2,400*	*3,234*	*701*	*154*	*2,401*	**7,072**	*6,423*	*6,490*
South Atlantic	**1,333**	**127**	**2**	**917**	**1,103**	*270*	*12*	*951*	*1,379*	*184*	*12*	*949*	**2,379**	*2,337*	*2,524*
E. S. Central	**1,713**	**193**	**1**	**1,275**	**1,486**	*366*	*19*	*1,284*	*1,783*	*231*	*19*	*1,284*	**3,182**	*3,155*	*3,317*
W. S. Central	**1,208**	**90**	**0**	**852**	**973**	*112*	*4*	*757*	*1,089*	*77*	*4*	*757*	**2,149**	*1,846*	*1,927*
Mountain	**2,432**	**787**	**127**	**1,967**	**2,217**	*647*	*136*	*1,796*	*2,183*	*689*	*142*	*1,795*	**5,313**	*4,796*	*4,810*
Pacific	**1,689**	**576**	**95**	**1,185**	**1,542**	*483*	*84*	*1,195*	*1,503*	*577*	*90*	*1,196*	**3,545**	*3,305*	*3,367*
U.S. Average	**2,210**	**480**	**56**	**1,558**	**1,875**	*547*	*70*	*1,509*	*2,093*	*483*	*72*	*1,507*	**4,305**	*4,001*	*4,154*
Heating Degree Days, Prior 10-year Average															
New England	**3,166**	**820**	**111**	**2,122**	**3,152**	*822*	*105*	*2,127*	*3,132*	*858*	*108*	*2,116*	**6,218**	*6,206*	*6,213*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	*644*	*69*	*1,944*	*2,913*	*678*	*71*	*1,926*	**5,623**	*5,606*	*5,588*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	*698*	*102*	*2,197*	*3,157*	*734*	*103*	*2,183*	**6,203**	*6,195*	*6,177*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	*702*	*131*	*2,379*	*3,247*	*732*	*131*	*2,376*	**6,477**	*6,500*	*6,486*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	*169*	*10*	*951*	*1,392*	*182*	*10*	*922*	**2,631**	*2,589*	*2,506*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,850**	*214*	*15*	*1,278*	*1,772*	*234*	*16*	*1,255*	**3,392**	*3,357*	*3,277*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	*83*	*3*	*794*	*1,140*	*87*	*3*	*788*	**2,079**	*2,079*	*2,018*
Mountain	**2,164**	**714**	**139**	**1,856**	**2,193**	*718*	*135*	*1,844*	*2,182*	*699*	*135*	*1,846*	**4,873**	*4,890*	*4,862*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	*580*	*85*	*1,162*	*1,463*	*548*	*82*	*1,158*	**3,283**	*3,284*	*3,252*
U.S. Average	**2,151**	**475**	**68**	**1,518**	**2,149**	*472*	*64*	*1,509*	*2,108*	*482*	*64*	*1,493*	**4,212**	*4,194*	*4,148*
Cooling Degree Days															
New England	**0**	**68**	**469**	**0**	**0**	*113*	*429*	*1*	*0*	*84*	*416*	*1*	**538**	*543*	*502*
Middle Atlantic	**0**	**145**	**629**	**8**	**0**	*170*	*553*	*4*	*0*	*153*	*543*	*4*	**782**	*727*	*700*
E. N. Central	**0**	**175**	**650**	**7**	**2**	*214*	*540*	*7*	*0*	*218*	*541*	*7*	**832**	*763*	*766*
W. N. Central	**0**	**223**	**728**	**2**	**6**	*234*	*671*	*11*	*3*	*267*	*675*	*11*	**954**	*923*	*956*
South Atlantic	**153**	**757**	**1,301**	**309**	**199**	*675*	*1,167*	*235*	*128*	*672*	*1,181*	*236*	**2,520**	*2,277*	*2,217*
E. S. Central	**29**	**547**	**1,213**	**86**	**72**	*483*	*1,040*	*68*	*30*	*538*	*1,073*	*68*	**1,875**	*1,663*	*1,708*
W. S. Central	**72**	**819**	**1,692**	**169**	**174**	*860*	*1,515*	*211*	*99*	*890*	*1,532*	*211*	**2,753**	*2,760*	*2,732*
Mountain	**10**	**342**	**988**	**60**	**9**	*454*	*949*	*79*	*19*	*428*	*935*	*79*	**1,400**	*1,491*	*1,461*
Pacific	**22**	**167**	**589**	**67**	**24**	*187*	*595*	*59*	*27*	*168*	*577*	*58*	**845**	*865*	*831*
U.S. Average	**46**	**399**	**953**	**106**	**71**	*408*	*862*	*95*	*46*	*409*	*865*	*96*	**1,503**	*1,437*	*1,416*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	*83*	*471*	*1*	*0*	*82*	*462*	*1*	**536**	*555*	*545*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	*170*	*609*	*6*	*0*	*164*	*597*	*6*	**760**	*785*	*767*
E. N. Central	**3**	**242**	**548**	**7**	**3**	*240*	*579*	*8*	*3*	*234*	*565*	*8*	**799**	*829*	*809*
W. N. Central	**7**	**298**	**669**	**11**	**7**	*296*	*696*	*11*	*7*	*288*	*687*	*11*	**985**	*1,011*	*994*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	*696*	*1,202*	*247*	*143*	*686*	*1,189*	*254*	**2,224**	*2,273*	*2,273*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	*556*	*1,082*	*72*	*42*	*537*	*1,062*	*73*	**1,706**	*1,746*	*1,715*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	*892*	*1,576*	*207*	*114*	*882*	*1,568*	*210*	**2,758**	*2,774*	*2,775*
Mountain	**25**	**438**	**932**	**81**	**24**	*433*	*939*	*81*	*24*	*443*	*941*	*82*	**1,476**	*1,477*	*1,490*
Pacific	**31**	**185**	**631**	**76**	**31**	*185*	*624*	*78*	*31*	*192*	*635*	*79*	**923**	*918*	*937*
U.S. Average	**46**	**417**	**873**	**97**	**47**	*420*	*892*	*100*	*52*	*416*	*887*	*102*	**1,433**	*1,459*	*1,457*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the June 2020 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Apr-2020	May-2020	April - May 2020 Average	April - May 2019 Average	2017- 2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	100.6	89.6	95.0	100.4	99.9
Global Petroleum and Other Liquids Consumption (b)	79.2	82.9	81.0	100.2	99.9
Biofuels Production (c)	2.3	2.4	2.4	2.6	2.5
Biofuels Consumption (c)	2.0	2.1	2.0	2.4	2.3
Iran Liquid Fuels Production	2.8	2.8	2.8	3.4	4.1
Iran Liquid Fuels Consumption	1.4	1.5	1.4	1.9	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	95.5	84.3	89.9	94.4	93.2
Consumption (d)	75.8	79.3	77.6	95.9	95.7
Production minus Consumption	19.7	5.0	12.3	-1.6	-2.5
World Inventory Net Withdrawals Including Iran	-21.5	-6.7	-14.0	-0.2	0.0
Estimated OECD Inventory Level (e) (million barrels)	3,264	3,358	3,311	2,891	2,912
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	1.0	6.6	3.8	2.8	2.0

Note: The term “petroleum and other liquids” encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.
(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
(b) Consumption of petroleum by the OECD countries is synonymous with “products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Apr-2020	May-2020	April - May 2020 Average	April - May 2019 Average	2017- 2019 Average
Brent Front Month Futures Price ($ per barrel)	26.63	32.41	29.45	70.95	63.53
WTI Front Month Futures Price ($ per barrel)	16.70	28.53	22.47	62.34	57.60
Dubai Front Month Futures Price ($ per barrel)	23.93	33.91	28.80	70.65	62.36
Brent 1st - 13th Month Futures Spread ($ per barrel)	-11.56	-6.21	-8.95	4.73	2.02
WTI 1st - 13th Month Futures Spread ($ per barrel)	-17.43	-6.37	-12.03	2.51	1.39
RBOB Front Month Futures Price ($ per gallon)	0.67	0.95	0.81	2.01	1.76
Heating Oil Front Month Futures Price ($ per gallon)	0.87	0.91	0.89	2.05	1.90
RBOB - Brent Futures Crack Spread ($ per gallon)	0.03	0.18	0.11	0.32	0.24
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.23	0.14	0.19	0.36	0.39

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to reformulated blendstock for oxygenate blending traded on the NYMEX.
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

July 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

- The July *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because mitigation and reopening efforts related to the 2019 novel coronavirus disease (COVID-19) continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy supply and demand patterns in 2020. Uncertainties persist across the U.S. Energy Information Administration's (EIA) outlook for all energy sources, including liquid fuels, natural gas, electricity, coal, and renewables. The STEO is based on U.S. macroeconomic forecasts by IHS Markit, which assumes U.S. gross domestic product declined by 6.4% in the first half of 2020 from the same period a year ago before rising from the third quarter of 2020 through 2021.

- Daily Brent crude oil spot prices averaged $40 per barrel (b) in June, up $11/b from the average in May and up $22/b from the multiyear low monthly average price in April. Oil prices rose in June as numerous regions worldwide began to lift stay-at-home orders and as global oil supply fell as a result of production cuts by the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+). In June, OPEC+ announced that they extended through July their period of deepest cuts that had been set to relax on July 1. EIA expects monthly Brent spot prices will average $41/b during the second half of 2020 and rise to an average of $50/b in 2021, $4/b and $2/b higher than forecast in last month's STEO, respectively.

- The forecast of rising crude oil prices reflects EIA's expectation of declines in global oil inventories during the second half of 2020 and through 2021. EIA expects high inventory levels and surplus crude oil production capacity will limit upward price pressures in the coming months, but as inventories decline into 2021, those upward price pressures will increase. EIA estimates global liquid fuels inventories rose at a rate of 6.7 million barrels per day (b/d) in the first half of 2020 and expects they will decline at a rate of 3.3 million b/d in the second half of 2020 and then decline by a further 1.1 million b/d in 2021.

- EIA expects annual average U.S. crude oil production to fall in 2020 and 2021 as forecast West Texas Intermediate (WTI) spot prices remain less than $50/b through 2021. EIA forecasts that U.S. crude oil production will average 11.6 million b/d in 2020 and 11.0 million b/d in 2021. These levels are 0.6 million b/d and 1.2 million b/d, respectively, lower than the 2019 average of 12.2 million b/d. EIA finalized this month's forecast before a U.S. District Court ordered on July 6 the temporary closure of the Dakota

Access Pipeline. The operators of the pipeline have announced they will file a motion to stay the decision.

- EIA forecasts U.S. liquid fuels consumption will average 18.3 million b/d in 2020, down 2.1 million b/d from 2019. Declines in U.S. liquid fuels consumption vary across products. From 2019 to 2020, EIA expects jet fuel consumption to fall by 31% and gasoline and distillate fuel consumption to both fall by 10%. The declines reflect travel restrictions and reduced economic activity related to COVID-19 mitigation efforts. EIA expects the largest declines in U.S. liquid fuels consumption have already occurred and consumption will generally rise through the second half of 2020 and in 2021. EIA forecasts U.S. liquid fuels consumption will average 19.9 million b/d in 2021.

- EIA expects U.S. dry natural gas production to average 89.2 billion cubic feet per day (Bcf/d) in 2020, down from 92.2 Bcf/d in 2019. This 3% decrease is the result of falling natural gas prices that caused a decline in drilling activity and production curtailments. EIA expects annual average dry natural gas production in the United States will decline by 6% in 2021 to 84.2 Bcf/d. However, EIA expects production to increase during the second half of 2021 as natural gas prices in the forecast rise.

- EIA expects U.S. natural gas consumption will decline by 3% in 2020. The main driver of the decline is lower consumption in the industrial sector because of COVID-19 mitigation efforts and related reductions in economic activity. Forecast U.S. natural gas consumption declines by 5% in 2021 as a result of expected rising natural gas prices. The rising prices will reduce the use of natural gas in the electric power sector, which will more than offset increases in natural gas consumption in the industrial, commercial, and residential sectors.

- The Henry Hub natural gas spot price averaged $1.63 per million British thermal units (MMBtu) in June, the lowest inflation-adjusted price going back to at least 1989, as a result of low demand. EIA expects falling production will put upward pressure on natural gas prices through the end of 2021. EIA forecasts that Henry Hub spot prices will average $1.93/MMBtu in 2020 and $3.10/MMBtu in 2021.

- EIA forecasts working natural gas in storage will reach 4,039 billion cubic feet (Bcf) at the end of October, which would be the most U.S. natural gas in storage as of the end-of-October on record. This forecast level surpasses the previous end-of-October record of 4,013 Bcf reached in October 2016.

- EIA forecasts total U.S. coal production will decrease by 29% to 501 million short tons (MMst) in 2020. This decline largely reflects less demand for coal from the electric power sector and the coal export market. In 2021, EIA expects coal production to increase by 7% to 536 MMst because of forecast rising natural gas prices that make coal more competitive in the electric power sector.

- EIA forecasts 4.2% less electricity consumption in the United States in 2020 compared with 2019. The largest forecast decline occurs in the commercial sector, where EIA expects retail sales of electricity to fall by 7.0% this year because of COVID-19 mitigation efforts. Forecast electricity sales to the industrial sector fall by 5.6%. EIA forecasts that residential sector retail electricity sales in 2020 will be similar to 2019 as less electricity use for heating in the first quarter is offset by more consumption during the rest of the year as a result of people spending more time at home. EIA forecasts total U.S. electricity consumption will rise by 1.5% in 2021.

- EIA expects the share of U.S. electric power sector generation from natural gas-fired power plants will increase from 37% in 2019 to 41% this year. In 2021, the forecast natural gas share will decline to 36% in response to higher natural gas prices. Coal's forecast share of electricity generation falls from 24% in 2019 to 18% in 2020 and then increases to 21% in 2021. Electricity generation from renewable energy sources rises from 17% in 2019 to 20% in 2020 and to 22% in 2021. The increase in the share from renewables is the result of expected additions to wind and solar generating capacity. The forecast nuclear share of generation averages about 21% in 2020 and will be slightly less than 21% by 2021, which is consistent with upcoming reactor retirements.

- EIA forecasts that energy-related carbon dioxide (CO2) emissions, after decreasing by 2.8% in 2019, will decrease by 12.2% in 2020 and increase by 6.0% in 2021. This forecast is highly dependent on assumptions regarding the economic impact and subsequent recovery from COVID-19 mitigation efforts. In addition to economic growth, energy-related CO2 emissions are sensitive to changes in weather, energy prices, and fuel mix.

Global Liquid Fuels

The disruptions to global petroleum supply and consumption as a result of COVID-19 and associated mitigation efforts have been significant. As road and air travel fell sharply when economies around the world went into lockdown in the first quarter and early second quarter of this year, global liquid fuels consumption fell more quickly than production. Based on the mismatch between production and consumption of liquid fuels, EIA estimates that global oil inventories increased by almost 1.3 billion barrels from the start of 2020 through the end of May. Inventory accumulation caused Brent crude oil spot prices to fall from a monthly average of $64 per barrel (b) in January to $18/b in April. In late April, when price declines were the steepest, market participants had concerns about the ability of global storage capacity to hold the quickly rising inventory.

The situation in oil markets has now shifted. EIA estimates that, in June, global consumption of petroleum and other liquid fuels was up 10 million barrels per day (b/d) from April levels as economies worldwide have begun emerging from lockdown. EIA estimates global supply has fallen by 12 million b/d during the same period as a result of reduced production from OPEC+ and price-driven declines and curtailments in the United States and Canada. These changes in

EIA's supply and demand estimates have shifted global oil markets from 21 million b/d of oversupply in April to inventory draws in June.

EIA expects global oil inventories to generally draw through the end of 2021 as EIA forecasts global oil demand will continue to recover. Although EIA's forecast consumption of global liquid fuels of 101.1 million b/d in the fourth quarter of 2021 would still be less than during the same period of 2019, it would be 16.7 million b/d more than in the second quarter of 2020. EIA also expects global oil supply to rise in the coming quarters. However, voluntary production restraint from OPEC+ producers, along with the lingering effects of low oil prices on U.S. tight oil production, will limit increases. As a result, EIA expects global oil inventories to decline at a rate of 1.8 million b/d through the end of 2021, eliminating most of the surplus that accumulated in early 2020. These inventory draws will likely put upward pressure on oil prices, but that pressure will be partly offset by high existing oil inventories, particularly in the second half of 2020, and a large amount of spare crude oil production capacity. The trajectory of both supply and demand are highly uncertain, however, and EIA will continue to closely track incoming data and oil market drivers in the coming months and adjust our forecasts accordingly.

Global Petroleum and Other Liquid Fuels Consumption. In the July STEO, EIA revised its 2020 global oil consumption forecast to reflect the most up-to-date information available on the impacts of COVID-19 and associated mitigation efforts on global oil consumption.

Initial data indicate the extent of demand declines for global liquid fuels were not as significant as EIA had previously estimated. EIA estimates that consumption of global liquid fuels averaged 84.4 million b/d in the second quarter of 2020, down by 16.3 million b/d from the same period in 2019. Although these declines are the largest for any quarter on record, EIA had estimated a drop of 16.6 million b/d in the June STEO, and EIA had estimated a drop of 18.8 million b/d in the May STEO. Initial second-quarter consumption data for the United States was 0.4 million b/d more than estimated in the June STEO and consumption in Canada and Brazil were each about 0.3 million b/d higher. Those increases were partly offset by lower-than-expected liquid fuels consumption in India and China.

EIA's most recent estimates of global oil consumption in the second quarter came in higher than in the previous forecast despite a lower assumed level of economic activity compared with previous forecasts. The July STEO's forecast for global economic growth is based on forecasts from Oxford Economics. In the July STEO, EIA assumes global oil consumption-weighted gross domestic product (GDP) in 2020 will decline by 5.7% from 2019, compared with an assumed decline of 5.0% in the June STEO. The sharpest declines occur in the second quarter of 2020, when oil consumption-weighted GDP is estimated to have declined by 10.3% compared with the second quarter of 2019. In the June STEO, the assumed decline in second-quarter 2020 GDP was 8.6%. In 2021, EIA assumes global GDP weighted by oil consumption will grow by 6.3%.

For the full year of 2020, EIA forecasts that consumption of global liquid fuels will average 92.9 million b/d, down 8.1 million b/d from 2019. EIA forecasts that both oil-consumption weighted GDP and global liquid fuels consumption will begin increasing in the third quarter of 2020 and

will continue increasing through 2021. However, EIA expects global liquids consumption in the second half of 2020 to remain lower, by 5.8 million b/d, than the same period in 2019, which would still be an increase of 6.2 million b/d from the first half of the year. The increase in oil consumption results from a normalization of economic activity following COVID-19-related disruptions. Although EIA expects steady increases in consumption of gasoline and diesel in the second half of 2020, forecast jet fuel consumption remains weak as EIA expects the recovery in air travel to lag behind the recovery in road travel in most countries.

Annual average global consumption of liquid fuels rises in 2021 by 7.0 million b/d from 2020 levels. This increase reflects forecast GDP growth and increases in travel. However, any lasting changes to transportation and other oil consumption patterns once the effects of COVID-19 and associated mitigation efforts end present considerable uncertainty to the increase in liquid fuels consumption for 2021.

Non-OPEC Production of Petroleum and Other Liquid Fuels. EIA estimates that non-OPEC production of petroleum and other liquid fuels fell by 5.4 million b/d in the second quarter of 2020 from the first quarter of the year. Almost 85% of these declines came from the three largest non-OPEC producers: the United States, Russia, and Canada. U.S. declines resulted from a drop in active drilling rigs in response to low oil prices. Declines in Russia were the result of voluntary reductions resulting from the April OPEC+ agreement. In Canada, declines largely reflected a drop in activity at oil sands operations in Alberta because of low oil prices.

EIA forecasts that for 2020 as a whole, non-OPEC production will decline by 2.2 million b/d from 2019 levels. EIA expects that the second quarter marked a low point for non-OPEC production, and it will begin rising in the third quarter as oil demand increases. EIA expects production of non-OPEC petroleum and other liquid fuels to increase by 1.1 million b/d in 2021. Production in countries that have implemented voluntary cuts will generally rise in 2021 as global oil demand recovers. However, EIA forecasts production to continue to decline in the United States, where production is driven by price-sensitive shale operators.

In Russia, EIA forecasts production to decline sharply in 2020 and grow in 2021 as OPEC+ cuts limit production in 2020 and moderate in 2021. EIA expects Russia to experience the largest liquid fuels production declines in 2020 among OPEC+ producers, with forecast declines of 1.0 million b/d compared with 2019. EIA expects Russia’s liquid fuels production to rise by 0.6 million b/d in 2021.

EIA expects total production of liquid fuels in the United States to fall by 0.7 million b/d in 2020, largely as a result of reduced drilling in price-sensitive tight oil regions. EIA expects U.S. production to fall by 0.3 million b/d in 2021.

EIA expects Canada’s total liquid fuels production to fall by 0.4 million b/d in 2020. This decrease is a result of both 2019 government-ordered production cuts in Alberta that continue into 2020 and economic shut-ins because of the effect of low oil prices and falling demand for oil exports. In 2021, EIA expects Canada’s production to increase by almost 0.5 million b/d and surpass 2019 levels in the second half of the year as demand rebounds and deferred or shut-in projects come

online. EIA expects no additional Canadian production from new upstream projects to come online during the forecast period, only expansions or debottlenecking of existing projects. EIA does not expect any new Canadian pipeline capacity until the second half of 2021.

Mexico agreed to 100,000 b/d of oil production cuts under the April OPEC+ agreement. However, Mexico declined to extend cuts past June, breaking from other OPEC+ producers. Independent of the OPEC+ agreement, EIA forecasts crude oil production to decline in Mexico in 2020 and 2021 because of natural declines in mature fields. Overall, EIA expects Mexico's annual average liquid fuels production to fall by almost 100,000 b/d in 2020 and by a similar amount in 2021.

EIA expects a number of other non-OPEC producers will experience notable production declines in 2020, including India, Azerbaijan, Kazakhstan, Colombia, Malaysia, and Egypt. Forecast annual average declines in each of these countries range between 50,000 b/d and 100,000 b/d.

The only non-OPEC countries where EIA expects production will grow significantly in 2020 are Brazil and Norway. EIA expects Brazil's production of petroleum and other liquid fuels to grow by 0.2 million in 2020 b/d and by 0.3 million b/d 2021. On April 1, Brazil's national oil company, Petroleo Brasileiro, S.A. (Petrobras), deepened its production cuts to 0.2 million b/d for 2020. Weeks after this announcement, Petrobras reversed these cuts as demand for crude oil exports remained strong. In addition, EIA now expects the P-70 floating, production, storage, and offloading vessel (FPSO) in Brazil to start production in the second half of 2020, bringing on additional volumes. The P-70 was originally scheduled to begin producing in the first half of 2020, before it was damaged in a storm in February 2020. This expected new supply growth offsets planned heavy maintenance for the second half of 2020. EIA also estimates Brazil's biofuels production was lower in the first half of 2020 than previously estimated because of reduced ethanol demand related to COVID-19 mitigation efforts combined with weak ethanol prices relative to sugar prices that caused sugar cane millers to shift toward more sugar production.

Despite voluntary production cuts announced in April 2020, EIA expects production growth in Norway during 2020 and 2021. Norway's Ministry of Petroleum and Energy enacted unilateral production cuts on the Norwegian continental shelf, which will limit production of crude oil from June to December 2020. These cuts limit growth in total liquids production in 2020 to less than 0.3 million b/d. After the expiration of production limits, EIA forecasts production growth of 0.1 million b/d in 2021. Phase 1 of the Johan Sverdrup field came online in October 2019 and reached production of more than 0.4 million b/d in early 2020 before the government production cuts took effect. The Johan Sverdrup field will drive most of the production growth in Norway in 2020 and 2021.

OPEC Production of Petroleum and Other Liquid Fuels. On June 6, 2020, OPEC+ announced that they were extending through July the large production cuts for May and June originally announced in April 2020. In addition, OPEC+ producers reconfirmed the remaining cuts under

the April agreement that extend into 2022. EIA assumes that participating OPEC+ countries are broadly complying with the May–July cuts.

EIA forecasts OPEC crude oil production will fall below 22.5 million b/d in July, a 7.9 million b/d decline from April. If OPEC production declines to forecast levels in July, it would be the group's lowest level of crude oil production since November 1991. After July, EIA expects OPEC will continue to limit production, but to a lesser degree as cuts are relaxed, global oil demand rises, and compliance lessens. With increases in forecast global oil demand growth in 2021, EIA assumes that OPEC members will further increase production in the face of large oil supply/demand imbalances that lead to large stock drawdowns and rising oil prices. EIA forecasts that OPEC crude oil production will average 29.2 million b/d in 2021, up 3.2 million b/d from 2020 but about the same as 2019 levels.

Venezuela, Libya, and Iran are not subject to the OPEC+ agreement. EIA expects Venezuela's production to continue falling throughout the forecast period. Production declines accelerated following the imposition of new sanctions by the United States government on Rosneft Trading in mid-February. In addition, the decline in global oil demand following the onset of the COVID-19 pandemic further reduced the demand for Venezuela's oil. Much of Venezuela's exports had been used for in-kind loan payments to China; however, the decline in oil demand from China in 2020 as a result of COVID-19 mitigation efforts further reduced outlets for Venezuela's oil production.

Libya's crude oil production fell in the first half of 2020 after the January closure of five export terminals in eastern Libya and the pipelines connecting the El Sharara and El Feel oilfields to those terminals. By May 2020, Libya's crude oil production averaged 80,000 b/d, down from 1.2 million b/d at the end of 2019. With the ongoing civil war in Libya, EIA does not expect production to increase until late 2020. However, that forecast is very uncertain as the timing of any settlement or resolution in Libya's civil war is not possible to forecast. Once currently shuttered export terminals and oil fields reopen, EIA expects that Libya will boost production to near-capacity in a relatively short time despite low oil prices.

EIA expects that crude oil production in the Neutral Zone shared between Saudi Arabia and Kuwait, which resumed in March 2020, will increase to full production levels in 2021, following a one-month hiatus in June 2020. However, EIA assumes that increases in Neutral Zone production will be offset elsewhere, as Kuwait and Saudi Arabia reduce production at other fields in response to the OPEC+ cuts.

EIA estimates that OPEC production of other liquids will decline to 4.8 million b/d on average in 2020, down from 5.4 million b/d in 2019. The 2020 decrease in production of other liquids is the result of less associated liquids production stemming from a reduction in crude oil production because of the OPEC+ cuts. The decrease in production of other liquids in 2021 is the result of less expected condensate output in Iran.

EIA expects that OPEC surplus crude oil production capacity, which averaged 2.5 million b/d in 2019, will average 5.7 million b/d in 2020, peaking during the third quarter of 2020 at 7.9 million

b/d before declining to 3.1 million b/d on average in 2021. The forecast 2020 annual level would mark the first time since 2002 that surplus capacity averaged at least 5 million b/d and would be the highest level since the mid-1980s. The fluctuations in surplus capacity are a direct result of crude oil production changes in response to the OPEC+ agreement. These estimates do not include additional capacity that may be available in Iran but is offline because of U.S. sanctions on Iran's oil sales.

Global Petroleum Inventories. A faster recovery of global oil demand and steeper declines in global oil production than EIA had forecast in previous outlooks mean inventory builds during the first five months of 2020 were not as large as previously expected. EIA now estimates that implied global oil inventory growth (measured as the difference between estimated global liquid fuels demand and production) averaged 8.4 million b/d from January through May. This level of growth implies oil inventories stood almost 1.3 billion barrels higher at the end of May than they did at the start of the year. In the June STEO, EIA had estimated builds of more than 1.4 billion barrels during this period.

EIA now forecasts that global petroleum inventory builds will average 1.7 million b/d in 2020, compared with the 2.2 million b/d inventory build EIA had forecast in the June STEO. EIA estimates that global inventories began declining in June. Forecast petroleum inventory draws average 3.3 million b/d for the second half of 2020 and 1.1 million b/d in 2021. As a result, EIA expects that commercial crude oil and other liquid fuels inventories held within the Organization of Economic Cooperation and Development (OECD), which peaked at an estimated 3.3 billion barrels in May, will decline to 3.0 billion barrels by the end of 2020. By the end of 2021, the inventory builds that occurred in 2020 will have disappeared, and OECD commercial inventories will fall below 2.9 billion barrels, a level last seen at the end of February 2020.

Crude Oil Prices. Brent crude oil spot prices averaged $40/b in June, up $11/b from May and up $22/b from the multiyear lows from April. Prices rose as OPEC+ producers agreed to extend the deepest production cuts through July and as indications that many locations previously under lockdown orders were increasing liquid fuels demand. Given supply reductions and rising demand, EIA estimates that global oil inventories declined in June for the first time since December 2019. This decline followed five months in which global oil inventory builds averaged 8.4 million b/d, which caused crude oil prices to drop sharply. Because EIA expects global oil demand to exceed supply in the second half of 2020, and continue to exceed through the forecast period, EIA expects crude oil prices to rise through the end of the forecast. However, existing inventory levels, significant OPEC surplus production capacity, and uncertainty about the trajectory of oil demand will likely limit upward crude oil price movements, particularly in the third quarter of 2020.

EIA expects Brent crude oil prices to average $41/b during the second half of 2020 and $50/b during 2021, reaching $53/b by the end of 2021. However, this price path reflects global oil consumption of 96.0 million b/d during the second half of 2020 along with relatively strict compliance to announced OPEC+ production cuts, both of which are uncertain. Also, the degree

to which the U.S. shale industry responds to the recent relative strength in oil prices compared with their recent lows in April will affect the oil price path in the coming quarters.

Global economic developments and numerous uncertainties surrounding the ongoing COVID-19 pandemic in the coming months could push oil prices higher or lower than the current STEO price forecast. Uncertainty also remains regarding the duration of, and adherence to, the current OPEC+ production cuts. Lastly, the U.S. tight oil sector continues to be dynamic, and the ability of producers to adjust to an especially volatile pricing environment in the face of significant reductions in drilling activity in recent months could affect both current crude oil prices and expectations for future prices.

EIA forecasts West Texas Intermediate (WTI) crude oil prices will average about $3/b less than Brent prices in 2020 and $4/b in 2021. This price discount is based on EIA's assumption that the current reduced discount of WTI to Brent of $2/b on average in June reflects significant declines in U.S. crude oil production and reduced available volumes of U.S. crude oil for export to distant markets relative to other global benchmarks. As the global market adjusts to reduced demand and production levels, EIA expects the spread to return to $4/b by the end of 2020 based on the relative cost of exporting U.S. crude oil from the Cushing distribution hub to Asia, compared with Brent crude oil from the North Sea.

U.S. Liquid Fuels

Consumption. Consumption of U.S. liquid fuels fell in early 2020 as a result of reduced travel because of COVID-19 and associated mitigation measures. Consumption of liquid fuels in the United States reached its low point in April at an average of 14.7 million barrels per day (b/d), down 5.4 million b/d from April 2019. Initial data show consumption increased to 16.1 million b/d in May and to 17.5 million b/d in June as states relaxed restrictions. EIA expects consumption will continue increasing in the second half of the year as economic activity increases.

EIA forecasts that U.S. consumption of petroleum and other liquid fuels will average 18.9 million b/d in the second half of 2020, up from an average of 17.7 million b/d in the first half of the year. EIA forecasts that annual consumption in 2020 will average 18.3 million b/d, down 2.1 million b/d from 2019. On a volumetric basis, almost half of the decrease in 2020 of U.S. consumption of liquid fuels is reduced gasoline use. On a percentage basis, however, jet fuel consumption declines the most (-31%) in 2020 from 2019, followed by residual fuel oil (-20%), gasoline (-10%), and distillate (-10%). EIA forecasts U.S. consumption of liquid fuels will recover to 19.9 million b/d in 2021.

EIA forecasts that U.S. jet fuel consumption will decline by 540,000 b/d from 2019 to average 1.2 million b/d in 2020. Estimated consumption fell to 660,000 b/d in the second quarter of 2020, and EIA expects it to rise to 1.4 million b/d in the fourth quarter. EIA's forecast consumption continues rising in 2021, and averages 1.5 million b/d for the year, remaining less than the 2019 consumption level of 1.7 million b/d.

U.S. motor gasoline consumption in the forecast averages 8.3 million b/d in 2020, down 1.0 million b/d (10.3%) from 2019 consumption levels. The annual declines are largely the result of travel disruptions and COVID-19 mitigation efforts that occurred predominantly in the first half of 2020. In the second half of 2020, gasoline consumption is supported by a forecast increase in employment and is expected to rise from an average of 7.8 million b/d in the first half of 2020 to 8.8 million b/d in the second half of the year. EIA assumes employment levels continue to grow in 2021, driving gasoline consumption up 0.8 million b/d from 2020 levels to average 9.1 million b/d in 2021.

U.S. consumption of distillate fuel in the forecast averages 3.7 million b/d in 2020 and 3.8 million b/d in 2021, down from 4.1 million b/d in 2019. Distillate consumption in the forecast is less affected on a percentage basis by COVID-19 mitigation efforts than jet fuel consumption, decreasing a forecast 10.1% in 2020 compared with 2019. Distillate consumption is driven by economic activity and by freight movements and is more likely affected by slowing economic growth than by travel restrictions themselves. Distillate fuel is also used in activities that are less directly affected by restrictions, such as for diesel engines of heavy construction equipment and as heating oil both for space heating in buildings and industrial heating. The restrictions may have indirectly affected these uses over time as a result of reduced economic activity that eventually led to a decrease in consumer spending for all goods. Diesel fuel is also used in oil and natural gas drilling operations, which have decreased significantly. U.S. gross domestic product reached an estimated low in the second quarter of 2020, and EIA assumes it will increase throughout the forecast, driving the recovery in distillate consumption.

EIA forecasts that U.S. consumption of hydrocarbon gas liquids (HGL) will decline by 110,000 b/d in 2020 to an average 3.0 million b/d in 2020 and increase to 3.3 million b/d in 2021. The decline in HGL consumption in 2020 is driven by an exceptionally warm first quarter that depressed propane consumption for space heating, followed by COVID-19 related mitigation measures, which depressed demand for HGLs as a petrochemical feedstock and for other end uses. The forecast decline in propane, butanes, and natural gasoline consumption is partially offset by an increase in the use of ethane as a feedstock for additional petrochemical capacity expected to come online in 2020 and 2021. EIA forecasts ethane consumption will increase by 110,000 b/d in 2020 and by a further 160,000 b/d in 2021.

Crude Oil Supply. EIA estimates that annual U.S. crude oil production will average 11.6 million b/d in 2020, down 0.6 million b/d from 2019 as result of a drop in drilling activity and production curtailments related to low oil prices. This 2020 production decline would mark the first annual decline since 2016. EIA expects production to decline slightly through the first half of 2021 and then to generally increase for the rest of 2021 as prices and economic conditions become more favorable for oil drilling.

EIA estimates that U.S. crude oil production in June averaged 11.0 million b/d, down 1.9 million b/d from the record level reached in November 2019. The declines occurred because producers quickly curtailed production and reduced drilling activity in response to falling prices. As of July 2, Baker Hughes reported the fewest active drilling rigs in the United States in their records,

which date back to 1987. Adding to the June drop in U.S. crude oil production were declines in the Federal Gulf of Mexico (GOM) stemming from shut-in production in response to Tropical Storm Cristobal.

In July, EIA expects U.S. oil production to increase to 11.4 million b/d as production returns in the GOM. EIA also expects small increases in crude oil production in the Lower 48 states and Alaska in July as operators respond to recent oil price increases.

EIA's forecast of a small increase in tight oil production in July is a result of expectations that some producers will reduce curtailments as oil prices have increased. EIA forecasts that the effect of reduced curtailments will be relatively short lived, and then the effects of less drilling take back over and cause production to fall. As a result, EIA expects that production declines in the tight oil basins of the Lower 48 states will resume after July. Although crude oil prices have increased, they are not high enough to encourage a significant recovery in drilling. Typically, crude oil price changes lead to changes in crude oil production in tight oil basins after about six months. However, current market conditions forced U.S. producers to curtail production more quickly as the WTI spot price dropped to less than $20 per barrel (b) in April and remained less than $40/b during most days in June. With EIA's West Texas Intermediate (WTI) crude oil price forecast averaging $39/b during the second half of 2020, EIA expects onshore production in the Lower 48 states decline from 9.0 million b/d in July 2020 to 8.5 million b/d in April 2021. EIA finalized this month's forecast before a U.S. District Court ordered on July 6 the temporary closure of the Dakota Access Pipeline beginning in early August. Energy Transfer, the operators of the pipeline, have announced they will "file a motion to stay this decision and if not granted, to pursue a stay and expedited appeal with the Court of Appeals." Depending on the outcome, a closure could affect oil prices and wellhead economics during the forecast period, particularly in Bakken region of North Dakota. EIA will incorporate any relevant information related to the pipeline's status in its August STEO.

EIA expects some growth in U.S. crude oil production to resume in mid-2021 as oil prices increase. However, EIA's forecast WTI prices remain lower than $50/b through 2021, and with an uncertain capital environment growth could be limited. EIA expects crude oil production in the Lower 48 states to increase to 8.7 million b/d in the fourth quarter of 2021 and total U.S. crude oil production to increase to 11.1 million b/d; both would be lower than June 2020 levels. Forecast annual average U.S. crude oil production in 2021 is 11.0 million b/d.

Hydrocarbon Gas Liquids Supply. EIA forecasts natural gas plant production of HGLs to increase by 70,000 b/d in 2020 and by 110,000 b/d in 2021, despite the forecast decline in natural gas production. Declines in the production of propane and butanes at natural gas processing plants in 2021, resulting from less natural gas production, will be more than offset by increased ethane production. EIA forecasts higher rates of ethane recovery at natural gas processing plants to increase to meet growing demand for ethane as a petrochemical feedstock in the United States and abroad between 2020 and 2021.

Liquid Biofuels. COVID-19 related reductions in economic activity in general and demand for liquid fuels in particular have had significant effects on U.S. biofuels markets that are expected to persist throughout the STEO forecast period. EIA still expects that current targets in the Renewable Fuel Standard (RFS) program will primarily impact biomass-based diesel production and net imports, which help to meet multiple RFS targets for biomass-based diesel, advanced biofuel, and total renewable fuel, but those impacts will be outweighed by COVID-19 disruptions during 2020.

U.S. biodiesel production fell by 7% from 2018 to 2019, averaging an estimated 112,000 b/d last year. EIA expects biodiesel production will again decrease by nearly 2% to average 110,000 b/d in 2020 before increasing by 21% to average 133,000 b/d in 2021, driven largely by increasing RFS targets and the renewal of the biodiesel production tax credit through 2022.

U.S. net imports of biomass-based diesel increased by 32% to an average 20,000 b/d in 2019, driven primarily by growth in renewable diesel imports, and EIA expects them to increase further to an average of 24,000 b/d in 2020 and 39,000 b/d in 2021. Increased net imports of biomass-based diesel are driven primarily by increased volumes of renewable diesel imported to meet both California Low Carbon Fuel Standard requirements and the rising RFS targets.

As a result of limited demand growth and oversupply, U.S. ethanol producers experienced weakening operating margins, and ethanol production fell for the first time in seven years in 2019, down 2.0% from 2018 to an average of 1.03 million b/d. In 2020, ethanol producers have seen even weaker margins and have significantly curtailed production in response to dramatic decreases to domestic motor gasoline demand. As a result, EIA forecasts that persistent reductions in domestic gasoline demand and limited higher-blend ethanol growth potential will result in ethanol production remaining lower than 2019 levels throughout the STEO forecast. EIA expects ethanol production to average 0.90 million b/d in 2020, 12% less than in 2019, and to average 1.00 million b/d in 2021, which would still be 2% lower than the 2019 level.

U.S. ethanol consumption averaged 948,000 b/d in 2019, and EIA forecasts significant decreases to average 836,000 b/d in 2020 and 919,000 b/d in 2021, driven by persistent COVID-19 related demand impacts. This level of consumption results in the ethanol share of total gasoline, which was an estimated 10.1% in 2018 and 10.2% in 2019, to be 10.1% on average during 2020 and 2021. This stable ethanol share assumes that growth in higher-level ethanol blends is limited by a combination of lower gasoline prices reducing incentives for increased ethanol blending and limited consumer demand for higher levels of ethanol blending beyond 10% of gasoline (E10).

Product Prices. Travel reductions related to COVID-19 mitigation efforts have resulted in sharp reductions in crude oil prices and demand for liquid fuels in the United States during the second quarter of 2020, which have significantly reduced prices for gasoline and diesel fuel during the same period. U.S. retail prices for regular-grade gasoline averaged $1.94 per gallon (gal) during the second quarter of 2020 and diesel retail prices averaged $2.43/gal, down about 47 cents/gal from the first quarter of 2020 for both fuels.

The U.S. gasoline and diesel price declines largely reflect a drop in crude oil prices. Refinery margins, after falling significantly as gasoline and diesel demand fell quickly in March and April, have increased recently as refiners have reduced runs. EIA expects petroleum product prices will rise as crude oil prices rise in the coming quarters. However, EIA generally expects U.S. average gasoline prices to remain near $2/gal until March 2021.

Refinery wholesale gasoline margins in the United States (the difference between the wholesale price of gasoline and the price of Brent crude oil) averaged 21 cents/gal in April 2020 before increasing to 30 cents/gal in June. This level in June was 8 cents/gal less than the average for the same time last year and 18 cents/gal less than the five-year (2015–19) average for June. EIA expects the U.S. refinery wholesale gasoline margin will average 31 cents/gal in 2020 and 30 cents/gal in 2021.

EIA expects the retail price of regular gasoline in the United States will average $2.06/gal during the third quarter of 2020, 59 cents/gal lower than at the same time last year. EIA expects the U.S. monthly regular retail gasoline price will increase from an average of $2.08/gal in June to $2.10/gal in July before falling to $2.00/gal in September 2020. The U.S. regular gasoline retail price, which averaged $2.60/gal in 2019, is forecast to average $2.11/gal in 2020 and $2.23/gal in 2021.

Regional annual average forecast prices for 2020 range from a low of $1.83/gal in the Gulf Coast region—Petroleum Administration for Defense District (PADD) 3—to a high of $2.77/gal in the West Coast region (PADD 5).

The retail price of diesel fuel in the United States averaged $3.06/gal in 2019, which was 13 cents/gal lower than in 2018. EIA forecasts that the diesel price will average $2.52/gal in 2020 and $2.59/gal in 2021. EIA expects that sharp reductions in forecast global economic activity and high levels of diesel inventories will keep diesel refinery margins lower during the forecast period. Diesel refinery margins based on Brent crude oil averaged 20 cents/gal in June 2020, which was 18 cents/gal lower than the five-year average for June and the lowest monthly average since June 2009. They averaged 43 cents/gal in 2019. EIA expects diesel refinery margins will average 33 cents/gal in 2020 and 38 cents/gal in 2021.

Natural Gas

Natural Gas Consumption. Consumption of natural gas in the United States averaged an estimated 85.0 billion cubic feet per day (Bcf/d) in 2019, and EIA expects U.S. consumption will decrease by 2.6 Bcf/d (3.1%) in 2020 before decreasing by an additional 3.7 Bcf/d (4.5%) in 2021.

The largest natural gas consuming sector in the United States is the electric power sector. EIA estimates that electric generation will consume an average 31.9 Bcf/d in 2020, which is 2.9% more than in 2019 because of new natural gas-fired electric generation capacity and competitive natural gas prices. EIA forecasts power sector consumption of natural gas to decline by 14.3% in 2021, which reflects increased competition from renewable sources and from coal.

Growth in renewable sources of electricity generation is a result of continuing renewables capacity additions. EIA's forecast of higher natural gas spot prices in 2021 compared with 2020, makes natural gas less competitive compared with coal for use in power generation.

EIA expects combined U.S. residential and commercial natural gas consumption will average 21.8 Bcf/d in 2020, down 6.8% from 2019, primarily because of warmer-than-average temperatures in the first quarter of 2020 that reduced demand for space heating. Based on forecasts by the National Oceanic and Atmospheric Administration (NOAA), EIA assumes a cooler summer with 7.2% fewer heating degree days (HDD) across the United States in 2020 compared with 2019. EIA expects natural gas consumption in the residential and commercial sectors to increase by 1.6% in 2021, based on a forecast increase in U.S. HDD of 4.0% in 2021.

EIA forecasts U.S. consumption of natural gas by the industrial sector will decline by 6.2% in 2020. Most of this 2020 decrease is the result of less manufacturing activity following COVID-19 mitigation efforts. EIA forecasts industrial sector natural gas consumption to rise by 2.6% as economic growth supports renewed manufacturing activity.

Natural Gas Production and Trade. EIA estimates that U.S. production of dry natural gas averaged 89.9 Bcf/d in the second quarter of 2020, down 6.1 Bcf/d (6.3%) from the fourth quarter of 2019. The declines are the result of a sharp drop in drilling activity because of low natural gas and crude oil prices and because of production curtailments. EIA expects dry natural gas production to continue to decline through the end of 2020. Forecast dry natural gas production in the United States averages 89.2 Bcf/d in 2020, down 3.0 Bcf/d (3.2%) from 2019. Natural gas production declines the most in the Permian region because of a drop in drilling activity and low crude oil prices reduce associated natural gas output from oil-directed wells.

In 2021, EIA expects dry natural gas production to decline by 5.0 Bcf/d (5.6%) from 2020. EIA forecasts the low point in natural gas production to occur in the second quarter of 2021 at an average of 83.3 Bcf/d, which would be down 12.7 Bcf/d (13.2%) from the fourth-quarter 2019 peak. However, toward the second half of 2021, as Henry Hub prices rise and economic conditions become more favorable, EIA expects dry natural gas production to increase, reaching 85.6 Bcf/d in the fourth quarter of 2021.

EIA forecasts net natural gas exports will rise to average 6.1 Bcf/d in 2020 and 7.5 Bcf/d in 2021. Because of rising liquefied natural gas (LNG) and pipeline exports, the United States has been a net exporter of natural gas since the second quarter of 2017. EIA estimates that gross exports of U.S. LNG averaged 5.0 Bcf/d in 2019. EIA expects LNG exports will increase to 5.4 Bcf/d in 2020 and 7.3 Bcf/d in 2021.

In 2020, U.S. LNG liquefaction capacity continues to expand. In May 2020, the third train at Freeport LNG in Texas began commercial operations. Later this summer, the third train at the Cameron LNG export facility in Louisiana and three of Elba Island's small-scale moveable modular liquefaction system units are expected to come online in Georgia, bringing U.S. total liquefaction export capacity to 8.9 Bcf/d of baseload (10.1 Bcf/d peak).

U.S. LNG exports averaged 7.7 Bcf/d through the first four months of 2020, but declined by 17% between April and May. A mild winter and COVID-19 mitigation efforts have led to declining global natural gas demand and high natural gas inventories in Europe and Asia, reducing the need for LNG imports. Historically low natural gas and LNG spot prices in Europe and Asia have reduced the economic viability of U.S. LNG exports, which are highly price sensitive. In the summer 2020, more than 70 LNG export cargoes from the United States were canceled for June and July deliveries, and more than 40 cargoes were canceled for August deliveries. In comparison, 74 cargoes were exported from the United States in January 2020.

EIA estimates that as a result of these cancellations, U.S. LNG exports averaged 3.6 Bcf/d in June and forecasts that they will average 2.2 Bcf/d in July and August 2020, implying a 25% utilization of LNG export capacity. EIA expects U.S. LNG exports to increase beginning in September and average 7.1 Bcf/d from December 2020–February 2021 as global natural gas demand gradually recovers.

U.S. natural gas exports to Mexico by pipeline have also increased as more infrastructure has been built to transport natural gas both to and within Mexico. U.S. pipeline exports to Mexico averaged 5.3 Bcf/d in the first quarter of 2020, an increase of 9% compared with the same period in 2019. Exports to Mexico should continue to increase as more natural gas-fired power plants come online in Mexico and more pipeline infrastructure within Mexico is built. EIA expects gross U.S. pipeline exports to Mexico and Canada to average 7.9 Bcf/d and 8.3 Bcf/d in 2020 and 2021, respectively.

U.S. net natural gas pipeline imports from Canada decreased from 2019 to 2020, continuing a trend that began in 2008. This decrease in net imports is expected to continue as Appalachian production growth displaces some imports of Canadian natural gas to U.S. Midwest markets.

Natural Gas Inventories. As of June 26, 2020, U.S. working gas inventories were 3,077 Bcf, 30% more than the year-ago level and 18% more than the five-year (2015–19) average level. A warmer-than-normal winter led to the smallest total storage withdrawal since the 2015–16 winter, and inventories at the end of the winter heating season on March 31 were 18% more than the five-year average. Weekly storage injections so far during the April–October injection season have been close to the five-year average rate as falling production has been offset by falling demand from the industrial sector and LNG exports. EIA expects declining natural gas production will cause injections to fall short of the five-year average later in the summer. However, because of the high starting point for inventories during this injection season, EIA forecasts inventories will reach a record 4,039 Bcf by the end of October, which would be 8% more than the five-year average for that time period.

Natural Gas Prices. Henry Hub spot prices averaged $1.63 per million British thermal units (MMBtu) in June, down 12 cents/MMBtu from May and the lowest inflation adjusted monthly average price since at least 1989. Currently, the effects of reduced natural gas demand are outweighing the effects of falling U.S. natural gas production and are contributing to low natural gas prices. EIA expects that these conditions will largely persist in the coming months, keeping

the third quarter average price at $1.65/MMBtu. However, EIA expects general upward price pressures to emerge later in 2020 as demand for natural gas increases and production continues to decline, particularly in the fourth quarter when space heating demand rises. EIA forecasts that the Henry Hub spot price will average $2.46/MMBtu in the fourth quarter of 2020, bringing the 2020 annual average to $1.93/MMBtu. EIA expects the Henry Hub price will average $3.10/MMBtu in 2021 as falling natural gas production levels continue to exert upward price pressures.

Coal

Coal Supply. Initial data show U.S. coal production was 113 million short tons (MMst) in the second quarter of 2020, down 37% from the same period a year ago. Coal production has declined primarily because of falling electric power sector demand for coal amid low natural gas prices. As a result of COVID-19 mitigation efforts, some coal mines have either been idled or shut down. Steam coal production has been more affected by lower demand from the domestic electric power sector, but metallurgical coal production has been more affected by falling demand for U.S. exports. EIA expects that U.S. coal production will be 501 MMst in 2020, down 29% from 2019. EIA's forecast coal production rises 7% in 2021 to 536 MMst, driven primarily by a recovery in Western region production.

Coal Consumption. EIA expects U.S. coal consumption to decline by 28% in 2020 as a result of a decline in coal use for electricity generation, which is the effect of both lower overall electricity generation and low natural gas prices that make coal less competitive as a generation fuel. The largest drops in coal use for power generation occur in the Midwest, Southeast, and mid-Atlantic. However, EIA forecasts that U.S. coal consumption will rise by 21% in 2021 largely because of an expected increase in natural gas prices that will cause some coal-fired generation units to become more economic to dispatch.

Coal Trade. EIA forecasts that U.S. coal exports will decrease in 2020 by 32% to 63 MMst. U.S. Atlantic ports, which are the primary outlet for U.S. coal exports, are seeing decreased demand because of the global economic slowdown. Based on an assumed increase in global coal demand in 2021, EIA expects U.S. coal exports to increase by 7% next year. EIA expects increases in 2021 to be limited because of less demand for U.S. coal in India. India, the top destination for U.S. exports, has decreased consumption of both steam and coking coals by nearly 50% this year. India has also opened up domestic mining options to private companies.

Coal Prices. EIA estimates the delivered coal price to U.S. electricity generators averaged $2.02 per million British thermal units (MMBtu) in 2019, which was 4 cents/MMBtu lower than in 2018. EIA forecasts that coal prices will decrease in 2020 to $1.98/MMBtu and increase in 2021 to $2.04/MMBtu.

Electricity

Electricity Consumption. EIA forecasts that consumption of electricity in the United States, including direct use of electricity by combined-heat-and-power plants, will decline by 4% in 2020

and then grow by 1% in 2021. This decline in expected consumption reflects significant changes in electricity consumption patterns resulting from efforts to mitigate COVID-19. These mitigation and reopening efforts are currently evolving, which introduces heightened uncertainty into the STEO's electricity forecasts.

Most of EIA's expected decline during 2020 occurs in the commercial and industrial sectors. EIA forecasts that retail sales of electricity to the U.S. commercial sector will be 7% lower than in 2019. Commercial electricity demand was slightly lower in the first quarter of 2020 compared with 2019 as a result of mild winter temperatures. The stay-at-home orders in the late spring months especially affected commercial businesses such as restaurants, hotels, and similar establishments because they were required to cease operations. In addition, many office employees worked from home instead of their normal workplaces. EIA's most recent survey data indicate that commercial retail electricity sales in April 2020 were 11% lower than in April 2019. EIA estimates similar year-over-year declines have occurred in May and June. The relaxing of stay-at-home orders will likely result in slowed growth in electricity consumption in the commercial sector, but social distancing guidelines that remain in place will likely keep consumption less than 2019 levels.

Retail sales of electricity to the industrial sector have generally been declining over the past 10 years. However, the economic slowdown resulting from COVID-19 mitigation efforts has intensified declines in electricity sales in recent months. Although retail sales of electricity to the U.S. industrial sector during the first quarter of 2020 were slightly higher than the same period in 2019, EIA estimates industrial electricity consumption during the second quarter of 2020 was 8% lower than for the same period last year. EIA expects similar year-over-year declines through the end of the year, leading to a forecast annual decline of 6% in U.S. retail industrial electricity sales during 2020.

Residential electricity consumption during the first quarter of 2020 was 6% lower than for the same period last year as a result of milder winter temperatures. Since late March, the residential sector has generally been consuming more electricity as a result of stay-at-home orders and social distancing guidelines related to COVID-19. U.S. retail sales of electricity to the residential sector in April 2020, when most states had implemented stay-at-home guidance, was 8% higher than in April 2019. Some of this year-over-year increase was likely a result of increased electricity use for heating because the April temperatures were generally colder than in April 2019, but it is likely the increase in consumption was also a result of people spending more time in their homes. EIA assumes this extra use of electricity related to COVID-19 mitigation efforts will decrease gradually through the third quarter of 2020. EIA forecasts 2020 annual residential electricity sales will be essentially the same amount as in 2019.

In 2021, assumed increases in economic activity drive EIA's forecast that residential electricity sales will grow by 1% and commercial electricity sales will grow by 3%. EIA expects industrial electricity consumption in 2021 to remain essentially flat as some manufacturers boost production while others increase the efficiency of their electricity usage.

Electricity Generation. EIA's expectation for less electricity demand overall drives the forecast of a 5% decrease in U.S. electric power sector generation during 2020 compared with 2019. Electric power sector generation in the forecast increases by 1% in 2021.

Coal-fired electricity generation has been the energy source most affected by the reduction in electricity demand resulting from COVID-19 mitigation measures. EIA estimates that U.S. electric power sector coal generation was 314 billion kilowatthours (kWh) during the first half of 2020 compared with 467 billion kWh during the first half of 2019. Coal-fired generation has been falling faster than the overall level of electricity demand as a result of competition from other energy sources. In particular, the cost of natural gas has fallen to its lowest levels in 25 years. In addition, significant levels of new generating capacity using renewable energy sources have been added. EIA expects the share of total U.S. generation from coal-fired power plants will average 18% in 2020 compared with 24% in 2019.

Although the cost of natural gas for power generation has been relatively low for the past few years, recent prices have fallen even farther. EIA expects the cost of natural gas delivered to electric generators in 2020 will average $2.05 per million British thermal units, which would be 29% below the 2019 average and the lowest annual price since 1995. These sustained low prices drive EIA's forecast that natural gas-fired power generators will supply 41% of total U.S. electricity generation in 2020, up from 37% in 2019. Most of the projected increase in natural gas-fired generation occurs in the midwestern and eastern regions of the United States.

EIA also expects generation from renewable energy sources will increase in 2020. Slightly higher precipitation levels in the Pacific Northwest drive EIA's forecast that conventional hydroelectric generation will provide 8% of total U.S. generation in 2020, compared with 7% last year. Most of the expected increase in generation from renewables is a result of new solar and wind generation capacity additions. EIA expects the generation share from renewable energy sources other than hydropower will increase to 13% in 2020 compared with 11% in 2019.

Five nuclear reactors retired in 2019 or are scheduled to retire before the end of 2021. EIA expects the electric power sector will generate 794 billion kWh in 2020, down from 809 billion kWh last year. The forecast level of U.S. nuclear generation corresponds with a generation share of 21%.

In 2021, rising natural gas prices and continued additions of renewable generating capacity drive EIA's forecast for the U.S. electricity generation fuel mix. EIA forecasts the U.S. average delivered cost of natural gas in 2021 will rise to $3.43 per million Btu. These higher natural gas prices cause the forecast share of generation from natural gas-fired power plants to decline to 36% in 2021 from 41% in 2020. Conversely, coal-fired power plants become more economically competitive, and EIA forecasts the U.S. coal generation share in 2021 will average 21% compared with 18% in 2020. Nonhydro renewables provide a forecast share of 15% in 2021, up from an expected share of 13% this year.

Renewables Capacity. After adding 5 gigawatts (GW) of capacity in 2019, EIA forecasts 13 GW of utility-scale solar photovoltaic (PV) capacity will be added in 2020 and 11 GW more will be

added in 2021. Fewer capacity additions in 2021 takes into consideration some effects of the Investment Tax Credit (ITC) phase-down. Based on the latest available data that EIA has received, the impact of COVID-19 on PV capacity in development is limited; therefore, the forecast for utility-scale PV capacity additions in 2020 and 2021 is only slightly lower than the forecast in the January STEO.

EIA also expects a total of 9 GW of small-scale solar PV capacity will be installed during 2020 and 2021, mostly in the residential sector. EIA expects small-scale solar to continue to grow, although at a slower pace than the level forecasted in the January STEO. Various state and federal policies support EIA's forecast solar capacity growth, including California's requirement that all new home construction has rooftop solar panels beginning this year. The National Renewable Energy Laboratory (NREL) estimates that 15% of detached single-family homes in California currently have solar PV systems.

Electricity Prices. EIA expects wholesale electricity prices throughout the United States will be lower in 2020 than they were in 2019, reflecting the lower cost for natural gas as a fuel for power generation and less overall electricity demand. The expected declines in wholesale electricity prices range from 11% lower at the Midcontinent Illinois hub to an expected decline of 53% at the ERCOT North hub in Texas, where prices spiked during some hours in 2019.

EIA forecasts the U.S. retail electricity price for the residential sector will average 13.1 cents per kWh in 2020, which is 1.2% higher than the average retail price in 2019. These higher retail prices reflect the power industry's increased expenditures for generation and transmission infrastructure during the past few years. Forecast residential prices rise by an additional 1.2% in 2021.

U.S. Economic Assumptions and Energy-Related Carbon Dioxide Emissions

The STEO is based on macroeconomic forecasts by IHS Markit (for the United States). EIA used the June 2020 version of the IHS Markit macroeconomic model with EIA's energy price forecasts as model inputs to develop the economic forecasts in STEO.

Using the IHS Markit model, EIA assumes U.S. real gross domestic product (GDP) will decline by 8.2% in 2020 and grow by 5.1% in 2021, compared with 2.3% growth in 2019. EIA assumes that total industrial production will decrease 14.9% in 2020 and increase 1.4% in 2021, compared with 0.9% growth in 2019. In the forecast, nonfarm employment, which grew by 1.4% in 2019, decreases by 7.0% in 2020 and will increase by 4.9% in 2021.

Energy-Related Carbon Dioxide Emissions. After decreasing by 2.8%—150 million metric tons (MMmt)—in 2019 EIA forecasts that energy-related carbon dioxide (CO2) emissions will decrease by 12.2% (624 MMmt) in 2020 and increase by 6.0% (268 MMmt) in 2021. This forecast is highly dependent on assumptions regarding the economic impact and subsequent recovery from COVID-19. In addition to economic growth, energy-related CO2 emissions are sensitive to changes in weather, energy prices, and fuel mix.

The relative prices of coal and natural gas are especially important in determining the fuel mix for electricity generation because these substitutes for one another in the generation dispatch order. Because natural gas typically has a 30% advantage in terms of generation efficiency, even when coal prices are slightly lower on a dollars-per-MMBtu basis, natural gas generation will be dispatched first since it would have a lower dollars-per-MWh cost.

In 2020, EIA forecasts natural gas prices for electric generators to decline by 29% to $2.05/MMBtu, while forecast coal prices decline by 2% to $1.98/MMBtu. This price pattern shifts more electricity generation toward natural gas. However, in 2021 EIA expects natural gas prices for the power sector to increase by 67% to $3.43/MMBtu and coal prices to increase by 3% to $2.04/MMBtu, leading to an 11% decline in natural gas generation and a 22% increase in coal generation. This fuel shift contributes to a 164 MMmt increase in coal emissions in 2021, which more than offsets the 78 MMmt decline in natural gas CO2 emissions. Petroleum-related CO2 emissions are forecast to decline by 12% (279 MMmt) in 2020 as vehicle miles traveled (VMT) decline by 11% because of restricted travel and work-from-home orders.

Notable forecast changes

- EIA forecasts Brent crude oil spot prices will average $41 per barrel (b) in 2020 and $50/b in 2021 and West Texas Intermediate spot prices will average $38/b in 2020 and $46/b in 2021. All of these prices are $2/b higher than forecast in the June STEO. The higher price forecast largely reflects lower expected global oil inventory builds during the first half of 2020.

- This STEO incorporates the extension of May and June supply reductions from OPEC+ through July. Largely as a result of this extension, EIA expects global production of crude oil and other liquid fuels to average 90.8 million barrels per day (b/d) in the third quarter of 2020, 1.1 million b/d lower than forecast last month.

- Based on a forecast of higher crude oil prices, EIA expects U.S. production of crude oil to average 11.0 million b/d in 2021, up 0.2 million b/d from last month's forecast. The U.S. crude oil production forecast for 2020 is mostly unchanged.

- EIA expects U.S. consumption of petroleum and other liquid fuels will average 18.3 million b/d in 2020 and 19.9 million b/d in 2021. Those forecasts are almost 0.3 million b/d and 0.5 million b/d more, respectively, than in the June STEO. The main driver of the higher forecast in both years is more expected gasoline consumption. EIA raised its forecast for U.S. gasoline consumption after incorporating the IHS Markit macroeconomic forecast that shows higher expected employment levels over the next 18 months. EIA also raised its forecast for hydrocarbon gas liquids (HGL) consumption based on incoming data. April HGL consumption in the *Petroleum Supply Monthly* was more than EIA's estimate from the June STEO, which indicates higher utilization rates at ethane-fed petrochemical plants than previously expected.

- EIA's forecast Henry Hub natural gas spot price averages $2.05 per million British thermal units (MMBtu) in the second half of 2020, down from a forecast of $2.26/MMBtu last month. The lower price forecast in this STEO reflects EIA's reduction in forecast U.S. liquefied natural gas (LNG) exports during the third quarter of 2020.
- EIA expects U.S. LNG exports will average 2.6 billion cubic feet per day (Bcf/d) in the third quarter of 2020, down 1.0 Bcf/d from the last forecast as a result of low global demand for natural gas.
- For more information, see the detailed table of forecast changes

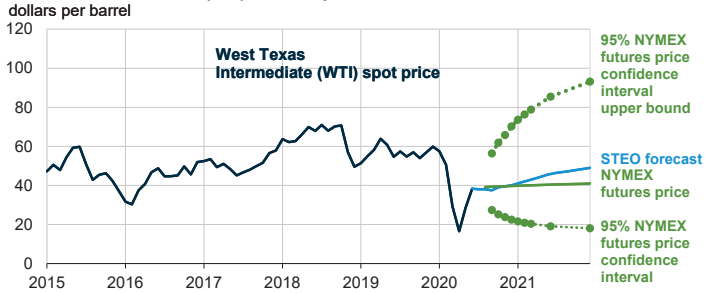
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

July 7, 2020

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

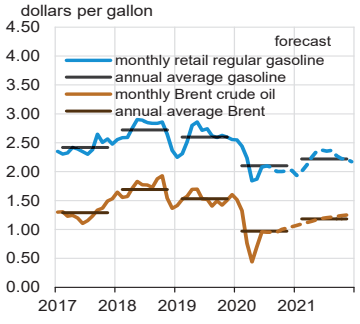


Note: Confidence interval derived from options market information for the five trading days ending Jul 1, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, July 2020, CME Group, and Bloomberg, L.P.

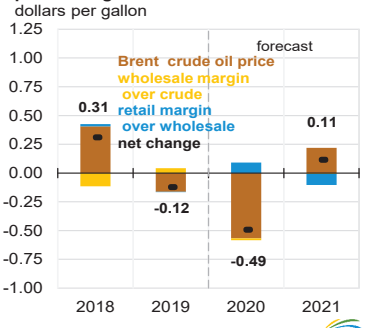
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U.S. gasoline and crude oil prices
dollars per gallon



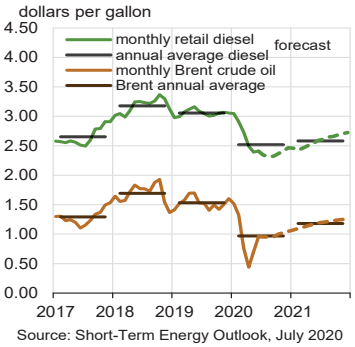
Source: Short-Term Energy Outlook, July 2020

Components of annual gasoline price changes
dollars per gallon



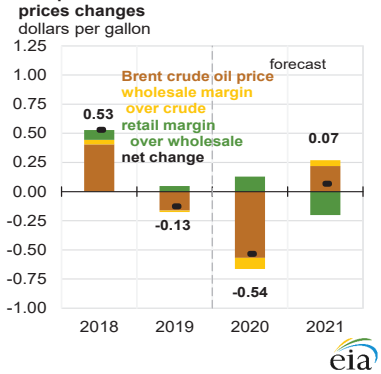
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U.S. diesel and crude oil prices



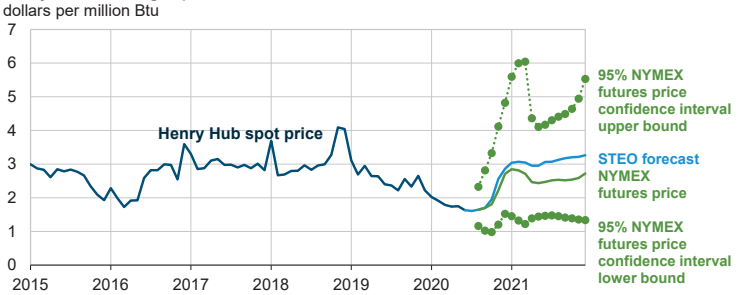
Source: Short-Term Energy Outlook, July 2020

Components of annual diesel prices changes



Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

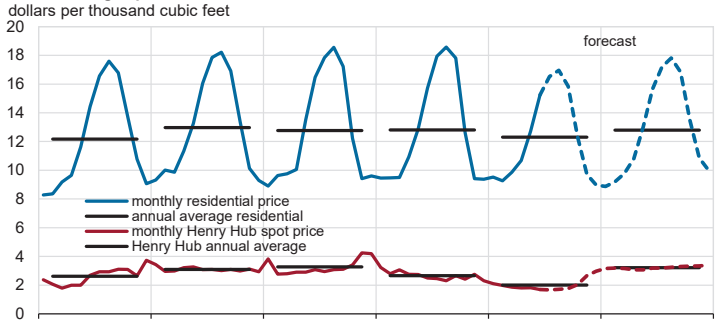


Note: Confidence interval derived from options market information for the five trading days ending Jul 1, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

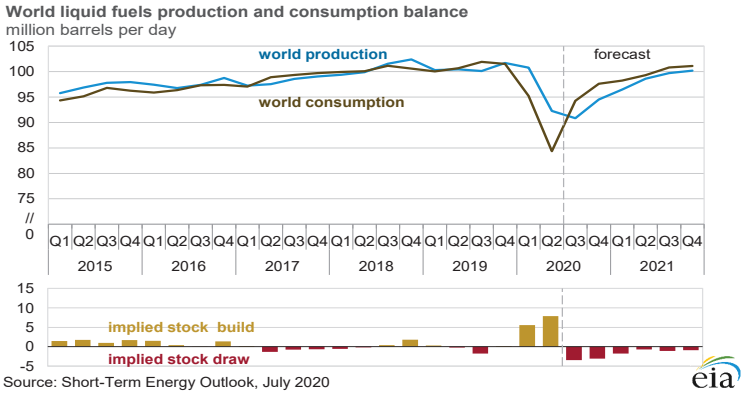
Sources: Short-Term Energy Outlook, July 2020, and CME Group

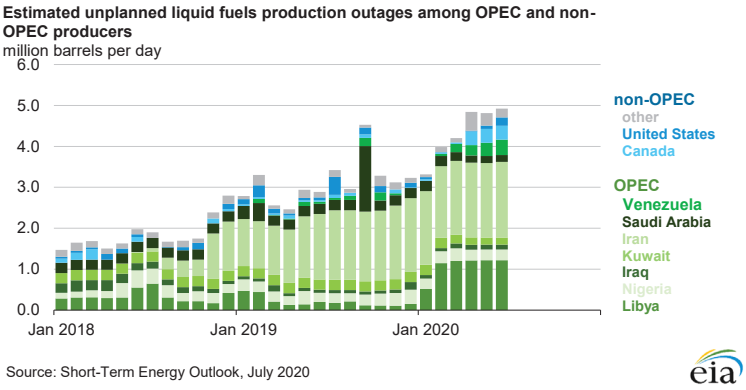
U.S. natural gas prices

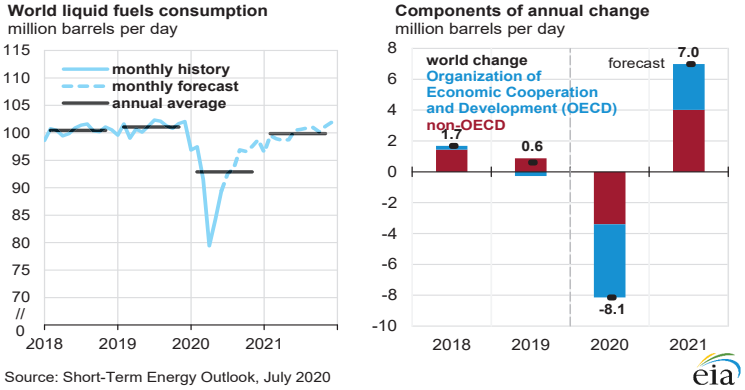
dollars per thousand cubic feet

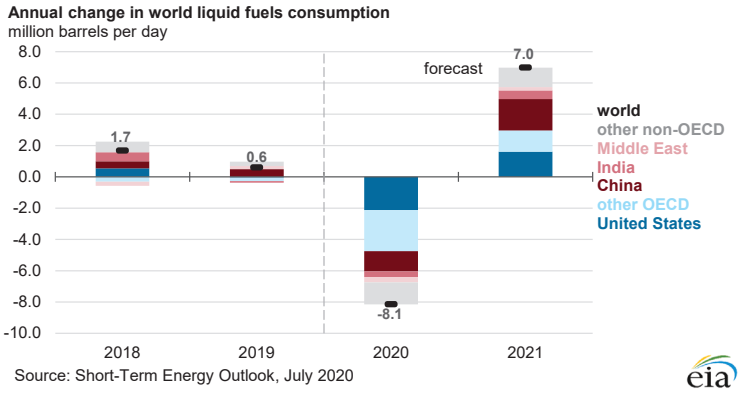


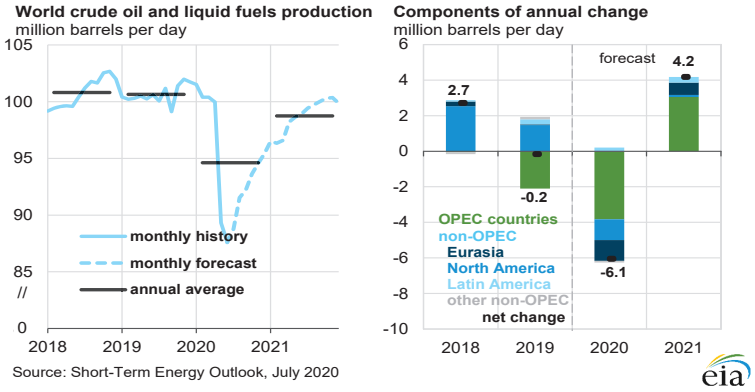
Sources: Short-Term Energy Outlook, July 2020, and Refinitiv

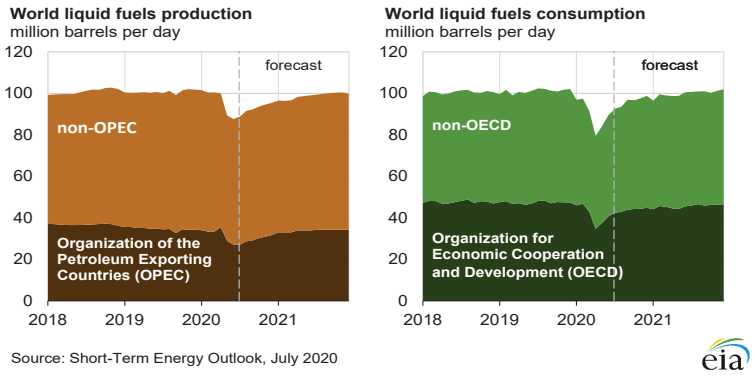

World liquid fuels production and consumption balance
million barrels per day
world production
world consumption
forecast
implied stock build
implied stock draw
Source: Short-Term Energy Outlook, July 2020
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: Short-Term Energy Outlook, July 2020
eia

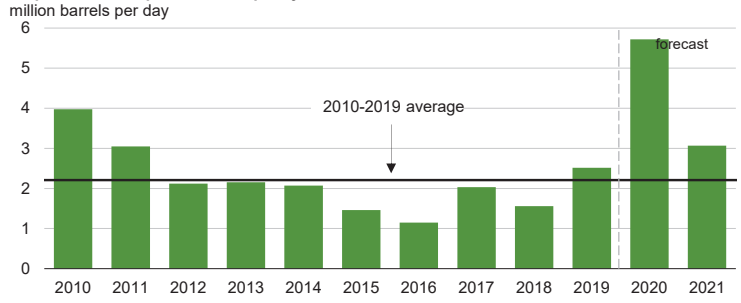

World liquid fuels consumption
million barrels per day
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
1.7
0.6
-8.1
7.0
Source: Short-Term Energy Outlook, July 2020
eia


Annual change in world liquid fuels consumption
million barrels per day
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
forecast
1.7
0.6
-8.1
7.0
2018
2019
2020
2021
world
other non-OECD
Middle East
India
China
other OECD
United States
Source: Short-Term Energy Outlook, July 2020
eia


World crude oil and liquid fuels production
million barrels per day
105
100
95
90
85
0
2018
2019
2020
2021
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
6
4
2
0
-2
-4
-6
-8
-10
forecast
2.7
-0.2
-6.1
4.2
OPEC countries
non-OPEC
Eurasia
North America
Latin America
other non-OPEC
net change
2018
2019
2020
2021
Source: Short-Term Energy Outlook, July 2020
eia

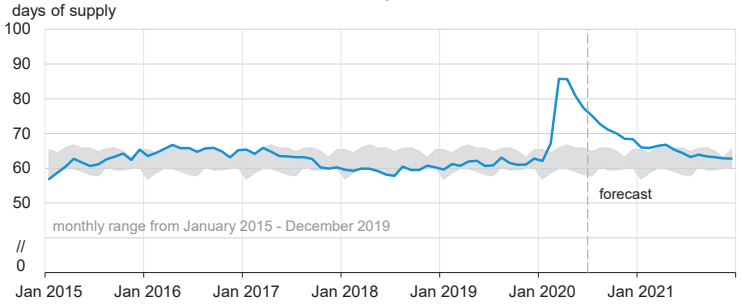

World liquid fuels production
million barrels per day
120
100
80
60
40
20
0
forecast
non-OPEC
Organization of the Petroleum Exporting Countries (OPEC)
2018
2019
2020
2021
World liquid fuels consumption
million barrels per day
120
100
80
60
40
20
0
forecast
non-OECD
Organization for Economic Cooperation and Development (OECD)
2018
2019
2020
2021
Source: Short-Term Energy Outlook, July 2020
eia

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



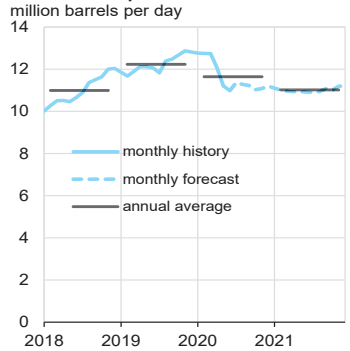
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: Short-Term Energy Outlook, July 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply



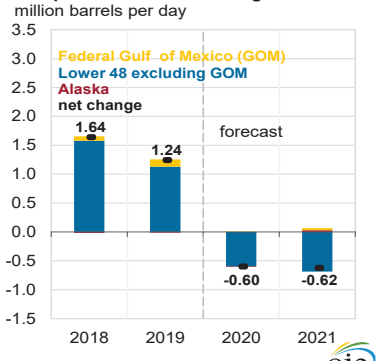
Source: Short-Term Energy Outlook, July 2020

U.S. crude oil production
million barrels per day

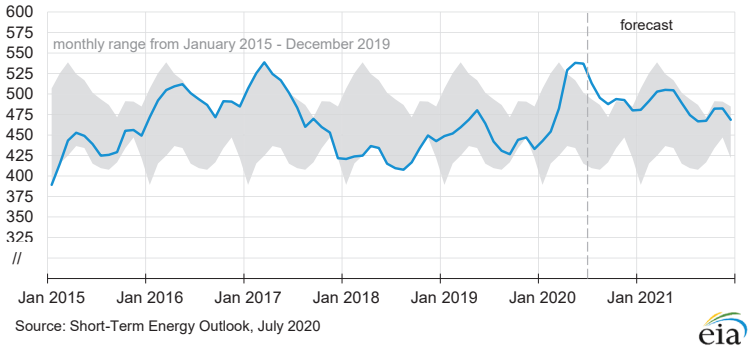


Source: Short-Term Energy Outlook, July 2020

Components of annual change
million barrels per day

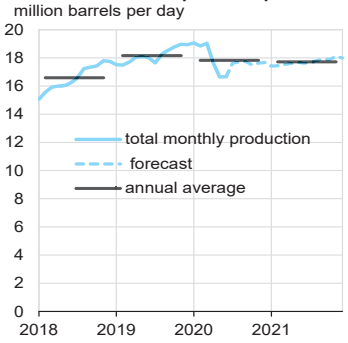


U.S. commercial crude oil inventories
million barrels



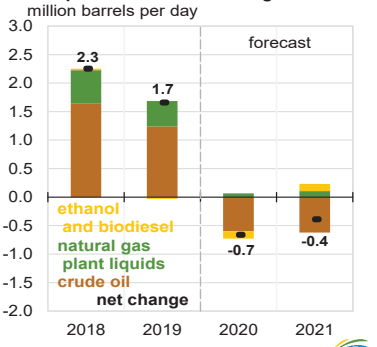
Source: Short-Term Energy Outlook, July 2020

U.S. crude oil and liquid fuels production
million barrels per day

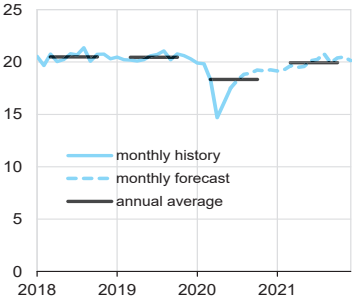


Source: Short-Term Energy Outlook, July 2020

Components of annual change
million barrels per day

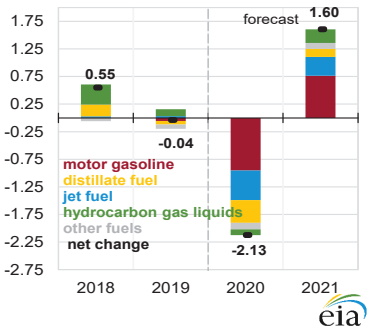


U.S. liquid fuels product supplied (consumption)
million barrels per day

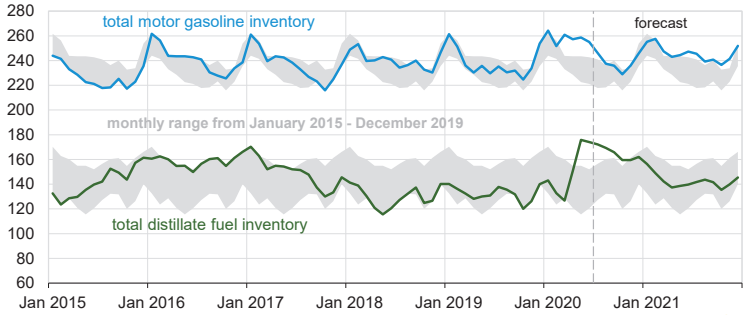


Source: Short-Term Energy Outlook, July 2020

Components of annual change
million barrels per day

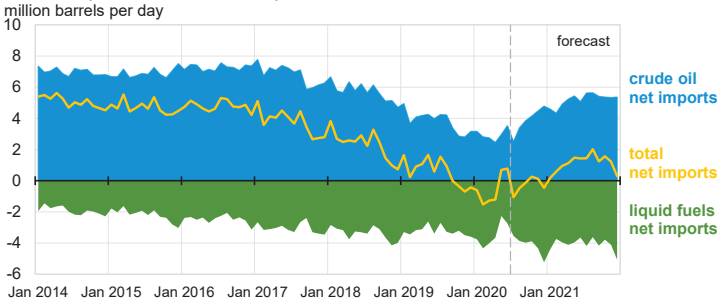


U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, July 2020

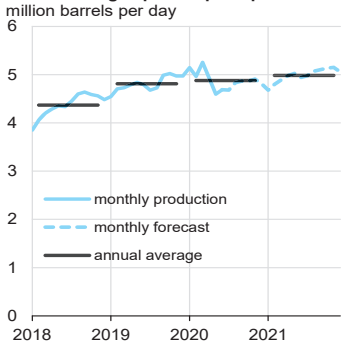
U.S. net imports of crude oil and liquid fuels
million barrels per day



Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

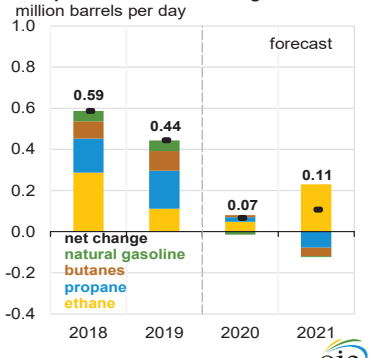
Source: Short-Term Energy Outlook, July 2020

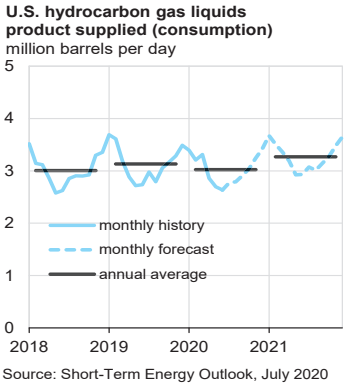
U.S. natural gas plant liquids production
million barrels per day

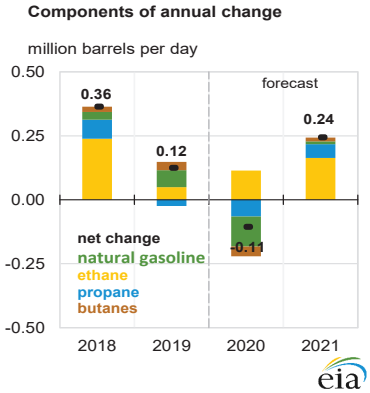


Source: Short-Term Energy Outlook, July 2020

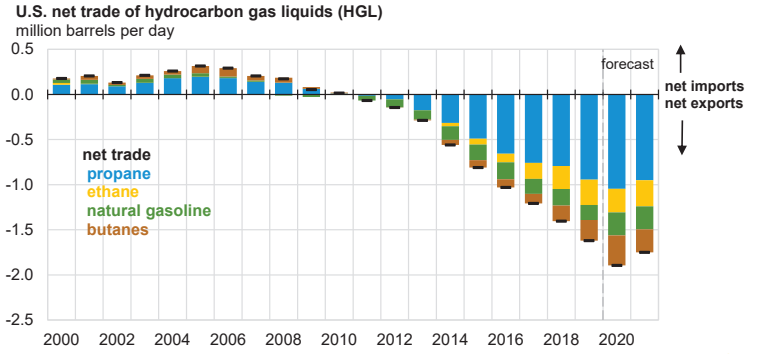
Components of annual change
million barrels per day



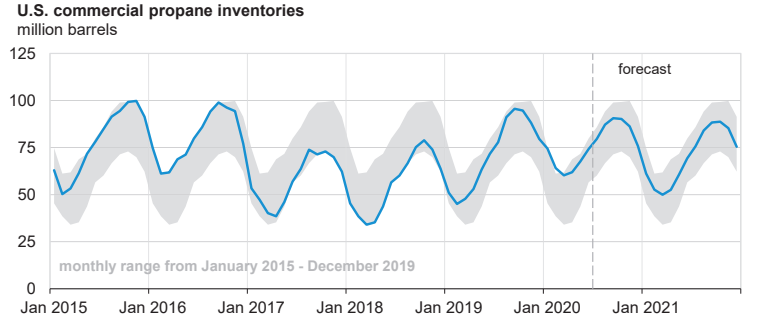




Source: Short-Term Energy Outlook, July 2020

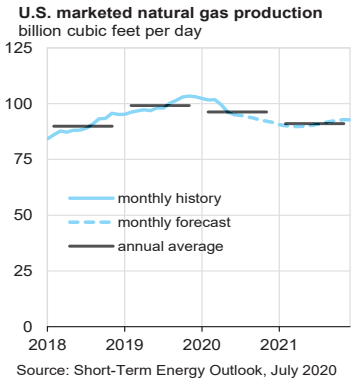


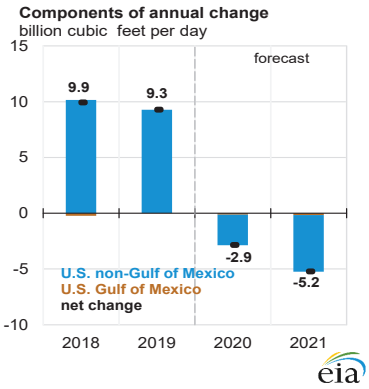
Source: Short-Term Energy Outlook, July 2020



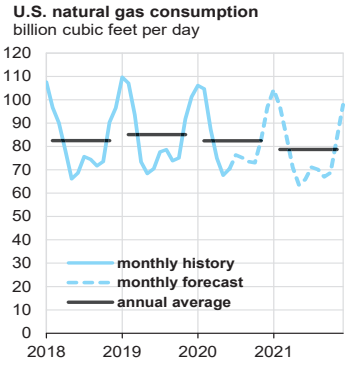
Note: Excludes refinery propylene.

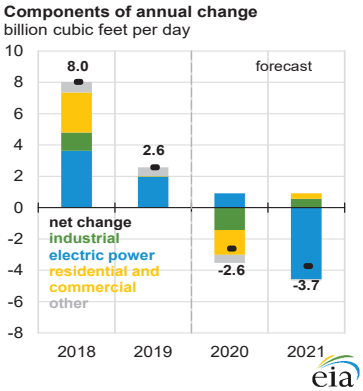
Source: Short-Term Energy Outlook, July 2020



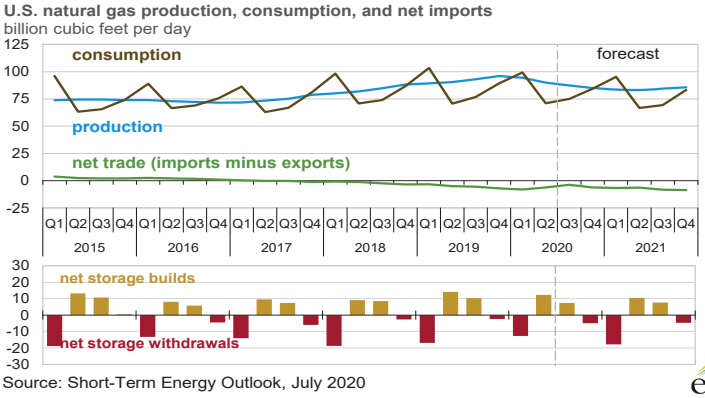


Source: Short-Term Energy Outlook, July 2020





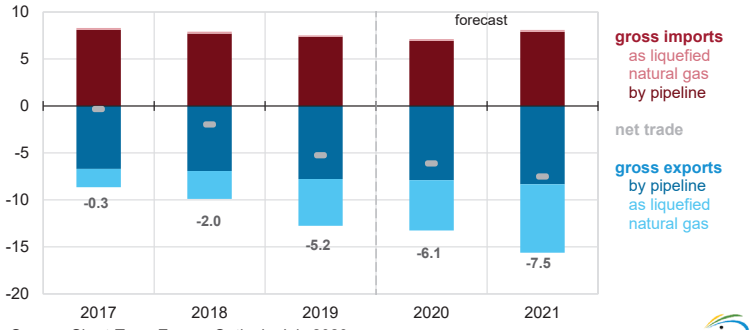
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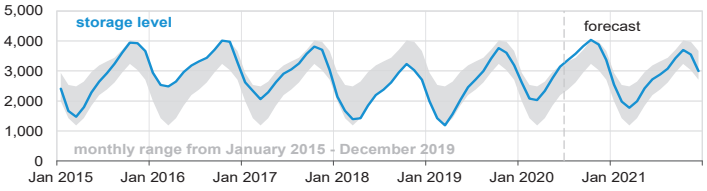
Source: Short-Term Energy Outlook, July 2020

U.S. annual natural gas trade
billion cubic feet per day

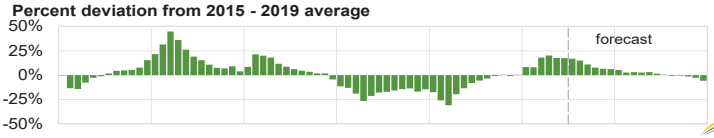


Source: Short-Term Energy Outlook, July 2020

U.S. working natural gas in storage
billion cubic feet

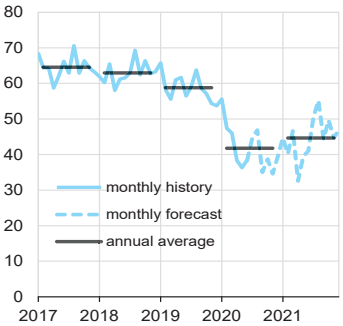


Percent deviation from 2015 - 2019 average



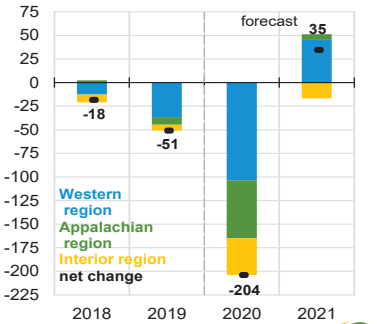
Source: Short-Term Energy Outlook, July 2020

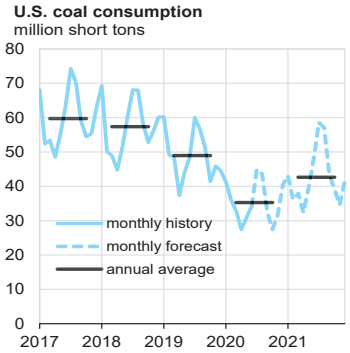
U.S. coal production
million short tons

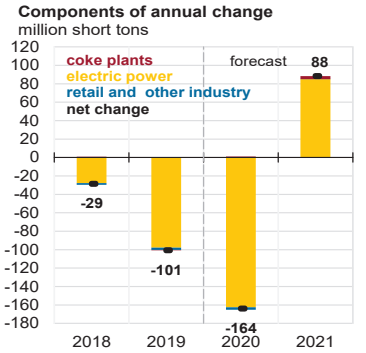


Source: Short-Term Energy Outlook, July 2020

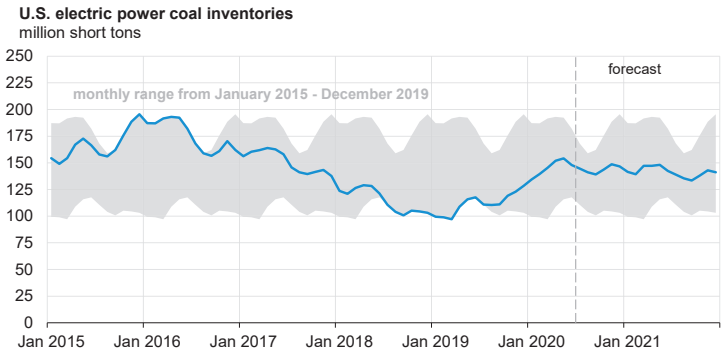
Components of annual change
million short tons



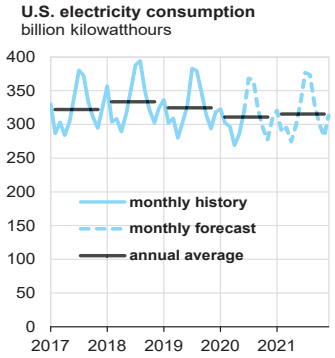


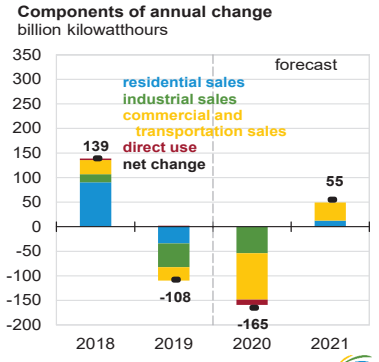


Source: Short-Term Energy Outlook, July 2020



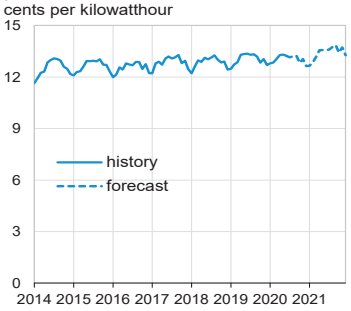
Source: Short-Term Energy Outlook, July 2020



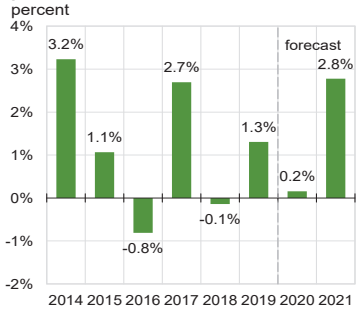


Source: Short-Term Energy Outlook, July 2020

U.S. monthly residential electricity price
cents per kilowatthour

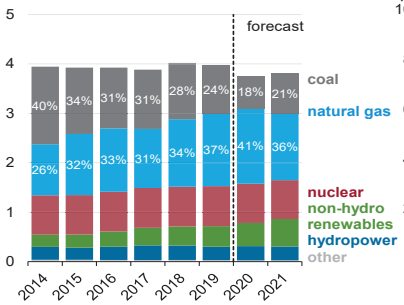


Annual growth in residential electricity prices
percent

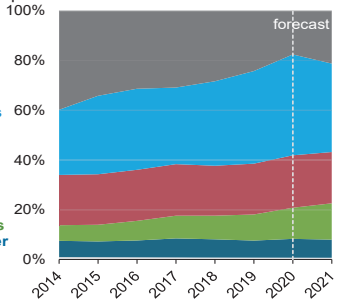


Source: Short-Term Energy Outlook, July 2020

U.S. electricity generation by fuel, all sectors
trillion kilowatthours

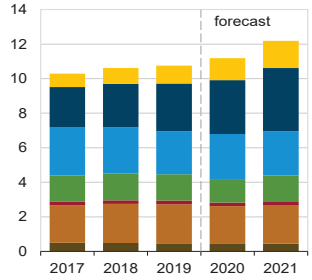


percent share

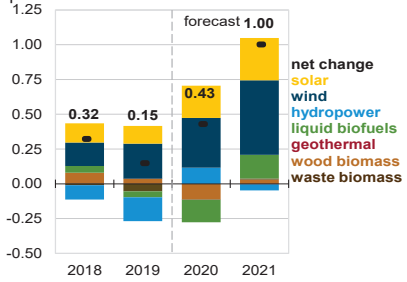


Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: Short-Term Energy Outlook, July 2020

U.S. renewable energy supply
quadrillion British thermal units

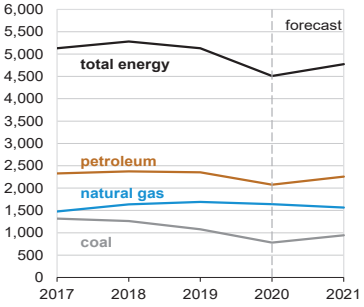


Components of annual change
quadrillion British thermal units

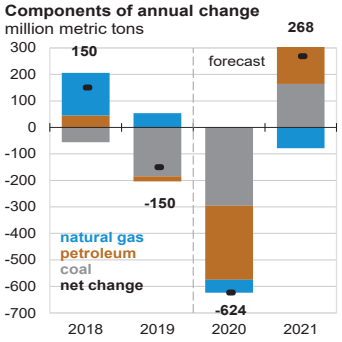


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, July 2020

U.S. annual carbon emissions by source
million metric tons



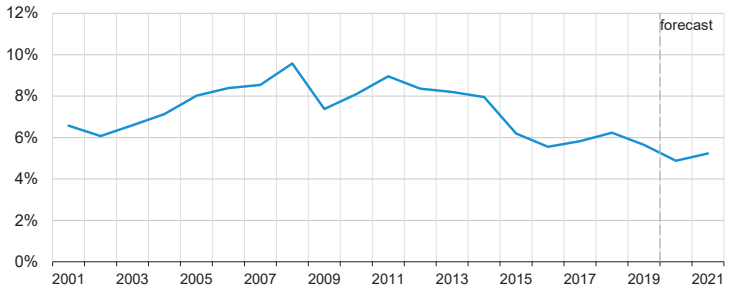
Components of annual change
million metric tons



Source: Short-Term Energy Outlook, July 2020

eia

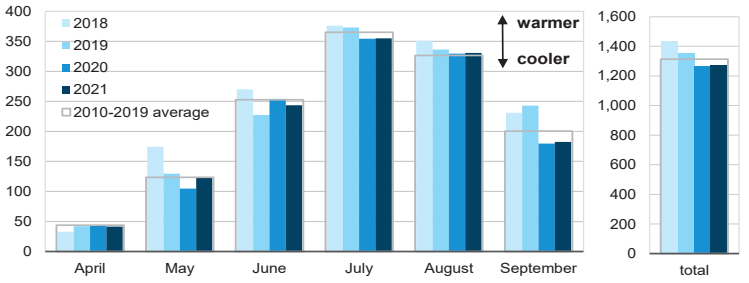
U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, July 2020

eia

U.S. summer cooling degree days
population-weighted

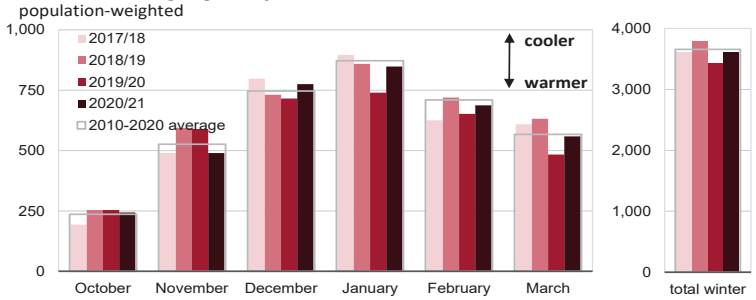


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, July 2020

eia

U.S. winter heating degree days
population-weighted

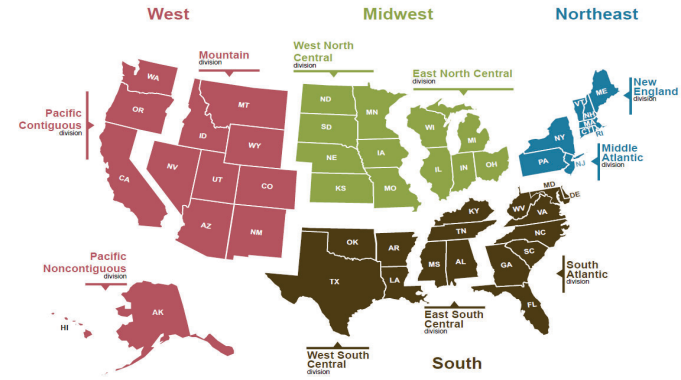


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, July 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.81**	**12.10**	**12.23**	**12.78**	**12.74**	**11.41**	*11.29*	*11.10*	*11.02*	*10.93*	*10.97*	*11.13*	**12.23**	*11.63*	*11.01*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**95.97**	**94.50**	**89.91**	*87.27*	*85.37*	*83.48*	*83.25*	*84.53*	*85.63*	**92.21**	*89.24*	*84.23*
Coal Production															
(million short tons)	**180**	**179**	**181**	**165**	**149**	**113**	*127*	*113*	*132*	*113*	*150*	*141*	**705**	*501*	*536*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.11**	*18.67*	*19.22*	*19.36*	*19.73*	*20.33*	*20.34*	**20.46**	*18.34*	*19.94*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**70.96**	*75.02*	*84.24*	*95.24*	*66.79*	*69.40*	*83.28*	**84.97**	*82.35*	*78.62*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**132**	**110**	**93**	*121*	*99*	*117*	*120*	*159*	*115*	**587**	*423*	*511*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.02**	**12.06**	**10.07**	**10.13**	**9.59**	*11.48*	*9.56*	*10.05*	*9.94*	*11.73*	*9.75*	**10.67**	*10.19*	*10.37*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.79**	**2.91**	**3.00**	*2.93*	*2.97*	*3.21*	*3.36*	*3.16*	*3.17*	**11.48**	*11.81*	*12.90*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.54**	**23.43**	**24.97**	**25.22**	**25.11**	**20.33**	*22.68*	*23.29*	*24.54*	*22.42*	*23.83*	*24.16*	**100.17**	*91.41*	*94.95*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	**27.78**	*37.84*	*39.50*	*42.07*	*45.00*	*46.99*	*48.52*	**57.02**	*37.55*	*45.70*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	*1.65*	*2.46*	*3.05*	*2.99*	*3.12*	*3.23*	**2.57**	*1.93*	*3.10*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	**2.00**	*2.00*	*2.00*	*2.04*	*2.05*	*2.04*	*2.04*	**2.02**	*1.98*	*2.04*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**18,975**	**16,559**	*17,066*	*17,467*	*17,930*	*18,327*	*18,599*	*18,817*	**19,073**	*17,517*	*18,418*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.3**	**0.3**	**-12.9**	*-10.7*	*-9.1*	*-5.5*	*10.7*	*9.0*	*7.7*	**2.3**	*-8.2*	*5.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	**113.1**	*113.5*	*113.6*	*113.7*	*114.0*	*114.3*	*114.6*	**112.3**	*113.4*	*114.2*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	**0.8**	*0.7*	*0.5*	*0.3*	*0.8*	*0.7*	*0.9*	**1.8**	*1.0*	*0.6*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,091**	**15,126**	**16,330**	*15,769*	*15,232*	*15,272*	*15,427*	*15,524*	*15,594*	**14,979**	*15,614*	*15,454*
Percent change from prior year	**3.3**	**3.0**	**2.7**	**2.6**	**1.7**	**9.3**	*5.0*	*0.9*	*1.0*	*-5.5*	*-1.5*	*2.4*	**2.9**	*4.2*	*-1.0*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**104.3**	**83.6**	*81.9*	*82.5*	*85.9*	*89.3*	*91.4*	*92.9*	**106.0**	*88.1*	*89.9*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.1**	**-20.9**	*-22.6*	*-22.0*	*-17.6*	*6.9*	*11.6*	*12.6*	**0.0**	*-16.9*	*2.1*
Weather															
U.S. Heating Degree-Days	**2,210**	**480**	**56**	**1,558**	**1,875**	**542**	*69*	*1,508*	*2,094*	*483*	*71*	*1,506*	**4,304**	*3,994*	*4,154*
U.S. Cooling Degree-Days	**46**	**399**	**952**	**105**	**71**	**402**	*864*	*96*	*46*	*409*	*868*	*96*	**1,502**	*1,432*	*1,419*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109;
Petroleum Supply Annual , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130;
Electric Power Monthly , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.
Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.
Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	**27.78**	*37.84*	*39.50*	*42.07*	*45.00*	*46.99*	*48.52*	**57.02**	*37.55*	*45.70*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.30**	**49.97**	**29.34**	*40.00*	*43.00*	*46.07*	*49.00*	*50.99*	*52.52*	**64.37**	*40.50*	*49.70*
U.S. Imported Average	**55.35**	**62.98**	**57.30**	**55.57**	**43.69**	**28.92**	*36.34*	*37.37*	*39.57*	*42.39*	*44.24*	*45.50*	**57.97**	*36.62*	*43.08*
U.S. Refiner Average Acquisition Cost	**57.08**	**63.54**	**58.67**	**58.05**	**47.45**	**31.94**	*40.41*	*39.85*	*41.05*	*43.41*	*45.24*	*46.51*	**59.36**	*40.25*	*44.12*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**153**	**100**	*126*	*128*	*133*	*157*	*157*	*146*	**186**	*128*	*149*
Diesel Fuel	**192**	**203**	**192**	**197**	**160**	**101**	*123*	*132*	*140*	*154*	*162*	*167*	**196**	*129*	*156*
Heating Oil	**189**	**195**	**184**	**191**	**160**	**93**	*110*	*124*	*141*	*149*	*160*	*166*	**190**	*124*	*148*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**165**	**84**	*112*	*120*	*133*	*142*	*153*	*160*	**197**	*128*	*148*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**162**	**176**	**104**	*129*	*131*	*102*	*104*	*106*	*110*	**158**	*134*	*106*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	**194**	*206*	*201*	*202*	*233*	*233*	*221*	**260**	*211*	*223*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**251**	**203**	*217*	*214*	*215*	*246*	*247*	*234*	**269**	*222*	*236*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	**243**	*233*	*241*	*245*	*254*	*264*	*270*	**306**	*252*	*259*
Heating Oil	**300**	**305**	**290**	**301**	**280**	**206**	*213*	*236*	*245*	*249*	*259*	*276*	**300**	*247*	*258*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	*1.72*	*2.55*	*3.17*	*3.11*	*3.24*	*3.35*	**2.66**	*2.00*	*3.22*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	*1.65*	*2.46*	*3.05*	*2.99*	*3.12*	*3.23*	**2.57**	*1.93*	*3.10*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	**2.72**	*2.50*	*3.41*	*4.33*	*3.94*	*4.04*	*4.50*	**3.91**	*3.07*	*4.22*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	**7.60**	*7.73*	*6.95*	*7.25*	*8.04*	*8.65*	*8.01*	**7.62**	*7.25*	*7.76*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	**12.13**	*16.44*	*9.76*	*9.22*	*12.31*	*17.25*	*10.83*	**10.56**	*10.52*	*10.65*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	**2.00**	*2.00*	*2.00*	*2.04*	*2.05*	*2.04*	*2.04*	**2.02**	*1.98*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.40**	**1.85**	*1.55*	*2.63*	*3.57*	*3.24*	*3.33*	*3.61*	**2.88**	*2.05*	*3.43*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**7.23**	*7.30*	*7.75*	*8.68*	*9.93*	*9.72*	*9.78*	**12.72**	*8.52*	*9.54*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.43**	*9.73*	*10.54*	*11.07*	*12.15*	*12.68*	*13.10*	**15.16**	*10.52*	*12.29*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.62**	*7.16*	*6.75*	*6.69*	*6.93*	*7.59*	*6.94*	**6.83**	*6.73*	*7.05*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.56**	*10.83*	*10.38*	*10.32*	*10.76*	*11.23*	*10.87*	**10.66**	*10.54*	*10.82*
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.26**	*13.20*	*12.82*	*12.87*	*13.57*	*13.72*	*13.45*	**13.04**	*13.06*	*13.42*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.04**	**31.29**	**31.45**	**32.76**	**32.89**	**29.39**	*29.78*	*30.40*	*30.44*	*30.54*	*30.74*	*31.38*	**31.64**	*30.61*	*30.78*
U.S. (50 States)	**18.85**	**19.32**	**19.42**	**20.21**	**20.22**	**18.08**	*18.38*	*18.40*	*18.26*	*18.46*	*18.55*	*18.79*	**19.45**	*18.77*	*18.52*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.63**	**4.58**	*4.76*	*5.28*	*5.38*	*5.46*	*5.51*	*5.73*	**5.50**	*5.06*	*5.52*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.90**	*1.80*	*1.77*	*1.79*	*1.79*	*1.75*	*1.74*	**1.92**	*1.86*	*1.77*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.03**	**4.84**	*4.84*	*4.95*	*5.02*	*4.83*	*4.93*	*5.13*	**4.77**	*4.91*	*4.97*
Non-OECD	**69.27**	**69.15**	**68.68**	**68.94**	**67.89**	**62.87**	*61.05*	*64.14*	*66.04*	*68.06*	*68.99*	*68.79*	**69.01**	*63.98*	*67.98*
OPEC	**35.44**	**34.97**	**33.93**	**34.38**	**33.62**	**30.49**	*28.32*	*31.00*	*33.02*	*33.96*	*34.30*	*34.33*	**34.67**	*30.85*	*33.90*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.29**	**25.77**	*23.68*	*26.35*	*28.26*	*29.26*	*29.61*	*29.64*	**29.27**	*26.02*	*29.20*
Other Liquids (b)	**5.50**	**5.50**	**5.27**	**5.37**	**5.33**	**4.72**	*4.64*	*4.65*	*4.76*	*4.69*	*4.69*	*4.69*	**5.41**	*4.83*	*4.71*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.74**	**13.18**	*12.74*	*13.22*	*13.74*	*14.13*	*14.31*	*14.44*	**14.64**	*13.47*	*14.16*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.96**	**4.88**	*4.86*	*4.92*	*4.82*	*4.86*	*4.86*	*4.91*	**4.89**	*4.91*	*4.86*
Other Non-OECD	**14.07**	**14.83**	**15.27**	**15.01**	**14.56**	**14.32**	*15.13*	*15.00*	*14.47*	*15.11*	*15.52*	*15.11*	**14.80**	*14.76*	*15.06*
Total World Supply	**100.31**	**100.44**	**100.13**	**101.70**	**100.78**	**92.26**	*90.83*	*94.54*	*96.49*	*98.60*	*99.73*	*100.17*	**100.65**	*94.59*	*98.76*
Non-OPEC Supply	**64.87**	**65.48**	**66.20**	**67.32**	**67.15**	**61.78**	*62.51*	*63.54*	*63.47*	*64.64*	*65.43*	*65.84*	**65.98**	*63.74*	*64.85*
Consumption (million barrels per day) (c)															
OECD	**47.44**	**46.75**	**47.86**	**47.52**	**45.26**	**37.70**	*43.10*	*44.50*	*45.05*	*44.81*	*46.17*	*46.39*	**47.39**	*42.65*	*45.61*
U.S. (50 States)	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.11**	*18.67*	*19.22*	*19.36*	*19.73*	*20.33*	*20.34*	**20.46**	*18.34*	*19.94*
U.S. Territories	**0.16**	**0.15**	**0.15**	**0.16**	**0.16**	**0.14**	*0.14*	*0.15*	*0.16*	*0.14*	*0.14*	*0.15*	**0.15**	*0.15*	*0.15*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.54**	**2.09**	*2.40*	*2.44*	*2.45*	*2.40*	*2.51*	*2.48*	**2.50**	*2.36*	*2.46*
Europe	**13.90**	**14.05**	**14.53**	**13.94**	**13.21**	**11.14**	*12.88*	*12.96*	*13.01*	*13.25*	*13.78*	*13.53*	**14.11**	*12.55*	*13.39*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.70**	**2.72**	*3.03*	*3.40*	*3.67*	*3.03*	*3.12*	*3.44*	**3.67**	*3.22*	*3.31*
Other OECD	**6.55**	**6.40**	**6.48**	**6.55**	**6.32**	**5.50**	*5.97*	*6.33*	*6.41*	*6.26*	*6.30*	*6.46*	**6.49**	*6.03*	*6.36*
Non-OECD	**52.59**	**53.92**	**54.06**	**54.01**	**49.97**	**46.68**	*51.18*	*53.13*	*53.20*	*54.48*	*54.66*	*54.70*	**53.65**	*50.25*	*54.26*
Eurasia	**5.01**	**5.06**	**5.45**	**5.30**	**4.91**	**4.48**	*5.27*	*5.23*	*5.00*	*5.08*	*5.47*	*5.33*	**5.21**	*4.97*	*5.22*
Europe	**0.77**	**0.76**	**0.78**	**0.78**	**0.72**	**0.71**	*0.73*	*0.74*	*0.72*	*0.72*	*0.74*	*0.74*	**0.77**	*0.73*	*0.73*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.10**	**12.15**	*13.10*	*14.50*	*15.11*	*15.36*	*15.09*	*15.34*	**14.51**	*13.21*	*15.22*
Other Asia	**13.77**	**14.14**	**13.76**	**14.10**	**13.28**	**11.81**	*13.09*	*13.81*	*14.19*	*14.38*	*13.98*	*14.35*	**13.95**	*13.00*	*14.22*
Other Non-OECD	**18.59**	**19.31**	**19.70**	**19.24**	**17.96**	**17.52**	*18.99*	*18.85*	*18.17*	*18.94*	*19.39*	*18.95*	**19.21**	*18.34*	*18.87*
Total World Consumption	**100.03**	**100.67**	**101.91**	**101.53**	**95.23**	**84.37**	*94.28*	*97.63*	*98.25*	*99.29*	*100.83*	*101.09*	**101.04**	*92.89*	*99.88*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.26**	**-0.64**	**0.05**	**0.29**	**-0.43**	**-1.69**	*0.64*	*0.70*	*0.31*	*-0.28*	*-0.02*	*0.36*	**-0.01**	*-0.19*	*0.09*
Other OECD	**-0.20**	**0.01**	**-0.16**	**0.27**	**-0.54**	**-1.92**	*0.91*	*0.77*	*0.48*	*0.31*	*0.36*	*0.18*	**-0.02**	*-0.19*	*0.33*
Other Stock Draws and Balance	**-0.34**	**0.86**	**1.89**	**-0.74**	**-4.58**	**-4.29**	*1.90*	*1.63*	*0.98*	*0.67*	*0.76*	*0.38*	**0.42**	*-1.32*	*0.70*
Total Stock Draw	**-0.28**	**0.23**	**1.78**	**-0.18**	**-5.55**	**-7.89**	*3.45*	*3.09*	*1.76*	*0.69*	*1.10*	*0.92*	**0.39**	*-1.70*	*1.12*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,321**	**1,452**	*1,398*	*1,345*	*1,329*	*1,357*	*1,360*	*1,329*	**1,282**	*1,345*	*1,329*
OECD Commercial Inventory	**2,860**	**2,921**	**2,932**	**2,890**	**2,978**	**3,283**	*3,146*	*3,022*	*2,962*	*2,963*	*2,932*	*2,885*	**2,890**	*3,022*	*2,885*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.19**	**26.70**	**26.82**	**27.77**	**27.86**	**24.56**	*24.94*	*25.45*	*25.43*	*25.71*	*25.81*	*26.26*	**26.87**	*25.70*	*25.80*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.63**	**4.58**	*4.76*	*5.28*	*5.38*	*5.46*	*5.51*	*5.73*	**5.50**	*5.06*	*5.52*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.90**	*1.80*	*1.77*	*1.79*	*1.79*	*1.75*	*1.74*	**1.92**	*1.86*	*1.77*
United States	**18.85**	**19.32**	**19.42**	**20.21**	**20.22**	**18.08**	*18.38*	*18.40*	*18.26*	*18.46*	*18.55*	*18.79*	**19.45**	*18.77*	*18.52*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**6.03**	**6.05**	*6.86*	*6.60*	*6.08*	*6.79*	*7.19*	*6.79*	**6.23**	*6.39*	*6.71*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.67**	**0.57**	*0.67*	*0.67*	*0.66*	*0.67*	*0.68*	*0.67*	**0.69**	*0.65*	*0.67*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.43**	**3.86**	*4.30*	*4.00*	*3.50*	*4.32*	*4.69*	*4.26*	**3.67**	*3.90*	*4.20*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	**0.81**	*0.84*	*0.88*	*0.87*	*0.79*	*0.82*	*0.85*	**0.92**	*0.86*	*0.83*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	**0.33**	*0.53*	*0.53*	*0.52*	*0.51*	*0.49*	*0.48*	**0.53**	*0.48*	*0.50*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.49**	**0.47**	*0.52*	*0.53*	*0.52*	*0.50*	*0.51*	*0.52*	**0.42**	*0.50*	*0.51*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.43**	**4.30**	*4.27*	*4.36*	*4.43*	*4.25*	*4.35*	*4.56*	**4.12**	*4.34*	*4.40*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.06**	**2.03**	*2.02*	*2.04*	*2.12*	*2.08*	*2.12*	*2.22*	**1.75**	*2.04*	*2.14*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.19**	**1.15**	*1.11*	*1.15*	*1.14*	*1.01*	*1.07*	*1.17*	**1.17**	*1.15*	*1.10*
Eurasia	**14.87**	**14.43**	**14.59**	**14.67**	**14.74**	**13.18**	*12.74*	*13.22*	*13.74*	*14.13*	*14.31*	*14.44*	**14.64**	*13.47*	*14.16*
Azerbaijan	**0.82**	**0.79**	**0.78**	**0.77**	**0.78**	**0.69**	*0.68*	*0.71*	*0.73*	*0.74*	*0.75*	*0.75*	**0.79**	*0.71*	*0.74*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	**1.87**	*1.79*	*1.89*	*1.97*	*1.91*	*1.94*	*1.98*	**1.97**	*1.90*	*1.95*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.52**	**10.23**	*9.88*	*10.24*	*10.67*	*11.12*	*11.25*	*11.35*	**11.49**	*10.47*	*11.10*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.24**	**0.25**	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	**0.14**	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.11**	**3.11**	**3.12**	**3.12**	**3.21**	**3.16**	*3.09*	*3.15*	*3.23*	*3.23*	*3.25*	*3.25*	**3.11**	*3.15*	*3.24*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	**1.01**	**0.93**	*0.87*	*0.92*	*0.97*	*0.97*	*0.99*	*0.99*	**0.98**	*0.93*	*0.98*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	**2.06**	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.48**	**9.51**	**9.37**	**9.47**	**9.42**	**9.10**	*9.17*	*9.32*	*9.19*	*9.17*	*9.16*	*9.19*	**9.46**	*9.25*	*9.18*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.49**	**0.52**	*0.53*	*0.55*	*0.54*	*0.53*	*0.52*	*0.52*	**0.49**	*0.52*	*0.53*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.96**	**4.88**	*4.86*	*4.92*	*4.82*	*4.86*	*4.86*	*4.91*	**4.89**	*4.91*	*4.86*
India	**1.01**	**0.99**	**0.98**	**0.99**	**0.96**	**0.89**	*0.90*	*0.91*	*0.91*	*0.89*	*0.88*	*0.89*	**0.99**	*0.91*	*0.89*
Indonesia	**0.93**	**0.94**	**0.92**	**0.91**	**0.88**	**0.89**	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	*0.83*	**0.93**	*0.88*	*0.84*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.72**	**0.55**	*0.59*	*0.67*	*0.65*	*0.65*	*0.66*	*0.65*	**0.71**	*0.63*	*0.65*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	**0.22**	**0.21**	*0.21*	*0.21*	*0.20*	*0.20*	*0.19*	*0.19*	**0.24**	*0.21*	*0.20*
Africa	**1.52**	**1.54**	**1.55**	**1.54**	**1.47**	**1.43**	*1.44*	*1.43*	*1.37*	*1.36*	*1.35*	*1.36*	**1.54**	*1.44*	*1.36*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	**0.60**	**0.60**	*0.60*	*0.60*	*0.56*	*0.56*	*0.56*	*0.56*	**0.65**	*0.60*	*0.56*
South Sudan	**0.17**	**0.18**	**0.18**	**0.18**	**0.18**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.18**	*0.17*	*0.17*
Total non-OPEC liquids	**64.87**	**65.48**	**66.20**	**67.32**	**67.15**	**61.78**	*62.51*	*63.54*	*63.47*	*64.64*	*65.43*	*65.84*	**65.98**	*63.74*	*64.85*
OPEC non-crude liquids	**5.50**	**5.50**	**5.27**	**5.37**	**5.33**	**4.72**	*4.64*	*4.65*	*4.76*	*4.69*	*4.69*	*4.69*	**5.41**	*4.83*	*4.71*
Non-OPEC + OPEC non-crude	**70.37**	**70.97**	**71.48**	**72.69**	**72.48**	**66.50**	*67.15*	*68.18*	*68.23*	*69.33*	*70.12*	*70.53*	**71.38**	*68.57*	*69.56*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.31**	**0.16**	**0.76**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.33**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.03**	**0.90**	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	**1.26**	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	**0.28**	-	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	**0.12**	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.19**	**0.18**	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	**1.97**	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	**4.17**	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	**2.51**	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	**0.08**	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.72**	**1.55**	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	**9.31**	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	**2.91**	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	**0.53**	-	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.29**	**25.77**	*23.68*	*26.35*	*28.26*	*29.26*	*29.61*	*29.64*	**29.27**	*26.02*	*29.20*
Other Liquids (a)	**5.50**	**5.50**	**5.27**	**5.37**	**5.33**	**4.72**	*4.64*	*4.65*	*4.76*	*4.69*	*4.69*	*4.69*	**5.41**	*4.83*	*4.71*
Total OPEC Supply	**35.44**	**34.97**	**33.93**	**34.38**	**33.62**	**30.49**	*28.32*	*31.00*	*33.02*	*33.96*	*34.30*	*34.33*	**34.67**	*30.85*	*33.90*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	**26.02**	*26.07*	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.97*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.83**	**5.63**	*5.52*	*6.08*	*5.98*	*5.96*	*6.00*	*6.02*	**6.66**	*5.77*	*5.99*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.44**	**31.66**	*31.59*	*32.25*	*32.24*	*32.25*	*32.28*	*32.30*	**31.78**	*31.73*	*32.27*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.15**	*6.95*	*5.29*	*3.87*	*2.89*	*2.58*	*2.58*	**2.52**	*5.14*	*2.97*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.74**	*0.95*	*0.61*	*0.12*	*0.10*	*0.09*	*0.08*	**0.00**	*0.58*	*0.10*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.89**	*7.90*	*5.90*	*3.98*	*2.99*	*2.67*	*2.66*	**2.52**	*5.72*	*3.07*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	**4.10**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.69**	**24.70**	**25.19**	**24.98**	**23.69**	**19.82**	*22.82*	*23.53*	*23.63*	*23.98*	*24.67*	*24.67*	**24.89**	*22.47*	*24.24*
Canada	**2.45**	**2.44**	**2.57**	**2.54**	**2.54**	**2.09**	*2.40*	*2.44*	*2.45*	*2.40*	*2.51*	*2.48*	**2.50**	*2.36*	*2.46*
Mexico	**1.93**	**1.94**	**1.93**	**1.86**	**1.82**	**1.61**	*1.74*	*1.87*	*1.82*	*1.84*	*1.83*	*1.84*	**1.92**	*1.76*	*1.83*
United States	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.11**	*18.67*	*19.22*	*19.36*	*19.73*	*20.33*	*20.34*	**20.46**	*18.34*	*19.94*
Central and South America	**6.70**	**6.82**	**6.92**	**6.93**	**6.45**	**6.08**	*6.61*	*6.76*	*6.54*	*6.71*	*6.85*	*6.86*	**6.84**	*6.48*	*6.74*
Brazil	**3.03**	**3.10**	**3.19**	**3.18**	**2.98**	**2.74**	*3.11*	*3.19*	*3.05*	*3.13*	*3.24*	*3.24*	**3.13**	*3.01*	*3.16*
Europe	**14.66**	**14.81**	**15.31**	**14.72**	**13.93**	**11.84**	*13.61*	*13.71*	*13.73*	*13.98*	*14.51*	*14.27*	**14.88**	*13.27*	*14.13*
Eurasia	**5.01**	**5.06**	**5.45**	**5.30**	**4.91**	**4.48**	*5.27*	*5.23*	*5.00*	*5.08*	*5.47*	*5.33*	**5.21**	*4.97*	*5.22*
Russia	**3.64**	**3.74**	**4.04**	**3.89**	**3.60**	**3.24**	*3.93*	*3.87*	*3.72*	*3.82*	*4.14*	*3.99*	**3.83**	*3.66*	*3.92*
Middle East	**8.10**	**8.66**	**9.04**	**8.38**	**7.86**	**7.90**	*8.81*	*8.28*	*7.95*	*8.54*	*8.93*	*8.28*	**8.55**	*8.21*	*8.43*
Asia and Oceania	**36.36**	**36.09**	**35.57**	**36.59**	**34.04**	**30.04**	*32.89*	*35.63*	*37.04*	*36.65*	*36.10*	*37.21*	**36.15**	*33.15*	*36.75*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.10**	**12.15**	*13.10*	*14.50*	*15.11*	*15.36*	*15.09*	*15.34*	**14.51**	*13.21*	*15.22*
Japan	**4.09**	**3.41**	**3.44**	**3.76**	**3.70**	**2.72**	*3.03*	*3.40*	*3.67*	*3.03*	*3.12*	*3.44*	**3.67**	*3.22*	*3.31*
India	**4.68**	**4.95**	**4.66**	**4.94**	**4.63**	**3.75**	*4.51*	*4.90*	*5.04*	*5.11*	*4.77*	*5.08*	**4.81**	*4.45*	*5.00*
Africa	**4.50**	**4.52**	**4.44**	**4.63**	**4.35**	**4.21**	*4.27*	*4.49*	*4.35*	*4.37*	*4.29*	*4.48*	**4.52**	*4.33*	*4.37*
Total OECD Liquid Fuels Consumption	**47.44**	**46.75**	**47.86**	**47.52**	**45.26**	**37.70**	*43.10*	*44.50*	*45.05*	*44.81*	*46.17*	*46.39*	**47.39**	*42.65*	*45.61*
Total non-OECD Liquid Fuels Consumption	**52.59**	**53.92**	**54.06**	**54.01**	**49.97**	**46.68**	*51.18*	*53.13*	*53.20*	*54.48*	*54.66*	*54.70*	**53.65**	*50.25*	*54.26*
Total World Liquid Fuels Consumption	**100.03**	**100.67**	**101.91**	**101.53**	**95.23**	**84.37**	*94.28*	*97.63*	*98.25*	*99.29*	*100.83*	*101.09*	**101.04**	*92.89*	*99.88*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.0**	**112.8**	**112.8**	**112.4**	**109.0**	**101.2**	*105.9*	*108.2*	*110.7*	*112.5*	*113.5*	*114.3*	**112.5**	*106.1*	*112.8*
Percent change from prior year	**2.4**	**2.2**	**1.9**	**1.4**	**-2.6**	**-10.3**	*-6.1*	*-3.7*	*1.5*	*11.2*	*7.2*	*5.6*	**2.0**	*-5.7*	*6.3*
OECD Index, 2015 Q1 = 100	**108.9**	**109.9**	**110.0**	**109.4**	**108.0**	**96.2**	*101.8*	*104.2*	*106.5*	*108.6*	*109.6*	*110.0*	**109.6**	*102.6*	*108.7*
Percent change from prior year	**1.9**	**1.8**	**1.8**	**1.5**	**-0.8**	**-12.5**	*-7.4*	*-4.7*	*-1.4*	*12.8*	*7.6*	*5.6*	**1.7**	*-6.4*	*5.9*
Non-OECD Index, 2015 Q1 = 100	**115.0**	**115.7**	**115.5**	**115.3**	**110.0**	**106.1**	*109.9*	*112.1*	*114.8*	*116.4*	*117.4*	*118.5*	**115.3**	*109.5*	*116.8*
Percent change from prior year	**2.8**	**2.5**	**2.0**	**1.4**	**-4.3**	**-8.3**	*-4.9*	*-2.8*	*4.4*	*9.8*	*6.9*	*5.7*	**2.2**	*-5.1*	*6.6*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.36**	**106.01**	**106.52**	**106.36**	**106.93**	**108.54**	*107.50*	*106.85*	*106.07*	*105.80*	*105.34*	*104.65*	**106.06**	*107.45*	*105.46*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.0**	**1.5**	**2.4**	*0.9*	*0.5*	*-0.8*	*-2.5*	*-2.0*	*-2.1*	**2.1**	*1.3*	*-1.9*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.81**	**12.10**	**12.23**	**12.78**	**12.74**	**11.41**	*11.29*	*11.10*	*11.02*	*10.93*	*10.97*	*11.13*	**12.23**	*11.63*	*11.01*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.48**	**0.42**	*0.45*	*0.49*	*0.50*	*0.49*	*0.46*	*0.49*	**0.47**	*0.46*	*0.49*
Federal Gulf of Mexico (b)	**1.85**	**1.93**	**1.82**	**1.94**	**1.96**	**1.77**	*1.91*	*1.92*	*1.98*	*1.96*	*1.88*	*1.90*	**1.88**	*1.89*	*1.93*
Lower 48 States (excl GOM)	**9.47**	**9.70**	**9.98**	**10.36**	**10.31**	**9.22**	*8.93*	*8.70*	*8.54*	*8.48*	*8.63*	*8.74*	**9.88**	*9.29*	*8.60*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.94**	**2.90**	**2.98**	*3.24*	*4.46*	*4.61*	*5.25*	*5.55*	*5.35*	**3.82**	*3.40*	*5.19*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	**-0.25**	*0.06*	*0.12*	*0.12*	*0.03*	*0.01*	*0.03*	**0.04**	*-0.02*	*0.05*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.07**	**-0.54**	**-0.60**	*0.54*	*0.08*	*-0.25*	*0.15*	*0.24*	*-0.01*	**0.03**	*-0.13*	*0.03*
Crude Oil Adjustment (d)	**0.33**	**0.53**	**0.38**	**0.56**	**0.67**	**-0.38**	*0.21*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.45**	*0.16*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.32**	**15.77**	**13.16**	*15.33*	*15.91*	*15.72*	*16.57*	*16.99*	*16.65*	**16.56**	*15.05*	*16.49*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.02**	**0.89**	*1.03*	*1.12*	*1.10*	*1.15*	*1.14*	*1.14*	**1.08**	*1.02*	*1.13*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**4.99**	**5.12**	**4.74**	*4.79*	*4.86*	*4.79*	*4.98*	*5.05*	*5.11*	**4.81**	*4.88*	*4.99*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.11**	**0.84**	*1.06*	*1.10*	*1.13*	*1.17*	*1.18*	*1.19*	**1.12**	*1.03*	*1.17*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	**0.71**	*0.92*	*0.96*	*0.98*	*1.00*	*1.01*	*1.02*	**1.03**	*0.90*	*1.00*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	**0.21**	*0.21*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.21**	*0.21*	*0.22*
Product Net Imports (c)	**-3.30**	**-3.04**	**-3.13**	**-3.43**	**-4.03**	**-2.88**	*-3.80*	*-4.49*	*-4.05*	*-3.90*	*-3.99*	*-4.32*	**-3.22**	*-3.80*	*-4.07*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.83**	**-1.99**	**-1.96**	*-1.87*	*-1.76*	*-1.59*	*-1.79*	*-1.83*	*-1.78*	**-1.62**	*-1.89*	*-1.75*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.50**	**0.31**	**0.21**	*0.48*	*0.37*	*0.35*	*0.45*	*0.44*	*0.32*	**0.41**	*0.34*	*0.39*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.10**	**-0.08**	*-0.10*	*-0.11*	*-0.14*	*-0.13*	*-0.12*	*-0.13*	**-0.06**	*-0.10*	*-0.13*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.46**	**0.39**	**0.33**	*0.33*	*0.19*	*0.47*	*0.71*	*0.48*	*0.21*	**0.60**	*0.31*	*0.46*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.87**	**-0.72**	**-0.15**	*-0.34*	*-0.60*	*-0.80*	*-0.71*	*-0.63*	*-0.73*	**-0.74**	*-0.45*	*-0.72*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.09**	**-0.07**	**0.09**	*-0.18*	*-0.22*	*-0.21*	*-0.17*	*-0.02*	*-0.09*	**-0.06**	*-0.10*	*-0.12*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-0.99**	**-1.19**	**-0.86**	*-1.47*	*-1.49*	*-1.36*	*-1.47*	*-1.49*	*-1.28*	**-1.12**	*-1.25*	*-1.40*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**-0.03**	**-0.02**	**0.07**	*-0.09*	*-0.04*	*-0.07*	*-0.13*	*-0.11*	*-0.02*	**-0.08**	*-0.02*	*-0.09*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.54**	**-0.65**	**-0.53**	*-0.55*	*-0.84*	*-0.69*	*-0.66*	*-0.70*	*-0.82*	**-0.55**	*-0.64*	*-0.72*
Product Inventory Net Withdrawals	**0.44**	**-0.64**	**-0.36**	**0.26**	**0.11**	**-0.84**	*0.04*	*0.49*	*0.44*	*-0.47*	*-0.26*	*0.35*	**-0.07**	*-0.05*	*0.01*
Total Supply	**20.38**	**20.31**	**20.67**	**20.57**	**19.33**	**16.11**	*18.67*	*19.22*	*19.36*	*19.73*	*20.33*	*20.34*	**20.48**	*18.34*	*19.94*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.49**	**2.78**	**2.94**	**3.31**	**3.31**	**2.73**	*2.82*	*3.24*	*3.51*	*3.01*	*3.07*	*3.47*	**3.13**	*3.02*	*3.27*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.10**	**0.14**	**0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.05**	*0.04*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.16**	**8.49**	**7.19**	*8.75*	*8.83*	*8.63*	*9.24*	*9.36*	*9.11*	**9.27**	*8.32*	*9.09*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.96**	**0.85**	**0.73**	*0.86*	*0.90*	*0.87*	*0.94*	*0.94*	*0.93*	**0.95**	*0.84*	*0.92*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.74**	**1.56**	**0.66**	*1.20*	*1.39*	*1.38*	*1.49*	*1.68*	*1.62*	**1.74**	*1.20*	*1.54*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.10**	**3.97**	**3.50**	*3.53*	*3.68*	*3.78*	*3.75*	*3.79*	*3.93*	**4.08**	*3.67*	*3.81*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.27**	**0.17**	**0.18**	*0.26*	*0.26*	*0.24*	*0.21*	*0.25*	*0.26*	**0.27**	*0.22*	*0.24*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.88**	**1.68**	**1.81**	*2.11*	*1.82*	*1.81*	*2.02*	*2.18*	*1.94*	**1.91**	*1.86*	*1.99*
Total Consumption	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.11**	*18.67*	*19.22*	*19.36*	*19.73*	*20.33*	*20.34*	**20.46**	*18.34*	*19.94*
Total Petroleum and Other Liquids Net Imports	**0.95**	**1.10**	**0.83**	**-0.49**	**-1.13**	**0.09**	*-0.56*	*-0.03*	*0.57*	*1.34*	*1.57*	*1.03*	**0.59**	*-0.40*	*1.13*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**432.9**	**482.5**	**537.1**	*487.6*	*480.0*	*502.8*	*489.1*	*467.3*	*468.6*	**432.9**	*480.0*	*468.6*
Hydrocarbon Gas Liquids	**156.9**	**224.1**	**262.8**	**211.7**	**180.8**	**222.8**	*256.7*	*214.2*	*176.1*	*225.0*	*261.5*	*218.9*	**211.7**	*214.2*	*218.9*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.4**	**100.1**	**88.2**	*88.9*	*83.4*	*93.5*	*91.3*	*90.5*	*84.9*	**89.4**	*83.4*	*84.9*
Other HC/Oxygenates	**30.8**	**29.0**	**28.4**	**27.8**	**33.6**	**26.0**	*25.8*	*25.5*	*26.8*	*25.8*	*25.1*	*25.7*	**27.8**	*25.5*	*25.7*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**253.8**	**260.8**	**255.0**	*235.9*	*245.8*	*247.3*	*247.2*	*240.7*	*251.8*	**253.8**	*245.8*	*251.8*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.0**	**22.6**	**24.0**	*24.7*	*24.8*	*24.0*	*22.7*	*23.7*	*24.2*	**26.0**	*24.8*	*24.2*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**227.9**	**238.3**	**231.1**	*211.2*	*220.9*	*223.3*	*224.5*	*217.0*	*227.7*	**227.9**	*220.9*	*227.7*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.5**	**39.9**	**42.3**	*43.9*	*42.0*	*41.3*	*41.9*	*43.9*	*40.9*	**40.5**	*42.0*	*40.9*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**140.0**	**126.7**	**174.1**	*165.9*	*162.1*	*142.2*	*139.6*	*141.6*	*145.4*	**140.0**	*162.1*	*145.4*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**30.9**	**34.4**	**41.8**	*35.6*	*32.6*	*33.7*	*34.4*	*32.3*	*33.8*	**30.9**	*32.6*	*33.8*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**54.6**	**62.0**	**64.4**	*58.0*	*59.7*	*64.8*	*63.0*	*57.0*	*58.9*	**54.6**	*59.7*	*58.9*
Total Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,321**	**1,452**	*1,398*	*1,345*	*1,329*	*1,357*	*1,360*	*1,329*	**1,282**	*1,345*	*1,329*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	**658**	*652*	*642*	*631*	*628*	*627*	*624*	**635**	*642*	*624*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.85**	**1.93**	**1.72**	*1.87*	*1.98*	*2.02*	*2.12*	*2.11*	*2.17*	**1.83**	*1.87*	*2.10*
Propane	**1.50**	**1.56**	**1.61**	**1.67**	**1.72**	**1.62**	*1.55*	*1.53*	*1.49*	*1.52*	*1.55*	*1.56*	**1.59**	*1.61*	*1.53*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.91**	**0.87**	*0.83*	*0.82*	*0.78*	*0.81*	*0.83*	*0.84*	**0.85**	*0.86*	*0.82*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.57**	**0.56**	**0.54**	*0.54*	*0.52*	*0.50*	*0.54*	*0.57*	*0.54*	**0.55**	*0.54*	*0.54*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	*0.00*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	**0.24**	*0.27*	*0.28*	*0.28*	*0.30*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.25**	**0.26**	*0.27*	*0.28*	*0.28*	*0.29*	*0.28*	*0.29*	**0.28**	*0.26*	*0.29*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	**0.23**	*0.18*	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.03*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.01**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.31**	**-0.30**	**-0.24**	*-0.24*	*-0.27*	*-0.27*	*-0.29*	*-0.31*	*-0.30*	**-0.28**	*-0.26*	*-0.29*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.07**	**-1.12**	**-1.04**	*-1.00*	*-1.02*	*-0.85*	*-0.97*	*-0.97*	*-1.01*	**-0.94**	*-1.05*	*-0.95*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.25**	**-0.30**	**-0.42**	*-0.36*	*-0.25*	*-0.22*	*-0.28*	*-0.29*	*-0.23*	**-0.23**	*-0.33*	*-0.25*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.21**	**-0.27**	**-0.25**	*-0.27*	*-0.23*	*-0.26*	*-0.25*	*-0.26*	*-0.25*	**-0.17**	*-0.26*	*-0.25*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.46**	**0.17**	*0.27*	*0.49*	*0.40*	*0.29*	*0.33*	*0.51*	**0.40**	*0.35*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.15**	**0.14**	*0.18*	*0.19*	*0.17*	*0.18*	*0.18*	*0.18*	**0.17**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.55**	**1.70**	**1.53**	*1.65*	*1.69*	*1.75*	*1.78*	*1.82*	*1.87*	**1.53**	*1.64*	*1.81*
Propane	**1.20**	**0.58**	**0.65**	**1.05**	**1.09**	**0.65**	*0.63*	*0.95*	*1.19*	*0.61*	*0.65*	*0.98*	**0.87**	*0.83*	*0.86*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.26**	**0.27**	*0.28*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.30**	*0.28*	*0.30*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.24**	**0.17**	**0.22**	*0.20*	*0.21*	*0.19*	*0.23*	*0.21*	*0.21*	**0.24**	*0.20*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.17**	**0.09**	**0.06**	*0.07*	*0.10*	*0.08*	*0.08*	*0.10*	*0.11*	**0.20**	*0.08*	*0.09*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**58.84**	**52.57**	**47.01**	*44.57*	*47.99*	*47.45*	*52.38*	*51.83*	*53.58*	**54.94**	*48.03*	*51.33*
Propane	**47.77**	**71.72**	**95.60**	**79.63**	**60.28**	**74.20**	*90.66*	*75.80*	*49.99*	*69.31*	*88.34*	*75.41*	**79.63**	*75.80*	*75.41*
Propylene (at refineries only)	**1.68**	**1.76**	**2.65**	**1.66**	**1.41**	**1.83**	*2.39*	*2.93*	*2.93*	*3.40*	*3.86*	*4.28*	**1.66**	*2.93*	*4.28*
Butanes/Butylenes	**39.30**	**70.72**	**85.88**	**52.15**	**43.58**	**70.26**	*87.73*	*58.10*	*47.92*	*72.04*	*89.50*	*59.87*	**52.15**	*58.10*	*59.87*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.90**	**23.99**	**30.33**	*30.71*	*29.49*	*26.46*	*27.15*	*27.62*	*26.54*	**20.90**	*29.49*	*26.54*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.32**	**15.77**	**13.16**	*15.33*	*15.91*	*15.72*	*16.57*	*16.99*	*16.65*	**16.56**	*15.05*	*16.49*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	**0.31**	*0.45*	*0.67*	*0.57*	*0.47*	*0.51*	*0.69*	**0.57**	*0.51*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	**0.94**	*1.08*	*1.13*	*1.13*	*1.20*	*1.19*	*1.18*	**1.19**	*1.07*	*1.18*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.05**	**0.31**	*0.47*	*0.43*	*0.24*	*0.47*	*0.45*	*0.38*	**0.35**	*0.32*	*0.39*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.40**	**0.41**	**0.40**	*0.65*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.68**	*0.43*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**19.07**	**17.97**	**15.12**	*17.99*	*18.40*	*18.23*	*19.55*	*19.81*	*19.17*	**19.37**	*17.37*	*19.20*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.02**	**0.89**	*1.03*	*1.12*	*1.10*	*1.15*	*1.14*	*1.14*	**1.08**	*1.02*	*1.13*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.47**	**0.73**	*0.73*	*0.37*	*0.48*	*0.85*	*0.78*	*0.39*	**0.61**	*0.57*	*0.62*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.16**	**9.30**	**7.31**	*9.18*	*9.57*	*9.52*	*10.04*	*10.06*	*9.98*	**10.09**	*8.84*	*9.90*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	**0.60**	*1.40*	*1.59*	*1.58*	*1.67*	*1.72*	*1.68*	**1.80**	*1.30*	*1.66*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.95**	**4.81**	*4.83*	*5.06*	*4.89*	*5.13*	*5.23*	*5.18*	**5.14**	*4.91*	*5.11*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.31**	**0.23**	**0.19**	*0.29*	*0.27*	*0.33*	*0.35*	*0.34*	*0.30*	**0.36**	*0.24*	*0.33*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.46**	**2.41**	**2.36**	*2.59*	*2.68*	*2.55*	*2.66*	*2.82*	*2.78*	**2.45**	*2.51*	*2.70*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.17**	**18.99**	**16.01**	*19.02*	*19.52*	*19.34*	*20.70*	*20.95*	*20.31*	**20.44**	*18.39*	*20.33*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.86**	**16.36**	**13.60**	*15.77*	*16.23*	*16.02*	*16.79*	*17.23*	*16.88*	**16.98**	*15.49*	*16.73*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.81**	**18.98**	**18.98**	*18.98*	*19.00*	*19.00*	*19.00*	*19.00*	*19.03*	**18.80**	*18.98*	*19.01*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	**0.72**	*0.83*	*0.85*	*0.84*	*0.88*	*0.91*	*0.89*	**0.90**	*0.82*	*0.88*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**153**	**100**	*126*	*128*	*133*	*157*	*157*	*146*	**186**	*128*	*149*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	**191**	*195*	*192*	*196*	*223*	*226*	*215*	**251**	*204*	*215*
PADD 2	**223**	**269**	**257**	**244**	**226**	**179**	*194*	*190*	*189*	*226*	*224*	*209*	**249**	*198*	*213*
PADD 3	**206**	**246**	**234**	**224**	**210**	**163**	*180*	*176*	*180*	*205*	*206*	*193*	**228**	*183*	*196*
PADD 4	**226**	**285**	**270**	**276**	**247**	**200**	*206*	*195*	*197*	*226*	*231*	*216*	**265**	*212*	*218*
PADD 5	**297**	**356**	**331**	**350**	**311**	**257**	*272*	*266*	*256*	*290*	*291*	*279*	**334**	*277*	*280*
U.S. Average	**236**	**279**	**265**	**259**	**241**	**194**	*206*	*201*	*202*	*233*	*233*	*221*	**260**	*211*	*223*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**251**	**203**	*217*	*214*	*215*	*246*	*247*	*234*	**269**	*222*	*236*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**65.6**	**71.0**	**74.1**	*61.1*	*62.8*	*66.7*	*69.3*	*63.9*	*68.1*	**65.6**	*62.8*	*68.1*
PADD 2	**53.9**	**49.6**	**51.0**	**55.0**	**60.2**	**52.3**	*49.8*	*51.5*	*54.3*	*53.6*	*52.9*	*50.5*	**55.0**	*51.5*	*50.5*
PADD 3	**82.5**	**82.4**	**81.5**	**91.8**	**84.8**	**90.8**	*88.4*	*92.2*	*88.3*	*87.3*	*87.0*	*93.3*	**91.8**	*92.2*	*93.3*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.2**	**7.5**	*6.9*	*7.2*	*7.6*	*7.8*	*7.5*	*7.8*	**8.3**	*7.2*	*7.8*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**35.6**	**30.3**	*29.7*	*32.1*	*30.4*	*29.3*	*29.5*	*32.2*	**33.2**	*32.1*	*32.2*
U.S. Total	**236.1**	**229.7**	**231.9**	**253.8**	**260.8**	**255.0**	*235.9*	*245.8*	*247.3*	*247.2*	*240.7*	*251.8*	**253.8**	*245.8*	*251.8*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.0**	**22.6**	**24.0**	*24.7*	*24.8*	*24.0*	*22.7*	*23.7*	*24.2*	**26.0**	*24.8*	*24.2*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**227.9**	**238.3**	**231.1**	*211.2*	*220.9*	*223.3*	*224.5*	*217.0*	*227.7*	**227.9**	*220.9*	*227.7*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**103.16**	**101.93**	**96.93**	*94.15*	*92.16*	*90.18*	*89.98*	*91.42*	*92.66*	**99.17**	*96.27*	*91.07*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.96**	**0.81**	*0.77*	*0.94*	*0.99*	*0.86*	*0.80*	*0.95*	**0.90**	*0.87*	*0.90*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.72**	**2.72**	**2.45**	*2.56*	*2.50*	*2.53*	*2.45*	*2.30*	*2.27*	**2.69**	*2.55*	*2.39*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.51**	**98.25**	**93.67**	*90.82*	*88.72*	*86.66*	*86.68*	*88.32*	*89.44*	**95.57**	*92.85*	*87.78*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**95.97**	**94.50**	**89.91**	*87.27*	*85.37*	*83.48*	*83.25*	*84.53*	*85.63*	**92.21**	*89.24*	*84.23*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	**0.10**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.18*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	**5.48**	*2.62*	*5.43*	*7.07*	*6.42*	*7.56*	*8.07*	**4.98**	*5.35*	*7.28*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.64**	**6.23**	*6.50*	*7.37*	*8.45*	*7.50*	*7.68*	*7.92*	**7.37**	*6.94*	*7.88*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.13**	**7.09**	*7.92*	*8.40*	*8.44*	*7.67*	*8.59*	*8.62*	**7.77**	*7.89*	*8.33*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	**0.19**	**0.17**	*0.16*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.17**	*0.17*	*0.15*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.44**	**12.74**	**-12.29**	*-7.42*	*4.95*	*17.78*	*-10.44*	*-7.65*	*4.67*	**-1.37**	*-0.51*	*1.03*
Total Supply	**103.20**	**71.52**	**77.14**	**91.43**	**99.26**	**71.56**	*76.14*	*84.21*	*94.67*	*66.56*	*68.74*	*81.88*	**85.77**	*82.78*	*77.90*
Balancing Item (b)	**0.11**	**-0.79**	**-0.39**	**-2.10**	**-0.01**	**-0.60**	*-1.12*	*0.03*	*0.57*	*0.23*	*0.66*	*1.40*	**-0.80**	*-0.43*	*0.72*
Total Primary Supply	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**70.96**	*75.02*	*84.24*	*95.24*	*66.79*	*69.40*	*83.28*	**84.97**	*82.35*	*78.62*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.00**	**22.79**	**8.09**	*3.74*	*16.51*	*25.64*	*7.01*	*3.26*	*16.45*	**13.70**	*12.77*	*13.04*
Commercial	**16.19**	**6.36**	**4.68**	**11.45**	**14.07**	**6.46**	*4.74*	*10.76*	*14.83*	*6.39*	*4.73*	*10.45*	**9.65**	*9.00*	*9.08*
Industrial	**25.12**	**21.74**	**21.31**	**23.79**	**24.55**	**19.98**	*19.32*	*22.35*	*23.20*	*21.09*	*20.67*	*23.52*	**22.98**	*21.55*	*22.12*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	**29.60**	**29.48**	*40.77*	*27.67*	*24.31*	*25.60*	*33.75*	*25.52*	**30.98**	*31.89*	*27.32*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.29**	**5.23**	**4.97**	*4.83*	*4.73*	*4.63*	*4.62*	*4.69*	*4.75*	**5.09**	*4.94*	*4.67*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.56**	**2.85**	**1.86**	*1.51*	*2.07*	*2.49*	*1.94*	*2.15*	*2.44*	**2.44**	*2.07*	*2.25*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	**0.16**	**0.12**	*0.12*	*0.14*	*0.14*	*0.15*	*0.15*	*0.15*	**0.14**	*0.13*	*0.14*
Total Consumption	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**70.96**	*75.02*	*84.24*	*95.24*	*66.79*	*69.40*	*83.28*	**84.97**	*82.35*	*78.62*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,189**	**2,030**	**3,144**	*3,826*	*3,371*	*1,771*	*2,720*	*3,424*	*2,995*	**3,189**	*3,371*	*2,995*
East Region (d)	**216**	**537**	**845**	**764**	**385**	**659**	*908*	*729*	*242*	*527*	*784*	*608*	**764**	*729*	*608*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	**757**	*1,065*	*929*	*363*	*613*	*927*	*777*	**885**	*929*	*777*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**857**	**1,223**	*1,287*	*1,218*	*814*	*1,094*	*1,164*	*1,142*	**1,095**	*1,218*	*1,142*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	**173**	*216*	*177*	*123*	*162*	*202*	*165*	**167**	*177*	*165*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	**305**	*323*	*291*	*203*	*299*	*322*	*278*	**245**	*291*	*278*
Alaska	**30**	**33**	**37**	**33**	**23**	**26**	*26*	*26*	*26*	*26*	*26*	*26*	**33**	*26*	*26*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	*1.72*	*2.55*	*3.17*	*3.11*	*3.24*	*3.35*	**2.66**	*2.00*	*3.22*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.05**	**13.80**	**14.68**	*16.86*	*12.62*	*12.50*	*13.73*	*16.93*	*13.22*	**14.78**	*13.79*	*13.20*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.38**	**10.80**	**12.12**	*15.81*	*9.89*	*9.40*	*12.03*	*16.88*	*11.22*	**11.74**	*11.05*	*10.79*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.68**	**6.99**	**9.36**	*15.56*	*7.63*	*7.34*	*10.52*	*16.51*	*8.43*	**8.41**	*8.01*	*8.67*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.16**	**7.30**	**9.47**	*15.96*	*8.05*	*7.37*	*10.59*	*16.98*	*9.16*	**8.81**	*8.27*	*8.86*
S. Atlantic	**11.63**	**18.34**	**26.03**	**12.90**	**12.17**	**15.94**	*21.78*	*11.63*	*10.63*	*16.14*	*22.47*	*12.66*	**13.83**	*13.24*	*12.84*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.43**	**9.74**	**13.53**	*20.61*	*12.19*	*10.28*	*15.20*	*22.27*	*13.85*	**11.05**	*11.48*	*12.58*
W. S. Central	**8.29**	**13.38**	**21.45**	**10.54**	**8.55**	**14.25**	*19.85*	*11.34*	*9.25*	*14.97*	*20.86*	*12.45*	**10.54**	*11.26*	*11.90*
Mountain	**7.73**	**9.46**	**13.40**	**7.75**	**7.52**	**9.65**	*13.12*	*7.78*	*7.77*	*9.77*	*13.71*	*8.74*	**8.37**	*8.29*	*8.86*
Pacific	**12.44**	**12.75**	**13.50**	**12.06**	**13.41**	**14.75**	*14.17*	*12.61*	*13.04*	*13.98*	*14.82*	*13.83*	**12.50**	*13.51*	*13.66*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	**12.13**	*16.44*	*9.76*	*9.22*	*12.31*	*17.25*	*10.83*	**10.56**	*10.52*	*10.65*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**10.13**	**10.38**	**10.46**	*8.61*	*8.53*	*9.27*	*9.78*	*10.09*	*10.21*	**10.95**	*9.80*	*9.77*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.47**	**7.91**	**7.11**	*6.31*	*6.91*	*7.29*	*7.37*	*6.98*	*7.63*	**7.85**	*7.26*	*7.37*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.04**	**5.75**	**6.62**	*7.98*	*6.01*	*6.20*	*7.52*	*9.09*	*7.20*	**6.51**	*6.13*	*6.93*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.16**	**5.97**	**6.21**	*7.43*	*6.21*	*6.89*	*7.61*	*8.94*	*7.49*	**6.73**	*6.19*	*7.34*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.82**	**8.56**	**9.26**	*9.32*	*8.38*	*8.53*	*9.57*	*10.02*	*9.08*	**9.05**	*8.72*	*9.05*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.54**	**8.36**	**8.76**	*8.78*	*7.73*	*7.76*	*9.14*	*9.91*	*9.05*	**8.91**	*8.27*	*8.61*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.38**	**5.70**	**6.35**	*6.88*	*6.51*	*6.77*	*7.55*	*8.32*	*7.86*	**6.41**	*6.19*	*7.45*
Mountain	**6.40**	**6.72**	**7.41**	**6.16**	**6.07**	**7.96**	*8.12*	*6.78*	*7.05*	*7.42*	*8.31*	*7.43*	**6.47**	*6.81*	*7.37*
Pacific	**9.08**	**8.82**	**9.14**	**8.90**	**9.60**	**9.18**	*8.53*	*7.94*	*8.42*	*8.77*	*9.19*	*8.95*	**8.99**	*8.85*	*8.77*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	**7.60**	*7.73*	*6.95*	*7.25*	*8.04*	*8.65*	*8.01*	**7.62**	*7.25*	*7.76*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.29**	**8.09**	**7.49**	*6.43*	*7.40*	*8.18*	*7.66*	*7.15*	*8.16*	**8.08**	*7.49*	*7.87*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.95**	**7.46**	**6.75**	*6.38*	*6.67*	*7.45*	*7.13*	*7.36*	*7.72*	**7.86**	*6.98*	*7.45*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.14**	**4.88**	**4.63**	*4.44*	*4.79*	*5.97*	*5.98*	*6.09*	*6.12*	**5.49**	*4.76*	*6.03*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.19**	**3.94**	**3.15**	*2.93*	*4.02*	*5.06*	*4.54*	*4.57*	*5.32*	**4.24**	*3.59*	*4.92*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.52**	**4.17**	**3.72**	*3.63*	*4.38*	*5.31*	*4.92*	*4.99*	*5.37*	**4.80**	*4.01*	*5.16*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.07**	**3.90**	**3.42**	*3.33*	*4.19*	*4.99*	*4.70*	*4.72*	*5.18*	**4.20**	*3.74*	*4.91*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.64**	**2.17**	**1.89**	*1.87*	*2.60*	*3.31*	*3.21*	*3.45*	*3.58*	**2.89**	*2.14*	*3.39*
Mountain	**5.31**	**4.80**	**5.00**	**4.72**	**4.41**	**4.23**	*4.48*	*4.73*	*5.28*	*5.28*	*5.77*	*5.96*	**4.96**	*4.47*	*5.57*
Pacific	**7.68**	**6.66**	**6.49**	**6.83**	**7.54**	**6.37**	*5.69*	*5.70*	*6.64*	*6.43*	*6.71*	*6.88*	**6.97**	*6.39*	*6.68*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	**2.72**	*2.50*	*3.41*	*4.33*	*3.94*	*4.04*	*4.50*	**3.91**	*3.07*	*4.22*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**179.5**	**179.2**	**181.4**	**165.2**	**149.1**	**113.0**	*126.5*	*112.7*	*131.6*	*113.0*	*149.9*	*141.3*	**705.3**	*501.3*	*535.9*
Appalachia	**49.6**	**52.5**	**46.6**	**44.3**	**39.7**	**32.0**	*32.8*	*27.2*	*31.5*	*33.1*	*38.1*	*34.8*	**193.0**	*131.6*	*137.5*
Interior	**35.4**	**32.3**	**32.4**	**30.6**	**25.8**	**20.2**	*23.6*	*22.0*	*23.5*	*13.3*	*18.4*	*19.8*	**130.7**	*91.6*	*74.9*
Western	**94.5**	**94.4**	**102.4**	**90.3**	**83.6**	**60.9**	*70.1*	*63.5*	*76.6*	*66.7*	*93.5*	*86.7*	**381.7**	*278.1*	*323.4*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	**-0.5**	**1.2**	*-1.5*	*-1.2*	*1.5*	*1.7*	*2.0*	*-1.8*	**-2.7**	*-2.1*	*3.4*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	**1.3**	*1.5*	*1.4*	*1.2*	*1.3*	*1.5*	*1.4*	**6.7**	*5.5*	*5.4*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	**16.0**	*13.9*	*13.2*	*22.3*	*17.2*	*14.4*	*13.4*	**92.9**	*63.1*	*67.2*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	**9.9**	*8.4*	*8.0*	*13.4*	*10.5*	*8.7*	*8.0*	**55.1**	*38.0*	*40.7*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	**6.1**	*5.5*	*5.1*	*8.9*	*6.7*	*5.6*	*5.3*	**37.7**	*25.1*	*26.5*
Total Primary Supply	**154.5**	**156.7**	**159.9**	**145.2**	**129.9**	**99.5**	*112.5*	*99.8*	*112.0*	*98.8*	*139.1*	*127.5*	**616.4**	*441.7*	*477.4*
Secondary Inventory Withdrawals	**6.2**	**-21.0**	**6.4**	**-17.5**	**-16.7**	**-2.8**	*8.6*	*-7.2*	*-0.5*	*4.5*	*8.8*	*-7.5*	**-26.0**	*-18.1*	*5.3*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**163.1**	**138.0**	**168.6**	**130.0**	**115.5**	**99.0**	*123.4*	*94.8*	*113.5*	*105.3*	*149.9*	*122.0*	**599.7**	*432.7*	*490.6*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.3**	**4.9**	**4.1**	*4.9*	*5.1*	*4.9*	*5.3*	*5.7*	*6.3*	**17.9**	*19.0*	*22.2*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	**97.6**	**81.8**	*110.0*	*87.6*	*105.4*	*108.2*	*146.6*	*101.9*	**539.4**	*376.9*	*462.0*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.6**	**6.8**	*6.3*	*6.6*	*6.8*	*6.7*	*6.7*	*7.1*	**30.0**	*27.3*	*27.3*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*1.0*	*0.8*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.5**	**6.5**	*6.0*	*6.3*	*6.6*	*6.5*	*6.6*	*6.9*	**29.1**	*26.3*	*26.5*
Total Consumption	**157.9**	**129.9**	**167.8**	**131.8**	**110.1**	**92.6**	*121.1*	*99.3*	*117.1*	*120.1*	*158.9*	*115.4*	**587.3**	*423.2*	*511.5*
Discrepancy (c)	**5.2**	**8.2**	**0.8**	**-1.9**	**5.4**	**6.3**	*2.3*	*-4.5*	*-3.6*	*-14.8*	*-9.1*	*6.6*	**12.4**	*9.5*	*-20.9*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	**24.9**	**23.8**	*25.3*	*26.5*	*25.0*	*23.3*	*21.3*	*23.1*	**24.4**	*26.5*	*23.1*
Secondary Inventories	**102.2**	**123.2**	**116.8**	**134.3**	**151.0**	**153.8**	*145.2*	*152.4*	*152.9*	*148.5*	*139.7*	*147.2*	**134.3**	*152.4*	*147.2*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	**145.5**	**147.9**	*139.2*	*146.6*	*147.2*	*142.4*	*133.4*	*141.1*	**128.5**	*146.6*	*141.1*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.7**	**3.6**	*3.7*	*3.5*	*3.8*	*3.7*	*3.8*	*3.6*	**3.3**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**1.7**	**2.1**	*2.2*	*2.2*	*1.7*	*2.2*	*2.3*	*2.3*	**2.3**	*2.2*	*2.3*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	*0.213*	*0.255*	*0.256*	*0.242*	*0.247*	*0.259*	**0.268**	*0.227*	*0.251*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	**2.00**	*2.00*	*2.00*	*2.04*	*2.05*	*2.04*	*2.04*	**2.02**	*1.98*	*2.04*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	**962**	**920**	*1,105*	*921*	*935*	*959*	*1,122*	*939*	**4,118**	*3,908*	*3,955*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	**921**	**883**	*1,068*	*885*	*899*	*922*	*1,083*	*901*	**3,956**	*3,758*	*3,806*
Industrial Sector (b)	**37**	**36**	**38**	**38**	**38**	**33**	*33*	*32*	*33*	*33*	*35*	*35*	**149**	*137*	*136*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*3*	*3*	*3*	*3*	*4*	*3*	**14**	*13*	*13*
Net Imports	**9**	**9**	**11**	**10**	**11**	**12**	*15*	*11*	*12*	*13*	*15*	*11*	**39**	*50*	*50*
Total Supply	**1,004**	**983**	**1,184**	**986**	**973**	**932**	*1,121*	*932*	*948*	*971*	*1,137*	*950*	**4,157**	*3,958*	*4,005*
Losses and Unaccounted for (c)	**57**	**71**	**74**	**59**	**51**	**59**	*65*	*52*	*43*	*66*	*57*	*53*	**262**	*227*	*220*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	**885**	**846**	*1022*	*848*	*872*	*872*	*1044*	*862*	**3750**	*3601*	*3651*
Residential Sector	**361**	**309**	**434**	**331**	**340**	**339**	*435*	*322*	*352*	*340*	*435*	*321*	**1435**	*1435*	*1447*
Commercial Sector	**320**	**328**	**382**	**325**	**313**	**286**	*351*	*310*	*305*	*306*	*367*	*320*	**1355**	*1260*	*1297*
Industrial Sector	**228**	**238**	**254**	**232**	**231**	**219**	*235*	*214*	*213*	*225*	*240*	*220*	**952**	*899*	*899*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*8*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	**33**	*33*	*32*	*33*	*33*	*35*	*34*	**146**	*135*	*135*
Total Consumption	**948**	**912**	**1110**	**927**	**922**	**873**	*1056*	*880*	*904*	*905*	*1080*	*897*	**3896**	*3730*	*3785*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,450**	**2,494**	**2,472**	*3,191*	*2,362*	*2,565*	*2,477*	*3,176*	*2,339*	**10,631**	*10,519*	*10,558*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.92**	**2.00**	*2.00*	*2.00*	*2.04*	*2.05*	*2.04*	*2.04*	**2.02**	*1.98*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.40**	**1.85**	*1.55*	*2.63*	*3.57*	*3.24*	*3.33*	*3.61*	**2.88**	*2.05*	*3.43*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**7.23**	*7.30*	*7.75*	*8.68*	*9.93*	*9.72*	*9.78*	**12.72**	*8.52*	*9.54*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.43**	*9.73*	*10.54*	*11.07*	*12.15*	*12.68*	*13.10*	**15.16**	*10.52*	*12.29*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.26**	*13.20*	*12.82*	*12.87*	*13.57*	*13.72*	*13.45*	**13.04**	*13.06*	*13.42*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.56**	*10.83*	*10.38*	*10.32*	*10.76*	*11.23*	*10.87*	**10.66**	*10.54*	*10.82*
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.62**	*7.16*	*6.75*	*6.69*	*6.93*	*7.59*	*6.94*	**6.83**	*6.73*	*7.05*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	**24.00**	*29.14*	*28.20*	*30.48*	*33.38*	*36.71*	*31.61*	**56.24**	*26.19*	*33.05*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	**19.21**	*27.40*	*32.94*	*33.20*	*30.85*	*33.90*	*35.64*	**38.15**	*27.05*	*33.40*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	**20.24**	*20.11*	*29.36*	*41.01*	*23.71*	*25.47*	*30.23*	**34.89**	*23.58*	*30.11*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	**18.04**	*19.58*	*21.64*	*24.23*	*22.73*	*24.24*	*23.96*	**30.56**	*20.27*	*23.79*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	**20.79**	*27.70*	*25.90*	*27.04*	*27.36*	*30.15*	*27.50*	**30.85**	*24.22*	*28.01*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	**23.00**	*29.97*	*27.82*	*27.61*	*29.01*	*32.15*	*29.58*	**29.51**	*26.30*	*29.59*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	**19.61**	*26.01*	*22.69*	*20.61*	*22.48*	*27.17*	*23.32*	**27.86**	*22.09*	*23.40*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	**18.23**	*31.30*	*28.66*	*28.80*	*30.64*	*34.56*	*30.73*	**30.25**	*25.44*	*31.18*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	**18.53**	*26.65*	*28.81*	*29.77*	*30.05*	*31.52*	*31.23*	**30.10**	*25.06*	*30.64*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	**14.49**	*22.18*	*27.31*	*27.09*	*23.70*	*28.12*	*29.51*	**36.12**	*21.69*	*27.10*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	**19.60**	*25.22*	*28.95*	*29.18*	*28.02*	*31.48*	*31.80*	**35.26**	*23.96*	*30.12*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	**11.7**	**11.2**	*13.6*	*11.0*	*12.4*	*11.1*	*13.4*	*10.8*	**46.1**	*47.4*	*47.7*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	**32.2**	**31.5**	*40.7*	*29.3*	*33.7*	*30.9*	*40.0*	*29.2*	**133.1**	*133.7*	*133.8*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	**46.4**	**44.6**	*53.7*	*42.8*	*48.2*	*44.0*	*53.2*	*42.5*	**185.9**	*187.5*	*187.9*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	**27.6**	**25.2**	*30.8*	*24.4*	*27.5*	*25.0*	*30.2*	*24.2*	**105.4**	*107.9*	*106.8*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	**83.7**	**87.7**	*109.3*	*80.9*	*89.5*	*88.8*	*110.7*	*80.6*	**368.5**	*361.6*	*369.7*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	**29.0**	**26.2**	*36.3*	*26.1*	*31.1*	*26.8*	*37.1*	*26.1*	**121.1**	*117.6*	*121.0*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	**48.6**	**53.5**	*75.7*	*48.2*	*49.2*	*54.1*	*76.7*	*48.3*	**227.1**	*226.0*	*228.3*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	**22.5**	**25.6**	*33.6*	*21.9*	*22.4*	*25.3*	*33.4*	*22.0*	**100.2**	*103.6*	*103.1*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	**36.7**	**32.4**	*39.6*	*35.8*	*36.4*	*32.3*	*39.3*	*35.8*	**143.1**	*144.5*	*143.9*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.2*	**4.7**	*4.9*	*4.8*
Total	**361.4**	**309.2**	**433.8**	**330.7**	**339.7**	**339.0**	*434.5*	*321.6*	*351.6*	*339.5*	*435.3*	*320.6*	**1,435.1**	*1,434.8*	*1,447.0*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	**12.2**	**10.2**	*12.7*	*11.8*	*11.8*	*10.4*	*12.9*	*12.0*	**51.2**	*46.9*	*47.2*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	**35.9**	**30.1**	*36.1*	*32.0*	*33.3*	*33.7*	*39.0*	*33.9*	**152.6**	*134.1*	*139.9*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	**43.1**	**37.9**	*45.4*	*41.4*	*41.9*	*41.7*	*48.5*	*43.2*	**181.6**	*167.8*	*175.3*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**24.7**	**21.4**	*26.0*	*24.2*	*24.3*	*21.7*	*26.5*	*24.6*	**102.5**	*96.2*	*97.1*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	**71.4**	**66.9**	*82.3*	*72.1*	*70.1*	*72.1*	*87.1*	*75.3*	**317.0**	*292.7*	*304.6*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	**20.7**	**18.8**	*24.8*	*20.9*	*20.4*	*20.1*	*25.8*	*21.4*	**92.3**	*85.1*	*87.7*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	**43.9**	**44.0**	*55.4*	*45.9*	*43.7*	*46.6*	*57.5*	*47.1*	**195.7**	*189.2*	*194.9*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	**22.5**	**21.6**	*26.9*	*23.1*	*22.2*	*22.9*	*27.9*	*23.7*	**98.2**	*94.1*	*96.7*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	**36.9**	**34.4**	*40.0*	*37.4*	*35.3*	*35.2*	*40.3*	*37.4*	**157.9**	*148.8*	*148.2*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	**1.4**	**1.2**	*1.4*	*1.5*	*1.4*	*1.4*	*1.4*	*1.4*	**5.7**	*5.5*	*5.7*
Total	**319.9**	**328.2**	**381.8**	**324.6**	**312.7**	**286.4**	*350.9*	*310.3*	*304.6*	*305.8*	*366.9*	*320.0*	**1,354.5**	*1,260.3*	*1,297.3*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	**3.7**	**3.5**	*3.7*	*3.5*	*3.4*	*3.5*	*3.7*	*3.5*	**15.4**	*14.4*	*14.2*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	**18.0**	**16.3**	*18.7*	*17.1*	*16.8*	*16.7*	*19.0*	*17.6*	**73.2**	*70.1*	*70.1*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	**44.0**	**38.2**	*40.5*	*37.1*	*38.1*	*37.7*	*39.8*	*36.5*	**181.5**	*159.8*	*152.0*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	**21.7**	**20.3**	*21.6*	*20.0*	*20.1*	*21.5*	*22.8*	*21.2*	**88.3**	*83.6*	*85.6*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	**33.0**	**31.5**	*33.2*	*30.9*	*30.8*	*32.5*	*34.2*	*31.8*	**137.5**	*128.6*	*129.4*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	**23.3**	**21.4**	*22.3*	*20.9*	*21.3*	*22.3*	*23.1*	*21.7*	**94.7**	*87.9*	*88.4*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	**46.5**	**45.5**	*47.4*	*44.1*	*44.0*	*47.8*	*49.5*	*46.2*	**189.5**	*183.4*	*187.6*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	**20.0**	**21.0**	*23.3*	*19.8*	*19.5*	*21.8*	*24.1*	*20.6*	**84.1**	*84.1*	*86.0*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	**19.2**	**20.1**	*23.1*	*19.6*	*18.3*	*19.9*	*22.8*	*19.4*	**83.1**	*82.0*	*80.5*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	**1.1**	*1.3*	*1.2*	*1.1*	*1.1*	*1.3*	*1.2*	**4.9**	*4.8*	*4.8*
Total	**228.2**	**237.7**	**254.2**	**232.1**	**230.5**	**218.8**	*235.1*	*214.2*	*213.5*	*224.9*	*240.3*	*219.9*	**952.1**	*898.6*	*898.6*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	**27.7**	**25.0**	*30.1*	*26.4*	*27.8*	*25.2*	*30.2*	*26.5*	**113.3**	*109.2*	*109.6*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	**87.0**	**78.7**	*96.5*	*79.4*	*84.9*	*82.2*	*99.1*	*81.6*	**362.8**	*341.7*	*347.8*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	**133.7**	**120.8**	*139.8*	*121.4*	*128.4*	*123.5*	*141.6*	*122.4*	**549.6**	*515.7*	*515.8*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	**74.0**	**66.8**	*78.4*	*68.5*	*71.9*	*68.2*	*79.6*	*69.9*	**296.2**	*287.8*	*289.6*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	**188.4**	**186.4**	*225.1*	*184.3*	*190.9*	*193.7*	*232.4*	*188.1*	**824.3**	*784.2*	*805.0*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	**73.0**	**66.4**	*83.3*	*67.8*	*72.8*	*69.3*	*85.9*	*69.2*	**308.1**	*290.6*	*297.2*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	**139.1**	**143.0**	*178.5*	*138.2*	*136.9*	*148.6*	*183.8*	*141.7*	**612.4**	*598.8*	*611.0*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	**65.0**	**68.3**	*83.8*	*64.9*	*64.1*	*70.1*	*85.4*	*66.3*	**282.7**	*282.0*	*285.9*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	**93.1**	**87.1**	*103.0*	*93.0*	*90.2*	*87.7*	*102.7*	*92.9*	**384.9**	*376.2*	*373.5*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.8**	**3.4**	*3.9*	*4.0*	*3.8*	*3.6*	*4.0*	*3.9*	**15.2**	*15.1*	*15.3*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	**884.8**	**846.0**	*1,022.5*	*848.0*	*871.7*	*872.1*	*1,044.4*	*862.5*	**3,749.5**	*3,601.3*	*3,650.8*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.57**	**20.70**	**20.87**	**21.76**	*21.38*	*20.32*	*20.18*	*20.97*	*21.30*	*21.03*	*21.91*	**21.14**	*20.90*	*21.27*
Middle Atlantic	**15.19**	**16.06**	**16.15**	**15.78**	**15.47**	*15.62*	*15.75*	*15.50*	*15.44*	*16.25*	*16.90*	*16.61*	**15.79**	*15.60*	*16.32*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.29**	**13.10**	*13.67*	*13.31*	*13.50*	*13.46*	*14.39*	*14.11*	*14.19*	**13.30**	*13.39*	*14.03*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.24**	**10.99**	*12.51*	*13.06*	*11.64*	*11.45*	*13.18*	*13.81*	*12.12*	**11.87**	*12.08*	*12.67*
S. Atlantic	**11.70**	**12.17**	**12.11**	**11.87**	**11.80**	*11.98*	*11.89*	*11.60*	*11.41*	*11.92*	*12.11*	*12.09*	**11.97**	*11.83*	*11.89*
E. S. Central	**11.10**	**11.70**	**11.37**	**11.23**	**11.25**	*11.58*	*11.53*	*11.80*	*11.68*	*12.06*	*11.95*	*12.14*	**11.34**	*11.53*	*11.95*
W. S. Central	**10.88**	**11.50**	**11.36**	**11.24**	**11.05**	*11.36*	*11.17*	*11.08*	*10.90*	*11.54*	*11.66*	*11.77*	**11.25**	*11.17*	*11.49*
Mountain	**11.51**	**12.18**	**12.23**	**11.59**	**11.42**	*12.04*	*12.14*	*11.61*	*11.60*	*12.46*	*12.70*	*12.13*	**11.91**	*11.85*	*12.28*
Pacific	**14.86**	**15.88**	**17.31**	**14.64**	**15.69**	*16.72*	*17.58*	*14.52*	*15.62*	*17.06*	*18.06*	*14.99*	**15.68**	*16.15*	*16.45*
U.S. Average	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	*13.26*	*13.20*	*12.82*	*12.87*	*13.57*	*13.72*	*13.45*	**13.04**	*13.06*	*13.42*
Commercial Sector															
New England	**16.83**	**16.24**	**15.97**	**15.76**	**16.23**	*16.14*	*15.77*	*15.46*	*15.99*	*16.14*	*16.17*	*16.28*	**16.19**	*15.89*	*16.14*
Middle Atlantic	**11.57**	**12.18**	**13.03**	**11.97**	**11.69**	*11.90*	*12.35*	*11.37*	*11.42*	*12.37*	*13.22*	*12.17*	**12.21**	*11.84*	*12.33*
E. N. Central	**10.14**	**10.29**	**10.09**	**10.05**	**9.95**	*10.25*	*10.04*	*10.07*	*10.10*	*10.54*	*10.49*	*10.50*	**10.14**	*10.07*	*10.41*
W. N. Central	**8.98**	**10.04**	**10.41**	**9.11**	**9.07**	*10.27*	*10.70*	*9.44*	*9.51*	*10.88*	*11.39*	*9.88*	**9.65**	*9.87*	*10.42*
S. Atlantic	**9.44**	**9.37**	**9.35**	**9.35**	**9.26**	*9.25*	*9.15*	*9.11*	*9.10*	*9.18*	*9.31*	*9.49*	**9.37**	*9.19*	*9.28*
E. S. Central	**10.70**	**10.70**	**10.65**	**10.62**	**10.75**	*10.94*	*10.90*	*11.11*	*11.36*	*11.35*	*11.33*	*11.45*	**10.67**	*10.92*	*11.37*
W. S. Central	**8.12**	**8.00**	**8.30**	**8.06**	**7.89**	*7.85*	*8.09*	*7.88*	*7.80*	*7.91*	*8.38*	*8.17*	**8.13**	*7.94*	*8.09*
Mountain	**9.20**	**9.71**	**10.00**	**9.18**	**8.99**	*9.79*	*10.03*	*9.21*	*9.09*	*10.04*	*10.40*	*9.56*	**9.55**	*9.52*	*9.81*
Pacific	**12.98**	**14.15**	**16.35**	**14.44**	**13.52**	*14.13*	*16.12*	*14.21*	*13.39*	*14.36*	*16.76*	*15.18*	**14.54**	*14.54*	*14.99*
U.S. Average	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	*10.56*	*10.83*	*10.38*	*10.32*	*10.76*	*11.23*	*10.87*	**10.66**	*10.54*	*10.82*
Industrial Sector															
New England	**13.45**	**12.89**	**12.66**	**12.70**	**12.74**	*12.40*	*12.13*	*12.53*	*12.95*	*12.85*	*12.77*	*12.82*	**12.92**	*12.45*	*12.85*
Middle Atlantic	**6.73**	**6.52**	**6.54**	**6.40**	**6.34**	*6.20*	*6.11*	*6.30*	*6.62*	*6.57*	*6.65*	*6.48*	**6.55**	*6.24*	*6.58*
E. N. Central	**7.03**	**6.84**	**6.83**	**6.76**	**6.51**	*6.66*	*6.76*	*6.91*	*6.87*	*7.00*	*7.19*	*7.15*	**6.87**	*6.70*	*7.05*
W. N. Central	**7.13**	**7.33**	**8.09**	**6.87**	**6.94**	*7.57*	*8.41*	*7.19*	*7.31*	*7.81*	*8.70*	*7.39*	**7.37**	*7.53*	*7.83*
S. Atlantic	**6.22**	**6.28**	**6.72**	**6.18**	**5.97**	*6.18*	*6.45*	*6.11*	*6.10*	*6.43*	*6.80*	*6.25*	**6.36**	*6.18*	*6.41*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.61**	**5.45**	*5.52*	*5.76*	*5.63*	*5.66*	*5.70*	*6.04*	*5.73*	**5.76**	*5.59*	*5.79*
W. S. Central	**5.25**	**5.28**	**6.05**	**5.29**	**5.05**	*5.10*	*5.81*	*5.37*	*5.48*	*5.48*	*6.37*	*5.59*	**5.48**	*5.33*	*5.74*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	**5.73**	*6.04*	*6.58*	*5.86*	*5.85*	*6.28*	*6.91*	*6.02*	**6.29**	*6.07*	*6.30*
Pacific	**8.65**	**9.45**	**11.26**	**10.16**	**8.97**	*10.03*	*11.67*	*10.58*	*9.47*	*10.57*	*12.33*	*11.02*	**9.95**	*10.37*	*10.93*
U.S. Average	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	*6.62*	*7.16*	*6.75*	*6.69*	*6.93*	*7.59*	*6.94*	**6.83**	*6.73*	*7.05*
All Sectors (a)															
New England	**18.35**	**17.72**	**17.50**	**17.34**	**18.07**	*17.93*	*17.33*	*16.99*	*17.80*	*17.92*	*17.87*	*18.07*	**17.73**	*17.57*	*17.91*
Middle Atlantic	**12.01**	**12.27**	**12.99**	**12.10**	**11.97**	*12.19*	*12.56*	*11.79*	*12.06*	*12.64*	*13.43*	*12.51*	**12.37**	*12.14*	*12.69*
E. N. Central	**10.13**	**10.12**	**10.20**	**10.03**	**9.90**	*10.37*	*10.34*	*10.31*	*10.40*	*10.83*	*10.92*	*10.78*	**10.12**	*10.23*	*10.74*
W. N. Central	**9.14**	**10.03**	**10.64**	**9.17**	**9.16**	*10.30*	*10.99*	*9.56*	*9.63*	*10.76*	*11.54*	*9.90*	**9.76**	*10.02*	*10.48*
S. Atlantic	**9.92**	**10.01**	**10.24**	**9.90**	**9.80**	*10.02*	*10.08*	*9.70*	*9.70*	*9.97*	*10.28*	*10.05*	**10.03**	*9.91*	*10.01*
E. S. Central	**9.30**	**9.43**	**9.65**	**9.27**	**9.25**	*9.44*	*9.80*	*9.69*	*9.83*	*9.80*	*10.18*	*9.92*	**9.42**	*9.56*	*9.94*
W. S. Central	**8.22**	**8.28**	**8.94**	**8.28**	**8.04**	*8.29*	*8.79*	*8.20*	*8.17*	*8.45*	*9.21*	*8.55*	**8.47**	*8.36*	*8.64*
Mountain	**9.12**	**9.43**	**9.98**	**8.98**	**8.83**	*9.48*	*9.92*	*8.99*	*8.98*	*9.74*	*10.31*	*9.31*	**9.42**	*9.35*	*9.64*
Pacific	**12.87**	**13.63**	**15.55**	**13.60**	**13.42**	*14.14*	*15.67*	*13.55*	*13.49*	*14.48*	*16.26*	*14.22*	**13.96**	*14.24*	*14.66*
U.S. Average	**10.37**	**10.52**	**11.03**	**10.38**	**10.29**	*10.62*	*10.99*	*10.39*	*10.46*	*10.86*	*11.43*	*10.83*	**10.60**	*10.59*	*10.92*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	**355.0**	**345.6**	*483.2*	*341.9*	*299.7*	*317.0*	*417.2*	*321.7*	**1,474.7**	*1,525.8*	*1,355.7*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	**170.2**	**143.4**	*193.6*	*153.1*	*182.9*	*189.9*	*258.6*	*176.7*	**959.5**	*660.3*	*808.1*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.2**	**189.0**	*203.3*	*197.1*	*198.1*	*188.7*	*204.3*	*194.6*	**809.4**	*793.5*	*785.7*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	**185.5**	**199.5**	*182.5*	*188.2*	*213.6*	*220.5*	*197.7*	*202.6*	**688.0**	*755.8*	*834.4*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**79.9**	*70.7*	*63.0*	*74.9*	*77.1*	*64.2*	*61.5*	**272.4**	*284.8*	*277.7*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**83.0**	*72.2*	*96.4*	*106.2*	*98.6*	*85.2*	*106.8*	**299.8**	*338.6*	*396.8*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**26.1**	*28.4*	*18.2*	*21.2*	*33.7*	*36.6*	*23.1*	**71.5**	*89.1*	*114.6*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.7**	*7.0*	*6.8*	*7.7*	*7.3*	*7.6*	*7.3*	**28.8**	*27.5*	*29.9*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**3.9**	*4.2*	*3.9*	*3.6*	*3.8*	*4.2*	*3.8*	**15.6**	*15.8*	*15.4*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	**-0.9**	*-1.8*	*-1.3*	*-1.0*	*-0.9*	*-1.8*	*-1.3*	**-5.3**	*-5.1*	*-5.1*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	**4.0**	**4.1**	*4.4*	*3.8*	*3.4*	*4.4*	*4.4*	*3.8*	**17.3**	*16.2*	*16.0*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	**1.1**	**0.8**	*1.1*	*0.8*	*1.0*	*0.8*	*1.1*	*0.8*	**4.3**	*3.8*	*3.7*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	**1.9**	**2.0**	*2.0*	*1.8*	*1.7*	*1.9*	*1.8*	*1.7*	**7.7**	*7.7*	*7.2*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	**920.9**	**883.5**	*1,068.3*	*885.4*	*899.2*	*922.4*	*1,083.4*	*900.6*	**3,955.8**	*3,758.1*	*3,805.5*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	**11.1**	**9.8**	*15.4*	*11.1*	*8.5*	*8.1*	*13.4*	*11.5*	**46.9**	*47.3*	*41.5*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	*0.1*	*0.1*	*0.4*	*0.0*	*0.1*	*0.1*	**0.5**	*0.3*	*0.6*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.3**	**5.0**	*7.2*	*6.2*	*7.0*	*7.1*	*7.2*	*5.5*	**29.8**	*25.8*	*26.9*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	**2.1**	**1.9**	*1.5*	*1.6*	*2.1*	*1.9*	*1.4*	*1.5*	**7.0**	*7.1*	*7.0*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	**2.6**	**2.7**	*2.7*	*2.8*	*3.4*	*2.8*	*2.7*	*2.9*	**10.3**	*10.8*	*11.8*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	**1.5**	*1.5*	*1.4*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	**23.5**	**19.8**	*27.3*	*22.1*	*21.7*	*20.4*	*25.1*	*22.0*	**96.1**	*92.7*	*89.2*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**28.0**	**27.7**	**25.3**	*32.0*	*27.8*	*28.9*	*26.6*	*31.6*	*27.8*	**115.2**	*112.8*	*114.9*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	**12.8**	**14.5**	*23.8*	*17.6*	*15.8*	*18.5*	*25.3*	*20.3*	**54.0**	*68.8*	*79.8*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.7**	**9.5**	*8.6*	*9.1*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*37.9*	*30.2*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	**7.8**	**7.3**	*7.9*	*7.4*	*8.0*	*7.4*	*7.5*	*7.1*	**29.5**	*30.4*	*29.9*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	**1.9**	**1.9**	*1.6*	*1.8*	*2.1*	*2.1*	*2.0*	*2.5*	**6.5**	*7.1*	*8.8*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.7*	*0.8*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	**33.5**	**33.4**	*42.1*	*36.1*	*34.9*	*35.6*	*42.0*	*36.9*	**136.2**	*145.1*	*149.5*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	**35.2**	**33.4**	*43.3*	*35.6*	*36.3*	*35.9*	*42.9*	*35.8*	**150.6**	*147.5*	*151.0*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	**77.9**	**73.3**	*106.3*	*73.5*	*76.9*	*72.9*	*97.6*	*71.3*	**295.1**	*331.0*	*318.7*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	**33.7**	**28.8**	*27.0*	*25.1*	*39.1*	*33.3*	*32.9*	*26.2*	**184.3**	*114.7*	*131.6*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.9**	**65.9**	*71.0*	*69.1*	*67.5*	*65.7*	*71.8*	*68.3*	**277.9**	*274.9*	*273.2*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	**3.2**	**2.6**	*1.8*	*2.2*	*3.3*	*2.6*	*1.7*	*2.1*	**10.6**	*9.9*	*9.7*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	**10.2**	**9.9**	*8.0*	*10.4*	*11.8*	*11.1*	*9.3*	*11.2*	**34.1**	*38.5*	*43.4*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	**0.6**	**0.7**	*0.4*	*0.4*	*0.6*	*0.7*	*0.4*	*0.4*	**2.5**	*2.2*	*2.1*
Total generation	**205.4**	**185.6**	**224.1**	**189.2**	**194.6**	**181.3**	*214.5*	*180.7*	*199.3*	*186.3*	*213.6*	*179.5*	**804.4**	*771.1*	*778.7*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	**181.9**	**163.2**	*203.8*	*174.5*	*186.9*	*174.0*	*203.4*	*175.7*	**760.9**	*723.4*	*740.0*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	**61.9**	**61.4**	*80.9*	*64.9*	*59.8*	*60.9*	*73.4*	*63.9*	**252.9**	*269.0*	*258.1*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**23.9**	**23.3**	*31.2*	*22.6*	*25.8*	*33.2*	*43.9*	*26.7*	**159.8**	*101.1*	*129.5*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.0**	**50.5**	*54.3*	*52.6*	*52.0*	*51.6*	*55.4*	*53.9*	**211.0**	*210.4*	*213.0*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	**11.1**	**8.6**	*6.7*	*8.0*	*11.2*	*8.5*	*6.4*	*7.6*	**35.5**	*34.4*	*33.7*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	**3.3**	**4.7**	*4.4*	*3.2*	*3.7*	*5.5*	*5.4*	*3.7*	**13.2**	*15.7*	*18.2*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	**-0.1**	*-0.6*	*-0.4*	*-0.1*	*-0.1*	*-0.6*	*-0.4*	**-1.2**	*-1.1*	*-1.2*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	**153.1**	**148.3**	*177.0*	*151.0*	*152.5*	*159.6*	*183.8*	*155.5*	**671.1**	*629.4*	*651.4*
Net energy for load (f)	**163.9**	**158.5**	**197.9**	**157.3**	**158.5**	**141.9**	*179.1*	*148.8*	*156.3*	*157.0*	*186.0*	*153.2*	**677.6**	*628.3*	*652.4*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	**40.1**	**46.4**	*53.6*	*39.7*	*35.5*	*41.8*	*47.7*	*36.9*	**174.4**	*179.8*	*161.8*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.1**	**2.7**	*2.2*	*2.1*	*4.5*	*7.6*	*6.5*	*4.6*	**18.6**	*9.1*	*23.2*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	**7.3**	*7.5*	*7.7*	*7.8*	*7.0*	*7.2*	*7.4*	**29.1**	*29.8*	*29.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.8**	**2.3**	*2.3*	*1.9*	*2.5*	*3.2*	*3.1*	*2.6*	**6.2**	*8.4*	*11.4*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	**0.8**	*0.7*	*0.7*	*0.9*	*0.8*	*0.7*	*0.7*	**3.1**	*3.1*	*3.1*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	**52.2**	**59.7**	*66.4*	*52.2*	*51.2*	*60.5*	*65.2*	*52.3*	**231.7**	*230.5*	*229.1*
Net energy for load (f)	**48.0**	**58.4**	**69.4**	**53.1**	**48.0**	**56.8**	*67.2*	*51.1*	*47.0*	*58.2*	*66.9*	*51.2*	**229.0**	*223.1*	*223.2*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	**44.1**	**44.7**	*60.9*	*43.9*	*36.1*	*38.4*	*49.7*	*39.3*	**177.2**	*193.6*	*163.5*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	**51.1**	**39.8**	*56.8*	*41.0*	*47.4*	*49.5*	*73.0*	*49.8*	**276.2**	*188.7*	*219.7*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	**22.1**	*24.9*	*24.3*	*24.9*	*23.9*	*25.0*	*23.7*	**102.3**	*98.0*	*97.5*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	**2.3**	**2.2**	*1.7*	*1.8*	*2.4*	*2.2*	*1.6*	*1.8*	**8.0**	*8.0*	*8.0*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	**20.0**	**18.9**	*16.0*	*23.3*	*24.7*	*23.2*	*19.4*	*25.8*	**66.1**	*78.2*	*93.1*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	**1.4**	**1.5**	*1.7*	*1.4*	*0.8*	*1.9*	*1.6*	*1.4*	**6.0**	*6.0*	*5.7*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	**145.6**	**129.2**	*162.0*	*135.7*	*136.3*	*139.2*	*170.3*	*141.7*	**635.7**	*572.4*	*587.4*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	**152.5**	**135.6**	*162.7*	*139.7*	*142.8*	*145.7*	*168.4*	*145.1*	**645.6**	*590.5*	*602.0*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	**17.3**	**17.6**	*24.7*	*13.5*	*12.2*	*14.4*	*20.4*	*11.9*	**71.1**	*73.1*	*58.8*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	**17.0**	**13.5**	*21.8*	*12.1*	*12.5*	*9.6*	*22.5*	*11.9*	**93.3**	*64.4*	*56.5*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	**4.4**	*4.4*	*3.5*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.7*	*16.0*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	**4.2**	**3.6**	*2.5*	*2.9*	*4.2*	*3.7*	*2.3*	*2.8*	**13.7**	*13.2*	*13.0*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	**20.6**	**19.0**	*16.9*	*23.9*	*26.1*	*24.0*	*21.1*	*27.0*	**75.0**	*80.4*	*98.2*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	**0.1**	**0.2**	*0.1*	*0.1*	*0.1*	*0.2*	*0.0*	*0.1*	**0.8**	*0.6*	*0.4*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	**63.6**	**58.3**	*70.5*	*56.0*	*59.0*	*55.2*	*70.8*	*58.1*	**270.1**	*248.4*	*243.1*
Net energy for load (f)	**62.5**	**68.4**	**73.6**	**61.8**	**62.4**	**67.4**	*71.6*	*56.1*	*56.6*	*59.4*	*71.7*	*57.2*	**266.2**	*257.7*	*244.9*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	**36.8**	**44.2**	*56.6*	*29.8*	*22.2*	*32.3*	*41.2*	*23.4*	**180.1**	*167.4*	*119.1*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	**13.1**	**11.8**	*12.8*	*12.9*	*14.5*	*17.5*	*25.5*	*18.0*	**75.2**	*50.5*	*75.5*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	**9.6**	*11.0*	*10.0*	*10.7*	*9.8*	*10.3*	*9.6*	**41.3**	*41.0*	*40.4*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	**0.3**	**0.2**	*0.1*	*0.1*	*0.3*	*0.2*	*0.1*	*0.1*	**0.7**	*0.7*	*0.6*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	**22.7**	**24.5**	*24.1*	*26.4*	*28.4*	*31.1*	*30.6*	*30.1*	**81.1**	*97.6*	*120.3*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.6**	*1.5*	*1.4*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	**83.8**	**90.6**	*104.8*	*79.5*	*76.5*	*91.3*	*108.1*	*81.5*	**380.2**	*358.7*	*357.4*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	**83.8**	**90.6**	*104.8*	*79.5*	*76.5*	*91.3*	*108.1*	*81.5*	**380.2**	*358.7*	*357.4*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	**23.5**	**16.2**	*19.7*	*16.3*	*13.6*	*12.1*	*14.7*	*14.1*	**89.2**	*75.7*	*54.4*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	**22.0**	**14.2**	*29.2*	*27.2*	*28.9*	*26.1*	*40.0*	*29.4*	**105.1**	*92.5*	*124.5*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.4**	**2.1**	*2.4*	*2.4*	*2.4*	*1.1*	*2.4*	*2.4*	**8.9**	*9.4*	*8.4*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	**33.9**	**40.2**	*33.8*	*30.6*	*37.1*	*37.6*	*29.3*	*30.5*	**118.0**	*138.6*	*134.4*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	**13.8**	**13.6**	*13.3*	*14.3*	*17.2*	*16.3*	*15.5*	*16.2*	**48.4**	*54.9*	*65.2*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.9*	*0.7*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	**95.9**	**86.5**	*98.6*	*90.9*	*99.3*	*93.4*	*102.0*	*92.8*	**370.5**	*371.9*	*387.6*
Net energy for load (f)	**94.5**	**83.1**	**92.2**	**87.7**	**87.8**	**78.9**	*90.5*	*85.1*	*85.7*	*81.5*	*90.3*	*85.2*	**357.4**	*342.4*	*342.8*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	**11.9**	**12.6**	*15.2*	*9.1*	*5.4*	*8.0*	*10.6*	*8.1*	**56.5**	*48.7*	*32.2*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	**5.3**	**6.6**	*10.1*	*7.2*	*7.9*	*9.8*	*11.8*	*7.2*	**36.7**	*29.2*	*36.8*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	**7.5**	*8.6*	*7.6*	*8.4*	*7.6*	*8.6*	*7.6*	**31.9**	*32.0*	*32.2*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	**2.6**	**3.8**	*4.3*	*2.7*	*2.7*	*3.7*	*4.0*	*2.6*	**13.9**	*13.4*	*13.0*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	**2.5**	**3.1**	*2.8*	*2.8*	*4.1*	*4.5*	*4.0*	*3.9*	**9.9**	*11.3*	*16.4*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.0**	*0.0*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	**30.6**	**33.6**	*41.1*	*29.4*	*28.6*	*33.7*	*39.1*	*29.3*	**148.9**	*134.7*	*130.6*
Net energy for load (f)	**18.2**	**23.1**	**34.0**	**22.3**	**21.8**	**26.0**	*34.2*	*22.9*	*22.0*	*27.1*	*34.5*	*23.3*	**97.7**	*104.9*	*106.9*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	**16.8**	**10.2**	*25.6*	*21.9*	*12.9*	*8.9*	*22.7*	*20.1*	**74.2**	*74.4*	*64.7*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	**2.2**	*1.9*	*2.4*	*1.5*	*2.6*	*1.9*	*2.4*	**7.5**	*7.9*	*8.4*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.8**	**4.9**	*3.5*	*4.5*	*4.5*	*4.1*	*4.9*	*4.9*	**16.2**	*17.7*	*18.4*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	**3.2**	**9.2**	*9.9*	*5.1*	*3.1*	*8.9*	*9.5*	*5.0*	**34.0**	*27.5*	*26.4*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	**14.5**	**18.6**	*19.2*	*14.1*	*14.4*	*19.1*	*20.1*	*14.7*	**63.7**	*66.4*	*68.2*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	**0.1**	*0.2*	*0.0*	*-0.1*	*0.1*	*0.2*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	**40.7**	**45.2**	*60.2*	*48.0*	*36.4*	*43.6*	*59.3*	*47.1*	**195.8**	*194.2*	*186.4*
Net energy for load (f)	**59.9**	**62.5**	**76.3**	**61.6**	**57.6**	**60.5**	*75.2*	*60.2*	*56.6*	*62.1*	*75.6*	*60.7*	**260.2**	*253.6*	*254.9*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	**0.034**	**0.036**	*0.039*	*0.035*	*0.033*	*0.035*	*0.038*	*0.035*	**0.142**	*0.144*	*0.140*
Hydroelectric Power (a)	**0.649**	**0.743**	**0.553**	**0.534**	**0.649**	**0.733**	*0.639*	*0.575*	*0.689*	*0.716*	*0.585*	*0.561*	**2.480**	*2.596*	*2.551*
Solar (b)	**0.122**	**0.201**	**0.208**	**0.128**	**0.151**	**0.241**	*0.262*	*0.168*	*0.195*	*0.311*	*0.337*	*0.213*	**0.659**	*0.821*	*1.056*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	**0.060**	**0.056**	*0.058*	*0.057*	*0.061*	*0.060*	*0.060*	*0.060*	**0.236**	*0.232*	*0.240*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	**0.050**	**0.047**	*0.050*	*0.049*	*0.059*	*0.053*	*0.059*	*0.054*	**0.211**	*0.195*	*0.225*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.802**	**0.764**	*0.665*	*0.888*	*0.978*	*0.909*	*0.785*	*0.984*	**2.762**	*3.120*	*3.656*
Subtotal	**1.603**	**1.813**	**1.526**	**1.547**	**1.746**	**1.876**	*1.713*	*1.772*	*2.015*	*2.083*	*1.863*	*1.907*	**6.490**	*7.107*	*7.868*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.137**	*0.179*	*0.187*	*0.188*	*0.194*	*0.197*	*0.199*	**0.799**	*0.699*	*0.778*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	**0.003**	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.007**	**0.010**	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.029**	*0.033*	*0.037*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.043**	**0.040**	*0.040*	*0.042*	*0.042*	*0.040*	*0.040*	*0.042*	**0.160**	*0.165*	*0.165*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.343**	**0.340**	*0.349*	*0.350*	*0.340*	*0.337*	*0.351*	*0.354*	**1.473**	*1.382*	*1.382*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.591**	**0.524**	*0.575*	*0.588*	*0.577*	*0.580*	*0.596*	*0.604*	**2.466**	*2.278*	*2.358*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.005**	**0.006**	*0.006*	*0.005*	*0.005*	*0.005*	*0.005*	*0.005*	**0.024**	*0.021*	*0.021*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.022**	**0.026**	**0.037**	*0.037*	*0.026*	*0.029*	*0.042*	*0.042*	*0.030*	**0.108**	*0.125*	*0.143*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.085*	*0.084*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.067**	**0.076**	*0.080*	*0.067*	*0.071*	*0.083*	*0.086*	*0.072*	**0.280**	*0.290*	*0.311*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.058**	**0.088**	*0.090*	*0.061*	*0.066*	*0.102*	*0.103*	*0.071*	**0.257**	*0.298*	*0.342*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.124**	**0.132**	*0.133*	*0.133*	*0.124*	*0.132*	*0.133*	*0.133*	**0.529**	*0.522*	*0.522*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	**0.192**	**0.230**	*0.233*	*0.205*	*0.200*	*0.243*	*0.247*	*0.214*	**0.825**	*0.860*	*0.904*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.061**	**0.067**	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.259*	*0.337*
Ethanol (f)	**0.274**	**0.293**	**0.291**	**0.296**	**0.257**	**0.223**	*0.265*	*0.275*	*0.262*	*0.284*	*0.288*	*0.284*	**1.154**	*1.020*	*1.118*
Subtotal	**0.333**	**0.365**	**0.361**	**0.361**	**0.318**	**0.290**	*0.328*	*0.343*	*0.346*	*0.373*	*0.367*	*0.369*	**1.419**	*1.280*	*1.455*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.061**	**0.067**	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.259*	*0.337*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.137**	*0.179*	*0.187*	*0.188*	*0.194*	*0.197*	*0.199*	**0.799**	*0.699*	*0.778*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.307**	**0.267**	**0.232**	*0.275*	*0.285*	*0.272*	*0.295*	*0.300*	*0.295*	**1.199**	*1.060*	*1.161*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.050**	**0.052**	*0.055*	*0.051*	*0.049*	*0.051*	*0.055*	*0.051*	**0.209**	*0.209*	*0.206*
Hydroelectric Power (a)	**0.652**	**0.747**	**0.556**	**0.537**	**0.652**	**0.736**	*0.642*	*0.578*	*0.692*	*0.720*	*0.588*	*0.564*	**2.492**	*2.608*	*2.564*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.239**	**0.376**	*0.398*	*0.261*	*0.298*	*0.465*	*0.494*	*0.321*	**1.043**	*1.274*	*1.578*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.112**	**0.105**	*0.107*	*0.109*	*0.112*	*0.109*	*0.109*	*0.111*	**0.433**	*0.433*	*0.440*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.538**	**0.538**	*0.554*	*0.553*	*0.543*	*0.542*	*0.565*	*0.563*	**2.297**	*2.184*	*2.214*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.802**	**0.764**	*0.665*	*0.888*	*0.978*	*0.909*	*0.785*	*0.984*	**2.762**	*3.120*	*3.656*
Total Consumption	**2.809**	**3.084**	**2.798**	**2.791**	**2.914**	**2.997**	*2.929*	*2.975*	*3.209*	*3.362*	*3.159*	*3.166*	**11.481**	*11.815*	*12.897*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,804**	**6,757**	**6,658**	**6,668**	**6,669**	**6,587**	*6,592*	*6,625*	*6,625*	*6,627*	*6,547*	*6,635*	**6,668**	*6,625*	*6,635*
Waste	**4,001**	**3,969**	**3,960**	**3,942**	**3,942**	**3,860**	*3,865*	*3,899*	*3,899*	*3,901*	*3,821*	*3,909*	**3,942**	*3,899*	*3,909*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,601**	**79,580**	**79,403**	**79,460**	**79,473**	**79,509**	*79,635*	*79,659*	*79,741*	*79,699*	*79,776*	*79,795*	**79,460**	*79,659*	*79,795*
Geothermal	**2,488**	**2,488**	**2,488**	**2,508**	**2,508**	**2,508**	*2,508*	*2,508*	*2,508*	*2,508*	*2,508*	*2,550*	**2,508**	*2,508*	*2,550*
Large-Scale Solar (b)	**32,686**	**33,149**	**33,811**	**36,891**	**38,675**	**41,236**	*42,750*	*49,566*	*49,975*	*53,978*	*55,467*	*60,936*	**36,891**	*49,566*	*60,936*
Wind	**96,616**	**98,091**	**99,672**	**103,397**	**105,745**	**107,806**	*112,282*	*127,088*	*127,834*	*128,919*	*129,540*	*133,882*	**103,397**	*127,088*	*133,882*
Other Sectors (c)															
Biomass	**6,565**	**6,513**	**6,513**	**6,447**	**6,455**	**6,455**	*6,471*	*6,451*	*6,451*	*6,399*	*6,399*	*6,399*	**6,447**	*6,451*	*6,399*
Waste	**782**	**784**	**784**	**784**	**784**	**784**	*800*	*800*	*800*	*800*	*800*	*800*	**784**	*800*	*800*
Wood	**5,782**	**5,730**	**5,730**	**5,663**	**5,672**	**5,672**	*5,672*	*5,652*	*5,652*	*5,599*	*5,599*	*5,599*	**5,663**	*5,652*	*5,599*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*289*	*292*	*290*	*290*	**289**	*289*	*290*
Large-Scale Solar (b)	**406**	**412**	**423**	**429**	**429**	**440**	*440*	*444*	*444*	*444*	*444*	*444*	**429**	*444*	*444*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	**24,259**	**25,118**	*25,945*	*26,865*	*27,908*	*29,094*	*30,384*	*31,754*	**23,211**	*26,865*	*31,754*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	**14,963**	**15,550**	*16,116*	*16,695*	*17,368*	*18,170*	*19,023*	*19,928*	**14,229**	*16,695*	*19,928*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	**7,429**	**7,665**	*7,874*	*8,158*	*8,468*	*8,791*	*9,164*	*9,563*	**7,186**	*8,158*	*9,563*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	**1,867**	**1,904**	*1,955*	*2,012*	*2,072*	*2,132*	*2,197*	*2,263*	**1,796**	*2,012*	*2,263*
Wind	**118**	**118**	**118**	**118**	**118**	**353**	*353*	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.7**	*7.0*	*6.8*	*7.7*	*7.3*	*7.6*	*7.3*	**28.8**	*27.5*	*29.9*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	**4.0**	**3.8**	*3.9*	*3.8*	*4.0*	*4.0*	*4.0*	*4.0*	**15.7**	*15.4*	*16.0*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	**3.1**	**2.9**	*3.1*	*3.0*	*3.6*	*3.3*	*3.6*	*3.4*	**13.0**	*12.1*	*13.9*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**79.9**	*70.7*	*63.0*	*74.9*	*77.1*	*64.2*	*61.5*	**272.4**	*284.8*	*277.7*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**3.9**	*4.2*	*3.9*	*3.6*	*3.8*	*4.2*	*3.8*	**15.6**	*15.8*	*15.4*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**26.1**	*28.4*	*18.2*	*21.2*	*33.7*	*36.6*	*23.1*	**71.5**	*89.1*	*114.6*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**83.0**	*72.2*	*96.4*	*106.2*	*98.6*	*85.2*	*106.8*	**299.8**	*338.6*	*396.8*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	**7.4**	**7.3**	*7.6*	*7.4*	*7.3*	*7.3*	*7.6*	*7.4*	**29.7**	*29.6*	*29.6*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	**6.7**	**6.6**	*6.9*	*6.6*	*6.6*	*6.6*	*6.9*	*6.6*	**26.8**	*26.8*	*26.8*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	**0.4**	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	**1.3**	*1.3*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.7*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.3**	**12.2**	*12.4*	*8.5*	*9.5*	*14.3*	*14.5*	*10.1*	**35.0**	*41.4*	*48.5*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	**7.4**	*7.5*	*5.2*	*5.7*	*8.8*	*9.0*	*6.2*	**20.9**	*25.1*	*29.7*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	**2.6**	**3.8**	*3.8*	*2.6*	*3.0*	*4.4*	*4.4*	*3.1*	**11.1**	*12.9*	*14.9*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	**1.0**	*1.0*	*0.7*	*0.8*	*1.1*	*1.2*	*0.8*	**3.0**	*3.5*	*3.9*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.6*	*0.9*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**18,975**	**16,559**	*17,066*	*17,467*	*17,930*	*18,327*	*18,599*	*18,817*	**19,073**	*17,517*	*18,418*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,353**	**13,414**	**13,181**	**10,996**	*11,861*	*12,284*	*12,429*	*12,578*	*12,731*	*12,907*	**13,280**	*12,080*	*12,661*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,330**	**3,326**	**3,305**	**2,956**	*2,830*	*2,896*	*2,981*	*3,075*	*3,151*	*3,201*	**3,336**	*2,997*	*3,102*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**67**	**18**	**-43**	**-97**	*-343*	*-427*	*-197*	*-11*	*95*	*144*	**68**	*-228*	*8*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,331**	**3,338**	**3,279**	*3,308*	*3,336*	*3,355*	*3,376*	*3,393*	*3,406*	**3,299**	*3,315*	*3,383*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,536**	**2,479**	**1,918**	*1,964*	*2,117*	*2,336*	*2,440*	*2,490*	*2,541*	**2,533**	*2,120*	*2,452*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,514**	**3,437**	**3,295**	**2,709**	*2,571*	*2,777*	*3,001*	*3,146*	*3,278*	*3,405*	**3,487**	*2,838*	*3,208*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,091**	**15,126**	**16,330**	*15,769*	*15,232*	*15,272*	*15,427*	*15,524*	*15,594*	**14,979**	*15,614*	*15,454*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**151.9**	**131.4**	*137.5*	*140.8*	*144.2*	*147.0*	*148.6*	*149.6*	**150.9**	*140.4*	*147.4*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	**14.1**	*11.2*	*9.8*	*8.2*	*7.0*	*6.4*	*6.1*	**3.7**	*9.7*	*6.9*
Housing Starts															
(millions - SAAR)	**1.20**	**1.26**	**1.29**	**1.43**	**1.48**	**0.91**	*0.94*	*1.02*	*1.12*	*1.20*	*1.24*	*1.28*	**1.30**	*1.09*	*1.21*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.6**	**89.5**	*87.7*	*88.1*	*90.8*	*93.9*	*95.9*	*97.5*	**109.5**	*93.2*	*94.5*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**104.3**	**83.6**	*81.9*	*82.5*	*85.9*	*89.3*	*91.4*	*92.9*	**106.0**	*88.1*	*89.9*
Food	**115.1**	**115.3**	**114.6**	**116.1**	**116.3**	**106.9**	*114.0*	*116.8*	*118.7*	*120.1*	*121.0*	*121.8*	**115.3**	*113.5*	*120.4*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.7**	**90.1**	*88.6*	*88.6*	*88.8*	*89.9*	*91.2*	*92.3*	**93.0**	*90.5*	*90.5*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.9**	**104.8**	**84.1**	*94.7*	*98.3*	*101.5*	*103.1*	*104.6*	*105.5*	**105.7**	*95.5*	*103.7*
Chemicals	**101.4**	**99.9**	**100.6**	**100.3**	**99.6**	**94.6**	*95.5*	*96.4*	*98.6*	*100.8*	*102.7*	*104.1*	**100.5**	*96.5*	*101.5*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.3**	**121.8**	**101.7**	*101.2*	*101.0*	*101.8*	*103.5*	*106.1*	*109.6*	**119.4**	*106.4*	*105.2*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.3**	**69.7**	*75.1*	*76.0*	*78.1*	*81.0*	*83.4*	*85.2*	**96.9**	*78.8*	*81.9*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.4**	**106.3**	**91.1**	*90.2*	*90.7*	*93.0*	*95.8*	*98.0*	*99.8*	**106.2**	*94.6*	*96.6*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.6**	**98.5**	**83.3**	*85.9*	*86.9*	*88.7*	*90.7*	*92.4*	*94.0*	**98.3**	*88.7*	*91.4*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**105.0**	**87.5**	*90.6*	*91.8*	*94.2*	*96.8*	*99.1*	*100.9*	**105.8**	*93.7*	*97.7*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**107.7**	**92.7**	*95.2*	*96.5*	*99.0*	*101.7*	*104.0*	*105.6*	**108.1**	*98.0*	*102.6*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	**2.56**	*2.57*	*2.58*	*2.59*	*2.61*	*2.62*	*2.64*	**2.56**	*2.58*	*2.61*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	**1.91**	*1.95*	*1.98*	*2.02*	*2.05*	*2.08*	*2.09*	**2.00**	*1.95*	*2.06*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.95**	**1.93**	**1.74**	**1.14**	*1.44*	*1.48*	*1.44*	*1.60*	*1.63*	*1.60*	**1.94**	*1.45*	*1.57*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	**113.1**	*113.5*	*113.6*	*113.7*	*114.0*	*114.3*	*114.6*	**112.3**	*113.4*	*114.2*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,295**	**9,331**	**9,286**	**8,899**	**7,762**	**6,918**	*8,480*	*8,553*	*8,027*	*9,067*	*9,156*	*8,926*	**8,955**	*7,931*	*8,797*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**707**	**688**	**599**	**491**	*701*	*670*	*672*	*706*	*744*	*732*	**681**	*616*	*713*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**334**	**214**	*367*	*369*	*388*	*427*	*436*	*418*	**410**	*321*	*417*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	**212.2**	*175.0*	*172.8*	*172.0*	*181.8*	*174.7*	*182.0*	**265.4**	*202.7*	*177.6*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	*0.213*	*0.255*	*0.256*	*0.242*	*0.247*	*0.259*	**0.268**	*0.227*	*0.251*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	**552**	**445**	*530*	*548*	*539*	*558*	*580*	*581*	**2,354**	*2,075*	*2,257*
Natural Gas	**507**	**350**	**384**	**448**	**492**	**351**	*375*	*422*	*467*	*330*	*347*	*417*	**1,689**	*1,641*	*1,562*
Coal	**289**	**239**	**307**	**242**	**203**	**170**	*223*	*184*	*217*	*222*	*292*	*214*	**1,076**	*780*	*944*
Total Energy (c)	**1,374**	**1,178**	**1,291**	**1,288**	**1,250**	**969**	*1,131*	*1,157*	*1,226*	*1,112*	*1,222*	*1,216*	**5,130**	*4,507*	*4,775*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,004**	**1,009**	**992**	**846**	*875*	*898*	*924*	*946*	*962*	*975*	**1,002**	*903*	*952*
Middle Atlantic	**2,772**	**2,782**	**2,791**	**2,802**	**2,764**	**2,297**	*2,369*	*2,449*	*2,531*	*2,603*	*2,653*	*2,696*	**2,787**	*2,470*	*2,621*
E. N. Central	**2,528**	**2,535**	**2,545**	**2,557**	**2,522**	**2,152**	*2,230*	*2,293*	*2,356*	*2,412*	*2,450*	*2,479*	**2,541**	*2,299*	*2,424*
W. N. Central	**1,181**	**1,187**	**1,193**	**1,198**	**1,183**	**1,066**	*1,093*	*1,115*	*1,139*	*1,160*	*1,175*	*1,185*	**1,190**	*1,114*	*1,164*
S. Atlantic	**3,353**	**3,367**	**3,383**	**3,403**	**3,362**	**2,980**	*3,078*	*3,145*	*3,227*	*3,296*	*3,340*	*3,375*	**3,376**	*3,141*	*3,309*
E. S. Central	**832**	**835**	**840**	**844**	**833**	**743**	*769*	*785*	*804*	*821*	*831*	*839*	**838**	*782*	*824*
W. S. Central	**2,347**	**2,370**	**2,392**	**2,406**	**2,377**	**2,136**	*2,175*	*2,203*	*2,244*	*2,281*	*2,309*	*2,331*	**2,379**	*2,223*	*2,291*
Mountain	**1,252**	**1,261**	**1,269**	**1,277**	**1,259**	**1,134**	*1,166*	*1,189*	*1,220*	*1,244*	*1,260*	*1,272*	**1,265**	*1,187*	*1,249*
Pacific	**3,700**	**3,719**	**3,739**	**3,761**	**3,717**	**3,235**	*3,343*	*3,423*	*3,517*	*3,597*	*3,653*	*3,699*	**3,730**	*3,430*	*3,617*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.4**	**98.6**	**98.8**	**98.8**	**97.6**	**78.0**	*76.2*	*76.9*	*80.1*	*83.4*	*85.4*	*86.8*	**98.9**	*82.1*	*83.9*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**97.1**	**74.1**	*72.4*	*73.0*	*76.1*	*79.2*	*81.5*	*83.1*	**98.4**	*79.2*	*80.0*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**105.0**	**80.1**	*78.3*	*79.4*	*82.9*	*86.7*	*88.6*	*90.6*	**107.3**	*85.7*	*87.2*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.7**	**84.7**	*83.0*	*84.0*	*87.8*	*91.3*	*93.1*	*94.4*	**105.4**	*88.9*	*91.7*
S. Atlantic	**111.0**	**110.3**	**110.8**	**111.1**	**109.1**	**88.4**	*87.0*	*87.4*	*90.8*	*94.3*	*96.6*	*98.0*	**110.8**	*93.0*	*94.9*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**109.0**	**84.2**	*83.2*	*84.1*	*87.8*	*91.6*	*94.1*	*95.7*	**110.2**	*90.1*	*92.3*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**99.7**	**83.6**	*81.0*	*81.2*	*84.3*	*87.2*	*89.1*	*90.4*	**101.4**	*86.4*	*87.7*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.6**	**94.6**	*92.2*	*93.0*	*97.0*	*100.8*	*103.0*	*104.5*	**116.3**	*98.6*	*101.3*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.3**	**82.3**	*81.8*	*81.6*	*84.3*	*87.4*	*89.6*	*90.8*	**104.4**	*87.0*	*88.0*
Real Personal Income (Billion $2009)															
New England	**899**	**900**	**896**	**900**	**901**	**930**	*899*	*878*	*886*	*898*	*905*	*910*	**899**	*902*	*899*
Middle Atlantic	**2,287**	**2,301**	**2,298**	**2,306**	**2,308**	**2,361**	*2,281*	*2,229*	*2,249*	*2,281*	*2,298*	*2,310*	**2,298**	*2,294*	*2,284*
E. N. Central	**2,444**	**2,448**	**2,458**	**2,473**	**2,475**	**2,581**	*2,494*	*2,433*	*2,452*	*2,483*	*2,502*	*2,514*	**2,456**	*2,495*	*2,488*
W. N. Central	**1,153**	**1,154**	**1,168**	**1,174**	**1,174**	**1,242**	*1,194*	*1,164*	*1,172*	*1,186*	*1,196*	*1,202*	**1,162**	*1,193*	*1,189*
S. Atlantic	**3,203**	**3,221**	**3,230**	**3,250**	**3,265**	**3,498**	*3,379*	*3,279*	*3,299*	*3,336*	*3,357*	*3,369*	**3,226**	*3,355*	*3,340*
E. S. Central	**890**	**893**	**897**	**903**	**907**	**979**	*939*	*903*	*907*	*919*	*926*	*930*	**896**	*932*	*921*
W. S. Central	**1,997**	**2,005**	**2,017**	**2,030**	**2,038**	**2,148**	*2,067*	*2,005*	*2,011*	*2,032*	*2,046*	*2,056*	**2,012**	*2,065*	*2,036*
Mountain	**1,178**	**1,187**	**1,198**	**1,204**	**1,208**	**1,288**	*1,245*	*1,211*	*1,218*	*1,231*	*1,239*	*1,244*	**1,192**	*1,238*	*1,233*
Pacific	**2,789**	**2,816**	**2,810**	**2,826**	**2,833**	**2,930**	*2,846*	*2,797*	*2,828*	*2,864*	*2,885*	*2,899*	**2,810**	*2,851*	*2,869*
Households (Thousands)															
New England	**5,936**	**5,941**	**5,957**	**5,966**	**5,973**	**5,974**	*5,972*	*5,975*	*5,976*	*5,980*	*5,989*	*6,001*	**5,966**	*5,975*	*6,001*
Middle Atlantic	**16,243**	**16,263**	**16,305**	**16,328**	**16,346**	**16,351**	*16,351*	*16,361*	*16,368*	*16,378*	*16,403*	*16,436*	**16,328**	*16,361*	*16,436*
E. N. Central	**19,087**	**19,112**	**19,166**	**19,197**	**19,224**	**19,243**	*19,251*	*19,271*	*19,286*	*19,302*	*19,337*	*19,382*	**19,197**	*19,271*	*19,382*
W. N. Central	**8,688**	**8,708**	**8,740**	**8,760**	**8,777**	**8,786**	*8,792*	*8,804*	*8,812*	*8,824*	*8,845*	*8,869*	**8,760**	*8,804*	*8,869*
S. Atlantic	**25,689**	**25,762**	**25,877**	**25,965**	**26,044**	**26,082**	*26,114*	*26,164*	*26,213*	*26,272*	*26,356*	*26,458*	**25,965**	*26,164*	*26,458*
E. S. Central	**7,651**	**7,663**	**7,689**	**7,706**	**7,721**	**7,727**	*7,732*	*7,742*	*7,750*	*7,760*	*7,779*	*7,802*	**7,706**	*7,742*	*7,802*
W. S. Central	**14,813**	**14,856**	**14,923**	**14,974**	**15,019**	**15,046**	*15,070*	*15,106*	*15,140*	*15,180*	*15,234*	*15,295*	**14,974**	*15,106*	*15,295*
Mountain	**9,404**	**9,448**	**9,506**	**9,551**	**9,592**	**9,616**	*9,639*	*9,668*	*9,694*	*9,724*	*9,762*	*9,806*	**9,551**	*9,668*	*9,806*
Pacific	**18,903**	**18,932**	**18,994**	**19,034**	**19,069**	**19,088**	*19,108*	*19,146*	*19,182*	*19,221*	*19,275*	*19,336*	**19,034**	*19,146*	*19,336*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.5**	**6.2**	*6.5*	*6.7*	*6.9*	*7.1*	*7.2*	*7.2*	**7.5**	*6.7*	*7.1*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.1**	**16.3**	*17.2*	*17.8*	*18.3*	*18.7*	*19.0*	*19.2*	**20.0**	*17.9*	*18.8*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	**18.8**	*19.8*	*20.4*	*20.9*	*21.3*	*21.5*	*21.7*	**22.3**	*20.3*	*21.4*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	**9.7**	*10.1*	*10.3*	*10.5*	*10.6*	*10.7*	*10.7*	**10.8**	*10.2*	*10.6*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	**26.0**	*27.1*	*27.7*	*28.4*	*29.0*	*29.3*	*29.5*	**29.1**	*27.5*	*29.1*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.3**	**7.4**	*7.7*	*7.9*	*8.1*	*8.2*	*8.3*	*8.3*	**8.3**	*7.8*	*8.2*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	**16.2**	*16.8*	*17.0*	*17.3*	*17.5*	*17.7*	*17.8*	**17.8**	*17.0*	*17.6*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	**10.0**	*10.4*	*10.7*	*10.9*	*11.1*	*11.2*	*11.3*	**11.1**	*10.6*	*11.1*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.0**	**20.6**	*21.7*	*22.2*	*22.7*	*23.2*	*23.4*	*23.6*	**23.8**	*22.1*	*23.2*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,227**	**892**	**135**	**2,277**	**2,726**	**999**	*121*	*2,156*	*3,166*	*876*	*124*	*2,156*	**6,531**	*6,002*	*6,322*
Middle Atlantic	**2,987**	**634**	**68**	**2,065**	**2,471**	**851**	*78*	*1,982*	*2,932*	*701*	*75*	*1,982*	**5,754**	*5,383*	*5,690*
E. N. Central	**3,326**	**760**	**64**	**2,277**	**2,788**	**862**	*115*	*2,228*	*3,151*	*731*	*119*	*2,228*	**6,428**	*5,993*	*6,230*
W. N. Central	**3,648**	**772**	**107**	**2,546**	**3,038**	**796**	*151*	*2,401*	*3,234*	*701*	*157*	*2,401*	**7,073**	*6,386*	*6,493*
South Atlantic	**1,335**	**128**	**2**	**918**	**1,106**	**258**	*12*	*953*	*1,382*	*184*	*11*	*951*	**2,383**	*2,329*	*2,528*
E. S. Central	**1,711**	**193**	**1**	**1,275**	**1,484**	**345**	*20*	*1,281*	*1,780*	*231*	*17*	*1,281*	**3,180**	*3,129*	*3,309*
W. S. Central	**1,209**	**90**	**0**	**853**	**974**	**103**	*4*	*756*	*1,089*	*77*	*4*	*755*	**2,152**	*1,837*	*1,925*
Mountain	**2,429**	**786**	**127**	**1,966**	**2,216**	**647**	*134*	*1,790*	*2,185*	*690*	*147*	*1,790*	**5,308**	*4,787*	*4,811*
Pacific	**1,685**	**574**	**95**	**1,180**	**1,538**	**507**	*80*	*1,190*	*1,505*	*577*	*85*	*1,190*	**3,534**	*3,315*	*3,356*
U.S. Average	**2,210**	**480**	**56**	**1,558**	**1,875**	**542**	*69*	*1,508*	*2,094*	*483*	*71*	*1,506*	**4,304**	*3,994*	*4,154*
Heating Degree Days, Prior 10-year Average															
New England	**3,165**	**820**	**111**	**2,122**	**3,152**	**822**	*105*	*2,127*	*3,132*	*858*	*108*	*2,115*	**6,218**	*6,206*	*6,213*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	**644**	*69*	*1,944*	*2,913*	*679*	*71*	*1,926*	**5,623**	*5,606*	*5,589*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	**698**	*102*	*2,197*	*3,157*	*732*	*103*	*2,183*	**6,203**	*6,195*	*6,175*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	**702**	*131*	*2,379*	*3,247*	*728*	*131*	*2,376*	**6,477**	*6,500*	*6,482*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	**169**	*10*	*952*	*1,393*	*181*	*10*	*922*	**2,631**	*2,589*	*2,506*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,849**	**214**	*15*	*1,277*	*1,772*	*232*	*16*	*1,255*	**3,392**	*3,356*	*3,274*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	**83**	*3*	*794*	*1,140*	*86*	*3*	*788*	**2,079**	*2,079*	*2,018*
Mountain	**2,164**	**714**	**139**	**1,855**	**2,192**	**718**	*135*	*1,844*	*2,182*	*699*	*134*	*1,845*	**4,873**	*4,890*	*4,860*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	**580**	*85*	*1,161*	*1,462*	*551*	*82*	*1,157*	**3,283**	*3,282*	*3,251*
U.S. Average	**2,150**	**475**	**68**	**1,518**	**2,149**	**472**	*64*	*1,509*	*2,108*	*482*	*64*	*1,493*	**4,212**	*4,194*	*4,147*
Cooling Degree Days															
New England	**0**	**68**	**468**	**0**	**0**	**134**	*430*	*1*	*0*	*84*	*420*	*1*	**536**	*566*	*505*
Middle Atlantic	**0**	**144**	**632**	**8**	**0**	**181**	*553*	*4*	*0*	*153*	*548*	*4*	**784**	*738*	*706*
E. N. Central	**0**	**175**	**651**	**7**	**2**	**224**	*543*	*7*	*0*	*218*	*544*	*7*	**832**	*776*	*769*
W. N. Central	**0**	**223**	**729**	**2**	**6**	**299**	*678*	*11*	*3*	*267*	*676*	*11*	**954**	*994*	*957*
South Atlantic	**153**	**756**	**1,298**	**309**	**198**	**630**	*1,166*	*235*	*129*	*672*	*1,185*	*236*	**2,516**	*2,229*	*2,222*
E. S. Central	**29**	**549**	**1,214**	**87**	**72**	**430**	*1,041*	*68*	*30*	*538*	*1,080*	*68*	**1,879**	*1,612*	*1,716*
W. S. Central	**72**	**819**	**1,691**	**168**	**174**	**833**	*1,510*	*211*	*99*	*890*	*1,534*	*211*	**2,750**	*2,728*	*2,733*
Mountain	**10**	**342**	**985**	**60**	**9**	**451**	*954*	*79*	*19*	*428*	*934*	*79*	**1,397**	*1,494*	*1,460*
Pacific	**22**	**167**	**590**	**67**	**24**	**198**	*602*	*59*	*27*	*168*	*586*	*59*	**846**	*884*	*840*
U.S. Average	**46**	**399**	**952**	**105**	**71**	**402**	*864*	*96*	*46*	*409*	*868*	*96*	**1,502**	*1,432*	*1,419*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	**83**	*470*	*1*	*0*	*84*	*462*	*1*	**536**	*554*	*548*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	**170**	*609*	*6*	*0*	*165*	*597*	*6*	**760**	*786*	*769*
E. N. Central	**3**	**242**	**548**	**7**	**3**	**240**	*579*	*8*	*3*	*235*	*566*	*7*	**799**	*829*	*811*
W. N. Central	**7**	**298**	**669**	**11**	**7**	**296**	*697*	*11*	*7*	*295*	*688*	*11*	**985**	*1,011*	*1,001*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	**696**	*1,202*	*247*	*143*	*681*	*1,189*	*254*	**2,224**	*2,272*	*2,268*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	**557**	*1,082*	*72*	*42*	*532*	*1,062*	*73*	**1,706**	*1,746*	*1,710*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	**892**	*1,575*	*207*	*114*	*879*	*1,567*	*210*	**2,757**	*2,774*	*2,771*
Mountain	**25**	**438**	**932**	**81**	**24**	**433**	*939*	*81*	*24*	*443*	*941*	*82*	**1,476**	*1,476*	*1,490*
Pacific	**31**	**185**	**631**	**76**	**31**	**185**	*624*	*78*	*31*	*193*	*636*	*79*	**923**	*918*	*939*
U.S. Average	**46**	**417**	**873**	**97**	**47**	**420**	*892*	*100*	*52*	*416*	*887*	*102*	**1,433**	*1,459*	*1,456*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

August 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- The August *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because mitigation and reopening efforts related to the 2019 novel coronavirus disease (COVID-19) continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply patterns in 2020. Uncertainties persist across the U.S. Energy Information Administration's (EIA) outlook for all energy sources, including liquid fuels, natural gas, electricity, coal, and renewables. The STEO is based on U.S. macroeconomic forecasts by IHS Markit, which assume U.S. gross domestic product declined by 5.2% in the first half of 2020 from the same period a year ago and will rise from the third quarter of 2020 through 2021.

- Daily Brent crude oil spot prices averaged $43 per barrel (b) in July, up $3/b from the average in June and up $25/b from the multiyear low monthly average price in April. EIA expects monthly Brent spot prices will average $43/b during the second half of 2020 and rise to an average of $50/b in 2021.

- U.S. regular gasoline retail prices averaged $2.18 per gallon (gal) in July, an increase of 10 cents/gal from the average in June but 56 cents/gal lower than at the same time last year. EIA expects that gasoline prices will gradually decrease through the rest of the summer to reach an average of $2.04/gal in September before falling to an average of $1.99/gal in the fourth quarter. Forecast U.S. regular gasoline retail prices will average $2.23/gal in 2021, compared with an average of $2.12/gal in 2020.

- EIA expects high inventory levels and surplus crude oil production capacity will limit upward price pressures in the coming months, but as inventories decline into 2021, those upward price pressures will increase. EIA estimates global liquid fuels inventories rose at a rate of 6.4 million barrels per day (b/d) in the first half of 2020 and expects they will decline at a rate of 4.2 million b/d in the second half of 2020 and then decline by 0.8 million b/d in 2021.

- EIA estimates that demand for global petroleum and liquid fuels averaged 93.4 million b/d in July. Demand was down 9.1 million b/d from July 2019, but it was up

from an average of 85.0 million b/d during the second quarter of 2020, which was down 15.8 million b/d from year-ago levels. EIA forecasts that consumption of petroleum and liquid fuels globally will average 93.1 million b/d for all of 2020, down 8.1 million b/d from 2019, before increasing by 7.0 million b/d in 2021. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy supply and demand patterns in 2020.

- EIA estimates that global liquid fuels production averaged 91.8 million b/d in the second quarter of 2020, down 8.6 million b/d year over year. The decline reflects voluntary production cuts by the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+), and reductions in drilling activity and production curtailments in the United States because of low oil prices. In the forecast, the global supply of oil continues to decline to 90.4 million b/d in the third quarter of 2020 before rising to an annual average of 99.4 million b/d in 2021.

- EIA estimates that U.S. liquid fuels consumption averaged 16.2 million b/d in the second quarter of 2020, down 4.1 million b/d (20%) from the same period in 2019. The decline reflects travel restrictions and reduced economic activity related to COVID-19 mitigation efforts. EIA expects U.S. oil consumption will generally rise through the end of 2021. EIA forecasts U.S. liquid fuels consumption will average 18.9 million b/d in the third quarter of 2020 (down 1.8 million b/d year over year) before rising to an average of 20.0 million b/d in 2021. Although the 2021 forecast level is 1.6 million b/d more than EIA's forecast 2020 consumption, it is 0.4 million b/d less than the 2019 average.

- EIA has lowered U.S. crude oil production estimates for 2020 by 370,000 b/d from the previous STEO. EIA expects crude production to average 11.3 million b/d in 2020 and 11.1 million b/d in 2021, down from 12.2 million b/d in 2019. Recently released EIA data show that average monthly U.S. oil production for May was 1.2 million b/d lower than the July STEO forecast, indicating more extensive production curtailments than previously estimated. Also, EIA's August STEO assumes that the Dakota Access Pipeline will remain operational. A U.S. District Court ordered on July 6 the temporary closure of the Dakota Access Pipeline beginning in early August. A U.S. appeals court has overturned the lower court decision, allowing the pipeline to remain running while further litigation proceedings continue.

Natural Gas

- In July, the Henry Hub natural gas spot price averaged $1.77 per million British thermal units (MMBtu). EIA expects natural gas prices will generally rise through the end of 2021 but the sharpest increases will be during this fall and winter when they rise from an average of $2.11/MMBtu in September to $3.14/MMBtu in February. EIA expects that rising demand heading into winter, combined with reduced

production, will cause upward price pressures. EIA forecasts that Henry Hub natural gas spot prices will average $2.03/MMBtu in 2020 and $3.14/MMBtu in 2021.

- EIA estimates that total U.S. working natural gas in storage ended July at about 3.3 trillion cubic feet (Tcf), 15% more than the five-year (2015–19) average. In the forecast, inventories rise by 2.0 Tcf during the April-through-October injection season to reach nearly 4.0 Tcf on October 31.

- EIA expects that total U.S. consumption of natural gas will average 82.4 billion cubic feet per day (Bcf/d) in 2020, down 3.0% from 2019. The largest decline in consumption occurs in the industrial sector, which EIA forecasts will average 22.0 Bcf/d in 2020, down 1.0 Bcf/d from 2019, as a result of reduced manufacturing activity. The decline in total U.S. consumption also reflects lower heating demand in early 2020, contributing to residential and commercial demand in 2020 averaging 12.8 Bcf/d (down 0.9 Bcf/d from 2019) and 8.8 Bcf/d (down 0.8 Bcf/d from 2019), respectively.

- U.S. dry natural gas production set an annual record in 2019, averaging 92.2 Bcf/d. EIA forecasts dry natural gas production will average 88.7 Bcf/d in 2020, with monthly production falling from its monthly average peak of 96.2 Bcf/d in November 2019 to 82.7 Bcf/d by April 2021, before increasing slightly. Natural gas production declines the most in the Permian region, where EIA expects low crude oil prices will reduce associated natural gas output from oil-directed rigs. EIA's forecast of dry natural gas production in the United States averages 84.0 Bcf/d in 2021. EIA expects production to begin rising in the second quarter of 2021 in response to higher natural gas and crude oil prices.

- EIA estimates that U.S. liquefied natural gas (LNG) exports will average 5.5 Bcf/d in 2020 and will average 7.3 Bcf/d in 2021. EIA expects that U.S. LNG exports will decline through the end of the summer as a result of reduced global demand for natural gas. U.S. exports of LNG in July 2020 averaged 3.1 Bcf/d, which is about the same as in May 2018, when the available liquefaction capacity was about one-third of the current capacity. Declines in global natural gas demand associated with COVID-19 mitigation efforts, high natural gas storage inventories in Europe and Asia, and an on-going expansion in LNG liquefaction capacity have contributed to natural gas and LNG prices reaching all-time historical lows. Low international prices have affected the economic competitiveness of U.S. LNG exports and have led to numerous cargo cancellations, particularly at the Sabine Pass, Corpus Christi, and Freeport LNG export terminals. EIA expects LNG exports from the United States to remain low in the next few months. Based on numerous trade press reports, EIA estimates about 45 cargoes have been canceled for upcoming August shipments and about 30 cargoes have been canceled for September shipments.

Electricity, coal, renewables, and emissions

- EIA forecasts 3.6% less electricity consumption in the United States in 2020 compared with 2019. The largest decline on a percentage basis is in the commercial sector, where EIA expects retail sales of electricity to fall by 7.4% this year. Forecast industrial retail electricity sales fall by 5.8%. EIA forecasts residential sector retail sales will increase by 2.0% in 2020. Milder winter temperatures earlier in the year led to lower consumption for space heating, but that factor is offset by increased summer cooling demand and an assumed increase in electricity use by more people working from home. In 2021, EIA forecasts total U.S. electricity consumption will rise by 0.8%.

- EIA expects the share of U.S. electric power sector generation from natural gas-fired power plants will increase from 37% in 2019 to 40% this year. In 2021, the forecast natural gas share declines to 35% in response to higher natural gas prices. Coal's forecast share of electricity generation falls from 24% in 2019 to 18% in 2020 and then increases to 22% in 2021. Electricity generation from renewable energy sources rises from 17% in 2019 to 20% in 2020 and to 22% in 2021. The increase in the share from renewables is the result of expected additions to wind and solar generating capacity. EIA expects a decline in nuclear generation in both 2020 and 2021, reflecting recent and upcoming retirements of nuclear generating capacity.

- EIA forecasts that renewable energy will be the fastest-growing source of electricity generation in 2020. EIA expects the electric power sector will add 23.2 gigawatts (GW) of new wind capacity and 12.9 GW of utility-scale solar capacity in 2020. However, these future capacity additions are subject to a high degree of uncertainty, and EIA continues to monitor reported planned capacity builds.

- U.S. coal consumption, which dropped to its lowest point since April, totaled 95 MMst in the second quarter of 2020. EIA expects coal consumption to rise to a seasonal peak of 127 MMst in the third quarter but remain lower than 2019 levels through the end of 2020. EIA estimates that U.S. coal consumption will decrease by 26% in 2020 and increase by 20% in 2021. EIA estimates that total U.S. coal production in 2020 will decrease by 29% from 2019 levels to 502 MMst. In 2021, EIA expects higher demand and rising natural gas prices to a lead to a recovery in coal production of 12%, with a total annual production level of 564 MMst.

- EIA forecasts that U.S. energy-related carbon dioxide (CO2) emissions, after decreasing by 2.8% in 2019, will decrease by 11.5% (588 million metric tons) in 2020. This record decline is the result of less energy consumption related to restrictions on business and travel activity and slowing economic growth related to COVID-19 mitigation efforts. CO2 emissions decline with reduced consumption of all fossil fuels, particularly coal (24.9%) and petroleum (11.6%). In 2021, EIA forecasts that energy-related CO2 emissions will increase by 5.6%, as the economy recovers

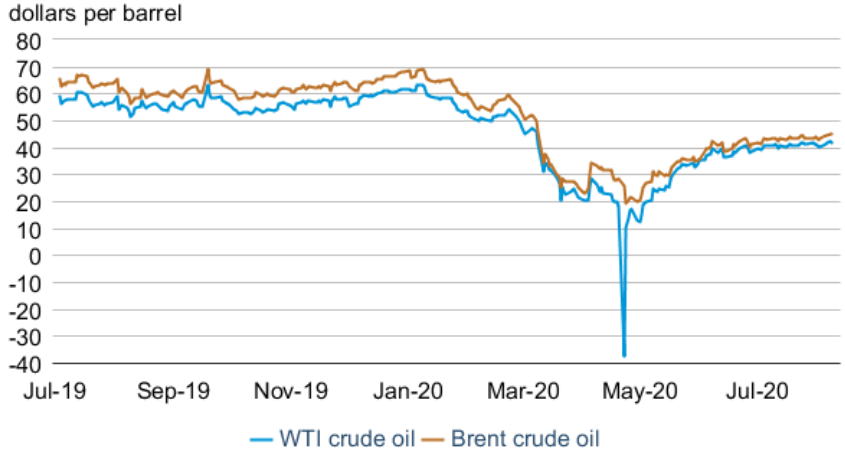
and stay-at-home orders are lifted. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $45.09 per barrel (b) on August 6, 2020, an increase of $3.06/b from July 1, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $2.13/b during the same period, settling at $41.95/b on August 6 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



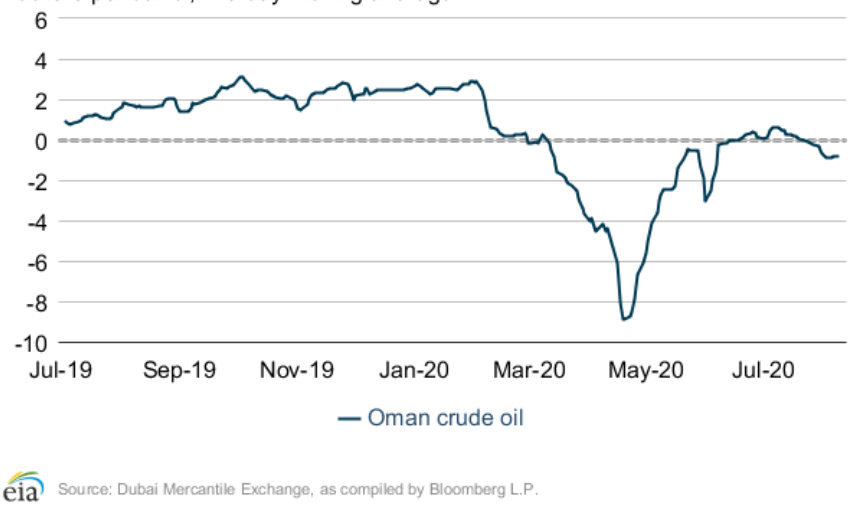
Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Crude oil prices developed a narrow trading range in July as price volatility declined to the lowest levels since January 2020. Global petroleum demand continued to recover in July, but continued growth in global coronavirus cases could bring renewed lockdown measures and presents considerable uncertainty to global oil demand for the remainder of the year. World oil-weighted real gross domestic product (GDP) declined 9.3% in the second quarter of 2020—one of the largest declines for any quarter on record—however, a number of leading indicators suggest increases in economic activity since then in some sectors, such as manufacturing. Despite the continued demand-side uncertainty, global petroleum production remains subdued from rapid declines in U.S. crude oil production as well as oil supply management from members of the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+). The group plans to ease production cuts by nearly 2 million barrels per day (b/d) in August, but it is committed to monitoring global inventory levels and could adjust production levels lower if global demand growth slows.

The U.S. Energy Information Administration (EIA) forecasts high petroleum stock withdrawal rates will put modest upward price pressure from current prices through the end of 2020. However, the currently high inventory levels (as a result of the large stock builds from January through May 2020) are forecast to mitigate any significant increase in prices. EIA forecasts Brent crude oil prices will increase to $44/b by the end of the year, slightly higher than the July 2020 average price. Global inventory withdrawals through the end of 2021 will put upward pressure on crude oil prices, which EIA forecasts will average $50/b in 2021.

Oman crude oil price spreads: Recent movements in crude oil price spreads could indicate a slowdown in refinery purchases and demand in Asia. The Dubai Mercantile Exchange's Oman crude oil futures contract is a benchmark crude oil contract that reflects oil produced in the Middle East and exported to Asia. The five-day moving average of Oman crude oil's 1st–3rd futures contract price spread developed slight backwardation (when near-term prices are higher than longer-dated ones) from mid-June through mid-July, but it declined to -79 cents/b as of August 6 **(Figure 2)**. The contract may have developed backwardation as a result of increased crude oil purchases and refinery runs among Chinese refiners, who increased refinery runs to more than 14 million b/d in June, an all-time high for any month. Since mid-July, however, extreme flooding in the Yangtze region is contributing to declines in Chinese economic activity and refinery utilization, which is likely contributing to declines in the Oman 1st–3rd spread. In addition, the planned increase in several Middle Eastern OPEC members' crude oil production in August is also likely contributing to reduced Oman crude oil futures price spreads.

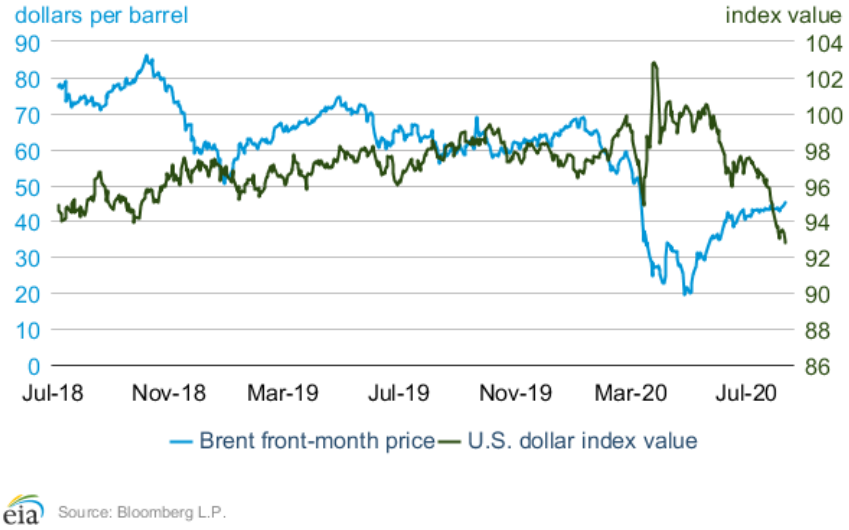
Figure 2. Oman crude oil front-month to 3rd month futures price spread



Crude oil prices and the U.S. dollar index: Brent crude oil prices have exhibited high negative correlation with the U.S. dollar index since the end of June. The U.S. dollar index measures the value of the U.S. dollar against six currencies' exchange rates: the euro, Japanese yen, British pound, Canadian dollar, Swiss franc, and Swedish krona. A decrease in the index means the dollar is depreciating against this group of currencies. The U.S. dollar index declined to 92.8 as of August 6, the lowest level in more than two years **(Figure 3)**. In general, a depreciation of the

U.S. dollar index with other currencies reflects differences in market participants' expectations of economic growth in the United States compared with other countries. The euro represents 58% of the currency weighting in the U.S. dollar index, and suggests economic growth expectations are increasing in Eurozone countries, supported by a combination of the €750 billion fiscal stimulus package, European Central Bank monetary policy support, and slowing growth in COVID-19 cases. Because Brent crude oil is priced in U.S. dollars, a depreciation in the U.S. dollar also makes crude oil imports relatively less expensive for countries that use the euro, which tend to be net crude oil importers. From June 1 to August 6, for example, Brent crude oil prices increased 18% in U.S. dollars but only 10% in euros as a result of the euro's appreciation against the U.S. dollar.

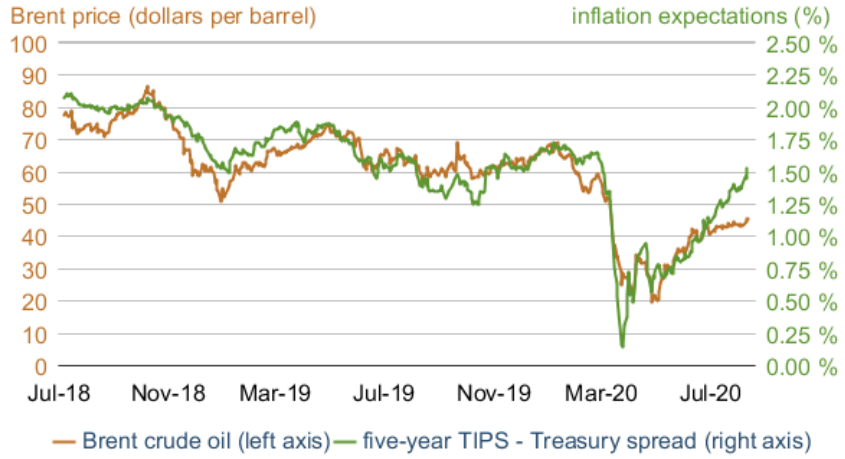
Figure 3. Brent crude oil price vs. the value of the U.S. dollar



eia Source: Bloomberg L.P.

Inflation expectations: Because energy is a significant input into other areas of the economy and is an important variable cost for businesses and consumers, changes in crude oil prices affect market participants' expectations of future rates of inflation. The difference in yield between the five-year Treasury rate and five-year Treasury Inflation Protected Securities (TIPS) is an indicator of market participants' inflation expectations during the next five years, and the difference increased from 1.17% on July 1 to 1.52% on August 5 **(Figure 4)**. According to the latest Federal Open Market Committee meeting, the U.S. Federal Reserve plans to target interest rates near 0% until its targets of full employment and inflation of 2% are met. Partially as a result of accommodative monetary policy, market expectations for inflation during the next five years have increased from March's low of near 0%. However, inflation expectations remain less than the Federal Reserve's 2% target and are still at some of the lowest levels in the past five years.

Figure 4. Crude oil and inflation expectations

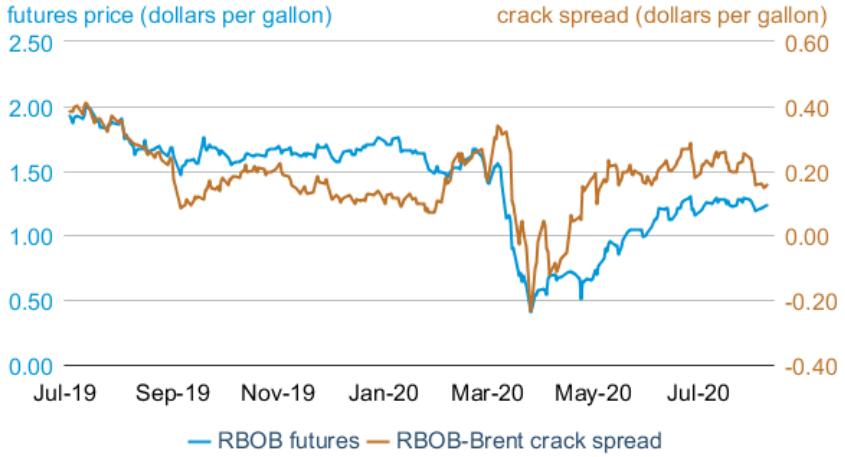


Source: Bloomberg L.P., Federal Reserve Bank of St. Louis
Note: TIPS=Treasury Inflation Protected Securities

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.23 per gallon (gal) on August 6, up 1 cent/gal from July 1, 2020 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 6 cents/gal to settle at 15 cents/gal during the same period. The crack spread averaged lower than the five-year (2015–19) minimum for the fifth consecutive month in July.

Figure 5. Historical RBOB front-month futures prices and crack spread



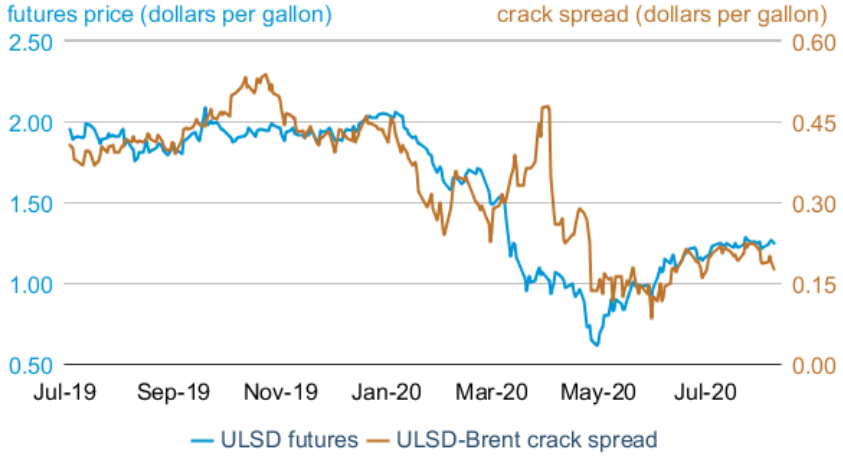
Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending

Gasoline consumption, production, and inventory levels moved toward pre-COVID-19 levels in July. Meanwhile, the crack spread traded in a narrow 6 cent/gal range from July 1 to July 30 before declining 4 cents/gal on July 31. EIA estimates that July 2020 gasoline consumption was

8.7 million barrels per day (b/d), an increase of 0.2 million b/d (2%) from June 2020 and a decrease of 0.8 million b/d (9%) from July 2019. July 2020 gasoline consumption was 9% lower than the month's five-year (2015–19) average but marked a modest return toward normal levels when compared with June 2020, which was 12% lower than its five-year average, and April 2020, which bottomed out at 37% lower than its five-year average. Similarly, EIA estimates July production closer to its five-year average. July 2020 gasoline production was 12% lower than the month's five-year average, but June was 15% lower than its five-year average and April troughed at 36% lower than its five-year average. Inventories of total gasoline in July decreased 3.9 million barrels (2%) from June to 248 million barrels. As consumption, production, and inventories have moved closer to their five-year averages, U.S. average retail gasoline prices have stabilized. Four of the five weeks from June 29 to August 3 had less than 1 cent/gal week-to-week changes. Before the week starting June 29, there were only two such weeks in 2020.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at $1.25/gal on August 6, 2020, up 5 cents/gal from July 1, 2020 **(Figure 6)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 2 cents/gal to settle at 18 cents/gal during the same period.

Figure 6. Historical ULSD front-month futures price and crack spread

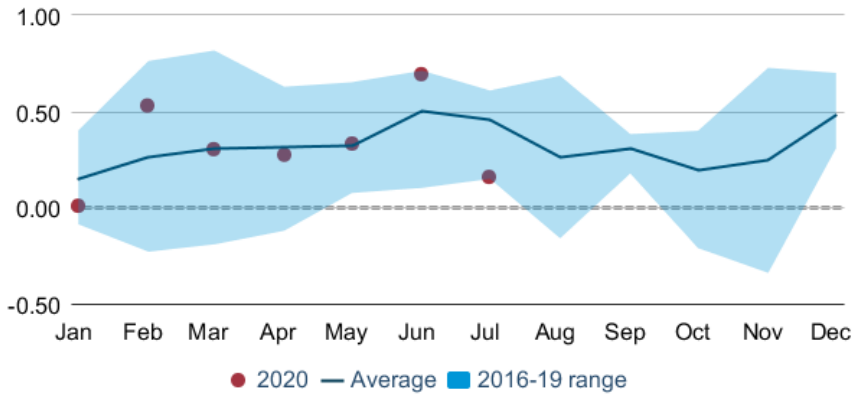


Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

The July ULSD–Brent crack spread traded in its narrowest range in 2020 so far, ranging from $0.19 to $0.22. Part of this stability in the crack spread can likely be attributed to the fact that distillate consumption changed very little from June to July. However, July 2020 consumption was 0.4 million b/d lower (10%) than the year ago levels, and it was also the month's lowest consumption level since 2009. Meanwhile, net exports of distillate increased from June by 5% to an estimated 1.2 million b/d. Inventory levels increased by 2.7 million barrels from June to 180.0 million barrels in July, the highest for any month since 1982. Compared with July 2019, inventory levels are up 31%.

***Crack spread correlations*:** Historically, a day-to-day change in the RBOB–Brent crack spread tends to correlate positively with the day-to-day change in the ULSD–Brent crack spread. That is, both RBOB and ULSD crack spreads tend to increase or decrease on a daily basis and it is less likely for one to increase and the other to decrease on a given day. As a result of several factors—including economic trends, refining yields, and seasonality—one month may have a stronger correlation than others. Based on the average from 2016 (the first year of the current Brent futures expiration calendar) to 2019, June and July correlations are typically some of the highest for the year **(Figure 7)**. In 2020, June and July had correlation coefficients of 0.69 and 0.16, respectively.

Figure 7. Monthly correlation of daily changes in RBOB crack spread to daily changes in ULSD crack spread



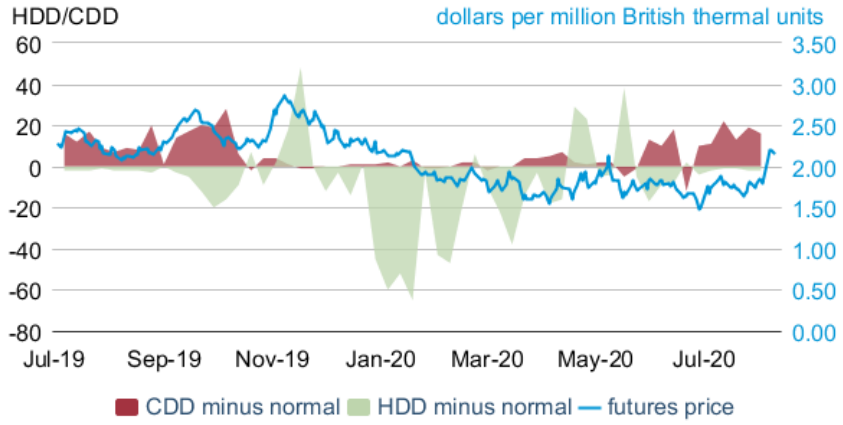
Note: RBOB=reformulated blendstock for oxygenate blending, ULSD=ultra-low sulfur diesel
Note: The correlations use crack spreads between 2nd month product contracts and 1st month Brent contracts.

In June 2020, the strength of the relationship between the day-to-day changes of the two crack spreads was stronger than usual. June's correlation coefficient of 0.69 was higher than that for 43 of the 48 months (90%) from 2016 to 2019. Meanwhile, July 2020 showed a weaker-than-usual correlation coefficient of 0.16, which was greater than only 13 of the 48 months (27%). The high correlation in June can likely be attributed in part to the fact that as more of the economy opened up, expectations for economic activity likely drove both crack spreads upward. As economic optimism subsided in July with increasing COVID-19 cases, the prospect of further economic lockdowns may be having a greater effect on RBOB crack spreads.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.17 per million British thermal units (MMBtu) on August 6, up 49 cents/MMBtu from July 1 **(Figure 8)**. Futures prices increased substantially at the beginning of August. Before August 3, the front-month futures price had settled higher than $2/MMBtu only once since January 17, 2020.

Figure 8. Natural gas front-month futures prices and actual minus historical average HDD and CDD



Source: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD stands for heating degree days, CDD stands for cooling degree days.

Natural gas prices received support from strong demand from natural gas-fired power generation. EIA estimates that natural gas consumption for power generation rose to 43.6 billion cubic feet per day (Bcf/d) in July 2020, higher than any month on record. Consumption from the electric power sector was partially offset by a decrease in industrial natural gas consumption, which declined 1.4 Bcf/d in July compared with the previous year, likely because of slower economic activity. Liquefied natural gas (LNG) exports also fell substantially as international natural gas demand growth slowed. EIA estimates that in July U.S. LNG exports decreased 5.0 Bcf/d (62%) from their peak in January 2020.

Natural gas production has also fallen as producers have cut back on drilling and completion activities as a result of lower oil and natural gas prices. EIA estimates that U.S. natural gas production declined to 86.8 Bcf/d in July, down 9.5 Bcf/d from the peak in November 2019. The decrease in natural gas production and the increase in consumption for power generation contributed to lower-than-average natural gas injections into inventory in July. However, much more natural gas is currently in storage than average. For the week ending July 31, natural gas inventories were 3,274 billion cubic feet (Bcf), 429 Bcf (15%) higher than the five-year (2015–19) average.

Natural gas futures contract price spreads: The natural gas 1st–13th futures contract price spread fell to -$1.02/MMBtu on June 25, 2020 **(Figure 9)**, the lowest level since June 13, 2012. A negative 1st–13th futures price spread typically indicates that current inventories and supplies are ample to meet expected demand. This price spread declined in January and February 2020 after mild winter weather reduced natural gas demand, and it fell further in the spring after responses to the coronavirus pandemic lowered expectations for natural gas consumption and LNG exports. However, the 1st–13th futures price spread reversed course and increased sharply in the first week of August, settling -$0.52/MMBtu on August 6, 2020. Declining natural gas production and robust demand for natural gas for power generation contributed to higher near-term prices.

Figure 9. Natural gas 1st – 13th futures price spread

dollars per million British thermal units



eia Source: CME Group, as compiled by Bloomberg L.P.

Notable forecast changes

- Because of the rapidly changing situation in energy markets, the U.S. Energy Information Administration's (EIA) current forecast includes a significant number of notable forecast changes. You can find more information in the detailed table of forecast changes.

- EIA used the July 2020 IHS Markit macroeconomic forecast in this *Short-Term Energy Outlook* (STEO). The macroeconomic forecast assumes a smaller decline in U.S. gross domestic product (GDP) in 2020 of 6.1% compared with an assumed decline of 8.2% in the July STEO. EIA also assumes smaller increase in GDP in 2021 of 3.7% compared with 5.1% growth assumed in the previous forecast. In addition, the IHS forecast used in the August STEO includes average non-farm employment of 143.0 million for 2020 and 149.4 for 2021, up by 2.6 million jobs and 2.0 million jobs, respectively, from the previous forecast.

- EIA forecasts Brent crude oil spot prices will average $41 per barrel (b) in 2020 and $50/b in 2021 and West Texas Intermediate spot prices will average $39/b in 2020 and $46/b in 2021. The slight increase in 2020 prices reflect larger forecast stock draws in the second half of 2020.

- EIA expects U.S. consumption of petroleum and other liquid fuels will average 18.5 million barrels per day (b/d) in 2020 and 20.0 million b/d in 2021. The August STEO forecast is 120,000 b/d more in 2020 and 90,000 more in 2021 than the July STEO forecast. This August STEO reflects higher forecast consumption of gasoline, hydrocarbon gas liquids, and distillate. Higher assumed 2020 and 2021 employment levels in the August STEO, contribute to higher forecast gasoline consumption. Stronger assumed petrochemical industry growth and higher-than-anticipated ethane consumption data for May from EIA's *Petroleum Supply Monthly* contribute to higher forecast hydrocarbon gas liquids consumption in 2020 and

2021 in this STEO. Also, stronger assumed U.S. GDP growth for 2020 contributes to the higher distillate consumption forecast in the August STEO. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy supply and demand patterns in 2020.

- EIA estimates that liquefied natural gas (LNG) exports were 3.6 billion cubic feet per day (Bcf/d) in June (32 loaded cargoes) and 3.1 Bcf/d in July (28 loaded cargoes). Based on the available liquefaction capacity in operation, EIA estimates that about 46 cargoes were canceled in June and about 50 cargoes were canceled in July 2020, exceeding the reported number of canceled cargoes from earlier this summer for both months.
- EIA has extended its assumptions for the effect of increased working from home on retail sales of electricity to the commercial sector and the residential sector through the end of 2020. In previous STEO forecasts, this assumption only applied through the end of the third quarter of this year.
- EIA has increased the amount of electric power sector solar photovoltaic generating capacity expected to come online in 2021 to 12.2 gigawatts compared with expected additions of 11.4 gigawatts in the previous STEO. This change reflects new information received on the Form EIA-860 survey.
- EIA expects global consumption of petroleum and other liquid fuels will average 93.1 million b/d in 2020 and 100.2 million b/d in 2021. Those forecasts are 240,000 b/d and 290,000 b/d more, respectively, than in the July STEO. Factors driving the change in the forecast are adjustments to assumptions about lockdown restrictions in a number of countries and the construction of a number of new petrochemical crackers in China during the second half of 2020.

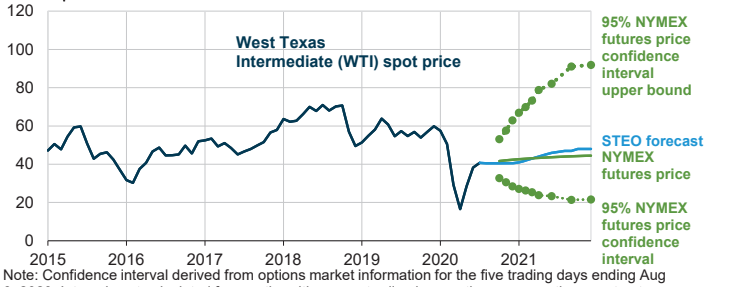
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

August 11, 2020

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

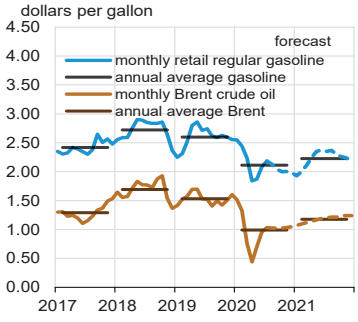


Note: Confidence interval derived from options market information for the five trading days ending Aug 6, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

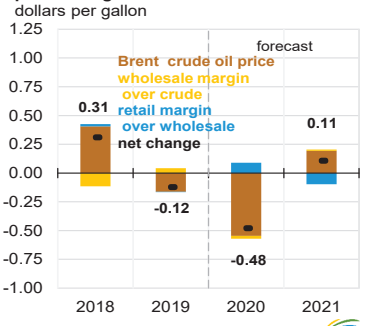
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020, CME Group, and Bloomberg, L.P.

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U.S. gasoline and crude oil prices
dollars per gallon



Components of annual gasoline price changes
dollars per gallon

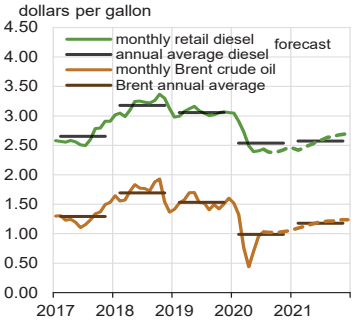


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

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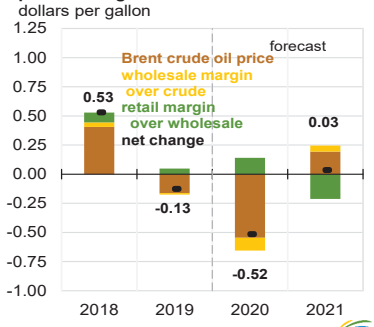
U.S. diesel and crude oil prices

dollars per gallon



Components of annual diesel prices changes

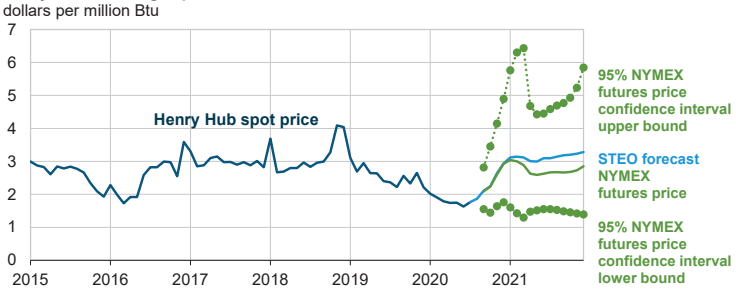
dollars per gallon



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

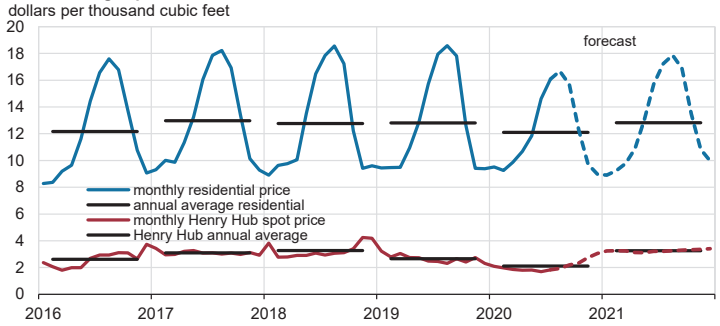


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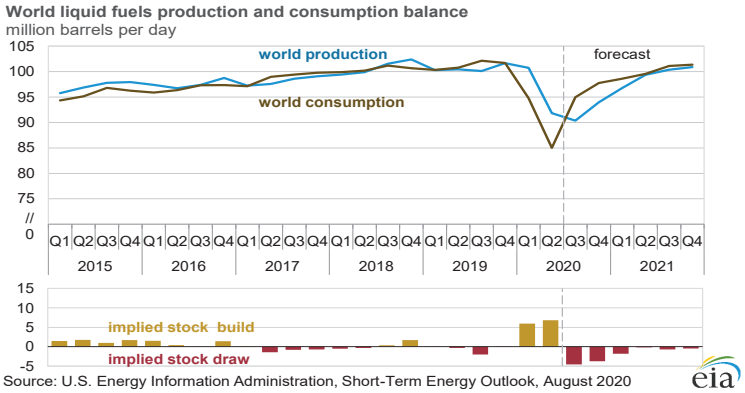
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020, and CME Group

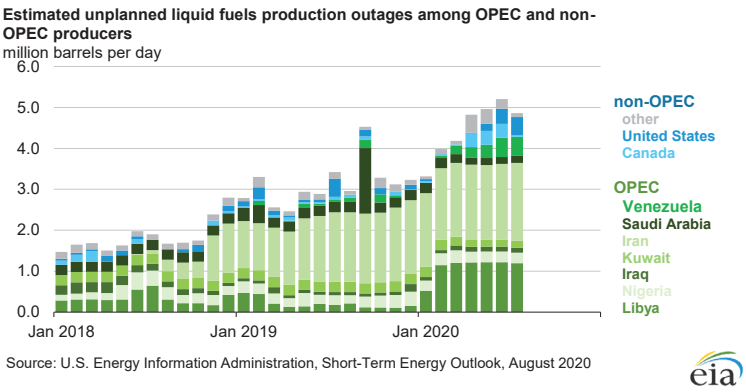
U.S. natural gas prices

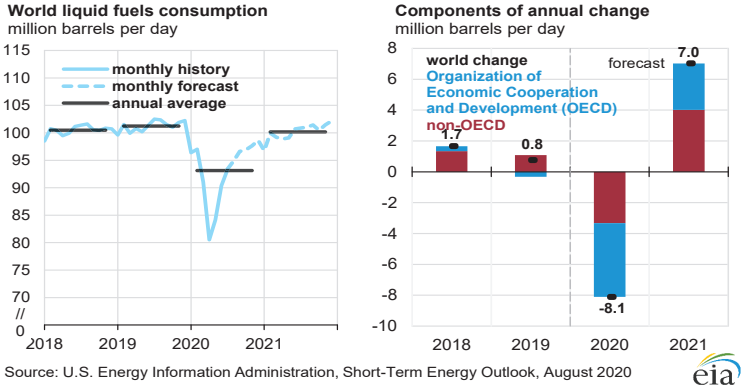
dollars per thousand cubic feet

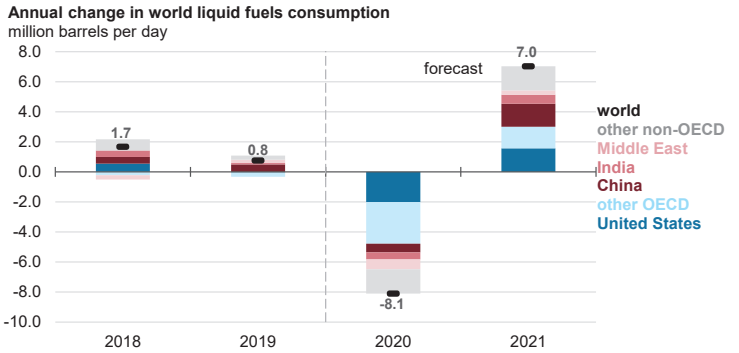


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020, and Refinitiv

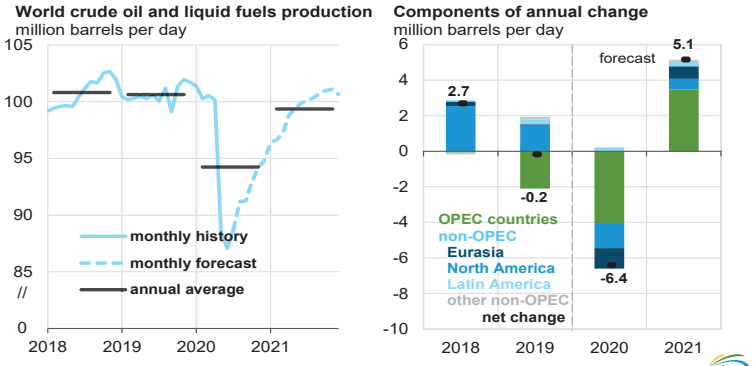

World liquid fuels production and consumption balance
million barrels per day
world production
world consumption
forecast
105
100
95
90
85
80
75
0
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2015 2016 2017 2018 2019 2020 2021
15
10
5
0
-5
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020
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Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jan 2018
Jan 2019
Jan 2020
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020
eia

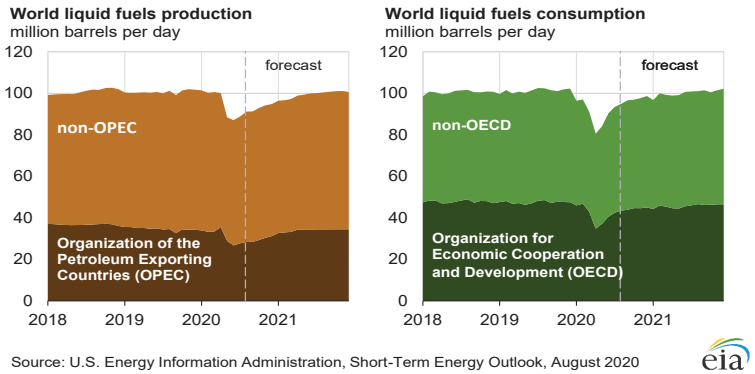

World liquid fuels consumption
million barrels per day
monthly history
monthly forecast
annual average
115
110
105
100
95
90
85
80
75
70
0
2018
2019
2020
2021
Components of annual change
million barrels per day
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
8
6
4
2
0
-2
-4
-6
-8
-10
1.7
0.8
-8.1
7.0
2018
2019
2020
2021
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

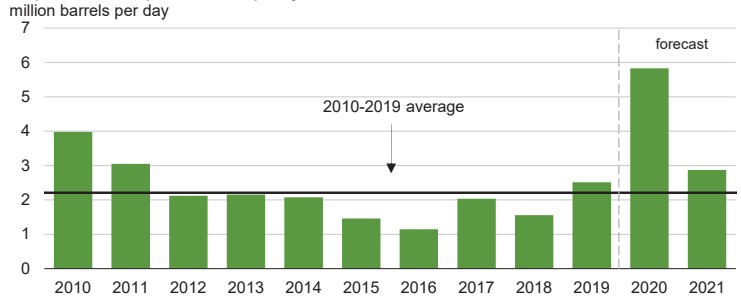


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



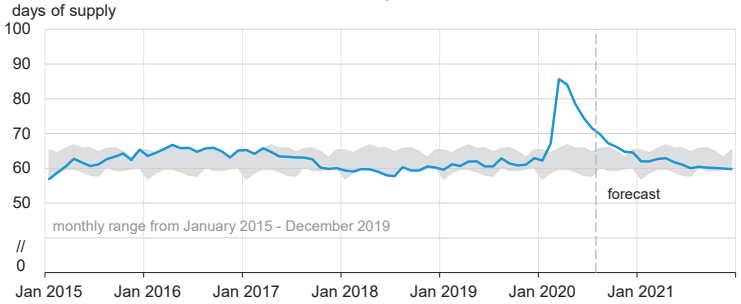
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



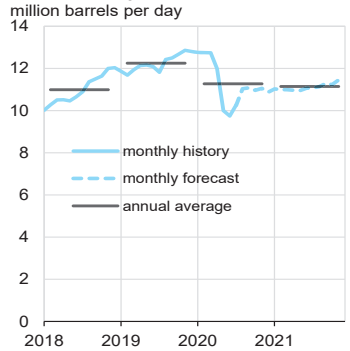
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

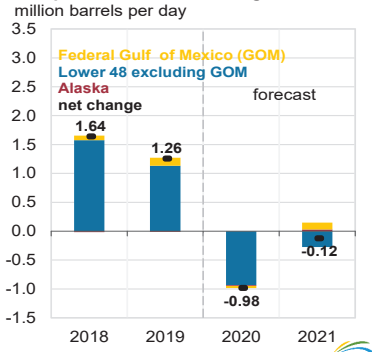


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. crude oil production
million barrels per day

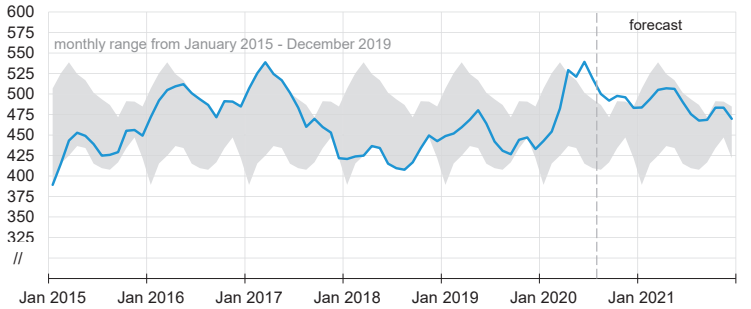


Components of annual change
million barrels per day



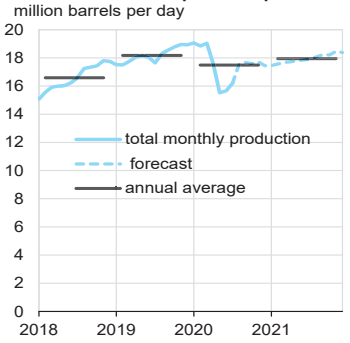
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. commercial crude oil inventories
million barrels

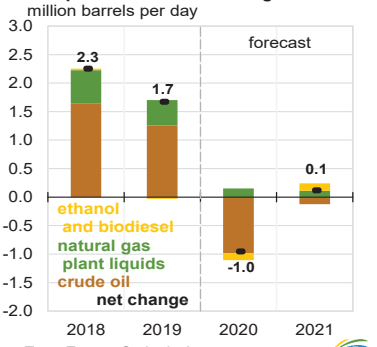


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. crude oil and liquid fuels production
million barrels per day

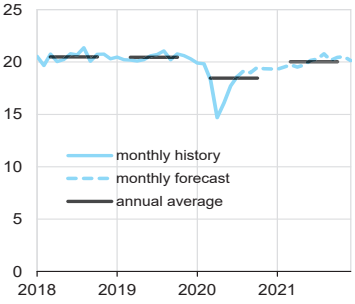


Components of annual change
million barrels per day

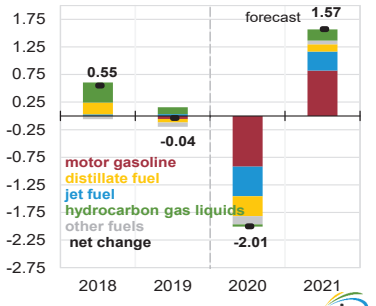


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August

U.S. liquid fuels product supplied (consumption)
million barrels per day

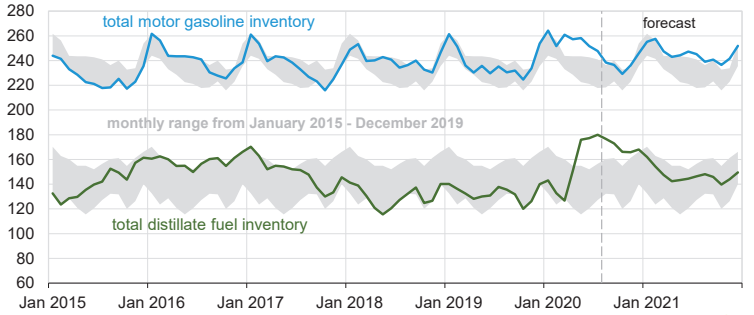


Components of annual change
million barrels per day



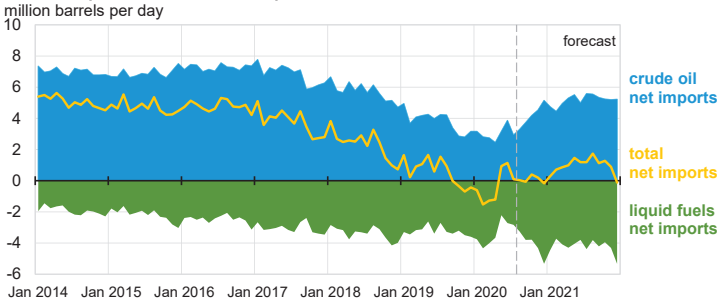
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. gasoline and distillate inventories
million barrels



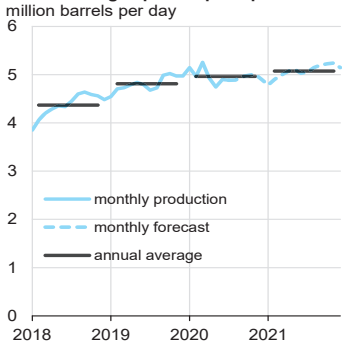
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. net imports of crude oil and liquid fuels
million barrels per day

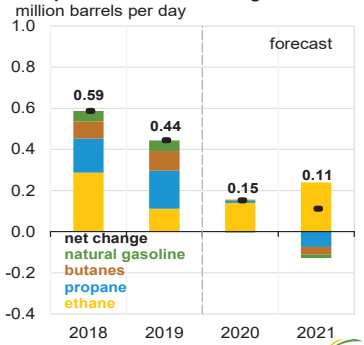


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

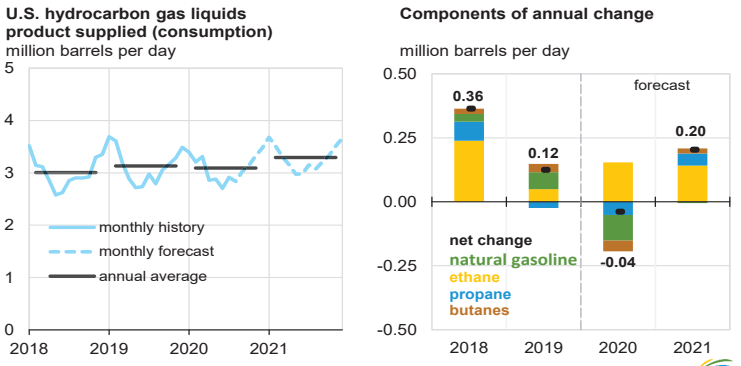
U.S. natural gas plant liquids production
million barrels per day



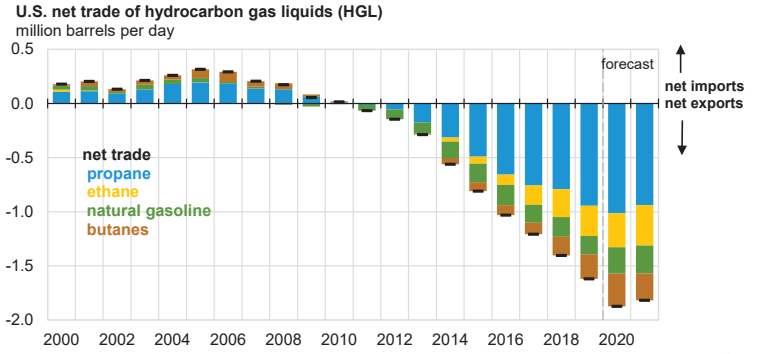
Components of annual change
million barrels per day



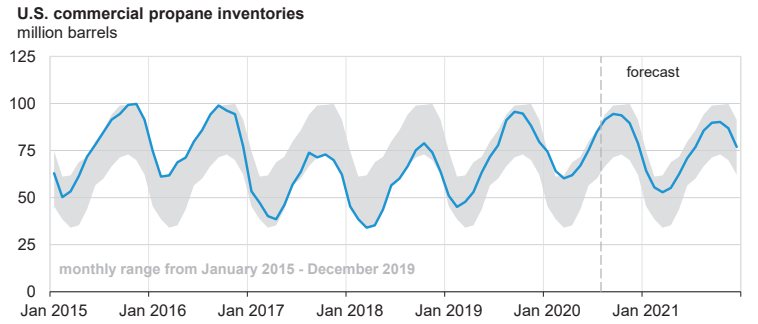
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

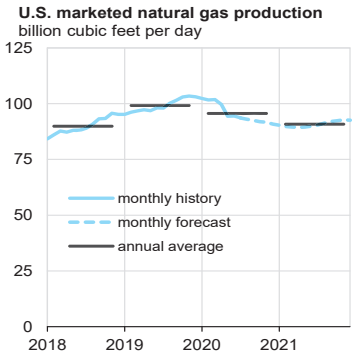


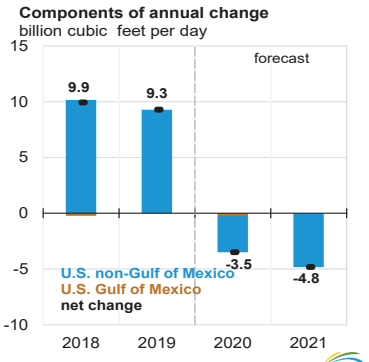
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



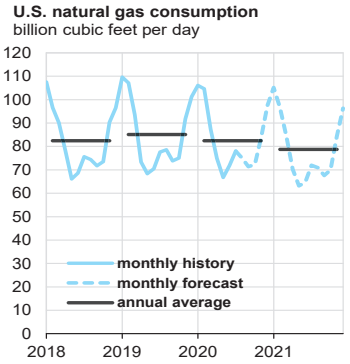
Note: Excludes refinery propylene.

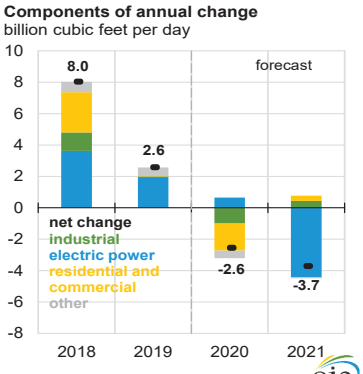
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



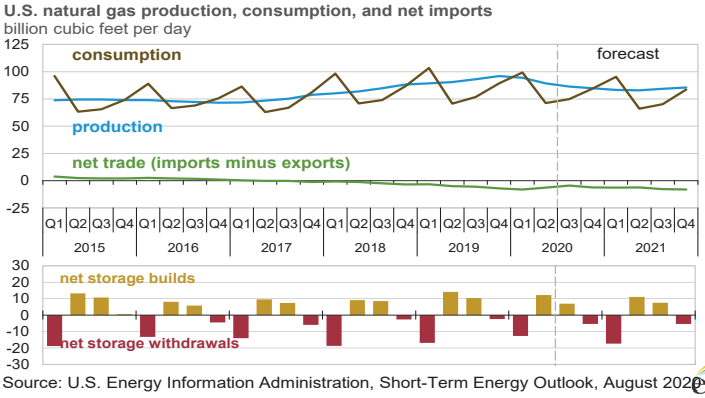


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

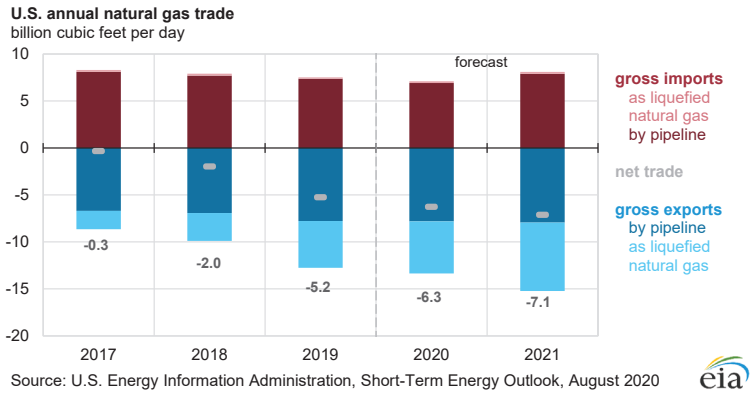




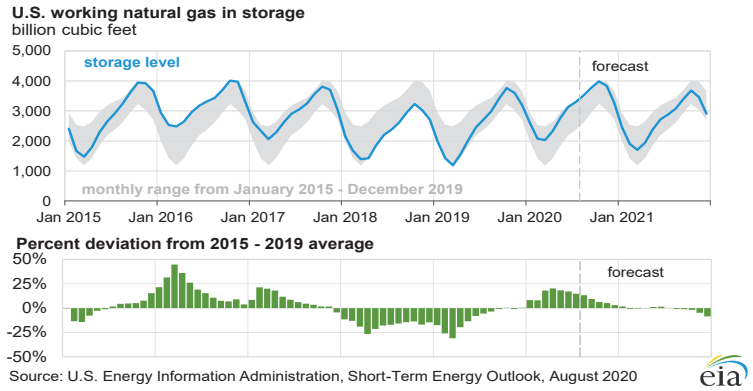
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



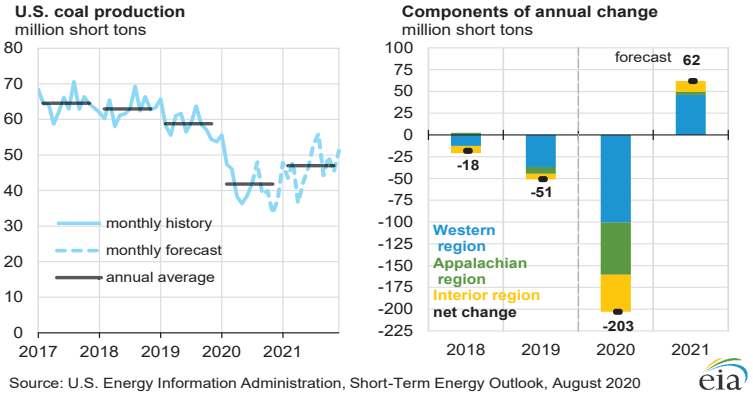
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



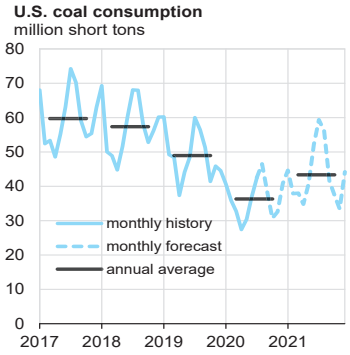
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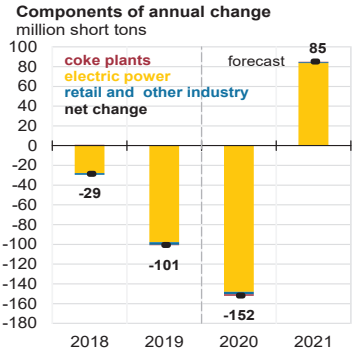


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

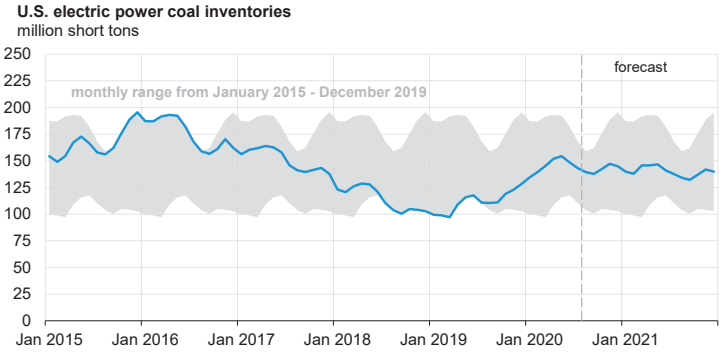


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

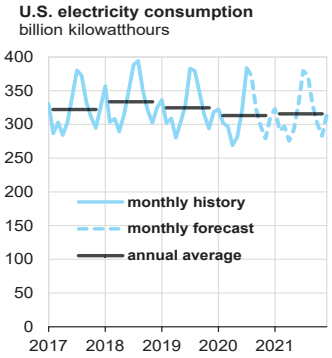


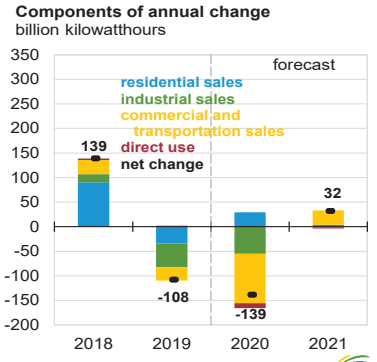


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

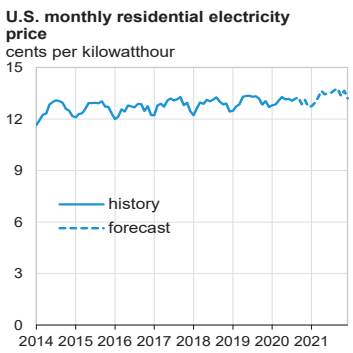


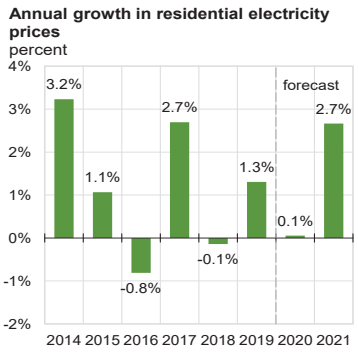
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



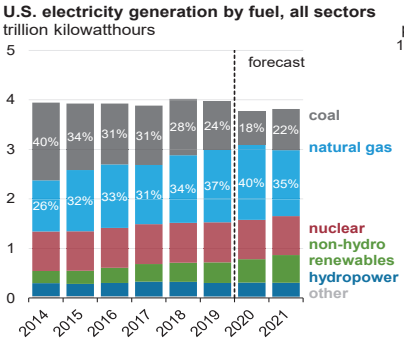


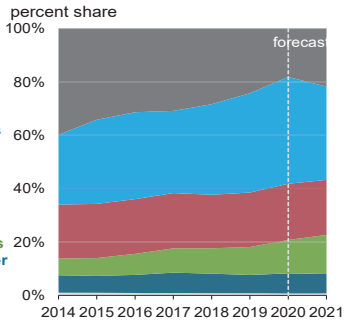
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



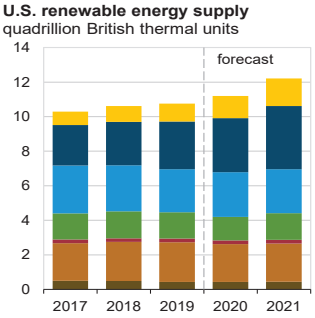


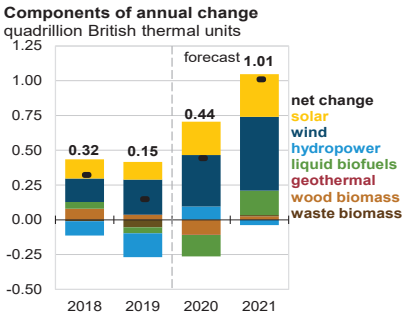
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020





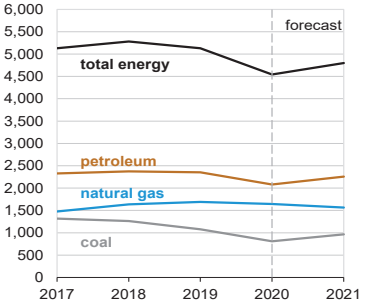
Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020



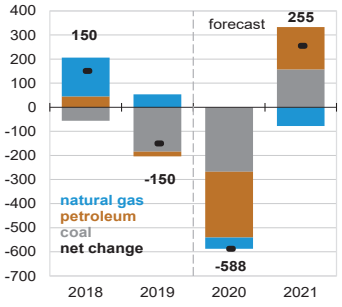


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. annual carbon emissions by source
million metric tons

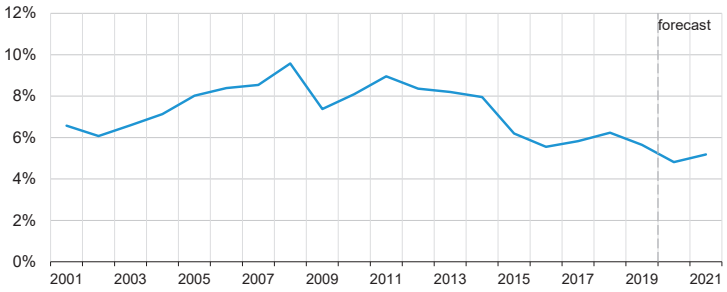


Components of annual change
million metric tons



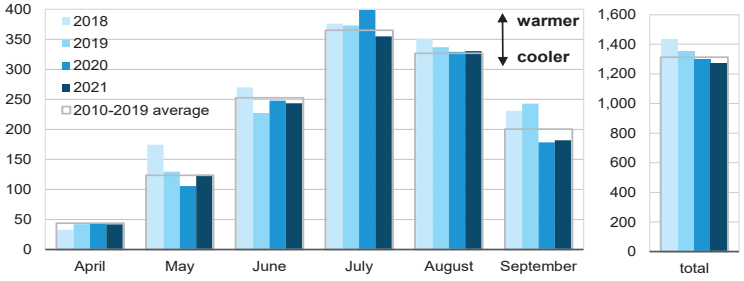
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. annual energy expenditures
share of gross domestic product



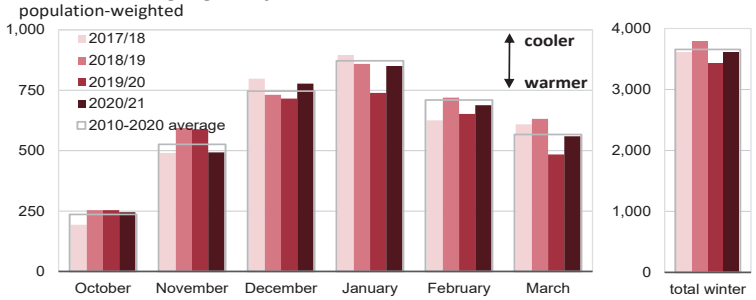
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

U.S. winter heating degree days
population-weighted

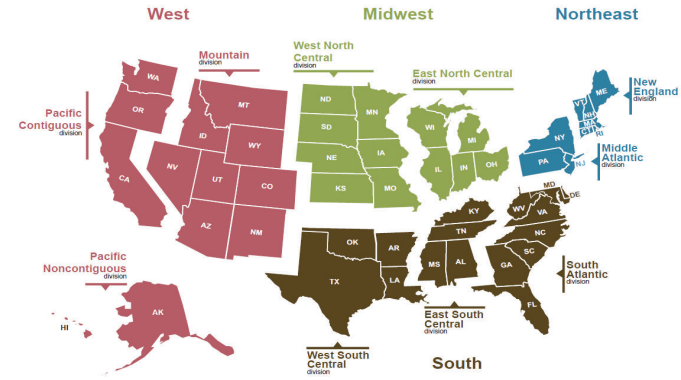


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2020

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.57**	*10.79*	*10.96*	*11.00*	*10.99*	*11.16*	*11.40*	**12.25**	*11.26*	*11.14*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**95.97**	**94.48**	**89.20**	*86.27*	*84.73*	*83.21*	*82.93*	*84.35*	*85.55*	**92.21**	*88.65*	*84.02*
Coal Production															
(million short tons)	**180**	**179**	**181**	**165**	**149**	**113**	*129*	*111*	*140*	*125*	*153*	*146*	**705**	*502*	*564*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.17**	*18.92*	*19.39*	*19.52*	*19.79*	*20.41*	*20.37*	**20.46**	*18.46*	*20.03*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**71.13**	*74.85*	*84.51*	*95.33*	*66.01*	*70.19*	*83.52*	**84.97**	*82.42*	*78.71*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**132**	**109**	**95**	*127*	*104*	*120*	*128*	*157*	*115*	**587**	*435*	*520*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.02**	**12.06**	**10.07**	**10.13**	**9.56**	*11.73*	*9.64*	*10.11*	*9.88*	*11.75*	*9.77*	**10.67**	*10.26*	*10.38*
Renewables (c)															
(quadrillion Btu)	**2.81**	**3.08**	**2.80**	**2.79**	**2.91**	**3.00**	*2.93*	*2.98*	*3.22*	*3.37*	*3.16*	*3.17*	**11.48**	*11.83*	*12.92*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.54**	**23.43**	**24.97**	**25.22**	**25.10**	**20.51**	*22.90*	*23.48*	*24.69*	*22.54*	*23.89*	*24.17*	**100.17**	*92.00*	*95.29*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	**27.78**	*40.57*	*40.50*	*42.07*	*45.00*	*46.83*	*48.00*	**57.02**	*38.50*	*45.53*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	*1.91*	*2.61*	*3.13*	*3.03*	*3.14*	*3.24*	**2.57**	*2.03*	*3.14*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.94**	*2.00*	*2.00*	*2.03*	*2.05*	*2.03*	*2.03*	**2.02**	*1.97*	*2.03*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**18,977**	**17,000**	*17,710*	*17,926*	*18,263*	*18,488*	*18,676*	*18,809*	**19,073**	*17,904*	*18,559*
Percent change from prior year	**2.7**	**2.3**	**2.1**	**2.3**	**0.3**	**-10.6**	*-7.4*	*-6.7*	*-3.8*	*8.8*	*5.5*	*4.9*	**2.3**	*-6.1*	*3.7*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	**113.2**	*113.6*	*113.7*	*113.9*	*114.2*	*114.6*	*115.0*	**112.3**	*113.5*	*114.4*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	**0.9**	*0.8*	*0.6*	*0.4*	*0.9*	*0.9*	*1.1*	**1.8**	*1.0*	*0.8*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,091**	**15,125**	**16,574**	*15,475*	*15,079*	*15,248*	*15,335*	*15,422*	*15,380*	**14,979**	*15,563*	*15,346*
Percent change from prior year	**3.3**	**3.0**	**2.7**	**2.6**	**1.7**	**11.0**	*3.1*	*-0.1*	*0.8*	*-7.5*	*-0.3*	*2.0*	**2.9**	*3.9*	*-1.4*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**104.3**	**89.0**	*96.4*	*99.1*	*102.4*	*104.6*	*106.1*	*107.1*	**106.0**	*97.2*	*105.1*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.0**	**-15.8**	*-9.0*	*-6.3*	*-1.8*	*17.5*	*10.1*	*8.0*	**0.0**	*-8.3*	*8.1*
Weather															
U.S. Heating Degree-Days	**2,210**	**480**	**56**	**1,558**	**1,875**	**539**	*68*	*1,515*	*2,098*	*482*	*71*	*1,508*	**4,304**	*3,998*	*4,160*
U.S. Cooling Degree-Days	**46**	**399**	**953**	**106**	**71**	**397**	*907*	*95*	*46*	*409*	*867*	*97*	**1,503**	*1,469*	*1,420*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109;
Petroleum Supply Annual , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130;
Electric Power Monthly , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.
Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.
Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.94**	**56.35**	**56.86**	**45.34**	**27.78**	*40.57*	*40.50*	*42.07*	*45.00*	*46.83*	*48.00*	**57.02**	*38.50*	*45.53*
Brent Spot Average	**63.14**	**69.07**	**61.90**	**63.30**	**49.97**	**29.34**	*43.08*	*43.50*	*46.07*	*49.00*	*50.83*	*52.00*	**64.37**	*41.42*	*49.53*
U.S. Imported Average	**55.35**	**62.98**	**57.30**	**55.57**	**43.76**	**28.19**	*39.12*	*38.34*	*39.57*	*42.38*	*44.08*	*45.00*	**57.97**	*37.37*	*42.87*
U.S. Refiner Average Acquisition Cost	**57.08**	**63.54**	**58.67**	**58.05**	**47.48**	**29.77**	*43.14*	*40.83*	*41.05*	*43.41*	*45.08*	*46.00*	**59.36**	*40.73*	*43.95*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**153**	**102**	*131*	*125*	*133*	*157*	*158*	*148*	**186**	*129*	*149*
Diesel Fuel	**192**	**203**	**192**	**197**	**160**	**98**	*128*	*132*	*139*	*153*	*161*	*165*	**196**	*130*	*155*
Heating Oil	**189**	**195**	**184**	**191**	**160**	**89**	*114*	*124*	*140*	*149*	*158*	*164*	**190**	*124*	*148*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**165**	**86**	*118*	*121*	*132*	*141*	*151*	*158*	**197**	*129*	*146*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**162**	**176**	**102**	*133*	*134*	*102*	*104*	*106*	*109*	**158**	*136*	*105*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	**194**	*212*	*199*	*202*	*233*	*234*	*222*	**260**	*212*	*223*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**251**	**204**	*222*	*212*	*215*	*246*	*247*	*236*	**269**	*223*	*236*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	**243**	*240*	*243*	*244*	*253*	*263*	*269*	**306**	*254*	*257*
Heating Oil	**300**	**305**	**290**	**301**	**280**	**200**	*215*	*236*	*244*	*248*	*258*	*274*	**300**	*246*	*257*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	*1.99*	*2.71*	*3.25*	*3.15*	*3.26*	*3.36*	**2.66**	*2.11*	*3.25*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	*1.91*	*2.61*	*3.13*	*3.03*	*3.14*	*3.24*	**2.57**	*2.03*	*3.14*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	**2.80**	*2.74*	*3.70*	*4.51*	*4.07*	*4.11*	*4.57*	**3.91**	*3.23*	*4.33*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	**7.63**	*7.79*	*7.11*	*7.35*	*8.10*	*8.69*	*8.03*	**7.62**	*7.31*	*7.83*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	**11.74**	*16.15*	*9.77*	*9.24*	*12.43*	*17.29*	*10.84*	**10.56**	*10.44*	*10.71*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.94**	*2.00*	*2.00*	*2.03*	*2.05*	*2.03*	*2.03*	**2.02**	*1.97*	*2.03*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.39**	**2.04**	*2.13*	*2.99*	*3.73*	*3.32*	*3.38*	*3.63*	**2.88**	*2.36*	*3.50*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**6.90**	*7.52*	*7.98*	*8.64*	*9.92*	*9.70*	*9.72*	**12.72**	*8.60*	*9.41*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.49**	*10.06*	*10.59*	*10.99*	*12.10*	*12.59*	*12.96*	**15.16**	*10.68*	*12.20*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.56**	*7.26*	*6.78*	*6.69*	*6.85*	*7.54*	*6.92*	**6.83**	*6.75*	*7.01*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.58**	*10.86*	*10.48*	*10.44*	*10.87*	*11.29*	*10.90*	**10.66**	*10.58*	*10.89*
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.20**	*13.16*	*12.88*	*12.96*	*13.52*	*13.65*	*13.38*	**13.04**	*13.04*	*13.39*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.06**	**31.32**	**31.47**	**32.75**	**32.92**	**28.89**	*29.34*	*30.42*	*30.58*	*30.73*	*31.06*	*31.78*	**31.66**	*30.39*	*31.04*
U.S. (50 States)	**18.87**	**19.35**	**19.44**	**20.20**	**20.22**	**17.31**	*18.00*	*18.38*	*18.37*	*18.62*	*18.84*	*19.16*	**19.47**	*18.48*	*18.75*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.64**	**4.82**	*4.73*	*5.29*	*5.39*	*5.47*	*5.52*	*5.74*	**5.50**	*5.12*	*5.53*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	*1.80*	*1.77*	*1.80*	*1.80*	*1.76*	*1.75*	**1.92**	*1.88*	*1.78*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.05**	**4.83**	*4.81*	*4.98*	*5.02*	*4.84*	*4.93*	*5.13*	**4.77**	*4.92*	*4.98*
Non-OECD	**69.24**	**69.12**	**68.65**	**68.92**	**67.82**	**62.94**	*61.04*	*63.56*	*66.19*	*68.63*	*69.33*	*69.12*	**68.98**	*63.83*	*68.33*
OPEC	**35.41**	**34.94**	**33.90**	**34.36**	**33.57**	**30.38**	*28.19*	*30.34*	*32.99*	*34.40*	*34.47*	*34.49*	**34.65**	*30.61*	*34.09*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	*23.50*	*25.61*	*28.16*	*29.63*	*29.71*	*29.73*	**29.27**	*25.75*	*29.31*
Other Liquids (b)	**5.47**	**5.47**	**5.24**	**5.34**	**5.29**	**4.74**	*4.69*	*4.72*	*4.83*	*4.77*	*4.76*	*4.77*	**5.38**	*4.86*	*4.78*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.74**	**13.19**	*12.73*	*13.20*	*13.73*	*14.13*	*14.30*	*14.44*	**14.63**	*13.46*	*14.15*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.95**	**4.93**	*4.90*	*4.95*	*4.88*	*4.92*	*4.93*	*4.97*	**4.89**	*4.93*	*4.93*
Other Non-OECD	**14.08**	**14.84**	**15.28**	**15.03**	**14.56**	**14.44**	*15.21*	*15.07*	*14.58*	*15.19*	*15.63*	*15.22*	**14.81**	*14.82*	*15.16*
Total World Supply	**100.30**	**100.44**	**100.12**	**101.68**	**100.74**	**91.84**	*90.38*	*93.98*	*96.77*	*99.37*	*100.39*	*100.90*	**100.64**	*94.22*	*99.37*
Non-OPEC Supply	**64.89**	**65.50**	**66.22**	**67.32**	**67.17**	**61.46**	*62.19*	*63.64*	*63.77*	*64.97*	*65.91*	*66.41*	**65.99**	*63.61*	*65.28*
Consumption (million barrels per day) (c)															
OECD	**47.48**	**46.81**	**48.03**	**47.64**	**45.22**	**37.50**	*43.29*	*44.80*	*45.18*	*44.90*	*46.30*	*46.47*	**47.49**	*42.71*	*45.72*
U.S. (50 States)	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.17**	*18.92*	*19.39*	*19.52*	*19.79*	*20.41*	*20.37*	**20.46**	*18.46*	*20.03*
U.S. Territories	**0.18**	**0.16**	**0.16**	**0.17**	**0.15**	**0.13**	*0.14*	*0.15*	*0.16*	*0.14*	*0.15*	*0.16*	**0.17**	*0.15*	*0.15*
Canada	**2.31**	**2.32**	**2.57**	**2.49**	**2.33**	**1.86**	*2.21*	*2.29*	*2.36*	*2.31*	*2.41*	*2.39*	**2.42**	*2.17*	*2.37*
Europe	**14.04**	**14.18**	**14.66**	**14.06**	**13.34**	**11.01**	*13.02*	*13.22*	*13.14*	*13.43*	*13.97*	*13.73*	**14.24**	*12.65*	*13.57*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.82**	*3.03*	*3.43*	*3.65*	*3.02*	*3.11*	*3.43*	**3.65**	*3.24*	*3.30*
Other OECD	**6.61**	**6.46**	**6.54**	**6.61**	**6.38**	**5.50**	*5.97*	*6.32*	*6.35*	*6.21*	*6.25*	*6.40*	**6.55**	*6.05*	*6.30*
Non-OECD	**52.84**	**53.97**	**54.11**	**54.07**	**49.55**	**47.51**	*51.67*	*52.94*	*53.41*	*54.66*	*54.81*	*54.89*	**53.75**	*50.43*	*54.45*
Eurasia	**5.07**	**5.13**	**5.52**	**5.37**	**4.86**	**4.48**	*5.29*	*5.23*	*5.02*	*5.09*	*5.49*	*5.35*	**5.27**	*4.97*	*5.24*
Europe	**0.77**	**0.76**	**0.78**	**0.78**	**0.72**	**0.71**	*0.73*	*0.74*	*0.74*	*0.74*	*0.75*	*0.76*	**0.77**	*0.73*	*0.75*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.26**	**13.39**	*14.27*	*14.83*	*15.37*	*15.61*	*15.33*	*15.58*	**14.51**	*13.94*	*15.47*
Other Asia	**13.96**	**14.13**	**13.75**	**14.09**	**13.28**	**11.93**	*12.99*	*13.81*	*14.30*	*14.49*	*14.08*	*14.46*	**13.98**	*13.00*	*14.33*
Other Non-OECD	**18.59**	**19.31**	**19.70**	**19.24**	**17.43**	**16.99**	*18.39*	*18.34*	*17.98*	*18.72*	*19.15*	*18.75*	**19.21**	*17.79*	*18.65*
Total World Consumption	**100.32**	**100.78**	**102.14**	**101.71**	**94.77**	**85.01**	*94.96*	*97.74*	*98.60*	*99.56*	*101.10*	*101.36*	**101.25**	*93.14*	*100.16*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.26**	**-0.64**	**0.05**	**0.29**	**-0.43**	**-1.76**	*0.57*	*0.72*	*0.32*	*-0.26*	*-0.01*	*0.37*	**-0.01**	*-0.22*	*0.10*
Other OECD	**-0.20**	**0.01**	**-0.16**	**0.24**	**-0.56**	**-0.53**	*1.29*	*0.99*	*0.49*	*0.14*	*0.23*	*0.03*	**-0.03**	*0.30*	*0.22*
Other Stock Draws and Balance	**-0.03**	**0.97**	**2.13**	**-0.49**	**-4.98**	**-4.54**	*2.73*	*2.06*	*1.02*	*0.31*	*0.49*	*0.06*	**0.65**	*-1.16*	*0.47*
Total Stock Draw	**0.02**	**0.34**	**2.02**	**0.04**	**-5.97**	**-6.83**	*4.58*	*3.76*	*1.83*	*0.19*	*0.72*	*0.45*	**0.61**	*-1.08*	*0.79*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,321**	**1,460**	*1,413*	*1,358*	*1,340*	*1,366*	*1,368*	*1,337*	**1,282**	*1,358*	*1,337*
OECD Commercial Inventory	**2,860**	**2,921**	**2,932**	**2,893**	**2,983**	**3,170**	*3,005*	*2,859*	*2,797*	*2,810*	*2,791*	*2,757*	**2,893**	*2,859*	*2,757*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.22**	**26.73**	**26.84**	**27.77**	**27.86**	**24.07**	*24.54*	*25.44*	*25.55*	*25.90*	*26.12*	*26.65*	**26.89**	*25.47*	*26.06*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.64**	**4.82**	*4.73*	*5.29*	*5.39*	*5.47*	*5.52*	*5.74*	**5.50**	*5.12*	*5.53*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	*1.80*	*1.77*	*1.80*	*1.80*	*1.76*	*1.75*	**1.92**	*1.88*	*1.78*
United States	**18.87**	**19.35**	**19.44**	**20.20**	**20.22**	**17.31**	*18.00*	*18.38*	*18.37*	*18.62*	*18.84*	*19.16*	**19.47**	*18.48*	*18.75*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**6.04**	**6.09**	*6.86*	*6.61*	*6.09*	*6.76*	*7.20*	*6.80*	**6.23**	*6.40*	*6.72*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.67**	**0.59**	*0.67*	*0.67*	*0.66*	*0.61*	*0.68*	*0.67*	**0.69**	*0.65*	*0.65*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.43**	**3.88**	*4.31*	*4.01*	*3.51*	*4.33*	*4.70*	*4.28*	**3.67**	*3.91*	*4.21*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	**0.80**	*0.84*	*0.88*	*0.87*	*0.80*	*0.82*	*0.85*	**0.92**	*0.86*	*0.83*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	**0.35**	*0.53*	*0.53*	*0.52*	*0.51*	*0.49*	*0.48*	**0.53**	*0.49*	*0.50*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.49**	**0.46**	*0.52*	*0.53*	*0.52*	*0.51*	*0.52*	*0.52*	**0.42**	*0.50*	*0.52*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.40**	**4.31**	*4.26*	*4.41*	*4.46*	*4.27*	*4.37*	*4.58*	**4.12**	*4.34*	*4.42*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.06**	**2.01**	*1.97*	*2.07*	*2.13*	*2.09*	*2.13*	*2.23*	**1.75**	*2.03*	*2.14*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.17**	**1.18**	*1.12*	*1.17*	*1.16*	*1.03*	*1.09*	*1.18*	**1.17**	*1.16*	*1.11*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.74**	**13.19**	*12.73*	*13.20*	*13.73*	*14.13*	*14.30*	*14.44*	**14.63**	*13.46*	*14.15*
Azerbaijan	**0.81**	**0.78**	**0.77**	**0.76**	**0.77**	**0.69**	*0.67*	*0.70*	*0.72*	*0.74*	*0.75*	*0.75*	**0.78**	*0.71*	*0.74*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	**1.86**	*1.77*	*1.87*	*1.97*	*1.91*	*1.94*	*1.98*	**1.97**	*1.89*	*1.95*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.53**	**10.24**	*9.90*	*10.24*	*10.67*	*11.12*	*11.25*	*11.35*	**11.49**	*10.48*	*11.10*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.24**	**0.25**	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.13**	**3.13**	**3.13**	**3.14**	**3.22**	**3.18**	*3.14*	*3.18*	*3.28*	*3.28*	*3.30*	*3.30*	**3.13**	*3.18*	*3.29*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	**1.01**	**0.95**	*0.90*	*0.95*	*1.01*	*1.01*	*1.03*	*1.03*	**0.98**	*0.95*	*1.02*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	**2.06**	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.48**	**9.51**	**9.37**	**9.47**	**9.45**	**9.18**	*9.22*	*9.36*	*9.28*	*9.26*	*9.24*	*9.28*	**9.46**	*9.30*	*9.26*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.50**	**0.50**	*0.52*	*0.53*	*0.52*	*0.52*	*0.51*	*0.50*	**0.49**	*0.51*	*0.51*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.95**	**4.93**	*4.90*	*4.95*	*4.88*	*4.92*	*4.93*	*4.97*	**4.89**	*4.93*	*4.93*
India	**1.01**	**0.99**	**0.98**	**0.99**	**0.98**	**0.89**	*0.90*	*0.91*	*0.91*	*0.89*	*0.88*	*0.89*	**0.99**	*0.92*	*0.89*
Indonesia	**0.93**	**0.94**	**0.92**	**0.91**	**0.89**	**0.88**	*0.89*	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	**0.93**	*0.88*	*0.85*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.73**	**0.58**	*0.59*	*0.64*	*0.65*	*0.64*	*0.64*	*0.63*	**0.71**	*0.63*	*0.64*
Vietnam	**0.25**	**0.25**	**0.23**	**0.22**	**0.22**	**0.23**	*0.23*	*0.23*	*0.23*	*0.22*	*0.22*	*0.21*	**0.24**	*0.23*	*0.22*
Africa	**1.50**	**1.52**	**1.55**	**1.54**	**1.45**	**1.44**	*1.44*	*1.44*	*1.38*	*1.37*	*1.36*	*1.37*	**1.53**	*1.44*	*1.37*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	**0.60**	**0.61**	*0.61*	*0.61*	*0.57*	*0.57*	*0.57*	*0.57*	**0.65**	*0.61*	*0.57*
South Sudan	**0.15**	**0.16**	**0.18**	**0.18**	**0.18**	**0.15**	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.17*	*0.17*
Total non-OPEC liquids	**64.89**	**65.50**	**66.22**	**67.32**	**67.17**	**61.46**	*62.19*	*63.64*	*63.77*	*64.97*	*65.91*	*66.41*	**65.99**	*63.61*	*65.28*
OPEC non-crude liquids	**5.47**	**5.47**	**5.24**	**5.34**	**5.29**	**4.74**	*4.69*	*4.72*	*4.83*	*4.77*	*4.76*	*4.77*	**5.38**	*4.86*	*4.78*
Non-OPEC + OPEC non-crude	**70.36**	**70.97**	**71.47**	**72.66**	**72.46**	**66.20**	*66.88*	*68.37*	*68.61*	*69.74*	*70.68*	*71.18*	**71.37**	*68.47*	*70.06*
Unplanned non-OPEC Production Outages	**0.35**	**0.26**	**0.39**	**0.31**	**0.15**	**0.87**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.33**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.02**	**0.90**	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	**1.26**	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	**0.29**	-	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	**0.12**	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.19**	**0.18**	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	**1.97**	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	**4.16**	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	**2.48**	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	**0.08**	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.72**	**1.55**	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	**9.28**	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	**2.88**	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	**0.50**	-	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	*23.50*	*25.61*	*28.16*	*29.63*	*29.71*	*29.73*	**29.27**	*25.75*	*29.31*
Other Liquids (a)	**5.47**	**5.47**	**5.24**	**5.34**	**5.29**	**4.74**	*4.69*	*4.72*	*4.83*	*4.77*	*4.76*	*4.77*	**5.38**	*4.86*	*4.78*
Total OPEC Supply	**35.41**	**34.94**	**33.90**	**34.36**	**33.57**	**30.38**	*28.19*	*30.34*	*32.99*	*34.40*	*34.47*	*34.49*	**34.65**	*30.61*	*34.09*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	**26.02**	*26.06*	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.97*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.82**	**5.60**	*5.48*	*5.56*	*5.68*	*5.93*	*6.00*	*6.02*	**6.66**	*5.61*	*5.91*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.43**	**31.63**	*31.54*	*31.73*	*31.94*	*32.22*	*32.28*	*32.30*	**31.78**	*31.58*	*32.18*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.27**	*6.92*	*5.43*	*3.67*	*2.49*	*2.48*	*2.48*	**2.52**	*5.20*	*2.77*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	*1.11*	*0.69*	*0.12*	*0.10*	*0.09*	*0.09*	**0.00**	*0.63*	*0.10*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.99**	*8.04*	*6.11*	*3.78*	*2.59*	*2.57*	*2.57*	**2.52**	*5.83*	*2.87*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	**4.13**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

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	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.68**	**24.71**	**25.31**	**25.06**	**23.61**	**19.63**	*22.92*	*23.59*	*23.76*	*24.01*	*24.72*	*24.67*	**24.94**	*22.44*	*24.29*
Canada	**2.31**	**2.32**	**2.57**	**2.49**	**2.33**	**1.86**	*2.21*	*2.29*	*2.36*	*2.31*	*2.41*	*2.39*	**2.42**	*2.17*	*2.37*
Mexico	**2.07**	**2.07**	**2.06**	**1.99**	**1.94**	**1.60**	*1.78*	*1.90*	*1.88*	*1.90*	*1.89*	*1.90*	**2.05**	*1.80*	*1.89*
United States	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.17**	*18.92*	*19.39*	*19.52*	*19.79*	*20.41*	*20.37*	**20.46**	*18.46*	*20.03*
Central and South America	**6.70**	**6.82**	**6.92**	**6.92**	**6.20**	**5.82**	*6.31*	*6.51*	*6.46*	*6.63*	*6.76*	*6.78*	**6.84**	*6.21*	*6.66*
Brazil	**3.03**	**3.10**	**3.19**	**3.18**	**2.78**	**2.53**	*2.87*	*2.99*	*2.93*	*3.01*	*3.11*	*3.12*	**3.13**	*2.79*	*3.05*
Europe	**14.81**	**14.94**	**15.44**	**14.85**	**14.06**	**11.72**	*13.76*	*13.96*	*13.88*	*14.18*	*14.73*	*14.49*	**15.01**	*13.38*	*14.32*
Eurasia	**5.07**	**5.13**	**5.52**	**5.37**	**4.86**	**4.48**	*5.29*	*5.23*	*5.02*	*5.09*	*5.49*	*5.35*	**5.27**	*4.97*	*5.24*
Russia	**3.64**	**3.74**	**4.04**	**3.89**	**3.50**	**3.18**	*3.88*	*3.81*	*3.65*	*3.75*	*4.07*	*3.92*	**3.83**	*3.60*	*3.85*
Middle East	**8.09**	**8.65**	**9.02**	**8.37**	**7.57**	**7.54**	*8.46*	*7.97*	*7.73*	*8.28*	*8.67*	*8.04*	**8.53**	*7.89*	*8.18*
Asia and Oceania	**36.47**	**36.01**	**35.50**	**36.51**	**34.14**	**31.59**	*33.97*	*36.00*	*37.29*	*36.92*	*36.36*	*37.47*	**36.12**	*33.93*	*37.01*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.26**	**13.39**	*14.27*	*14.83*	*15.37*	*15.61*	*15.33*	*15.58*	**14.51**	*13.94*	*15.47*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.82**	*3.03*	*3.43*	*3.65*	*3.02*	*3.11*	*3.43*	**3.65**	*3.24*	*3.30*
India	**4.89**	**4.95**	**4.66**	**4.94**	**4.63**	**3.77**	*4.34*	*4.79*	*5.01*	*5.08*	*4.75*	*5.05*	**4.86**	*4.38*	*4.97*
Africa	**4.50**	**4.52**	**4.44**	**4.63**	**4.34**	**4.22**	*4.26*	*4.49*	*4.44*	*4.46*	*4.38*	*4.57*	**4.52**	*4.33*	*4.46*
Total OECD Liquid Fuels Consumption	**47.48**	**46.81**	**48.03**	**47.64**	**45.22**	**37.50**	*43.29*	*44.80*	*45.18*	*44.90*	*46.30*	*46.47*	**47.49**	*42.71*	*45.72*
Total non-OECD Liquid Fuels Consumption	**52.84**	**53.97**	**54.11**	**54.07**	**49.55**	**47.51**	*51.67*	*52.94*	*53.41*	*54.66*	*54.81*	*54.89*	**53.75**	*50.43*	*54.45*
Total World Liquid Fuels Consumption	**100.32**	**100.78**	**102.14**	**101.71**	**94.77**	**85.01**	*94.96*	*97.74*	*98.60*	*99.56*	*101.10*	*101.36*	**101.25**	*93.14*	*100.16*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.0**	**112.8**	**112.8**	**112.4**	**109.0**	**102.3**	*106.8*	*108.6*	*110.9*	*112.4*	*113.3*	*114.0*	**112.5**	*106.7*	*112.6*
Percent change from prior year	**2.4**	**2.2**	**1.9**	**1.4**	**-2.7**	**-9.3**	*-5.3*	*-3.4*	*1.7*	*9.9*	*6.1*	*5.0*	**2.0**	*-5.2*	*5.6*
OECD Index, 2015 Q1 = 100	**108.9**	**109.8**	**110.0**	**109.4**	**108.1**	**97.6**	*103.5*	*104.7*	*106.6*	*108.2*	*109.1*	*109.5*	**109.5**	*103.5*	*108.4*
Percent change from prior year	**1.9**	**1.8**	**1.8**	**1.5**	**-0.8**	**-11.1**	*-5.9*	*-4.3*	*-1.4*	*10.9*	*5.4*	*4.6*	**1.7**	*-5.5*	*4.7*
Non-OECD Index, 2015 Q1 = 100	**115.0**	**115.6**	**115.5**	**115.3**	**109.9**	**107.0**	*109.9*	*112.4*	*115.0*	*116.5*	*117.4*	*118.4*	**115.3**	*109.8*	*116.8*
Percent change from prior year	**2.8**	**2.5**	**2.0**	**1.4**	**-4.4**	**-7.5**	*-4.8*	*-2.5*	*4.7*	*8.9*	*6.8*	*5.4*	**2.2**	*-4.8*	*6.4*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.37**	**106.01**	**106.51**	**106.34**	**106.91**	**108.76**	*108.02*	*107.33*	*106.50*	*106.11*	*105.71*	*105.12*	**106.06**	*107.75*	*105.86*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.0**	**1.5**	**2.6**	*1.4*	*0.9*	*-0.4*	*-2.4*	*-2.1*	*-2.1*	**2.1**	*1.6*	*-1.8*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.57**	*10.79*	*10.96*	*11.00*	*10.99*	*11.16*	*11.40*	**12.25**	*11.26*	*11.14*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.48**	**0.41**	*0.45*	*0.49*	*0.50*	*0.48*	*0.46*	*0.49*	**0.47**	*0.45*	*0.48*
Federal Gulf of Mexico (b)	**1.86**	**1.93**	**1.83**	**1.96**	**1.96**	**1.69**	*1.82*	*1.97*	*2.04*	*2.01*	*1.93*	*1.95*	**1.90**	*1.86*	*1.98*
Lower 48 States (excl GOM)	**9.48**	**9.73**	**9.99**	**10.33**	**10.31**	**8.47**	*8.52*	*8.51*	*8.47*	*8.50*	*8.78*	*8.95*	**9.89**	*8.95*	*8.68*
Crude Oil Net Imports (c)	**4.25**	**4.14**	**3.95**	**2.94**	**2.90**	**3.15**	*3.31*	*4.62*	*4.72*	*5.27*	*5.49*	*5.21*	**3.82**	*3.50*	*5.17*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	**-0.23**	*0.06*	*0.12*	*0.12*	*0.03*	*0.01*	*0.03*	**0.04**	*-0.01*	*0.05*
Commercial Inventory Net Withdrawals	**-0.19**	**-0.05**	**0.41**	**-0.07**	**-0.54**	**-0.62**	*0.51*	*0.10*	*-0.24*	*0.16*	*0.24*	*-0.01*	**0.03**	*-0.14*	*0.04*
Crude Oil Adjustment (d)	**0.31**	**0.50**	**0.36**	**0.56**	**0.67**	**0.33**	*0.33*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.43**	*0.37*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.97**	**16.32**	**15.77**	**13.20**	*15.00*	*15.95*	*15.82*	*16.67*	*17.12*	*16.79*	**16.56**	*14.98*	*16.60*
Other Supply															
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.02**	**0.85**	*1.02*	*1.12*	*1.11*	*1.16*	*1.14*	*1.14*	**1.08**	*1.01*	*1.14*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.80**	**4.99**	**5.12**	**4.86**	*4.91*	*4.97*	*4.89*	*5.07*	*5.13*	*5.20*	**4.81**	*4.96*	*5.08*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.11**	**0.82**	*1.07*	*1.11*	*1.15*	*1.18*	*1.18*	*1.19*	**1.12**	*1.03*	*1.18*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	**0.71**	*0.93*	*0.97*	*1.00*	*1.01*	*1.02*	*1.02*	**1.03**	*0.91*	*1.01*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	**0.20**	*0.21*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.21**	*0.21*	*0.22*
Product Net Imports (c)	**-3.30**	**-3.04**	**-3.13**	**-3.43**	**-4.03**	**-2.86**	*-3.29*	*-4.48*	*-4.10*	*-4.05*	*-4.14*	*-4.53*	**-3.22**	*-3.67*	*-4.21*
Hydrocarbon Gas Liquids	**-1.33**	**-1.65**	**-1.66**	**-1.83**	**-1.99**	**-1.86**	*-1.85*	*-1.80*	*-1.71*	*-1.87*	*-1.84*	*-1.84*	**-1.62**	*-1.87*	*-1.82*
Unfinished Oils	**0.21**	**0.47**	**0.47**	**0.50**	**0.31**	**0.26**	*0.43*	*0.37*	*0.35*	*0.45*	*0.44*	*0.32*	**0.41**	*0.34*	*0.39*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.10**	**-0.06**	*-0.10*	*-0.11*	*-0.14*	*-0.13*	*-0.12*	*-0.14*	**-0.06**	*-0.09*	*-0.13*
Motor Gasoline Blend Comp.	**0.43**	**0.79**	**0.70**	**0.46**	**0.39**	**0.35**	*0.39*	*0.19*	*0.47*	*0.71*	*0.48*	*0.20*	**0.60**	*0.33*	*0.46*
Finished Motor Gasoline	**-0.82**	**-0.63**	**-0.62**	**-0.87**	**-0.72**	**-0.36**	*-0.26*	*-0.53*	*-0.65*	*-0.69*	*-0.63*	*-0.74*	**-0.74**	*-0.47*	*-0.68*
Jet Fuel	**-0.08**	**-0.01**	**-0.05**	**-0.09**	**-0.07**	**0.09**	*-0.05*	*-0.23*	*-0.22*	*-0.18*	*-0.03*	*-0.10*	**-0.06**	*-0.07*	*-0.13*
Distillate Fuel Oil	**-0.91**	**-1.29**	**-1.30**	**-0.99**	**-1.19**	**-0.85**	*-1.31*	*-1.42*	*-1.34*	*-1.45*	*-1.51*	*-1.30*	**-1.12**	*-1.19*	*-1.40*
Residual Fuel Oil	**-0.08**	**-0.15**	**-0.08**	**-0.03**	**-0.02**	**0.04**	*-0.04*	*-0.03*	*-0.06*	*-0.14*	*-0.12*	*-0.02*	**-0.08**	*-0.01*	*-0.08*
Other Oils (g)	**-0.64**	**-0.50**	**-0.52**	**-0.54**	**-0.65**	**-0.47**	*-0.50*	*-0.93*	*-0.79*	*-0.74*	*-0.81*	*-0.92*	**-0.55**	*-0.63*	*-0.82*
Product Inventory Net Withdrawals	**0.44**	**-0.64**	**-0.36**	**0.26**	**0.11**	**-0.91**	*0.00*	*0.51*	*0.44*	*-0.45*	*-0.26*	*0.36*	**-0.07**	*-0.07*	*0.02*
Total Supply	**20.38**	**20.31**	**20.67**	**20.57**	**19.33**	**16.17**	*18.92*	*19.39*	*19.52*	*19.79*	*20.41*	*20.37*	**20.48**	*18.46*	*20.03*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.49**	**2.78**	**2.94**	**3.31**	**3.31**	**2.81**	*2.93*	*3.32*	*3.50*	*3.04*	*3.14*	*3.50*	**3.13**	*3.09*	*3.29*
Unfinished Oils	**-0.03**	**0.09**	**0.04**	**0.10**	**0.14**	**0.11**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.05**	*0.06*	*0.00*
Motor Gasoline	**8.96**	**9.48**	**9.49**	**9.16**	**8.49**	**7.17**	*8.84*	*8.91*	*8.84*	*9.29*	*9.41*	*9.16*	**9.27**	*8.36*	*9.18*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.96**	**0.85**	**0.72**	*0.88*	*0.91*	*0.89*	*0.94*	*0.95*	*0.93*	**0.95**	*0.84*	*0.93*
Jet Fuel	**1.65**	**1.78**	**1.79**	**1.74**	**1.56**	**0.68**	*1.18*	*1.39*	*1.38*	*1.49*	*1.68*	*1.62*	**1.74**	*1.20*	*1.54*
Distillate Fuel Oil	**4.28**	**4.01**	**3.94**	**4.10**	**3.97**	**3.50**	*3.64*	*3.78*	*3.84*	*3.81*	*3.82*	*3.95*	**4.08**	*3.72*	*3.86*
Residual Fuel Oil	**0.27**	**0.23**	**0.32**	**0.27**	**0.17**	**0.16**	*0.28*	*0.26*	*0.26*	*0.21*	*0.25*	*0.26*	**0.27**	*0.22*	*0.25*
Other Oils (g)	**1.68**	**1.95**	**2.14**	**1.88**	**1.68**	**1.74**	*2.06*	*1.74*	*1.71*	*1.96*	*2.10*	*1.86*	**1.91**	*1.80*	*1.91*
Total Consumption	**20.30**	**20.31**	**20.67**	**20.57**	**19.33**	**16.17**	*18.92*	*19.39*	*19.52*	*19.79*	*20.41*	*20.37*	**20.46**	*18.46*	*20.03*
Total Petroleum and Other Liquids Net Imports	**0.95**	**1.10**	**0.83**	**-0.49**	**-1.13**	**0.29**	*0.02*	*0.14*	*0.62*	*1.22*	*1.35*	*0.68*	**0.59**	*-0.17*	*0.97*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**459.3**	**464.0**	**426.5**	**432.9**	**482.5**	**539.2**	*491.9*	*483.0*	*504.9*	*490.2*	*468.4*	*469.6*	**432.9**	*483.0*	*469.6*
Hydrocarbon Gas Liquids	**156.9**	**224.1**	**262.8**	**211.7**	**180.8**	**231.1**	*269.1*	*225.4*	*186.7*	*234.0*	*269.7*	*226.8*	**211.7**	*225.4*	*226.8*
Unfinished Oils	**92.0**	**95.9**	**92.2**	**89.4**	**100.1**	**90.2**	*89.1*	*83.4*	*93.6*	*91.3*	*90.6*	*84.9*	**89.4**	*83.4*	*84.9*
Other HC/Oxygenates	**30.8**	**29.0**	**28.4**	**27.8**	**33.6**	**27.1**	*25.8*	*25.5*	*26.8*	*25.8*	*25.1*	*25.7*	**27.8**	*25.5*	*25.7*
Total Motor Gasoline	**236.1**	**229.7**	**231.9**	**253.8**	**260.8**	**251.7**	*236.4*	*245.8*	*247.3*	*247.2*	*240.8*	*251.9*	**253.8**	*245.8*	*251.9*
Finished Motor Gasoline	**21.7**	**21.0**	**23.0**	**26.0**	**22.6**	**22.8**	*24.9*	*24.8*	*24.1*	*22.7*	*23.6*	*24.2*	**26.0**	*24.8*	*24.2*
Motor Gasoline Blend Comp.	**214.4**	**208.8**	**208.9**	**227.9**	**238.3**	**228.9**	*211.5*	*221.0*	*223.2*	*224.5*	*217.2*	*227.7*	**227.9**	*221.0*	*227.7*
Jet Fuel	**41.6**	**40.6**	**44.4**	**40.5**	**39.9**	**42.6**	*41.4*	*40.1*	*39.8*	*40.8*	*42.9*	*40.0*	**40.5**	*40.1*	*40.0*
Distillate Fuel Oil	**132.4**	**130.8**	**131.7**	**140.0**	**126.7**	**177.3**	*172.9*	*168.1*	*147.5*	*144.4*	*145.9*	*149.5*	**140.0**	*168.1*	*149.5*
Residual Fuel Oil	**28.7**	**30.3**	**29.9**	**30.9**	**34.4**	**40.4**	*33.6*	*31.4*	*32.9*	*33.9*	*31.8*	*33.3*	**30.9**	*31.4*	*33.3*
Other Oils (g)	**63.2**	**59.1**	**51.2**	**54.6**	**62.0**	**60.7**	*52.6*	*54.8*	*60.3*	*59.0*	*53.2*	*55.3*	**54.6**	*54.8*	*55.3*
Total Commercial Inventory	**1,241**	**1,304**	**1,299**	**1,282**	**1,321**	**1,460**	*1,413*	*1,358*	*1,340*	*1,366*	*1,368*	*1,337*	**1,282**	*1,358*	*1,337*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	**656**	*651*	*640*	*629*	*626*	*625*	*623*	**635**	*640*	*623*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**1.87**	**1.71**	**1.85**	**1.93**	**1.84**	*1.98*	*2.11*	*2.13*	*2.22*	*2.20*	*2.27*	**1.83**	*1.97*	*2.20*
Propane	**1.50**	**1.56**	**1.61**	**1.67**	**1.72**	**1.59**	*1.55*	*1.52*	*1.48*	*1.51*	*1.54*	*1.56*	**1.59**	*1.60*	*1.52*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.91**	**0.85**	*0.83*	*0.82*	*0.78*	*0.81*	*0.83*	*0.84*	**0.85**	*0.85*	*0.81*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.60**	**0.57**	**0.56**	**0.57**	*0.55*	*0.52*	*0.50*	*0.53*	*0.57*	*0.54*	**0.55**	*0.55*	*0.53*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	*0.00*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	**0.24**	*0.27*	*0.28*	*0.27*	*0.30*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.25**	**0.26**	*0.27*	*0.28*	*0.28*	*0.29*	*0.29*	*0.29*	**0.28**	*0.27*	*0.29*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	**0.21**	*0.18*	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.03*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.01**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.27**	**-0.27**	**-0.28**	**-0.31**	**-0.30**	**-0.28**	*-0.33*	*-0.35*	*-0.35*	*-0.37*	*-0.38*	*-0.38*	**-0.28**	*-0.32*	*-0.37*
Propane/Propylene	**-0.75**	**-0.99**	**-0.97**	**-1.07**	**-1.12**	**-1.04**	*-0.92*	*-0.98*	*-0.89*	*-0.98*	*-0.91*	*-0.98*	**-0.94**	*-1.01*	*-0.94*
Butanes/Butylenes	**-0.14**	**-0.26**	**-0.26**	**-0.25**	**-0.30**	**-0.33**	*-0.34*	*-0.24*	*-0.21*	*-0.27*	*-0.28*	*-0.23*	**-0.23**	*-0.30*	*-0.25*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.14**	**-0.15**	**-0.21**	**-0.27**	**-0.20**	*-0.27*	*-0.23*	*-0.26*	*-0.25*	*-0.27*	*-0.25*	**-0.17**	*-0.24*	*-0.26*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.46**	**0.23**	*0.28*	*0.49*	*0.40*	*0.30*	*0.33*	*0.52*	**0.40**	*0.36*	*0.39*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.15**	**0.10**	*0.15*	*0.18*	*0.17*	*0.18*	*0.18*	*0.18*	**0.17**	*0.15*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.49**	**1.47**	**1.55**	**1.70**	**1.63**	*1.67*	*1.73*	*1.77*	*1.80*	*1.83*	*1.89*	**1.53**	*1.68*	*1.82*
Propane	**1.20**	**0.58**	**0.65**	**1.05**	**1.09**	**0.62**	*0.67*	*0.98*	*1.14*	*0.61*	*0.70*	*1.00*	**0.87**	*0.84*	*0.86*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.26**	**0.27**	*0.28*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.30**	*0.28*	*0.30*
Butanes/Butylenes	**0.20**	**0.21**	**0.30**	**0.24**	**0.17**	**0.20**	*0.20*	*0.21*	*0.19*	*0.23*	*0.21*	*0.21*	**0.24**	*0.19*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.23**	**0.17**	**0.09**	**0.09**	*0.11*	*0.10*	*0.09*	*0.08*	*0.10*	*0.11*	**0.20**	*0.10*	*0.09*
HGL Inventories (million barrels)															
Ethane	**48.14**	**56.18**	**56.46**	**58.84**	**52.57**	**47.36**	*44.20*	*47.41*	*47.04*	*52.11*	*51.65*	*53.41*	**54.94**	*47.87*	*51.07*
Propane	**47.77**	**71.72**	**95.60**	**79.63**	**60.28**	**75.24**	*94.50*	*78.94*	*52.89*	*70.99*	*89.79*	*77.00*	**79.63**	*78.94*	*77.00*
Propylene (at refineries only)	**1.68**	**1.76**	**2.65**	**1.66**	**1.41**	**1.58**	*2.19*	*2.74*	*2.76*	*3.21*	*3.71*	*4.13*	**1.66**	*2.74*	*4.13*
Butanes/Butylenes	**39.30**	**70.72**	**85.88**	**52.15**	**43.58**	**70.48**	*89.05*	*59.43*	*49.24*	*73.36*	*90.83*	*61.20*	**52.15**	*59.43*	*61.20*
Natural Gasoline (Pentanes Plus)	**18.12**	**19.71**	**21.28**	**20.90**	**23.99**	**38.33**	*38.71*	*36.93*	*33.37*	*33.55*	*33.42*	*31.79*	**20.90**	*36.93*	*31.79*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.97**	**16.32**	**15.77**	**13.20**	*15.00*	*15.95*	*15.82*	*16.67*	*17.12*	*16.79*	**16.56**	*14.98*	*16.60*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	**0.33**	*0.43*	*0.67*	*0.57*	*0.47*	*0.51*	*0.70*	**0.57**	*0.51*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	**0.95**	*1.09*	*1.14*	*1.15*	*1.20*	*1.20*	*1.19*	**1.19**	*1.07*	*1.19*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.05**	**0.26**	*0.44*	*0.43*	*0.24*	*0.47*	*0.45*	*0.38*	**0.35**	*0.30*	*0.39*
Motor Gasoline Blend Components	**0.63**	**0.94**	**0.77**	**0.40**	**0.41**	**0.43**	*0.61*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.68**	*0.43*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.76**	**19.70**	**19.93**	**19.07**	**17.97**	**15.18**	*17.57*	*18.45*	*18.35*	*19.66*	*19.95*	*19.31*	**19.37**	*17.29*	*19.32*
Refinery Processing Gain	**1.06**	**1.07**	**1.07**	**1.10**	**1.02**	**0.85**	*1.02*	*1.12*	*1.11*	*1.16*	*1.14*	*1.14*	**1.08**	*1.01*	*1.14*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.47**	**0.71**	*0.73*	*0.36*	*0.48*	*0.85*	*0.77*	*0.39*	**0.61**	*0.57*	*0.62*
Finished Motor Gasoline	**9.84**	**10.15**	**10.20**	**10.16**	**9.30**	**7.48**	*9.12*	*9.58*	*9.57*	*10.08*	*10.12*	*10.04*	**10.09**	*8.87*	*9.95*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	**0.62**	*1.22*	*1.60*	*1.60*	*1.68*	*1.73*	*1.69*	**1.80**	*1.27*	*1.68*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.95**	**4.83**	*4.82*	*5.06*	*4.92*	*5.17*	*5.27*	*5.22*	**5.14**	*4.92*	*5.15*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.31**	**0.23**	**0.19**	*0.24*	*0.27*	*0.33*	*0.36*	*0.35*	*0.30*	**0.36**	*0.23*	*0.34*
Other Oils (a)	**2.37**	**2.40**	**2.58**	**2.46**	**2.41**	**2.19**	*2.46*	*2.69*	*2.57*	*2.68*	*2.84*	*2.81*	**2.45**	*2.44*	*2.73*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**21.00**	**20.17**	**18.99**	**16.03**	*18.60*	*19.57*	*19.46*	*20.81*	*21.09*	*20.45*	**20.44**	*18.30*	*20.46*
Refinery Distillation Inputs	**16.48**	**17.14**	**17.44**	**16.86**	**16.36**	**13.65**	*15.46*	*16.26*	*16.11*	*16.87*	*17.34*	*17.00*	**16.98**	*15.43*	*16.83*
Refinery Operable Distillation Capacity	**18.78**	**18.80**	**18.81**	**18.81**	**18.98**	**18.75**	*18.64*	*18.67*	*18.67*	*18.67*	*18.67*	*18.70*	**18.80**	*18.76*	*18.68*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	**0.73**	*0.83*	*0.87*	*0.86*	*0.90*	*0.93*	*0.91*	**0.90**	*0.82*	*0.90*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**153**	**102**	*131*	*125*	*133*	*157*	*158*	*148*	**186**	*129*	*149*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	**191**	*201*	*190*	*196*	*223*	*227*	*216*	**251**	*205*	*216*
PADD 2	**223**	**269**	**257**	**244**	**226**	**179**	*202*	*188*	*189*	*226*	*224*	*211*	**249**	*199*	*213*
PADD 3	**206**	**246**	**234**	**224**	**210**	**163**	*184*	*174*	*180*	*205*	*206*	*195*	**228**	*183*	*197*
PADD 4	**226**	**285**	**270**	**276**	**247**	**200**	*218*	*195*	*196*	*226*	*232*	*218*	**265**	*215*	*218*
PADD 5	**297**	**356**	**331**	**350**	**311**	**258**	*277*	*265*	*256*	*290*	*291*	*281*	**334**	*278*	*280*
U.S. Average	**236**	**279**	**265**	**259**	**241**	**194**	*212*	*199*	*202*	*233*	*234*	*222*	**260**	*212*	*223*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**251**	**204**	*222*	*212*	*215*	*246*	*247*	*236*	**269**	*223*	*236*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.4**	**59.7**	**64.9**	**65.6**	**71.0**	**72.4**	*61.5*	*62.9*	*66.7*	*69.2*	*64.0*	*68.2*	**65.6**	*62.9*	*68.2*
PADD 2	**53.9**	**49.6**	**51.0**	**55.0**	**60.2**	**50.6**	*49.7*	*51.5*	*54.2*	*53.8*	*52.8*	*50.5*	**55.0**	*51.5*	*50.5*
PADD 3	**82.5**	**82.4**	**81.5**	**91.8**	**84.8**	**91.6**	*89.0*	*92.3*	*88.3*	*87.2*	*87.2*	*93.3*	**91.8**	*92.3*	*93.3*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.2**	**7.6**	*6.8*	*7.2*	*7.6*	*7.8*	*7.4*	*7.8*	**8.3**	*7.2*	*7.8*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**35.6**	**29.6**	*29.4*	*32.0*	*30.4*	*29.2*	*29.4*	*32.1*	**33.2**	*32.0*	*32.1*
U.S. Total	**236.1**	**229.7**	**231.9**	**253.8**	**260.8**	**251.7**	*236.4*	*245.8*	*247.3*	*247.2*	*240.8*	*251.9*	**253.8**	*245.8*	*251.9*
Finished Gasoline Inventories															
U.S. Total	**21.7**	**21.0**	**23.0**	**26.0**	**22.6**	**22.8**	*24.9*	*24.8*	*24.1*	*22.7*	*23.6*	*24.2*	**26.0**	*24.8*	*24.2*
Gasoline Blending Components Inventories															
U.S. Total	**214.4**	**208.8**	**208.9**	**227.9**	**238.3**	**228.9**	*211.5*	*221.0*	*223.2*	*224.5*	*217.2*	*227.7*	**227.9**	*221.0*	*227.7*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**103.16**	**101.96**	**96.15**	*93.07*	*91.47*	*89.88*	*89.62*	*91.22*	*92.57*	**99.17**	*95.64*	*90.83*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.96**	**0.84**	*0.77*	*0.94*	*0.99*	*0.85*	*0.80*	*0.95*	**0.90**	*0.88*	*0.90*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.72**	**2.72**	**2.30**	*2.52*	*2.57*	*2.60*	*2.52*	*2.39*	*2.37*	**2.69**	*2.53*	*2.47*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.51**	**98.27**	**93.01**	*89.78*	*87.96*	*86.28*	*86.25*	*88.03*	*89.25*	**95.57**	*92.24*	*87.46*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**95.97**	**94.48**	**89.20**	*86.27*	*84.73*	*83.21*	*82.93*	*84.35*	*85.55*	**92.21**	*88.65*	*84.02*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	**0.10**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.18*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	**5.50**	*3.23*	*5.53*	*7.07*	*6.42*	*7.56*	*8.07*	**4.98**	*5.54*	*7.28*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.64**	**6.16**	*6.48*	*7.38*	*8.45*	*7.50*	*7.68*	*7.93*	**7.37**	*6.92*	*7.89*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.13**	**7.09**	*7.86*	*8.20*	*8.12*	*7.42*	*8.04*	*8.19*	**7.77**	*7.82*	*7.94*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	**0.19**	**0.17**	*0.16*	*0.16*	*0.15*	*0.15*	*0.16*	*0.16*	**0.17**	*0.17*	*0.16*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.44**	**12.74**	**-12.23**	*-6.89*	*5.40*	*17.41*	*-11.09*	*-7.49*	*5.39*	**-1.37**	*-0.25*	*1.00*
Total Supply	**103.20**	**71.52**	**77.14**	**91.42**	**99.25**	**70.81**	*75.11*	*84.13*	*94.35*	*65.83*	*69.28*	*82.97*	**85.77**	*82.31*	*78.05*
Balancing Item (b)	**0.11**	**-0.79**	**-0.39**	**-2.09**	**0.00**	**0.32**	*-0.26*	*0.38*	*0.98*	*0.17*	*0.91*	*0.56*	**-0.79**	*0.11*	*0.65*
Total Primary Supply	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**71.13**	*74.85*	*84.51*	*95.33*	*66.01*	*70.19*	*83.52*	**84.97**	*82.42*	*78.71*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.00**	**22.79**	**8.19**	*3.75*	*16.47*	*25.08*	*6.97*	*3.34*	*16.30*	**13.70**	*12.79*	*12.87*
Commercial	**16.19**	**6.36**	**4.68**	**11.45**	**14.07**	**6.02**	*4.61*	*10.64*	*14.84*	*6.46*	*4.71*	*10.42*	**9.65**	*8.83*	*9.08*
Industrial	**25.12**	**21.74**	**21.31**	**23.79**	**24.55**	**20.56**	*19.83*	*22.98*	*23.64*	*21.40*	*20.89*	*23.72*	**22.98**	*21.98*	*22.41*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	**29.60**	**29.37**	*40.09*	*27.43*	*24.44*	*24.45*	*34.20*	*25.65*	**30.98**	*31.63*	*27.21*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.29**	**5.23**	**4.93**	*4.78*	*4.69*	*4.61*	*4.60*	*4.68*	*4.75*	**5.09**	*4.91*	*4.66*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.56**	**2.85**	**1.91**	*1.66*	*2.17*	*2.58*	*1.99*	*2.22*	*2.52*	**2.44**	*2.15*	*2.33*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	**0.16**	**0.14**	*0.12*	*0.14*	*0.14*	*0.15*	*0.15*	*0.15*	**0.14**	*0.14*	*0.14*
Total Consumption	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**71.13**	*74.85*	*84.51*	*95.33*	*66.01*	*70.19*	*83.52*	**84.97**	*82.42*	*78.71*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,189**	**2,030**	**3,136**	*3,770*	*3,273*	*1,707*	*2,716*	*3,404*	*2,908*	**3,189**	*3,273*	*2,908*
East Region (d)	**216**	**537**	**845**	**764**	**385**	**649**	*879*	*691*	*218*	*527*	*783*	*581*	**764**	*691*	*581*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	**752**	*1,050*	*888*	*339*	*609*	*924*	*759*	**885**	*888*	*759*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**857**	**1,224**	*1,268*	*1,196*	*796*	*1,092*	*1,146*	*1,099*	**1,095**	*1,196*	*1,099*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	**177**	*227*	*185*	*128*	*165*	*204*	*167*	**167**	*185*	*167*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	**307**	*318*	*286*	*199*	*296*	*320*	*276*	**245**	*286*	*276*
Alaska	**30**	**33**	**37**	**33**	**23**	**26**	*27*	*27*	*27*	*27*	*27*	*27*	**33**	*27*	*27*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	*1.99*	*2.71*	*3.25*	*3.15*	*3.26*	*3.36*	**2.66**	*2.11*	*3.25*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.05**	**13.80**	**14.42**	*16.51*	*12.57*	*12.49*	*13.74*	*16.95*	*13.24*	**14.78**	*13.72*	*13.20*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.38**	**10.80**	**11.57**	*15.33*	*9.92*	*9.48*	*12.19*	*16.93*	*11.25*	**11.74**	*10.96*	*10.87*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.68**	**6.99**	**9.17**	*15.24*	*7.55*	*7.31*	*10.56*	*16.50*	*8.43*	**8.41**	*7.97*	*8.65*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.16**	**7.30**	**9.70**	*16.28*	*8.34*	*7.56*	*10.74*	*17.05*	*9.18*	**8.81**	*8.41*	*9.00*
S. Atlantic	**11.63**	**18.34**	**26.03**	**12.90**	**12.17**	**15.08**	*20.86*	*11.35*	*10.49*	*16.13*	*22.48*	*12.65*	**13.83**	*12.99*	*12.74*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.43**	**9.74**	**13.25**	*20.35*	*12.39*	*10.39*	*15.31*	*22.31*	*13.81*	**11.05**	*11.55*	*12.67*
W. S. Central	**8.29**	**13.38**	**21.45**	**10.54**	**8.55**	**14.10**	*19.79*	*11.53*	*9.34*	*15.00*	*20.89*	*12.35*	**10.54**	*11.32*	*11.97*
Mountain	**7.73**	**9.46**	**13.40**	**7.75**	**7.52**	**9.63**	*13.11*	*7.94*	*7.90*	*9.91*	*13.80*	*8.75*	**8.37**	*8.35*	*8.94*
Pacific	**12.44**	**12.75**	**13.50**	**12.06**	**13.41**	**14.34**	*13.82*	*12.58*	*13.05*	*14.00*	*14.85*	*13.84*	**12.50**	*13.39*	*13.68*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	**11.74**	*16.15*	*9.77*	*9.24*	*12.43*	*17.29*	*10.84*	**10.56**	*10.44*	*10.71*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**10.13**	**10.38**	**10.45**	*8.89*	*8.86*	*9.55*	*10.00*	*10.17*	*10.23*	**10.95**	*9.84*	*9.92*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.47**	**7.91**	**6.99**	*6.24*	*6.96*	*7.32*	*7.39*	*7.00*	*7.65*	**7.85**	*7.24*	*7.39*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.04**	**5.75**	**6.61**	*7.98*	*6.20*	*6.33*	*7.61*	*9.14*	*7.23*	**6.51**	*6.20*	*7.02*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.16**	**5.97**	**6.49**	*7.77*	*6.48*	*7.06*	*7.72*	*8.99*	*7.51*	**6.73**	*6.33*	*7.44*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.82**	**8.56**	**9.26**	*9.35*	*8.50*	*8.55*	*9.55*	*10.04*	*9.10*	**9.05**	*8.76*	*9.06*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.54**	**8.36**	**9.27**	*9.25*	*8.07*	*7.97*	*9.27*	*9.98*	*9.08*	**8.91**	*8.50*	*8.73*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.38**	**5.70**	**6.59**	*7.05*	*6.77*	*6.91*	*7.63*	*8.36*	*7.88*	**6.41**	*6.32*	*7.53*
Mountain	**6.40**	**6.72**	**7.41**	**6.16**	**6.07**	**7.45**	*7.47*	*6.50*	*6.88*	*7.33*	*8.27*	*7.40*	**6.47**	*6.56*	*7.27*
Pacific	**9.08**	**8.82**	**9.14**	**8.90**	**9.60**	**9.46**	*8.79*	*8.18*	*8.56*	*8.86*	*9.24*	*8.97*	**8.99**	*9.01*	*8.85*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	**7.63**	*7.79*	*7.11*	*7.35*	*8.10*	*8.69*	*8.03*	**7.62**	*7.31*	*7.83*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.29**	**8.09**	**7.32**	*6.35*	*7.51*	*8.21*	*7.66*	*7.17*	*8.17*	**8.08**	*7.44*	*7.89*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.95**	**7.46**	**6.77**	*6.45*	*6.85*	*7.57*	*7.21*	*7.41*	*7.74*	**7.86**	*7.02*	*7.52*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.14**	**4.88**	**4.69**	*4.62*	*5.03*	*6.13*	*6.08*	*6.13*	*6.13*	**5.49**	*4.87*	*6.12*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.19**	**3.94**	**3.31**	*3.15*	*4.25*	*5.20*	*4.64*	*4.61*	*5.33*	**4.24**	*3.72*	*4.99*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.52**	**4.17**	**3.73**	*3.77*	*4.61*	*5.36*	*4.96*	*5.02*	*5.39*	**4.80**	*4.09*	*5.20*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.07**	**3.90**	**3.30**	*3.48*	*4.42*	*5.06*	*4.74*	*4.74*	*5.18*	**4.20**	*3.81*	*4.95*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.64**	**2.17**	**1.90**	*2.08*	*2.81*	*3.40*	*3.27*	*3.47*	*3.60*	**2.89**	*2.26*	*3.43*
Mountain	**5.31**	**4.80**	**5.00**	**4.72**	**4.41**	**4.46**	*4.76*	*4.96*	*5.42*	*5.36*	*5.82*	*5.99*	**4.96**	*4.63*	*5.65*
Pacific	**7.68**	**6.66**	**6.49**	**6.83**	**7.54**	**6.39**	*5.77*	*5.90*	*6.76*	*6.50*	*6.75*	*6.90*	**6.97**	*6.42*	*6.74*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	**2.80**	*2.74*	*3.70*	*4.51*	*4.07*	*4.11*	*4.57*	**3.91**	*3.23*	*4.33*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**179.5**	**179.2**	**181.4**	**165.2**	**149.1**	**113.1**	*129.0*	*111.0*	*139.6*	*125.4*	*153.0*	*146.1*	**705.3**	*502.2*	*564.1*
Appalachia	**49.6**	**52.5**	**46.6**	**44.3**	**39.7**	**32.0**	*34.3*	*27.1*	*32.1*	*34.5*	*36.3*	*33.4*	**193.0**	*133.0*	*136.4*
Interior	**35.4**	**32.3**	**32.4**	**30.6**	**25.8**	**20.2**	*22.6*	*19.5*	*29.5*	*19.8*	*24.6*	*26.7*	**130.7**	*88.1*	*100.6*
Western	**94.5**	**94.4**	**102.4**	**90.3**	**83.6**	**60.9**	*72.2*	*64.3*	*77.9*	*71.1*	*92.2*	*86.0*	**381.7**	*281.1*	*327.1*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	**-0.5**	**1.0**	*-1.5*	*-1.1*	*1.2*	*1.4*	*1.8*	*-2.1*	**-2.7**	*-2.1*	*2.3*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	**1.1**	*1.1*	*1.2*	*1.0*	*1.0*	*1.3*	*1.3*	**6.7**	*4.8*	*4.6*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	**14.8**	*13.1*	*12.0*	*20.9*	*15.9*	*13.5*	*12.7*	**92.9**	*59.8*	*63.0*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	**9.0**	*8.4*	*8.8*	*13.7*	*10.8*	*9.1*	*8.8*	**55.1**	*37.9*	*42.4*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	**5.8**	*4.7*	*3.2*	*7.2*	*5.1*	*4.4*	*3.9*	**37.7**	*21.9*	*20.6*
Total Primary Supply	**154.5**	**156.7**	**159.9**	**145.2**	**129.9**	**100.5**	*115.5*	*99.1*	*120.8*	*111.9*	*142.7*	*132.5*	**616.4**	*445.0*	*507.9*
Secondary Inventory Withdrawals	**5.9**	**-21.0**	**6.4**	**-17.5**	**-16.5**	**-3.5**	*10.6*	*-7.1*	*-0.5*	*4.4*	*8.7*	*-7.4*	**-26.2**	*-16.5*	*5.2*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**162.8**	**138.0**	**168.6**	**130.0**	**115.7**	**99.3**	*128.4*	*94.3*	*122.4*	*118.3*	*153.4*	*127.1*	**599.5**	*437.7*	*521.1*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.3**	**4.2**	**4.4**	*4.5*	*3.4*	*4.5*	*4.4*	*4.1*	*4.0*	**17.9**	*16.6*	*17.0*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	**97.6**	**83.7**	*116.2*	*93.7*	*108.8*	*116.4*	*146.0*	*103.8*	**539.4**	*391.3*	*475.0*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.4**	**6.7**	*6.5*	*7.0*	*7.1*	*6.9*	*7.0*	*7.3*	**30.0**	*27.5*	*28.3*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	*0.2*	**0.9**	*0.9*	*0.7*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.1**	**6.5**	*6.3*	*6.7*	*6.9*	*6.8*	*6.8*	*7.1*	**29.1**	*26.6*	*27.6*
Total Consumption	**157.9**	**129.9**	**167.8**	**131.8**	**109.2**	**94.8**	*127.3*	*104.1*	*120.5*	*127.7*	*157.1*	*115.1*	**587.3**	*435.4*	*520.4*
Discrepancy (c)	**5.0**	**8.2**	**0.8**	**-1.9**	**6.4**	**4.5**	*1.0*	*-9.8*	*1.9*	*-9.4*	*-3.7*	*12.0*	**12.1**	*2.3*	*0.8*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	**24.9**	**23.9**	*25.5*	*26.5*	*25.4*	*24.0*	*22.2*	*24.2*	**24.4**	*26.5*	*24.2*
Secondary Inventories	**102.2**	**123.2**	**116.8**	**134.3**	**150.8**	**154.4**	*143.8*	*150.8*	*151.3*	*146.9*	*138.2*	*145.7*	**134.3**	*150.8*	*145.7*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	**145.5**	**148.5**	*137.7*	*145.1*	*145.7*	*141.0*	*132.2*	*139.9*	**128.5**	*145.1*	*139.9*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.0**	**3.6**	*3.7*	*3.5*	*3.8*	*3.7*	*3.8*	*3.6*	**3.3**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**2.2**	**2.1**	*2.2*	*2.1*	*1.6*	*2.0*	*2.1*	*2.0*	**2.3**	*2.1*	*2.0*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	*0.198*	*0.225*	*0.222*	*0.209*	*0.210*	*0.231*	**0.268**	*0.216*	*0.218*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.94**	*2.00*	*2.00*	*2.03*	*2.05*	*2.03*	*2.03*	**2.02**	*1.97*	*2.03*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	**962**	**919**	*1,109*	*928*	*942*	*952*	*1,124*	*941*	**4,118**	*3,918*	*3,959*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	**921**	**882**	*1,071*	*892*	*906*	*916*	*1,085*	*903*	**3,956**	*3,767*	*3,810*
Industrial Sector (b)	**37**	**36**	**38**	**38**	**38**	**34**	*34*	*32*	*33*	*33*	*35*	*35*	**149**	*138*	*136*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*4*	*3*	*3*	*3*	*4*	*3*	**14**	*13*	*13*
Net Imports	**9**	**9**	**11**	**10**	**10**	**12**	*15*	*11*	*12*	*13*	*14*	*11*	**39**	*49*	*50*
Total Supply	**1,004**	**983**	**1,184**	**986**	**972**	**931**	*1,124*	*939*	*954*	*965*	*1,138*	*952*	**4,157**	*3,966*	*4,009*
Losses and Unaccounted for (c)	**57**	**71**	**74**	**59**	**50**	**61**	*45*	*53*	*44*	*66*	*57*	*53*	**262**	*209*	*220*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	**885**	**839**	*1045*	*854*	*878*	*866*	*1046*	*864*	**3750**	*3623*	*3655*
Residential Sector	**361**	**309**	**434**	**331**	**340**	**336**	*458*	*330*	*354*	*338*	*447*	*330*	**1435**	*1464*	*1468*
Commercial Sector	**320**	**328**	**382**	**325**	**313**	**286**	*350*	*306*	*306*	*306*	*359*	*312*	**1355**	*1255*	*1283*
Industrial Sector	**228**	**238**	**254**	**232**	**231**	**215**	*235*	*217*	*215*	*221*	*239*	*220*	**952**	*897*	*895*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*7*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	**33**	*33*	*32*	*33*	*32*	*35*	*34*	**146**	*136*	*134*
Total Consumption	**948**	**912**	**1110**	**927**	**922**	**870**	*1079*	*886*	*910*	*899*	*1081*	*899*	**3896**	*3757*	*3789*
Average residential electricity usage per customer (kWh)	**2,677**	**2,290**	**3,213**	**2,449**	**2,494**	**2,460**	*3,365*	*2,425*	*2,584*	*2,464*	*3,258*	*2,407*	**10,629**	*10,744*	*10,712*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.94**	*2.00*	*2.00*	*2.03*	*2.05*	*2.03*	*2.03*	**2.02**	*1.97*	*2.03*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.39**	**2.04**	*2.13*	*2.99*	*3.73*	*3.32*	*3.38*	*3.63*	**2.88**	*2.36*	*3.50*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**6.90**	*7.52*	*7.98*	*8.64*	*9.92*	*9.70*	*9.72*	**12.72**	*8.60*	*9.41*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.49**	*10.06*	*10.59*	*10.99*	*12.10*	*12.59*	*12.96*	**15.16**	*10.68*	*12.20*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.20**	*13.16*	*12.88*	*12.96*	*13.52*	*13.65*	*13.38*	**13.04**	*13.04*	*13.39*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.58**	*10.86*	*10.48*	*10.44*	*10.87*	*11.29*	*10.90*	**10.66**	*10.58*	*10.89*
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.56**	*7.26*	*6.78*	*6.69*	*6.85*	*7.54*	*6.92*	**6.83**	*6.75*	*7.01*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	**24.00**	*28.54*	*29.85*	*29.10*	*31.04*	*35.31*	*31.88*	**56.24**	*26.45*	*31.83*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	**19.21**	*31.54*	*37.06*	*34.31*	*33.04*	*34.78*	*37.35*	**38.15**	*29.11*	*34.87*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	**20.25**	*24.98*	*33.06*	*45.28*	*28.27*	*28.97*	*35.14*	**34.89**	*25.73*	*34.42*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	**18.13**	*24.11*	*23.98*	*26.26*	*25.59*	*26.91*	*26.95*	**30.56**	*22.01*	*26.43*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	**20.79**	*29.67*	*26.17*	*27.68*	*27.26*	*30.91*	*28.28*	**30.85**	*24.78*	*28.53*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	**23.00**	*31.18*	*28.23*	*27.22*	*27.78*	*31.88*	*29.44*	**29.51**	*26.71*	*29.08*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	**19.54**	*26.66*	*23.59*	*21.13*	*22.26*	*28.02*	*24.21*	**27.86**	*22.46*	*23.91*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	**18.23**	*27.82*	*26.74*	*25.94*	*26.87*	*30.85*	*28.08*	**30.25**	*24.09*	*27.93*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	**18.53**	*26.07*	*29.19*	*29.68*	*30.87*	*31.32*	*32.08*	**30.10**	*25.00*	*30.99*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	**14.49**	*22.42*	*27.73*	*25.39*	*23.63*	*25.89*	*27.92*	**36.12**	*21.85*	*25.71*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	**19.60**	*32.06*	*32.64*	*32.06*	*32.04*	*32.90*	*35.09*	**35.26**	*26.59*	*33.02*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	**11.7**	**10.9**	*14.7*	*11.3*	*12.4*	*11.0*	*13.8*	*11.2*	**46.1**	*48.6*	*48.4*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	**32.2**	**30.8**	*44.5*	*30.3*	*34.0*	*30.7*	*41.0*	*30.2*	**133.1**	*137.8*	*135.8*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	**46.4**	**44.5**	*60.3*	*44.7*	*48.7*	*44.2*	*56.3*	*44.4*	**185.9**	*195.8*	*193.6*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	**27.6**	**24.4**	*32.7*	*25.1*	*27.8*	*24.5*	*31.4*	*25.0*	**105.4**	*109.7*	*108.7*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	**83.7**	**86.2**	*113.5*	*82.1*	*89.9*	*87.7*	*111.7*	*82.0*	**368.5**	*365.5*	*371.3*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	**29.0**	**26.0**	*37.6*	*26.4*	*31.2*	*26.7*	*37.4*	*26.5*	**121.1**	*119.0*	*121.7*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	**48.6**	**53.4**	*77.5*	*49.3*	*49.5*	*53.8*	*77.3*	*49.5*	**227.1**	*228.9*	*230.1*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	**22.5**	**26.2**	*35.4*	*22.9*	*22.7*	*25.7*	*35.3*	*23.0*	**100.2**	*107.0*	*106.7*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	**36.7**	**32.5**	*40.9*	*37.0*	*36.8*	*32.3*	*41.1*	*36.9*	**143.1**	*147.1*	*147.2*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	*1.3*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.7**	*5.0*	*4.9*
Total	**361.4**	**309.2**	**433.8**	**330.7**	**339.7**	**336.0**	*458.4*	*330.4*	*354.2*	*337.8*	*446.6*	*330.0*	**1,435.1**	*1,464.4*	*1,468.4*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	**12.2**	**10.5**	*12.7*	*11.5*	*11.8*	*10.8*	*12.6*	*11.6*	**51.2**	*46.9*	*46.8*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	**35.9**	**30.2**	*37.4*	*32.6*	*34.1*	*34.1*	*38.5*	*33.8*	**152.6**	*136.2*	*140.6*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	**43.1**	**38.1**	*47.3*	*41.5*	*42.7*	*42.1*	*48.7*	*42.7*	**181.6**	*170.0*	*176.1*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**24.7**	**20.8**	*24.9*	*23.4*	*24.2*	*21.2*	*25.1*	*23.7*	**102.5**	*93.7*	*94.3*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	**71.4**	**68.8**	*83.6*	*71.2*	*70.5*	*74.2*	*86.2*	*73.4*	**317.0**	*294.9*	*304.3*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	**20.7**	**18.6**	*24.3*	*20.3*	*20.4*	*19.9*	*24.8*	*20.6*	**92.3**	*83.9*	*85.7*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	**43.9**	**43.1**	*54.2*	*45.1*	*43.8*	*45.6*	*55.5*	*46.0*	**195.7**	*186.3*	*190.9*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	**22.5**	**21.7**	*26.2*	*22.6*	*22.2*	*22.8*	*26.9*	*23.1*	**98.2**	*92.9*	*95.0*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	**36.9**	**33.1**	*38.5*	*36.2*	*35.1*	*33.9*	*38.9*	*36.1*	**157.9**	*144.7*	*144.0*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	**1.4**	**1.1**	*1.2*	*1.3*	*1.4*	*1.4*	*1.4*	*1.4*	**5.7**	*5.0*	*5.6*
Total	**319.9**	**328.2**	**381.8**	**324.6**	**312.7**	**285.9**	*350.3*	*305.7*	*306.3*	*306.0*	*358.7*	*312.4*	**1,354.5**	*1,254.6*	*1,283.3*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	**3.7**	**3.4**	*3.7*	*3.6*	*3.4*	*3.4*	*3.7*	*3.5*	**15.4**	*14.4*	*14.1*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	**18.0**	**16.1**	*18.5*	*17.3*	*16.9*	*16.5*	*18.8*	*17.7*	**73.2**	*69.8*	*69.9*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	**44.0**	**36.9**	*40.5*	*37.8*	*38.5*	*36.3*	*39.4*	*36.7*	**181.5**	*159.1*	*151.0*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	**21.7**	**20.2**	*21.9*	*20.3*	*20.4*	*21.4*	*22.9*	*21.3*	**88.3**	*84.1*	*85.9*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	**33.0**	**31.5**	*33.6*	*31.3*	*31.1*	*32.6*	*34.4*	*32.0*	**137.5**	*129.4*	*130.1*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	**23.3**	**21.4**	*22.7*	*21.3*	*21.6*	*22.3*	*23.4*	*21.9*	**94.7**	*88.7*	*89.2*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	**46.5**	**44.8**	*47.4*	*44.5*	*44.4*	*47.0*	*49.2*	*46.3*	**189.5**	*183.2*	*186.9*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	**20.0**	**20.6**	*22.8*	*19.9*	*19.5*	*21.3*	*23.5*	*20.4*	**84.1**	*83.3*	*84.8*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	**19.2**	**19.2**	*22.4*	*19.4*	*18.2*	*18.9*	*22.2*	*19.2*	**83.1**	*80.2*	*78.5*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	**1.1**	*1.3*	*1.2*	*1.1*	*1.1*	*1.3*	*1.2*	**4.9**	*4.7*	*4.8*
Total	**228.2**	**237.7**	**254.2**	**232.1**	**230.5**	**215.1**	*234.9*	*216.5*	*215.3*	*220.8*	*238.9*	*220.2*	**952.1**	*897.0*	*895.2*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	**27.7**	**24.9**	*31.3*	*26.5*	*27.8*	*25.4*	*30.3*	*26.5*	**113.3**	*110.4*	*109.9*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	**87.0**	**77.9**	*101.4*	*81.2*	*86.1*	*82.2*	*99.2*	*82.6*	**362.8**	*347.4*	*350.2*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	**133.7**	**119.6**	*148.2*	*124.1*	*130.1*	*122.8*	*144.5*	*124.0*	**549.6**	*525.6*	*521.3*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	**74.0**	**65.3**	*79.5*	*68.8*	*72.4*	*67.0*	*79.5*	*70.1*	**296.2**	*287.6*	*289.0*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	**188.4**	**186.8**	*231.1*	*184.9*	*191.8*	*194.9*	*232.7*	*187.6*	**824.3**	*791.1*	*807.0*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	**73.0**	**66.0**	*84.6*	*68.0*	*73.2*	*68.8*	*85.5*	*69.0*	**308.1**	*291.6*	*296.5*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	**139.1**	**141.4**	*179.2*	*138.9*	*137.7*	*146.5*	*182.1*	*141.8*	**612.4**	*598.6*	*608.2*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	**65.0**	**68.5**	*84.4*	*65.4*	*64.5*	*69.9*	*85.7*	*66.6*	**282.7**	*283.3*	*286.7*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	**93.1**	**84.9**	*102.0*	*92.8*	*90.4*	*85.3*	*102.4*	*92.4*	**384.9**	*372.8*	*370.6*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.8**	**3.3**	*3.8*	*3.9*	*3.8*	*3.6*	*4.0*	*3.9*	**15.2**	*14.8*	*15.3*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	**884.8**	**838.6**	*1,045.5*	*854.4*	*877.8*	*866.4*	*1,046.0*	*864.5*	**3,749.5**	*3,623.3*	*3,654.7*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.57**	**20.70**	**20.87**	**21.76**	*21.54*	*20.39*	*20.56*	*21.60*	*21.85*	*21.21*	*21.84*	**21.14**	*21.02*	*21.60*
Middle Atlantic	**15.19**	**16.06**	**16.15**	**15.78**	**15.47**	*15.88*	*15.81*	*15.54*	*15.39*	*16.08*	*16.20*	*15.93*	**15.79**	*15.69*	*15.91*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.29**	**13.10**	*13.66*	*13.15*	*13.49*	*13.49*	*14.38*	*13.95*	*14.10*	**13.30**	*13.33*	*13.97*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.24**	**10.99**	*12.58*	*12.92*	*11.59*	*11.43*	*13.18*	*13.63*	*12.02*	**11.87**	*12.05*	*12.59*
S. Atlantic	**11.70**	**12.17**	**12.11**	**11.87**	**11.80**	*11.68*	*11.74*	*11.63*	*11.50*	*11.68*	*12.06*	*12.08*	**11.97**	*11.71*	*11.84*
E. S. Central	**11.10**	**11.70**	**11.37**	**11.23**	**11.25**	*11.58*	*11.45*	*11.77*	*11.72*	*12.20*	*11.99*	*12.14*	**11.34**	*11.50*	*12.00*
W. S. Central	**10.88**	**11.50**	**11.36**	**11.24**	**11.05**	*11.28*	*11.14*	*11.20*	*11.10*	*11.62*	*11.64*	*11.73*	**11.25**	*11.17*	*11.54*
Mountain	**11.51**	**12.18**	**12.23**	**11.59**	**11.42**	*12.04*	*12.15*	*11.65*	*11.65*	*12.46*	*12.66*	*12.11*	**11.91**	*11.86*	*12.28*
Pacific	**14.86**	**15.88**	**17.31**	**14.64**	**15.69**	*16.54*	*17.70*	*14.60*	*15.69*	*16.86*	*18.18*	*15.08*	**15.68**	*16.17*	*16.49*
U.S. Average	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	*13.20*	*13.16*	*12.88*	*12.96*	*13.52*	*13.65*	*13.38*	**13.04**	*13.04*	*13.39*
Commercial Sector															
New England	**16.83**	**16.24**	**15.97**	**15.76**	**16.23**	*15.80*	*15.55*	*15.49*	*16.10*	*15.94*	*16.05*	*16.16*	**16.19**	*15.77*	*16.07*
Middle Atlantic	**11.57**	**12.18**	**13.03**	**11.97**	**11.69**	*12.31*	*12.72*	*11.68*	*11.71*	*12.89*	*13.35*	*12.20*	**12.21**	*12.11*	*12.56*
E. N. Central	**10.14**	**10.29**	**10.09**	**10.05**	**9.95**	*10.26*	*10.05*	*10.15*	*10.19*	*10.60*	*10.46*	*10.50*	**10.14**	*10.10*	*10.44*
W. N. Central	**8.98**	**10.04**	**10.41**	**9.11**	**9.07**	*10.20*	*10.73*	*9.52*	*9.55*	*10.76*	*11.32*	*9.89*	**9.65**	*9.87*	*10.38*
S. Atlantic	**9.44**	**9.37**	**9.35**	**9.35**	**9.26**	*9.03*	*9.16*	*9.20*	*9.22*	*9.09*	*9.40*	*9.53*	**9.37**	*9.17*	*9.31*
E. S. Central	**10.70**	**10.70**	**10.65**	**10.62**	**10.75**	*10.94*	*10.93*	*11.20*	*11.42*	*11.47*	*11.48*	*11.58*	**10.67**	*10.95*	*11.49*
W. S. Central	**8.12**	**8.00**	**8.30**	**8.06**	**7.89**	*7.86*	*8.16*	*8.02*	*7.91*	*7.94*	*8.38*	*8.19*	**8.13**	*7.99*	*8.12*
Mountain	**9.20**	**9.71**	**10.00**	**9.18**	**8.99**	*9.82*	*10.08*	*9.29*	*9.16*	*10.09*	*10.41*	*9.56*	**9.55**	*9.56*	*9.83*
Pacific	**12.98**	**14.15**	**16.35**	**14.44**	**13.52**	*14.58*	*16.20*	*14.29*	*13.57*	*15.03*	*17.05*	*15.27*	**14.54**	*14.67*	*15.28*
U.S. Average	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	*10.58*	*10.86*	*10.48*	*10.44*	*10.87*	*11.29*	*10.90*	**10.66**	*10.58*	*10.89*
Industrial Sector															
New England	**13.45**	**12.89**	**12.66**	**12.70**	**12.74**	*12.97*	*12.74*	*12.69*	*12.76*	*13.15*	*13.00*	*12.99*	**12.92**	*12.78*	*12.98*
Middle Atlantic	**6.73**	**6.52**	**6.54**	**6.40**	**6.34**	*6.21*	*6.33*	*6.39*	*6.66*	*6.52*	*6.62*	*6.47*	**6.55**	*6.32*	*6.57*
E. N. Central	**7.03**	**6.84**	**6.83**	**6.76**	**6.51**	*6.72*	*6.90*	*6.96*	*6.88*	*7.05*	*7.21*	*7.15*	**6.87**	*6.76*	*7.07*
W. N. Central	**7.13**	**7.33**	**8.09**	**6.87**	**6.94**	*7.44*	*8.39*	*7.18*	*7.29*	*7.68*	*8.66*	*7.38*	**7.37**	*7.49*	*7.77*
S. Atlantic	**6.22**	**6.28**	**6.72**	**6.18**	**5.97**	*6.05*	*6.59*	*6.17*	*6.12*	*6.25*	*6.81*	*6.26*	**6.36**	*6.20*	*6.37*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.61**	**5.45**	*5.44*	*5.80*	*5.64*	*5.65*	*5.59*	*5.96*	*5.69*	**5.76**	*5.58*	*5.73*
W. S. Central	**5.25**	**5.28**	**6.05**	**5.29**	**5.05**	*4.89*	*5.84*	*5.36*	*5.45*	*5.26*	*6.16*	*5.49*	**5.48**	*5.29*	*5.60*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	**5.73**	*6.18*	*6.78*	*5.94*	*5.88*	*6.41*	*7.01*	*6.06*	**6.29**	*6.18*	*6.37*
Pacific	**8.65**	**9.45**	**11.26**	**10.16**	**8.97**	*10.08*	*11.86*	*10.65*	*9.49*	*10.64*	*12.41*	*11.05*	**9.95**	*10.45*	*10.97*
U.S. Average	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	*6.56*	*7.26*	*6.78*	*6.69*	*6.85*	*7.54*	*6.92*	**6.83**	*6.75*	*7.01*
All Sectors (a)															
New England	**18.35**	**17.72**	**17.50**	**17.34**	**18.07**	*17.89*	*17.45*	*17.23*	*18.10*	*18.09*	*17.99*	*18.10*	**17.73**	*17.65*	*18.07*
Middle Atlantic	**12.01**	**12.27**	**12.99**	**12.10**	**11.97**	*12.44*	*12.89*	*11.98*	*12.16*	*12.79*	*13.24*	*12.33*	**12.37**	*12.35*	*12.65*
E. N. Central	**10.13**	**10.12**	**10.20**	**10.03**	**9.91**	*10.43*	*10.45*	*10.38*	*10.44*	*10.91*	*10.93*	*10.79*	**10.12**	*10.29*	*10.77*
W. N. Central	**9.14**	**10.03**	**10.64**	**9.17**	**9.15**	*10.24*	*10.99*	*9.58*	*9.63*	*10.66*	*11.46*	*9.89*	**9.76**	*10.01*	*10.44*
S. Atlantic	**9.92**	**10.01**	**10.24**	**9.90**	**9.80**	*9.75*	*10.05*	*9.77*	*9.78*	*9.78*	*10.29*	*10.08*	**10.03**	*9.85*	*10.00*
E. S. Central	**9.30**	**9.43**	**9.65**	**9.27**	**9.25**	*9.41*	*9.78*	*9.68*	*9.84*	*9.85*	*10.19*	*9.92*	**9.42**	*9.54*	*9.96*
W. S. Central	**8.22**	**8.28**	**8.94**	**8.28**	**8.04**	*8.21*	*8.83*	*8.29*	*8.26*	*8.43*	*9.16*	*8.55*	**8.47**	*8.38*	*8.64*
Mountain	**9.12**	**9.43**	**9.98**	**8.98**	**8.83**	*9.58*	*10.05*	*9.10*	*9.04*	*9.84*	*10.40*	*9.37*	**9.42**	*9.44*	*9.72*
Pacific	**12.87**	**13.63**	**15.55**	**13.60**	**13.42**	*14.30*	*15.84*	*13.64*	*13.60*	*14.73*	*16.48*	*14.30*	**13.96**	*14.34*	*14.83*
U.S. Average	**10.37**	**10.52**	**11.03**	**10.38**	**10.29**	*10.60*	*11.06*	*10.47*	*10.53*	*10.87*	*11.44*	*10.83*	**10.60**	*10.63*	*10.94*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	**355.0**	**342.1**	*476.0*	*337.0*	*298.7*	*297.5*	*418.8*	*319.1*	**1,474.7**	*1,510.2*	*1,334.2*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	**170.2**	**143.4**	*204.8*	*164.8*	*189.0*	*200.8*	*258.2*	*181.4*	**959.5**	*683.3*	*829.4*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.2**	**190.6**	*203.7*	*196.9*	*198.3*	*189.5*	*204.9*	*194.3*	**809.4**	*795.3*	*787.1*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	**185.5**	**200.4**	*181.6*	*188.8*	*213.7*	*222.7*	*197.8*	*203.1*	**688.0**	*756.2*	*837.3*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**80.2**	*68.8*	*62.9*	*74.5*	*77.5*	*63.7*	*61.8*	**272.4**	*283.1*	*277.5*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**82.5**	*73.4*	*97.0*	*106.5*	*98.6*	*85.8*	*106.6*	**299.8**	*339.9*	*397.5*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**27.0**	*28.4*	*18.2*	*21.4*	*35.3*	*36.5*	*23.4*	**71.5**	*90.0*	*116.6*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.6**	*6.9*	*6.9*	*7.8*	*7.2*	*7.6*	*7.5*	**28.8**	*27.4*	*30.1*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**4.0**	*4.2*	*3.7*	*3.6*	*4.1*	*4.2*	*3.8*	**15.6**	*15.7*	*15.6*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	**-1.1**	*-1.8*	*-1.4*	*-1.1*	*-1.0*	*-1.8*	*-1.3*	**-5.3**	*-5.2*	*-5.2*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	**4.0**	**3.7**	*4.2*	*3.7*	*4.3*	*4.1*	*4.3*	*3.6*	**17.3**	*15.6*	*16.4*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	**1.1**	**0.7**	*1.0*	*0.9*	*0.9*	*0.6*	*1.0*	*0.9*	**4.3**	*3.6*	*3.4*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	**1.9**	**1.9**	*2.0*	*1.8*	*1.7*	*1.9*	*1.8*	*1.8*	**7.7**	*7.6*	*7.2*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	**920.9**	**881.8**	*1,071.4*	*892.5*	*905.6*	*916.1*	*1,085.1*	*902.9*	**3,955.8**	*3,766.6*	*3,809.7*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	**11.1**	**9.5**	*14.3*	*10.4*	*7.6*	*7.1*	*13.5*	*11.3*	**46.9**	*45.3*	*39.5*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	*0.1*	*0.1*	*0.4*	*0.0*	*0.1*	*0.1*	**0.5**	*0.3*	*0.5*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.3**	**4.9**	*7.2*	*6.2*	*7.0*	*7.1*	*7.2*	*5.6*	**29.8**	*25.7*	*26.9*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	**2.1**	**2.0**	*1.5*	*1.6*	*2.1*	*1.9*	*1.4*	*1.5*	**7.0**	*7.2*	*7.0*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	**2.6**	**2.7**	*2.6*	*2.7*	*3.4*	*2.8*	*2.7*	*2.9*	**10.3**	*10.7*	*11.7*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	*0.4*	*0.4*	*1.0*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*2.1*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	**23.5**	**19.5**	*26.1*	*21.4*	*21.5*	*19.4*	*25.3*	*21.7*	**96.1**	*90.5*	*87.8*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**28.0**	**27.8**	**24.9**	*31.7*	*27.5*	*28.6*	*26.4*	*31.4*	*27.6*	**115.2**	*111.8*	*114.1*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	**12.8**	**12.3**	*23.5*	*17.0*	*15.2*	*16.3*	*24.8*	*19.4*	**54.0**	*65.6*	*75.7*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.7**	**9.3**	*9.0*	*9.1*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*38.0*	*30.2*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	**7.8**	**7.7**	*7.9*	*7.3*	*8.0*	*7.8*	*7.5*	*7.1*	**29.5**	*30.7*	*30.3*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	**1.9**	**1.9**	*1.6*	*1.8*	*2.1*	*2.1*	*2.0*	*2.6*	**6.5**	*7.2*	*8.8*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.7*	*0.8*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	**33.5**	**31.3**	*42.2*	*35.4*	*34.4*	*33.9*	*41.5*	*36.0*	**136.2**	*142.4*	*145.8*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	**35.2**	**32.1**	*43.3*	*35.4*	*36.2*	*35.5*	*42.7*	*35.7*	**150.6**	*145.9*	*150.0*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	**77.9**	**71.0**	*104.3*	*71.8*	*75.3*	*69.5*	*92.8*	*69.1*	**295.1**	*324.9*	*306.8*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	**33.7**	**26.5**	*29.9*	*28.1*	*40.8*	*37.7*	*37.1*	*28.9*	**184.3**	*118.2*	*144.6*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.9**	**66.9**	*70.7*	*69.4*	*67.5*	*65.7*	*71.8*	*68.3*	**277.9**	*275.9*	*273.3*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	**3.2**	**2.9**	*1.8*	*2.2*	*3.3*	*2.9*	*1.7*	*2.1*	**10.6**	*10.1*	*10.0*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	**10.2**	**9.9**	*8.1*	*10.5*	*11.8*	*11.5*	*9.3*	*11.3*	**34.1**	*38.8*	*43.9*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	**0.6**	**0.7**	*0.4*	*0.4*	*0.7*	*0.7*	*0.4*	*0.4*	**2.5**	*2.2*	*2.2*
Total generation	**205.4**	**185.6**	**224.1**	**189.2**	**194.6**	**177.8**	*215.3*	*182.3*	*199.5*	*187.9*	*213.2*	*180.1*	**804.4**	*770.1*	*780.8*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	**181.9**	**161.6**	*204.2*	*174.2*	*186.4*	*171.5*	*203.1*	*175.6*	**760.9**	*722.0*	*736.7*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	**61.9**	**60.3**	*80.1*	*63.4*	*58.7*	*58.2*	*74.1*	*61.7*	**252.9**	*265.6*	*252.6*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**23.9**	**19.5**	*34.0*	*25.6*	*26.5*	*29.6*	*45.2*	*28.6*	**159.8**	*102.9*	*129.9*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.0**	**50.5**	*54.5*	*52.1*	*52.2*	*52.3*	*55.4*	*53.6*	**211.0**	*210.1*	*213.5*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	**11.1**	**9.6**	*6.7*	*8.0*	*11.2*	*9.6*	*6.4*	*7.6*	**35.5**	*35.4*	*34.7*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	**3.3**	**4.8**	*4.4*	*3.3*	*3.8*	*5.6*	*5.5*	*3.9*	**13.2**	*15.8*	*18.8*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	**-0.2**	*-0.6*	*-0.4*	*-0.1*	*-0.2*	*-0.6*	*-0.4*	**-1.2**	*-1.3*	*-1.3*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	**153.1**	**144.3**	*179.1*	*151.9*	*152.3*	*155.0*	*185.9*	*154.9*	**671.1**	*628.5*	*648.1*
Net energy for load (f)	**162.3**	**164.6**	**195.0**	**157.6**	**159.2**	**144.8**	*178.6*	*149.4*	*156.7*	*156.2*	*185.4*	*152.4*	**679.5**	*632.1*	*650.7*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	**40.1**	**45.3**	*52.7*	*38.4*	*34.3*	*38.1*	*47.4*	*36.0*	**174.4**	*176.4*	*155.9*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.1**	**3.1**	*2.0*	*2.9*	*5.1*	*8.6*	*6.6*	*5.6*	**18.6**	*10.1*	*25.9*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	**7.5**	*7.2*	*7.7*	*7.8*	*7.0*	*7.8*	*6.8*	**29.1**	*29.7*	*29.3*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.8**	**2.3**	*2.3*	*2.0*	*2.5*	*3.2*	*3.2*	*2.7*	**6.2**	*8.5*	*11.6*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	**0.7**	*0.7*	*0.7*	*0.9*	*0.7*	*0.7*	*0.7*	**3.1**	*3.0*	*2.9*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	**52.2**	**59.1**	*65.0*	*51.6*	*50.7*	*57.7*	*65.7*	*51.9*	**231.7**	*227.9*	*225.9*
Net energy for load (f)	**47.6**	**60.6**	**68.4**	**53.2**	**48.2**	**58.3**	*65.0*	*50.6*	*46.7*	*57.5*	*66.4*	*51.1*	**229.8**	*222.0*	*221.6*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	**44.1**	**44.2**	*59.4*	*42.1*	*36.3*	*35.9*	*50.6*	*38.2*	**177.2**	*189.8*	*161.1*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	**51.1**	**39.8**	*60.3*	*48.6*	*52.6*	*52.6*	*70.8*	*53.8*	**276.2**	*199.8*	*229.9*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	**22.8**	*24.9*	*24.1*	*24.9*	*23.9*	*25.0*	*24.4*	**102.3**	*98.5*	*98.3*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	**2.3**	**2.3**	*1.6*	*1.8*	*2.4*	*2.3*	*1.6*	*1.8*	**8.0**	*8.1*	*8.1*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	**20.0**	**18.9**	*15.5*	*23.3*	*24.8*	*23.3*	*18.9*	*25.7*	**66.1**	*77.7*	*92.7*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	**1.4**	**1.3**	*1.4*	*1.4*	*0.9*	*1.6*	*1.5*	*1.3*	**6.0**	*5.6*	*5.3*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	**145.6**	**129.3**	*163.3*	*141.4*	*142.1*	*139.7*	*168.4*	*145.2*	**635.7**	*579.5*	*595.3*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	**152.5**	**138.2**	*170.5*	*147.5*	*149.3*	*149.0*	*173.4*	*149.0*	**645.6**	*608.7*	*620.7*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	**17.3**	**16.6**	*24.0*	*13.2*	*12.5*	*12.2*	*20.2*	*12.2*	**71.1**	*71.2*	*57.1*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	**17.0**	**16.1**	*22.5*	*12.6*	*13.0*	*16.7*	*23.8*	*11.9*	**93.3**	*68.1*	*65.4*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	**4.4**	*4.4*	*3.5*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.7*	*16.0*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	**4.2**	**3.9**	*2.8*	*2.9*	*4.2*	*3.9*	*2.5*	*2.8*	**13.7**	*13.8*	*13.5*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	**20.6**	**19.3**	*18.4*	*23.9*	*26.2*	*24.0*	*22.6*	*27.0*	**75.0**	*82.3*	*99.8*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	**0.1**	**0.2**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.8**	*0.5*	*0.4*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	**63.6**	**60.5**	*72.2*	*56.3*	*60.0*	*60.2*	*73.6*	*58.5*	**270.1**	*252.6*	*252.3*
Net energy for load (f)	**64.6**	**60.0**	**77.5**	**61.5**	**61.5**	**58.3**	*69.6*	*55.7*	*56.5*	*57.7*	*71.2*	*56.9*	**263.5**	*245.2*	*242.3*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	**36.8**	**43.7**	*54.3*	*29.7*	*22.7*	*27.1*	*40.8*	*23.1*	**180.1**	*164.4*	*113.7*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	**13.1**	**15.2**	*16.1*	*13.8*	*14.5*	*22.3*	*25.9*	*18.8*	**75.2**	*58.2*	*81.5*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	**9.7**	*11.0*	*10.0*	*10.7*	*9.8*	*10.3*	*9.6*	**41.3**	*41.1*	*40.5*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	**0.3**	**0.2**	*0.1*	*0.1*	*0.3*	*0.2*	*0.1*	*0.1*	**0.7**	*0.7*	*0.7*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	**22.7**	**23.9**	*23.8*	*26.0*	*28.3*	*30.4*	*29.7*	*29.6*	**81.1**	*96.5*	*118.0*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.6**	*1.5*	*1.4*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	**83.8**	**93.0**	*105.6*	*80.0*	*76.9*	*90.2*	*107.1*	*81.6*	**380.2**	*362.3*	*355.8*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	**83.8**	**93.0**	*105.6*	*80.0*	*76.9*	*90.2*	*107.1*	*81.6*	**380.2**	*362.3*	*355.8*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	**23.5**	**15.6**	*20.2*	*15.9*	*12.8*	*8.9*	*14.3*	*14.5*	**89.2**	*75.2*	*50.6*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	**22.0**	**15.7**	*29.6*	*25.7*	*28.5*	*24.4*	*36.3*	*26.7*	**105.1**	*93.0*	*115.9*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.4**	**2.1**	*2.4*	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.9**	*9.3*	*8.4*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	**33.9**	**40.0**	*31.9*	*30.7*	*36.7*	*37.3*	*28.8*	*30.8*	**118.0**	*136.4*	*133.6*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	**13.8**	**14.2**	*13.5*	*15.0*	*17.4*	*17.4*	*15.8*	*16.7*	**48.4**	*56.5*	*67.3*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**	**0.2**	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.8*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	**95.9**	**87.7**	*97.9*	*89.8*	*98.1*	*89.4*	*98.0*	*91.3*	**370.5**	*371.3*	*376.7*
Net energy for load (f)	**94.5**	**83.1**	**92.2**	**87.7**	**87.8**	**78.5**	*90.4*	*85.1*	*85.8*	*80.5*	*90.3*	*85.1*	**357.4**	*341.8*	*341.6*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	**11.9**	**14.6**	*18.4*	*13.0*	*8.6*	*13.0*	*17.1*	*12.3*	**56.5**	*57.9*	*51.0*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	**5.3**	**6.1**	*8.1*	*4.9*	*5.3*	*6.1*	*9.9*	*4.1*	**36.7**	*24.3*	*25.4*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	**7.6**	*8.6*	*7.6*	*8.4*	*7.6*	*8.6*	*7.7*	**31.9**	*32.2*	*32.3*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	**2.6**	**3.8**	*4.2*	*2.6*	*2.7*	*3.8*	*3.9*	*2.5*	**13.9**	*13.3*	*12.9*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	**2.5**	**3.1**	*2.8*	*2.8*	*4.0*	*4.3*	*3.9*	*3.7*	**9.9**	*11.2*	*15.9*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.0**	*0.0*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	**30.6**	**35.2**	*42.1*	*30.9*	*29.0*	*34.8*	*43.4*	*30.3*	**148.9**	*138.8*	*137.5*
Net energy for load (f)	**18.2**	**23.1**	**34.0**	**22.3**	**21.8**	**26.6**	*34.2*	*23.1*	*22.1*	*26.9*	*34.6*	*23.3*	**97.7**	*105.6*	*106.9*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	**16.8**	**10.6**	*24.5*	*21.4*	*13.7*	*10.5*	*22.5*	*20.6*	**74.2**	*73.4*	*67.3*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	**1.1**	*1.7*	*2.3*	*1.8*	*2.5*	*1.9*	*2.4*	**7.5**	*6.6*	*8.6*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.8**	**4.9**	*3.7*	*4.7*	*4.4*	*4.1*	*4.9*	*4.9*	**16.2**	*18.1*	*18.3*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	**3.2**	**7.4**	*9.9*	*5.1*	*3.2*	*7.3*	*9.5*	*5.0*	**34.0**	*25.7*	*25.0*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	**14.5**	**18.8**	*19.1*	*14.1*	*14.6*	*20.0*	*20.1*	*14.6*	**63.7**	*66.4*	*69.3*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	**0.0**	*0.2*	*0.0*	*-0.1*	*0.0*	*0.2*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	**40.7**	**42.9**	*59.2*	*47.7*	*37.6*	*44.4*	*59.1*	*47.5*	**195.8**	*190.4*	*188.6*
Net energy for load (f)	**59.9**	**62.5**	**76.3**	**61.6**	**57.6**	**60.8**	*74.5*	*60.2*	*56.7*	*61.3*	*75.6*	*60.7*	**260.2**	*253.1*	*254.3*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	**0.034**	**0.036**	*0.038*	*0.034*	*0.032*	*0.037*	*0.038*	*0.034*	**0.142**	*0.143*	*0.142*
Hydroelectric Power (a)	**0.649**	**0.743**	**0.553**	**0.534**	**0.649**	**0.733**	*0.622*	*0.571*	*0.685*	*0.713*	*0.579*	*0.561*	**2.480**	*2.575*	*2.538*
Solar (b)	**0.122**	**0.201**	**0.208**	**0.128**	**0.151**	**0.249**	*0.261*	*0.168*	*0.197*	*0.325*	*0.336*	*0.216*	**0.659**	*0.829*	*1.074*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	**0.060**	**0.057**	*0.058*	*0.058*	*0.061*	*0.061*	*0.060*	*0.060*	**0.236**	*0.232*	*0.242*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	**0.050**	**0.045**	*0.049*	*0.050*	*0.060*	*0.051*	*0.059*	*0.057*	**0.211**	*0.193*	*0.226*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.802**	**0.760**	*0.676*	*0.893*	*0.981*	*0.909*	*0.791*	*0.982*	**2.762**	*3.132*	*3.662*
Subtotal	**1.603**	**1.813**	**1.526**	**1.547**	**1.746**	**1.880**	*1.704*	*1.774*	*2.016*	*2.096*	*1.862*	*1.910*	**6.490**	*7.105*	*7.884*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.137**	*0.181*	*0.189*	*0.192*	*0.195*	*0.198*	*0.200*	**0.799**	*0.703*	*0.785*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	**0.003**	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.007**	**0.010**	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.029**	*0.033*	*0.037*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.043**	**0.041**	*0.040*	*0.043*	*0.042*	*0.041*	*0.040*	*0.043*	**0.160**	*0.166*	*0.166*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.343**	**0.345**	*0.352*	*0.352*	*0.341*	*0.338*	*0.351*	*0.354*	**1.473**	*1.392*	*1.385*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.591**	**0.530**	*0.580*	*0.591*	*0.583*	*0.582*	*0.598*	*0.605*	**2.466**	*2.292*	*2.368*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.005**	**0.005**	*0.005*	*0.005*	*0.005*	*0.005*	*0.005*	*0.005*	**0.024**	*0.021*	*0.021*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.022**	**0.026**	**0.037**	*0.036*	*0.025*	*0.028*	*0.041*	*0.041*	*0.029*	**0.108**	*0.124*	*0.139*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.085*	*0.085*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.067**	**0.076**	*0.079*	*0.067*	*0.070*	*0.082*	*0.084*	*0.071*	**0.280**	*0.289*	*0.307*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.058**	**0.089**	*0.091*	*0.062*	*0.066*	*0.101*	*0.103*	*0.070*	**0.257**	*0.300*	*0.340*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.124**	**0.129**	*0.133*	*0.133*	*0.124*	*0.129*	*0.133*	*0.133*	**0.529**	*0.520*	*0.520*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	**0.192**	**0.228**	*0.234*	*0.205*	*0.200*	*0.240*	*0.246*	*0.214*	**0.825**	*0.859*	*0.899*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.061**	**0.063**	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.256*	*0.337*
Ethanol (f)	**0.274**	**0.293**	**0.291**	**0.296**	**0.257**	**0.220**	*0.271*	*0.278*	*0.268*	*0.285*	*0.291*	*0.285*	**1.154**	*1.026*	*1.129*
Subtotal	**0.333**	**0.365**	**0.361**	**0.361**	**0.318**	**0.283**	*0.334*	*0.347*	*0.353*	*0.374*	*0.369*	*0.370*	**1.419**	*1.282*	*1.466*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.070**	**0.066**	**0.061**	**0.063**	*0.063*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.256*	*0.337*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.137**	*0.181*	*0.189*	*0.192*	*0.195*	*0.198*	*0.200*	**0.799**	*0.703*	*0.785*
Ethanol (f)	**0.285**	**0.305**	**0.302**	**0.307**	**0.267**	**0.228**	*0.281*	*0.289*	*0.279*	*0.296*	*0.302*	*0.296*	**1.199**	*1.066*	*1.173*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.050**	**0.053**	*0.055*	*0.050*	*0.049*	*0.053*	*0.055*	*0.051*	**0.209**	*0.208*	*0.207*
Hydroelectric Power (a)	**0.652**	**0.747**	**0.556**	**0.537**	**0.652**	**0.737**	*0.625*	*0.574*	*0.688*	*0.717*	*0.581*	*0.564*	**2.492**	*2.587*	*2.550*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.239**	**0.384**	*0.398*	*0.261*	*0.299*	*0.477*	*0.491*	*0.323*	**1.043**	*1.282*	*1.590*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.112**	**0.106**	*0.106*	*0.109*	*0.112*	*0.111*	*0.109*	*0.111*	**0.433**	*0.434*	*0.443*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.538**	**0.539**	*0.556*	*0.556*	*0.545*	*0.538*	*0.566*	*0.566*	**2.297**	*2.189*	*2.215*
Wind	**0.683**	**0.724**	**0.610**	**0.745**	**0.802**	**0.760**	*0.676*	*0.893*	*0.981*	*0.909*	*0.791*	*0.982*	**2.762**	*3.132*	*3.662*
Total Consumption	**2.809**	**3.084**	**2.798**	**2.791**	**2.914**	**2.998**	*2.932*	*2.984*	*3.221*	*3.375*	*3.160*	*3.169*	**11.481**	*11.827*	*12.925*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,804**	**6,757**	**6,658**	**6,668**	**6,669**	**6,587**	*6,592*	*6,625*	*6,625*	*6,627*	*6,547*	*6,635*	**6,668**	*6,625*	*6,635*
Waste	**4,001**	**3,969**	**3,960**	**3,942**	**3,942**	**3,860**	*3,865*	*3,899*	*3,899*	*3,901*	*3,821*	*3,909*	**3,942**	*3,899*	*3,909*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,592**	**79,571**	**79,395**	**79,451**	**79,464**	**79,474**	*79,626*	*79,650*	*79,732*	*79,681*	*79,757*	*79,782*	**79,451**	*79,650*	*79,782*
Geothermal	**2,486**	**2,486**	**2,486**	**2,506**	**2,506**	**2,506**	*2,506*	*2,506*	*2,506*	*2,506*	*2,506*	*2,548*	**2,506**	*2,506*	*2,548*
Large-Scale Solar (b)	**32,690**	**33,142**	**33,809**	**36,916**	**38,730**	**40,921**	*42,990*	*49,853*	*50,290*	*53,993*	*55,837*	*62,037*	**36,916**	*49,853*	*62,037*
Wind	**96,470**	**97,945**	**99,526**	**103,359**	**105,706**	**107,160**	*112,840*	*126,534*	*127,519*	*128,038*	*128,660*	*133,521*	**103,359**	*126,534*	*133,521*
Other Sectors (c)															
Biomass	**6,541**	**6,490**	**6,490**	**6,424**	**6,432**	**6,432**	*6,448*	*6,428*	*6,428*	*6,428*	*6,428*	*6,428*	**6,424**	*6,428*	*6,428*
Waste	**785**	**786**	**786**	**786**	**786**	**786**	*802*	*802*	*802*	*802*	*802*	*802*	**786**	*802*	*802*
Wood	**5,756**	**5,704**	**5,704**	**5,637**	**5,646**	**5,646**	*5,646*	*5,626*	*5,626*	*5,626*	*5,626*	*5,626*	**5,637**	*5,626*	*5,626*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*289*	*292*	*290*	*290*	**289**	*289*	*290*
Large-Scale Solar (b)	**407**	**413**	**424**	**430**	**430**	**442**	*442*	*446*	*446*	*446*	*446*	*446*	**430**	*446*	*446*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	**24,259**	**25,030**	*25,712*	*26,512*	*27,459*	*28,554*	*29,775*	*31,091*	**23,211**	*26,512*	*31,091*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	**14,963**	**15,564**	*16,075*	*16,612*	*17,212*	*17,941*	*18,741*	*19,612*	**14,229**	*16,612*	*19,612*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	**7,429**	**7,561**	*7,686*	*7,898*	*8,186*	*8,494*	*8,852*	*9,233*	**7,186**	*7,898*	*9,233*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	**1,867**	**1,905**	*1,950*	*2,002*	*2,060*	*2,119*	*2,182*	*2,246*	**1,796**	*2,002*	*2,246*
Wind	**118**	**118**	**118**	**118**	**118**	**344**	*353*	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.6**	*6.9*	*6.9*	*7.8*	*7.2*	*7.6*	*7.5*	**28.8**	*27.4*	*30.1*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	**4.0**	**3.9**	*3.9*	*3.8*	*4.1*	*4.1*	*4.0*	*4.0*	**15.7**	*15.5*	*16.2*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	**3.1**	**2.7**	*3.0*	*3.1*	*3.7*	*3.1*	*3.6*	*3.5*	**13.0**	*11.9*	*13.9*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**80.2**	*68.8*	*62.9*	*74.5*	*77.5*	*63.7*	*61.8*	**272.4**	*283.1*	*277.5*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**4.0**	*4.2*	*3.7*	*3.6*	*4.1*	*4.2*	*3.8*	**15.6**	*15.7*	*15.6*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**27.0**	*28.4*	*18.2*	*21.4*	*35.3*	*36.5*	*23.4*	**71.5**	*90.0*	*116.6*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**82.5**	*73.4*	*97.0*	*106.5*	*98.6*	*85.8*	*106.6*	**299.8**	*339.9*	*397.5*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	**7.4**	**7.2**	*7.6*	*7.4*	*7.3*	*7.2*	*7.6*	*7.4*	**29.7**	*29.6*	*29.5*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	**6.7**	**6.5**	*6.9*	*6.6*	*6.6*	*6.5*	*6.9*	*6.6*	**26.8**	*26.8*	*26.7*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	**0.4**	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	**1.3**	*1.3*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.8*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.3**	**12.3**	*12.4*	*8.5*	*9.4*	*14.1*	*14.3*	*9.9*	**35.0**	*41.5*	*47.7*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	**7.5**	*7.6*	*5.2*	*5.7*	*8.7*	*8.9*	*6.1*	**20.9**	*25.3*	*29.5*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	**2.6**	**3.8**	*3.7*	*2.5*	*2.9*	*4.2*	*4.3*	*3.0*	**11.1**	*12.7*	*14.4*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	**1.0**	*1.0*	*0.7*	*0.8*	*1.1*	*1.2*	*0.8*	**3.0**	*3.5*	*3.9*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.6*	*0.9*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,927**	**19,022**	**19,121**	**19,222**	**18,977**	**17,000**	*17,710*	*17,926*	*18,263*	*18,488*	*18,676*	*18,809*	**19,073**	*17,904*	*18,559*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,103**	**13,250**	**13,353**	**13,414**	**13,179**	**11,568**	*12,481*	*12,577*	*12,698*	*12,805*	*12,923*	*13,049*	**13,280**	*12,451*	*12,868*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,349**	**3,337**	**3,330**	**3,326**	**3,315**	**2,977**	*2,939*	*3,003*	*3,054*	*3,085*	*3,113*	*3,135*	**3,336**	*3,059*	*3,097*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**113**	**75**	**67**	**18**	**-50**	**-215**	*-297*	*-232*	*-117*	*5*	*82*	*103*	**68**	*-199*	*18*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,258**	**3,297**	**3,310**	**3,331**	**3,340**	**3,287**	*3,304*	*3,317*	*3,312*	*3,310*	*3,309*	*3,306*	**3,299**	*3,312*	*3,309*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,554**	**2,517**	**2,523**	**2,536**	**2,477**	**1,830**	*1,862*	*2,003*	*2,247*	*2,350*	*2,423*	*2,484*	**2,533**	*2,043*	*2,376*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,498**	**3,498**	**3,514**	**3,437**	**3,294**	**2,692**	*2,593*	*2,767*	*2,942*	*3,071*	*3,173*	*3,270*	**3,487**	*2,836*	*3,114*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,878**	**14,934**	**15,012**	**15,091**	**15,125**	**16,574**	*15,475*	*15,079*	*15,248*	*15,335*	*15,422*	*15,380*	**14,979**	*15,563*	*15,346*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**151.9**	**133.7**	*141.7*	*144.7*	*147.4*	*149.1*	*150.2*	*150.7*	**150.9**	*143.0*	*149.4*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	**13.0**	*9.3*	*8.3*	*7.0*	*6.3*	*6.0*	*5.9*	**3.7**	*8.6*	*6.3*
Housing Starts															
(millions - SAAR)	**1.20**	**1.26**	**1.29**	**1.43**	**1.48**	**1.04**	*1.27*	*1.32*	*1.33*	*1.32*	*1.32*	*1.32*	**1.30**	*1.28*	*1.32*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.7**	**93.7**	*98.6*	*101.1*	*104.0*	*106.2*	*107.9*	*109.2*	**109.5**	*100.3*	*106.8*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**104.3**	**89.0**	*96.4*	*99.1*	*102.4*	*104.6*	*106.1*	*107.1*	**106.0**	*97.2*	*105.1*
Food	**115.1**	**115.3**	**114.6**	**116.1**	**116.4**	**106.9**	*112.0*	*115.0*	*117.4*	*119.5*	*121.2*	*122.1*	**115.3**	*112.6*	*120.1*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.7**	**88.5**	*89.0*	*89.2*	*89.4*	*90.3*	*91.3*	*92.2*	**93.0**	*90.4*	*90.8*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.9**	**104.8**	**84.8**	*90.6*	*96.0*	*100.1*	*103.3*	*105.3*	*106.7*	**105.7**	*94.0*	*103.9*
Chemicals	**101.4**	**99.9**	**100.6**	**100.3**	**99.7**	**94.5**	*95.9*	*96.9*	*98.2*	*100.1*	*102.3*	*104.3*	**100.5**	*96.8*	*101.2*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.3**	**122.1**	**106.2**	*110.2*	*110.2*	*110.5*	*111.9*	*113.5*	*115.3*	**119.4**	*112.2*	*112.8*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.4**	**68.8**	*69.9*	*70.4*	*71.4*	*73.2*	*75.0*	*76.9*	**96.9**	*75.9*	*74.1*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.4**	**106.4**	**94.2**	*98.5*	*99.9*	*101.6*	*103.5*	*105.2*	*106.5*	**106.2**	*99.7*	*104.2*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.6**	**98.8**	**85.5**	*89.3*	*91.2*	*93.0*	*94.9*	*96.5*	*97.7*	**98.3**	*91.2*	*95.5*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**105.0**	**89.1**	*92.9*	*94.5*	*96.2*	*98.2*	*100.1*	*101.7*	**105.8**	*95.4*	*99.0*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**107.7**	**93.9**	*97.3*	*99.0*	*100.8*	*103.0*	*104.8*	*106.4*	**108.1**	*99.5*	*103.7*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	**2.56**	*2.58*	*2.59*	*2.60*	*2.62*	*2.63*	*2.64*	**2.56**	*2.58*	*2.62*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	**1.91**	*1.94*	*1.98*	*2.01*	*2.03*	*2.05*	*2.05*	**2.00**	*1.95*	*2.04*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.95**	**1.93**	**1.74**	**1.09**	*1.48*	*1.48*	*1.44*	*1.59*	*1.63*	*1.60*	**1.94**	*1.45*	*1.57*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.7**	**113.0**	**113.4**	**113.2**	*113.6*	*113.7*	*113.9*	*114.2*	*114.6*	*115.0*	**112.3**	*113.5*	*114.4*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,295**	**9,328**	**9,292**	**8,901**	**7,753**	**6,863**	*8,483*	*8,593*	*8,131*	*9,110*	*9,152*	*8,908*	**8,957**	*7,926*	*8,828*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**712**	**688**	**629**	**354**	*539*	*626*	*562*	*589*	*659*	*662*	**682**	*537*	*618*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**328**	**138**	*278*	*326*	*302*	*329*	*382*	*381*	**410**	*268*	*348*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	**203.7**	*174.2*	*163.7*	*159.8*	*165.5*	*152.8*	*158.5*	**265.4**	*198.1*	*159.1*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	*0.198*	*0.225*	*0.222*	*0.209*	*0.210*	*0.231*	**0.268**	*0.216*	*0.218*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	**552**	**446**	*534*	*549*	*542*	*557*	*578*	*579*	**2,354**	*2,081*	*2,257*
Natural Gas	**507**	**350**	**384**	**448**	**492**	**352**	*374*	*424*	*468*	*327*	*351*	*419*	**1,689**	*1,642*	*1,564*
Coal	**289**	**239**	**307**	**242**	**201**	**176**	*237*	*194*	*225*	*238*	*289*	*214*	**1,076**	*808*	*966*
Total Energy (c)	**1,374**	**1,178**	**1,291**	**1,288**	**1,248**	**976**	*1,148*	*1,170*	*1,237*	*1,124*	*1,221*	*1,214*	**5,130**	*4,543*	*4,798*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**996**	**999**	**1,004**	**1,009**	**996**	**878**	*920*	*931*	*949*	*962*	*972*	*980*	**1,002**	*931*	*966*
Middle Atlantic	**2,772**	**2,782**	**2,791**	**2,802**	**2,751**	**2,366**	*2,479*	*2,532*	*2,595*	*2,638*	*2,676*	*2,705*	**2,787**	*2,532*	*2,653*
E. N. Central	**2,528**	**2,535**	**2,545**	**2,557**	**2,520**	**2,222**	*2,339*	*2,374*	*2,421*	*2,455*	*2,479*	*2,498*	**2,541**	*2,364*	*2,463*
W. N. Central	**1,181**	**1,187**	**1,193**	**1,198**	**1,187**	**1,091**	*1,131*	*1,140*	*1,157*	*1,169*	*1,180*	*1,185*	**1,190**	*1,137*	*1,173*
S. Atlantic	**3,353**	**3,367**	**3,383**	**3,403**	**3,361**	**3,053**	*3,197*	*3,221*	*3,275*	*3,311*	*3,340*	*3,360*	**3,376**	*3,208*	*3,322*
E. S. Central	**832**	**835**	**840**	**844**	**832**	**761**	*796*	*803*	*816*	*826*	*833*	*837*	**838**	*798*	*828*
W. S. Central	**2,347**	**2,370**	**2,392**	**2,406**	**2,387**	**2,184**	*2,252*	*2,246*	*2,272*	*2,288*	*2,305*	*2,317*	**2,379**	*2,267*	*2,296*
Mountain	**1,252**	**1,261**	**1,269**	**1,277**	**1,263**	**1,161**	*1,208*	*1,217*	*1,238*	*1,251*	*1,262*	*1,269*	**1,265**	*1,212*	*1,255*
Pacific	**3,700**	**3,719**	**3,739**	**3,761**	**3,715**	**3,316**	*3,420*	*3,495*	*3,572*	*3,621*	*3,664*	*3,692*	**3,730**	*3,487*	*3,637*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.4**	**98.6**	**98.8**	**98.8**	**97.6**	**83.4**	*90.3*	*93.4*	*96.5*	*98.5*	*99.8*	*100.5*	**98.9**	*91.2*	*98.8*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**97.1**	**80.2**	*86.3*	*88.9*	*91.7*	*93.9*	*95.9*	*97.1*	**98.4**	*88.1*	*94.7*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**105.0**	**85.5**	*93.2*	*96.3*	*99.8*	*102.2*	*103.2*	*105.0*	**107.3**	*95.0*	*102.5*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.7**	**90.1**	*97.0*	*100.0*	*103.9*	*106.3*	*107.7*	*108.5*	**105.4**	*97.7*	*106.6*
S. Atlantic	**111.0**	**110.3**	**110.8**	**111.1**	**109.2**	**93.7**	*101.8*	*104.3*	*107.5*	*109.8*	*111.4*	*112.4*	**110.8**	*102.2*	*110.3*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**109.0**	**89.1**	*98.3*	*101.6*	*105.1*	*107.2*	*108.5*	*109.7*	**110.2**	*99.5*	*107.6*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**99.8**	**87.5**	*93.3*	*95.4*	*98.4*	*100.2*	*101.6*	*102.6*	**101.4**	*94.0*	*100.7*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.6**	**101.9**	*109.6*	*112.9*	*116.6*	*119.0*	*120.6*	*121.4*	**116.3**	*109.8*	*119.4*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.3**	**87.3**	*95.0*	*97.3*	*100.1*	*102.1*	*103.8*	*104.6*	**104.4**	*95.5*	*102.6*
Real Personal Income (Billion $2009)															
New England	**899**	**900**	**896**	**900**	**902**	**953**	*900*	*883*	*894*	*900*	*905*	*906*	**899**	*909*	*901*
Middle Atlantic	**2,287**	**2,302**	**2,298**	**2,302**	**2,300**	**2,414**	*2,273*	*2,234*	*2,266*	*2,281*	*2,293*	*2,295*	**2,297**	*2,305*	*2,284*
E. N. Central	**2,444**	**2,448**	**2,458**	**2,469**	**2,469**	**2,643**	*2,475*	*2,439*	*2,471*	*2,488*	*2,501*	*2,505*	**2,454**	*2,506*	*2,491*
W. N. Central	**1,152**	**1,154**	**1,168**	**1,172**	**1,174**	**1,263**	*1,181*	*1,159*	*1,173*	*1,181*	*1,190*	*1,192*	**1,162**	*1,194*	*1,184*
S. Atlantic	**3,203**	**3,221**	**3,230**	**3,251**	**3,262**	**3,565**	*3,329*	*3,266*	*3,298*	*3,315*	*3,333*	*3,337*	**3,226**	*3,356*	*3,321*
E. S. Central	**890**	**893**	**897**	**899**	**901**	**1,003**	*921*	*900*	*910*	*915*	*920*	*921*	**895**	*931*	*917*
W. S. Central	**1,997**	**2,005**	**2,017**	**2,022**	**2,030**	**2,190**	*2,056*	*2,000*	*2,018*	*2,024*	*2,033*	*2,035*	**2,010**	*2,069*	*2,027*
Mountain	**1,180**	**1,187**	**1,198**	**1,205**	**1,208**	**1,315**	*1,233*	*1,210*	*1,223*	*1,229*	*1,236*	*1,236*	**1,192**	*1,242*	*1,231*
Pacific	**2,788**	**2,815**	**2,809**	**2,847**	**2,852**	**2,994**	*2,835*	*2,804*	*2,851*	*2,871*	*2,890*	*2,894*	**2,815**	*2,871*	*2,876*
Households (Thousands)															
New England	**5,936**	**5,941**	**5,957**	**5,966**	**5,973**	**5,973**	*5,972*	*5,972*	*5,974*	*5,977*	*5,987*	*5,999*	**5,966**	*5,972*	*5,999*
Middle Atlantic	**16,243**	**16,263**	**16,305**	**16,328**	**16,346**	**16,351**	*16,352*	*16,360*	*16,366*	*16,377*	*16,402*	*16,434*	**16,328**	*16,360*	*16,434*
E. N. Central	**19,087**	**19,112**	**19,166**	**19,197**	**19,225**	**19,245**	*19,255*	*19,275*	*19,289*	*19,306*	*19,342*	*19,386*	**19,197**	*19,275*	*19,386*
W. N. Central	**8,688**	**8,708**	**8,740**	**8,760**	**8,777**	**8,787**	*8,794*	*8,805*	*8,812*	*8,825*	*8,845*	*8,869*	**8,760**	*8,805*	*8,869*
S. Atlantic	**25,689**	**25,762**	**25,877**	**25,965**	**26,043**	**26,085**	*26,122*	*26,171*	*26,220*	*26,280*	*26,364*	*26,465*	**25,965**	*26,171*	*26,465*
E. S. Central	**7,651**	**7,663**	**7,689**	**7,706**	**7,721**	**7,728**	*7,734*	*7,743*	*7,751*	*7,762*	*7,781*	*7,803*	**7,706**	*7,743*	*7,803*
W. S. Central	**14,813**	**14,856**	**14,923**	**14,974**	**15,019**	**15,046**	*15,071*	*15,106*	*15,138*	*15,179*	*15,233*	*15,294*	**14,974**	*15,106*	*15,294*
Mountain	**9,404**	**9,448**	**9,506**	**9,551**	**9,592**	**9,617**	*9,642*	*9,671*	*9,696*	*9,727*	*9,765*	*9,809*	**9,551**	*9,671*	*9,809*
Pacific	**18,903**	**18,932**	**18,994**	**19,034**	**19,069**	**19,084**	*19,102*	*19,135*	*19,167*	*19,207*	*19,261*	*19,322*	**19,034**	*19,135*	*19,322*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.5**	**6.4**	*6.8*	*7.0*	*7.1*	*7.2*	*7.3*	*7.3*	**7.5**	*6.9*	*7.3*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.1**	**16.7**	*17.9*	*18.4*	*18.9*	*19.1*	*19.3*	*19.5*	**20.0**	*18.3*	*19.2*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	**19.3**	*20.7*	*21.1*	*21.6*	*21.9*	*22.0*	*22.1*	**22.3**	*20.9*	*21.9*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	**9.8**	*10.3*	*10.5*	*10.6*	*10.7*	*10.8*	*10.8*	**10.8**	*10.3*	*10.7*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	**26.3**	*27.9*	*28.4*	*28.9*	*29.2*	*29.4*	*29.5*	**29.1**	*28.0*	*29.2*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.3**	**7.5**	*8.0*	*8.1*	*8.2*	*8.3*	*8.4*	*8.4*	**8.3**	*8.0*	*8.3*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	**16.4**	*17.3*	*17.5*	*17.7*	*17.8*	*17.9*	*17.9*	**17.8**	*17.3*	*17.8*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	**10.2**	*10.8*	*10.9*	*11.1*	*11.2*	*11.3*	*11.3*	**11.1**	*10.8*	*11.3*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.0**	**20.9**	*21.8*	*22.6*	*23.1*	*23.4*	*23.6*	*23.7*	**23.8**	*22.3*	*23.4*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,225**	**893**	**135**	**2,277**	**2,727**	**967**	*121*	*2,155*	*3,167*	*876*	*125*	*2,146*	**6,530**	*5,971*	*6,314*
Middle Atlantic	**2,987**	**634**	**68**	**2,065**	**2,472**	**833**	*72*	*1,978*	*2,932*	*699*	*76*	*1,970*	**5,753**	*5,356*	*5,677*
E. N. Central	**3,326**	**759**	**64**	**2,276**	**2,785**	**844**	*112*	*2,240*	*3,152*	*730*	*120*	*2,237*	**6,425**	*5,982*	*6,239*
W. N. Central	**3,647**	**772**	**107**	**2,547**	**3,038**	**796**	*142*	*2,415*	*3,236*	*701*	*157*	*2,421*	**7,073**	*6,391*	*6,514*
South Atlantic	**1,335**	**127**	**2**	**919**	**1,106**	**251**	*13*	*960*	*1,385*	*184*	*11*	*949*	**2,382**	*2,329*	*2,529*
E. S. Central	**1,711**	**192**	**1**	**1,273**	**1,481**	**340**	*20*	*1,293*	*1,779*	*231*	*18*	*1,283*	**3,178**	*3,134*	*3,310*
W. S. Central	**1,208**	**90**	**0**	**854**	**973**	**103**	*4*	*757*	*1,090*	*76*	*4*	*758*	**2,153**	*1,838*	*1,928*
Mountain	**2,431**	**786**	**127**	**1,968**	**2,217**	**675**	*131*	*1,800*	*2,195*	*686*	*147*	*1,807*	**5,312**	*4,823*	*4,836*
Pacific	**1,687**	**577**	**95**	**1,182**	**1,539**	**520**	*89*	*1,204*	*1,517*	*578*	*84*	*1,192*	**3,540**	*3,352*	*3,371*
U.S. Average	**2,210**	**480**	**56**	**1,558**	**1,875**	**539**	*68*	*1,515*	*2,098*	*482*	*71*	*1,508*	**4,304**	*3,998*	*4,160*
Heating Degree Days, Prior 10-year Average															
New England	**3,165**	**820**	**111**	**2,122**	**3,152**	**822**	*105*	*2,127*	*3,132*	*855*	*108*	*2,115*	**6,218**	*6,206*	*6,210*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	**644**	*69*	*1,944*	*2,913*	*677*	*70*	*1,926*	**5,623**	*5,606*	*5,586*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	**698**	*102*	*2,197*	*3,156*	*730*	*103*	*2,184*	**6,203**	*6,194*	*6,174*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	**702**	*132*	*2,379*	*3,247*	*728*	*131*	*2,377*	**6,477**	*6,500*	*6,482*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	**169**	*10*	*952*	*1,393*	*180*	*10*	*923*	**2,631**	*2,589*	*2,506*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,849**	**214**	*15*	*1,277*	*1,771*	*232*	*16*	*1,256*	**3,392**	*3,356*	*3,274*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	**83**	*3*	*794*	*1,140*	*86*	*3*	*789*	**2,079**	*2,079*	*2,018*
Mountain	**2,164**	**714**	**139**	**1,855**	**2,192**	**718**	*135*	*1,844*	*2,182*	*701*	*134*	*1,846*	**4,873**	*4,890*	*4,864*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	**580**	*85*	*1,161*	*1,462*	*552*	*83*	*1,159*	**3,283**	*3,283*	*3,256*
U.S. Average	**2,150**	**475**	**68**	**1,518**	**2,149**	**472**	*64*	*1,509*	*2,108*	*481*	*64*	*1,494*	**4,212**	*4,194*	*4,148*
Cooling Degree Days															
New England	**0**	**68**	**469**	**0**	**0**	**105**	*506*	*1*	*0*	*84*	*418*	*2*	**537**	*613*	*504*
Middle Atlantic	**0**	**144**	**630**	**8**	**0**	**159**	*667*	*4*	*0*	*153*	*548*	*5*	**782**	*830*	*706*
E. N. Central	**0**	**176**	**653**	**7**	**2**	**220**	*624*	*7*	*0*	*218*	*543*	*7*	**835**	*853*	*768*
W. N. Central	**0**	**223**	**727**	**2**	**6**	**296**	*715*	*11*	*3*	*266*	*675*	*10*	**952**	*1,028*	*955*
South Atlantic	**154**	**758**	**1,300**	**308**	**197**	**620**	*1,216*	*233*	*127*	*671*	*1,184*	*241*	**2,519**	*2,266*	*2,224*
E. S. Central	**29**	**551**	**1,216**	**88**	**73**	**424**	*1,093*	*66*	*30*	*538*	*1,080*	*71*	**1,884**	*1,657*	*1,719*
W. S. Central	**73**	**817**	**1,692**	**169**	**174**	**837**	*1,540*	*210*	*98*	*892*	*1,530*	*211*	**2,750**	*2,760*	*2,731*
Mountain	**10**	**342**	**984**	**60**	**9**	**463**	*946*	*79*	*19*	*430*	*934*	*79*	**1,396**	*1,498*	*1,462*
Pacific	**22**	**167**	**591**	**67**	**24**	**200**	*572*	*59*	*27*	*168*	*586*	*59*	**846**	*856*	*841*
U.S. Average	**46**	**399**	**953**	**106**	**71**	**397**	*907*	*95*	*46*	*409*	*867*	*97*	**1,503**	*1,469*	*1,420*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	**83**	*471*	*1*	*0*	*81*	*470*	*1*	**536**	*554*	*552*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	**170**	*609*	*6*	*0*	*163*	*608*	*6*	**760**	*785*	*778*
E. N. Central	**3**	**242**	**548**	**7**	**3**	**240**	*579*	*8*	*3*	*234*	*574*	*7*	**799**	*830*	*819*
W. N. Central	**7**	**298**	**669**	**11**	**7**	**296**	*696*	*11*	*7*	*294*	*691*	*11*	**985**	*1,011*	*1,004*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	**696**	*1,202*	*247*	*143*	*680*	*1,194*	*254*	**2,224**	*2,272*	*2,272*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	**557**	*1,082*	*72*	*42*	*532*	*1,068*	*73*	**1,706**	*1,747*	*1,715*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	**891**	*1,575*	*207*	*114*	*880*	*1,570*	*210*	**2,757**	*2,774*	*2,774*
Mountain	**25**	**438**	**932**	**81**	**24**	**433**	*938*	*81*	*24*	*444*	*940*	*82*	**1,476**	*1,476*	*1,490*
Pacific	**31**	**185**	**631**	**76**	**31**	**185**	*624*	*78*	*31*	*193*	*633*	*79*	**923**	*918*	*936*
U.S. Average	**46**	**417**	**873**	**97**	**47**	**420**	*892*	*100*	*52*	*415*	*891*	*102*	**1,433**	*1,459*	*1,460*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the August 2020 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	June 2020	July 2020	June - July 2020 Average	June - July 2019 Average	2017–2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	87.1	88.7	87.9	100.3	99.9
Global Petroleum and Other Liquids Consumption (b)	90.4	93.4	91.9	102.0	100.2
Biofuels Production (c)	2.6	2.8	2.7	3.0	2.5
Biofuels Consumption (c)	2.3	2.2	2.2	2.4	2.3
Iran Liquid Fuels Production	2.8	2.7	2.7	3.1	4.1
Iran Liquid Fuels Consumption	1.7	1.7	1.7	1.9	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	81.7	83.2	82.5	94.2	93.2
Consumption (d)	86.4	89.5	88.0	97.7	96.0
Production minus Consumption	-4.7	-6.3	-5.5	-3.5	-2.8
World Inventory Net Withdrawals Including Iran	3.3	4.7	4.0	1.6	0.3
Estimated OECD Inventory Level (e) (million barrels)	3,170	3,113	3,142	2,931	2,912
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	9.2	8.5	8.8	2.8	2.0

Note: The term “petroleum and other liquids” encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.
(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
(b) Consumption of petroleum by the OECD countries is synonymous with “products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	June 2020	July 2020	June - July 2020 Average	June - July 2019 Average	2017–2019 Average
Brent Front Month Futures Price ($ per barrel)	40.77	43.22	42.00	63.65	63.53
WTI Front Month Futures Price ($ per barrel)	38.31	40.77	39.54	56.20	57.60
Dubai Front Month Futures Price ($ per barrel)	41.77	43.72	42.75	62.69	62.36
Brent 1st - 13th Month Futures Spread ($ per barrel)	-2.75	-2.57	-2.66	2.89	2.02
WTI 1st - 13th Month Futures Spread ($ per barrel)	-1.91	-1.75	-1.83	1.65	1.39
RBOB Front Month Futures Price ($ per gallon)	1.19	1.25	1.22	1.84	1.76
Heating Oil Front Month Futures Price ($ per gallon)	1.14	1.24	1.19	1.89	1.90
RBOB - Brent Futures Crack Spread ($ per gallon)	0.22	0.22	0.22	0.33	0.24
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.17	0.21	0.19	0.37	0.39

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
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Independent Statistics & Analysis
U.S. Energy Information Administration

September 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- The September *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because mitigation and reopening efforts related to the 2019 novel coronavirus disease (COVID-19) continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply patterns in 2020. This STEO assumes U.S. gross domestic product declined by 4.6% in the first half of 2020 from the same period a year ago and will rise beginning in the third quarter of 2020, with year-over-year growth of 3.1% in 2021. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit.

- Brent crude oil spot prices averaged $45 per barrel (b) in August, up $2/b from the average in July. Brent prices in August were up $26/b from the multiyear low monthly average price in April. The increase in oil prices has occurred as EIA estimates global oil markets have shifted from global liquid fuels inventories building at a rate of 7.2 million barrels per day (b/d) in the second quarter to drawing at a rate of 3.7 million b/d in the third quarter. EIA expects inventory draws in the fourth quarter of 3.1 million b/d before markets become relatively balanced in 2021, with forecast draws of 0.3 million b/d. Despite expected inventory draws in the coming months, EIA expects high inventory levels and surplus crude oil production capacity will limit upward pressure on oil prices. EIA forecasts monthly Brent spot prices will average $44/b during the fourth quarter of 2020 and rise to an average of $49/b in 2021 as oil markets become more balanced.

- EIA estimates that global consumption of petroleum and liquid fuels averaged 94.3 million b/d in August. Liquid fuels consumption was down 8.2 million b/d from August 2019, but it was up from an average of 85.1 million b/d during the second quarter of 2020 and 93.3 million b/d in July. EIA forecasts that consumption of petroleum and liquid fuels globally will average 93.1 million b/d for all of 2020, down 8.3 million b/d from 2019, before increasing by 6.5 million b/d in 2021. EIA's forecast for growth in 2021 is 0.5 million b/d less than in the August STEO. The downward revision is largely a result of lower expected consumption growth in China, which EIA now forecasts to grow by 1.0 million b/d in 2021.

- EIA estimates that global liquid fuels production averaged 91.5 million b/d in August, down 9.7 million b/d year over year. The decline largely reflects voluntary production

cuts by the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+), along with reductions in drilling activity and production curtailments in the United States because of low oil prices. EIA expects global liquid fuels production will rise to an annual average of 99.3 million b/d in 2021.

- Crude oil production in the United States has risen in recent months after declining from 12.7 million b/d in the first quarter of 2020 to a recent low of 10.0 million b/d in May. EIA estimates U.S. crude oil production increased to 10.8 million b/d in August. Production has risen as tight oil operators have brought wells back online in response to rising prices after curtailing production amid low oil prices in the second quarter. The increase in total U.S. production occurred despite shut-in production in the Gulf of Mexico as a result of Hurricane Laura. EIA expects production to rise to 11.2 million b/d in September as production in the Gulf of Mexico returns. However, after September, EIA expects U.S. crude oil production to decline slightly, averaging just under 11.0 million b/d during the first half of 2021 because EIA expects that new drilling activity will not generate enough production to offset declines from existing wells. EIA expects drilling activity to rise later in 2021, contributing to U.S. crude oil production reaching an average of 11.3 million b/d in the fourth quarter of 2021. On an annual average basis, EIA expects U.S. crude oil production to fall from an average of 12.2 million b/d in 2019 to 11.4 million b/d in 2020 and 11.1 million b/d in 2021.

- U.S. regular gasoline retail prices averaged $2.18 per gallon (gal) in August, largely unchanged from the average in July but 44 cents/gal lower than at the same time last year. EIA expects that gasoline prices will decrease through the rest of the year, falling to an average of $2.03/gal in December. Forecast U.S. regular gasoline retail prices average $2.16/gal in 2020 and $2.28/gal in 2021.

Natural Gas

- In August, the Henry Hub natural gas spot price averaged $2.30 per million British thermal units (MMBtu), up from an average of $1.77/MMBtu in July. Higher natural gas spot prices reflect rising demand for natural gas from the U.S. electric power sector as a result of warmer-than-normal temperatures during August and rising demand for U.S. liquefied natural gas (LNG) exports amid declining U.S. natural gas production. EIA expects that rising domestic demand and demand for LNG exports heading into winter, combined with reduced production, will cause Henry Hub spot prices to rise to a monthly average of $3.40/MMBtu in January 2021. EIA expects that monthly average spot prices will remain higher than $3.00/MMBtu for all of 2021, averaging $3.19/MMBtu for the year, up from a forecast average of $2.16/MMBtu in 2020.

- EIA estimates that total U.S. working natural gas in storage ended August at 3.5 trillion cubic feet (Tcf), 13% more than the five-year (2015–19) average. In the forecast, EIA expects inventories to reach almost 4.0 Tcf on October 31, which would be 6% more than the five-year average.

- EIA expects that total U.S. consumption of natural gas will average 82.7 billion cubic feet per day (Bcf/d) in 2020, down 2.7% from 2019. The largest decline in consumption occurs in the industrial sector. EIA forecasts industrial consumption will average 21.9 Bcf/d in 2020, down 1.0 Bcf/d from 2019 as a result of reduced manufacturing activity. The decline in total U.S. consumption also reflects lower heating demand in early 2020, contributing to residential and commercial demand in 2020 averaging 12.9 Bcf/d (down 0.8 Bcf/d from 2019) and 8.8 Bcf/d (down 0.8 Bcf/d from 2019), respectively. EIA expects U.S. natural gas consumption will average 79.1 Bcf/d in 2021, a 4.3% decline from 2020. The expected decline is the result of rising natural gas prices that will reduce demand for natural gas in the electric power sector.

- EIA forecasts U.S. dry natural gas production will average 89.9 Bcf/d in 2020 and monthly average production will fall from a record 96.2 Bcf/d in November 2019 to 85.5 Bcf/d in February 2021, before increasing slightly. Natural gas production declines the most in the Permian region, where EIA expects low crude oil prices will reduce associated natural gas output from oil-directed rigs. EIA's forecast of dry natural gas production in the United States averages 86.6 Bcf/d in 2021. EIA expects production to begin rising in the second quarter of 2021 in response to higher natural gas and crude oil prices.

- EIA estimates that U.S. LNG exports averaged 3.7 Bcf/d in August, a 19% increase from July. This increase occurred amid rising spot and forward natural gas prices in Europe and Asia, which had fallen to record lows in late May and June as COVID-19 mitigation efforts reduced global natural gas consumption. Higher global forward prices indicate improving netbacks for buyers of U.S. LNG in European and Asian markets for the upcoming fall and winter seasons amid expectations of natural gas demand recovery and potential LNG supply reduction because of maintenance at the Gorgon LNG plant in Australia. EIA forecasts that U.S. LNG exports will return to pre-COVID levels by November 2020 and will average more than 9 Bcf/d from December 2020 through February 2021.

Electricity, coal, renewables, and emissions

- EIA forecasts 2.4% less electricity consumption in the United States in 2020 compared with 2019. EIA expects retail sales of electricity to fall by 6.4% this year in the commercial sector and by 6.0% in the industrial sector. EIA forecasts residential sector retail sales will increase by 3.5% in 2020. Milder winter temperatures earlier in the year led to lower consumption for space heating, but that factor is offset by increased summer cooling demand and an increase in electricity use by more people working from home. In 2021, EIA forecasts total U.S. electricity consumption will be similar to the 2020 level of consumption.

- EIA expects the share of U.S. electric power sector generation from natural gas-fired power plants will increase from 37% in 2019 to 39% this year. In 2021, the forecast

natural gas share declines to 34% in response to higher natural gas prices. Coal's forecast share of electricity generation falls from 24% in 2019 to 20% in 2020 and then increases to 22% in 2021. Electricity generation from renewable energy sources rises from 17% in 2019 to 20% in 2020 and to 22% in 2021. The increase in the share from renewables is the result of planned additions to wind and solar generating capacity. EIA expects a decline in nuclear generation in both 2020 and 2021, reflecting recent and planned retirements of nuclear generating capacity.

- EIA forecasts that renewable energy will be the fastest-growing source of electricity generation in 2020. EIA expects the electric power sector will add 23.3 gigawatts (GW) of new wind capacity and 13.7 GW of utility-scale solar capacity in 2020.

- EIA expects total U.S. coal production in 2020 to be 511 million short tons (MMst), 194 MMst (28%) lower than in 2019. Mitigation efforts related to COVID-19 and reduced demand from the U.S. electric power sector amid low natural gas prices have both contributed to mine idling and mine closures. EIA expects production to rise to 600 MMst in 2021, up 89 MMst (17%) from 2020. This forecast increase reflects rising demand for coal from U.S. electricity generators because of higher natural gas prices compared with 2020.

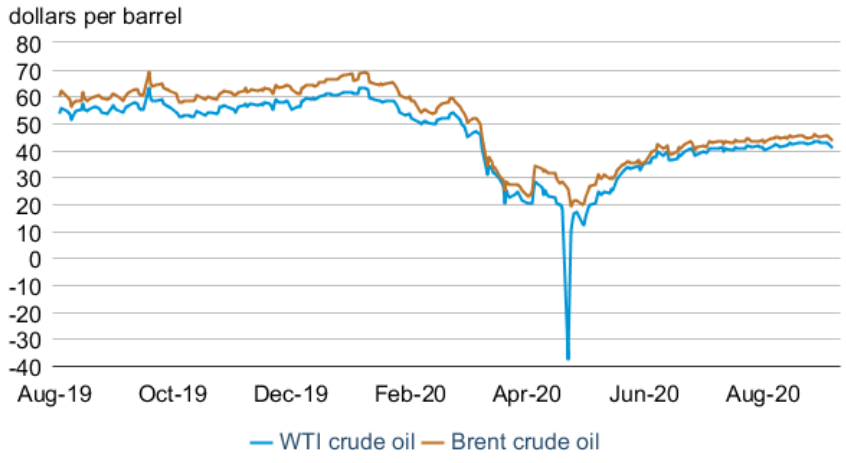
- EIA forecasts that U.S. energy-related carbon dioxide (CO2) emissions, after decreasing by 2.8% in 2019, will decrease by 10.0% (512 million metric tons) in 2020 with reduced consumption of all fossil fuels, particularly coal (18.3%) and petroleum (11.7%). This decline in emissions is the result of less energy consumption related to restrictions on business and travel activity and slowing economic growth related to COVID-19 mitigation efforts. In 2021, EIA forecasts that energy-related CO2 emissions will increase by 4.8% as the economy recovers and energy use increases.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $44.07 per barrel (b) on September 3, 2020, a decrease of 8 cents/b from August 3, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by 36 cents/b during the same period, settling at $41.37/b on September 3 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

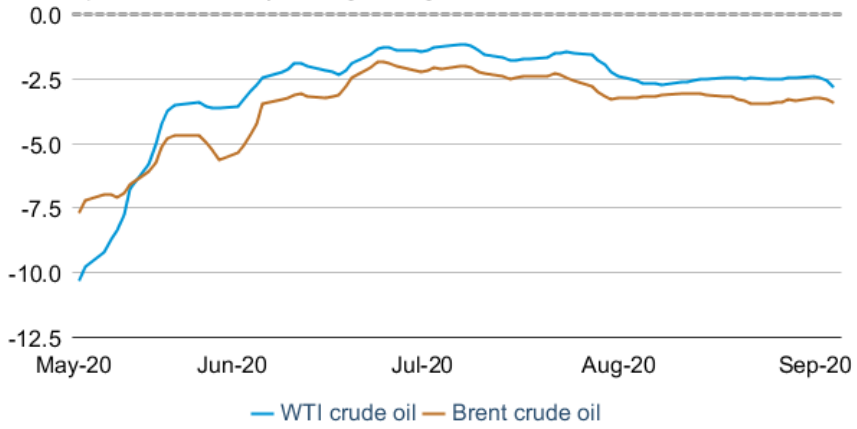
Brent crude oil prices increased for the fourth-consecutive month, driven by continued increases in global oil consumption amid reduced oil supply. As of the end of August, oil prices had moved into an increasingly narrow trading range with some of the lowest levels of price volatility since 2015. Although considerable uncertainty in the global economy and oil markets remains, price volatility may have declined primarily as a result of the large volume of oil inventories accumulated during the first half of 2020 and a slowing rate of oil consumption growth. EIA estimates that total commercial petroleum inventories in the Organization for Economic Cooperation and Development (OECD) as of the end of August 2020 were sufficient to meet 71 days of current OECD oil demand, compared with 63 days on average for August over the past five years (2015–19). However, crude oil prices fell on September 4 and 8, breaking out of the narrow trading range amid heightened volatility.

Indicators of economic activity have largely been higher than market participants' expectations, particularly in sectors such as housing and in indicators like new durable goods orders. Nonetheless, economic recovery in some sectors that are important for oil consumption, such as personal travel and tourism, has been slower. EIA estimates that global oil consumption in August grew by 1.0 million barrels per day (b/d) from July, the slowest month-over-month increase since consumption began to recover in May and the first time during that period that consumption growth was surpassed by growth in world oil production. Despite the different pace of increase between global oil production and consumption during August, EIA forecasts oil

market balances to continue tightening for the remainder of 2020 as a result of continued demand recovery, restrained production from members of the Organization of the Petroleum Exporting Countries and partner countries (OPEC+), and price-related declines in production from the United States.

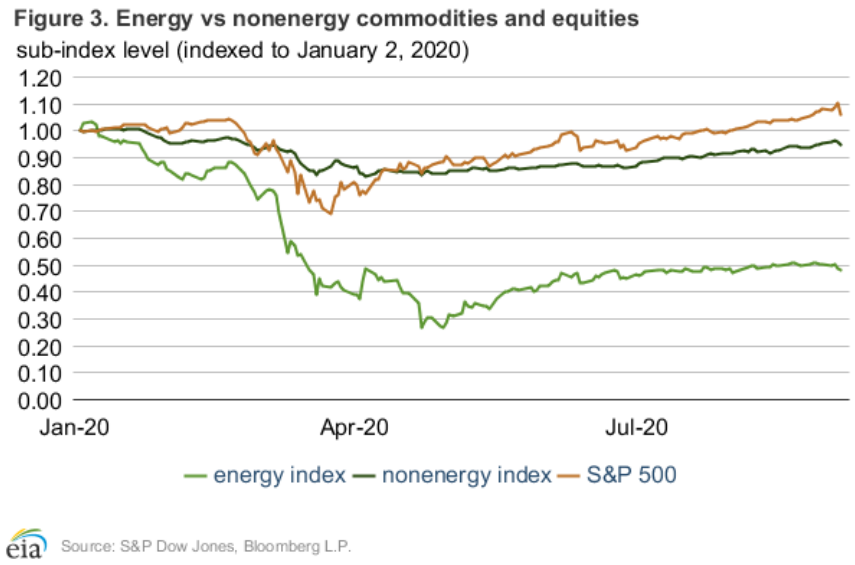
Although crude oil prices have increased slightly since mid-July, crude oil futures price spreads have developed a wider contango (when near-term prices are lower than longer-dated ones) during the same period. The five-day moving average of the Brent 1st–13th spread widened by 93 cents/b since July 15 to settle at -$3.41/b on September 3, 2020, and that of the WTI 1st–13th spread widened by 99 cents/b during the same period to settle at -$2.83/b **(Figure 2)**. A wider contango can indicate reduced refiner purchases or increased oil supply availability, which could suggest some slower growth in the outlook for global oil consumption and smaller inventory withdrawals. EIA forecasts that the large inventory withdrawals during the second half of 2020, averaging 3.4 million b/d, will subside in 2021 into a more balanced market and that global inventory withdrawals will average 0.3 million b/d for the year.

Figure 2. Crude oil front-month to 13th month futures price spread



Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

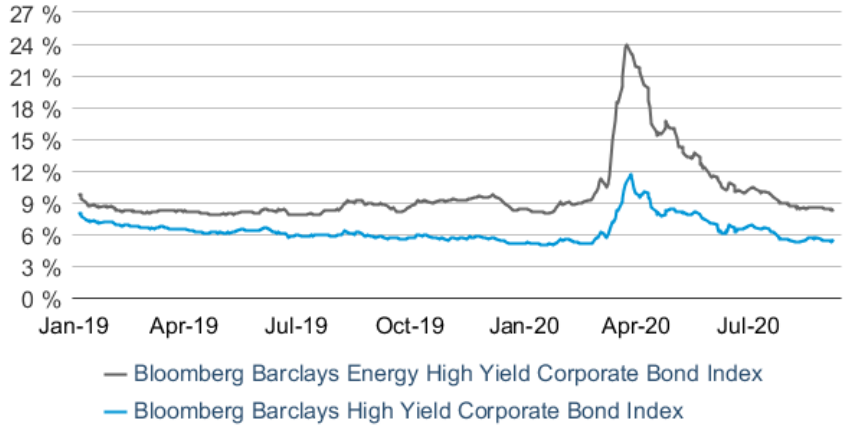
Commodity and equity prices: Certain sectors of the global economy have recovered faster than others, which is reflected in the price trends of different assets. The S&P 500 index, for example, is up 6% year-to-date through September 3 after having declined, at one point, by 31% in March. In addition, the S&P Goldman Sachs (GSCI) nonenergy commodity price index has recovered nearly all losses from the first and second quarters of 2020, down 5% through September 3, whereas the GSCI energy commodity index remains down 52% **(Figure 3)**. These differences in price changes likely reflect the different pace of economic recovery in various sectors. The S&P 500 index of equities is heavily weighted toward information technology and consumer discretionary companies, ones that were likely less affected or even had increases in revenue and activity as a result of the recession, such as internet-based retailers or cloud computing services.



The GSCI nonenergy commodity index has primarily been driven by increases in precious metals prices, which have likely increased as a result of low interest rates and increased inflation expectations. Other nonenergy commodity prices, such as copper and other industrial metals, have also increased as a result of expectations that government stimulus would likely be directed to infrastructure or construction. On the other hand, little recovery and low expectations of increased transportation, travel, and tourism has likely contributed to the subdued growth in the GSCI energy commodities index, which primarily represents crude oil and petroleum products prices.

Oil company bond yields: Bond yields for companies with a credit rating lower than investment grade, called high yield bonds, have declined for both oil exploration and production companies as well as broadly across all sectors. The Bloomberg Barclays Energy High Yield Corporate Bond Index's yield-to-worst (YTW), which represents the minimum achievable yield on the bonds after accounting for early prepayment, decreased to 8.31% as of September 3, 2020, and the broader high yield index declined to 5.35% **(Figure 4)**. The decline in the overall level of interest rates among other corporate bonds and government bonds has contributed to the decline in high yield bonds. More specifically, however, some companies that used to be rated as investment grade may have been reclassified as high yield, and other companies that defaulted on bonds may have been removed from these indexes. Such changes to the holdings of the high yield index would, as a result, remove higher credit risk companies and add lower credit risk companies, which would also contribute to a reduction in the YTW of the index. Nonetheless, the decline in bond yields suggests an improvement in borrowing conditions and lower risk of default for high yield companies. The YTW for high yield energy companies has declined to levels even lower than the end of 2019, when WTI crude oil prices reached $60/b or higher on some days. The lower YTW when WTI prices are near $40/b suggests some of the reduction in capital expenditures or other cost cutting announcements from U.S. oil companies are contributing to improved investor sentiment in the energy sector.

Figure 4. High yield bonds

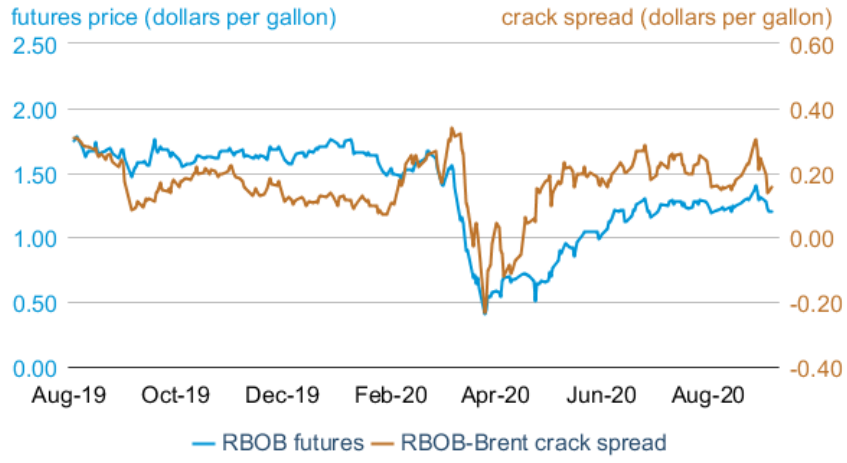


eia Bloomberg L.P., Barclays

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.20 per gallon (gal) on September 3, down 1 cent/gal from August 3, 2020 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 1 cent/gal to settle at 16 cents/gal during the same period.

Figure 5. Historical RBOB front-month futures prices and crack spread



eia Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending

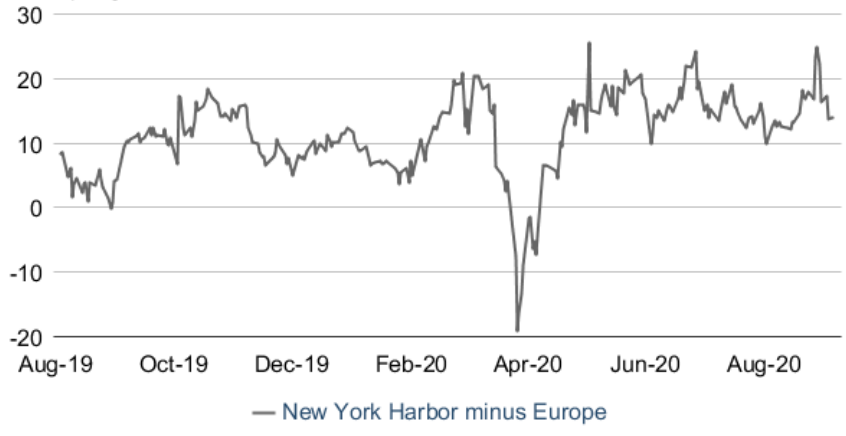
On August 24, the crack spread increased by more than 6 cents/gal, the largest one-day increase since April 22. The RBOB–Brent crack spread reached 30 cents/gal on August 25, its highest point since before the March 13 proclamation of a national state of emergency and the fifth highest for any day of the past year. The increase in the crack spread reflected expectation of lost gasoline production because of storm-related refinery closures. Hurricane Laura, which

made landfall as a Category 4 hurricane near Lake Charles, Louisiana, on early August 27, caused Gulf Coast refiners to reduce gross inputs by 1.0 million b/d for the week ending August 28 compared with a week earlier. Crack spreads declined to 14 cents/gal on September 1, reflecting both the passage of the hurricane and the front-month RBOB contract rolling to October delivery, which reflects winter grade gasoline that is cheaper for refineries to produce.

U.S. gasoline inventories decreased in August by 15 million barrels (6%) from July as finished motor gasoline consumption and net exports grew. EIA estimates that finished motor gasoline consumption increased to 8.9 million b/d for August, up 2% from 8.7 million b/d in July. Despite the larger-than-average inventory withdrawal, the August monthly average gasoline crack spread remained lower than the month's five-year (2015–2019) minimum for the sixth-consecutive month.

European gasoline: Although Northwest Europe's gasoline spot prices have risen from negative monthly average crack spreads with Brent crude oil in April and May, August's average crack spread was 4 cents/gal, which is 20 cents/gal lower than in August 2019. Furthermore, Europe's daily gasoline crack spreads during the past six months have averaged less than 1 cent/gal. Eurobob gasoline spot prices have been much lower than U.S. gasoline spot prices in New York Harbor. New York Harbor gasoline spot prices traded at a 12 to 25 cent/gal premium to Northwest Europe in August **(Figure 6)**. Since the start of 2018, only two instances of a wider crack spread have occurred. With a high premium for New York Harbor gasoline compared with Eurobob, imports of gasoline into the U.S. East Coast (Petroleum Administration for Defense District—PADD—1) averaged 613,000 b/d for the four weeks ending August 28, which would make it the first month since March in which imports were within the five-year range, if confirmed in EIA's *Petroleum Supply Monthly*. Imports from Europe to the East Coast could increase more in the coming weeks. Gulf Coast (PADD 3) refinery outages in late August and early September could contribute to reductions in supply to the East Coast via the Colonial and Plantation Pipelines, which could further increase demand for gasoline imports from Europe.

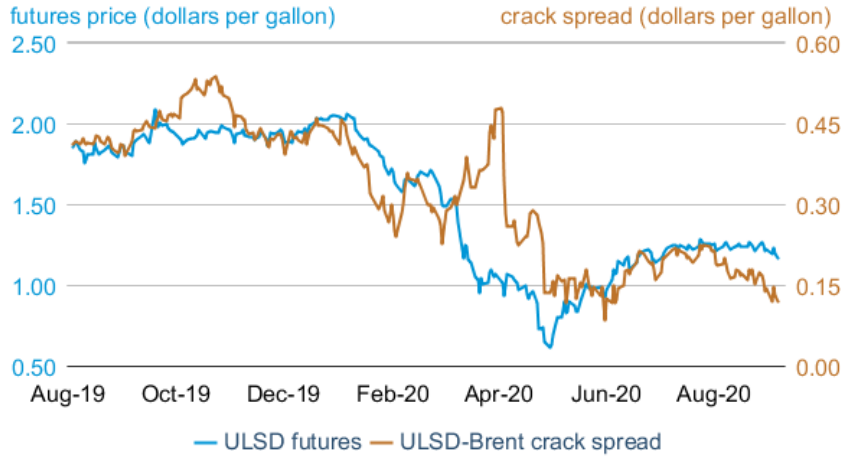
Figure 6. Gasoline spot price differentials



eia Source: Bloomberg L.P.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at $1.17/gal on September 3, 2020, down 7 cents/gal from August 3, 2020 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 7 cents/gal to settle at 12 cents/gal during the same period. The ULSD–Brent crack spread fell sharply in the last week of August.

Figure 7. Historical ULSD front-month futures price and crack spread

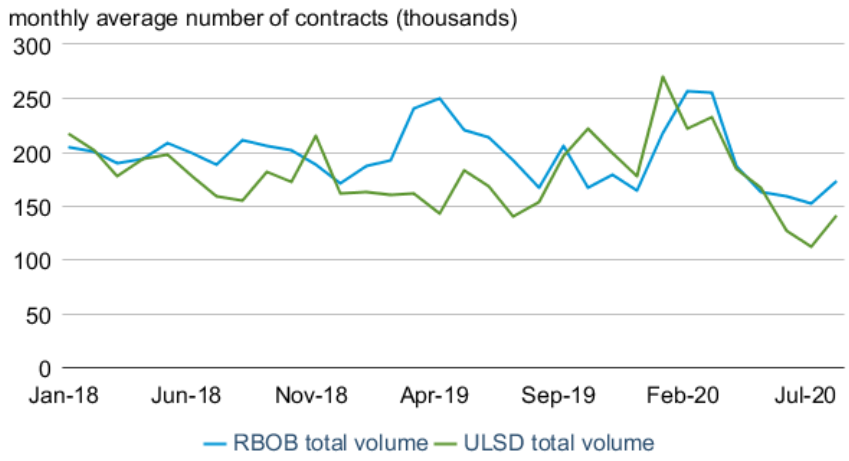


Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

Crack spreads likely fell in August, counter to typical seasonal patterns, as inventories during July and August remained at the highest levels since December 1982. EIA estimates that distillate consumption increased to 3.7 million b/d for August, up 6% from July's estimate of 3.5 million b/d but down 7% from a year ago.

Petroleum product trading volume: Trading volume for all futures contracts of RBOB and ULSD hit more-than-five-year lows in July and remained low in August. The monthly average numbers for all RBOB and ULSD contracts in August were 172,000 and 139,000, respectively **(Figure 8)**. Relative to their August five-year averages, trading volumes for RBOB were down 13%, and trading volumes for ULSD were down 15%. For their respective front-month contracts, volumes for RBOB and ULSD were down 19% and 21%, respectively. The reduction possibly reflects the significant decline in physical petroleum product market activity, including lower refinery runs and end-user hedging. Airlines, for example, regularly use the ULSD futures contract for hedging, and the significant declines in flight activity are likely contributing to a reduction in futures market participation among commercial airlines.

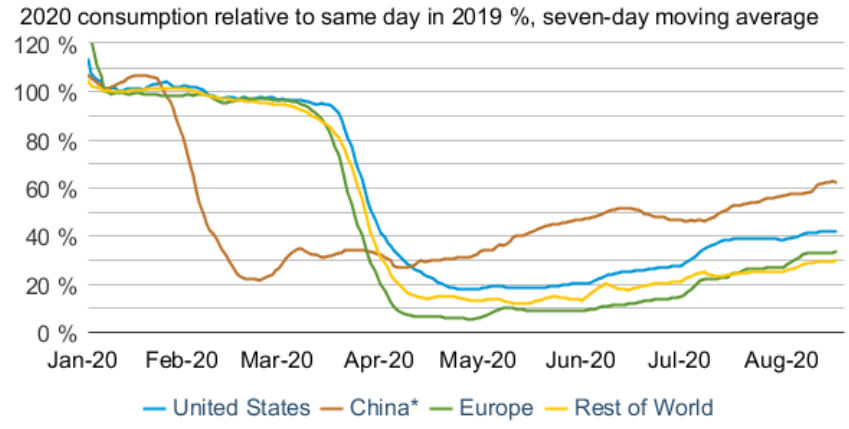
Figure 8. RBOB and ULSD total volume for all contracts



eia Source: CME Group, Bloomberg L.P.

U.S. and international jet fuel: Analysis of flight-level data provided by Cirium on commercial passenger flights suggest that demand for jet fuel in the United States is rising faster than in most other major aviation markets. EIA estimates that as of August 16, 2020, consumption of jet fuel by U.S. commercial passenger flights—a category of aircraft that EIA estimates accounted for 73% of total U.S. jet fuel consumption in January 2020—was about 612,000 b/d. This volume is 43% of the estimated amount consumed on the same date one year earlier **(Figure 9)**. U.S. year-on-year consumption is higher than consumption in Europe (36%), the rest of Africa (31%), the Middle East and North Africa (30%), the rest of Asia (28%), and in the rest of the Americas (24%). Year-on-year consumption in the United States was, however, lower than year-on-year consumption in China (including its Special Administrative Regions Hong Kong and Macau) (60%) and the countries of the Former Soviet Union (63%).

Figure 9. Ratio of year-to-date 2020 jet fuel consumption by commercial passenger jets to 2019 consumption



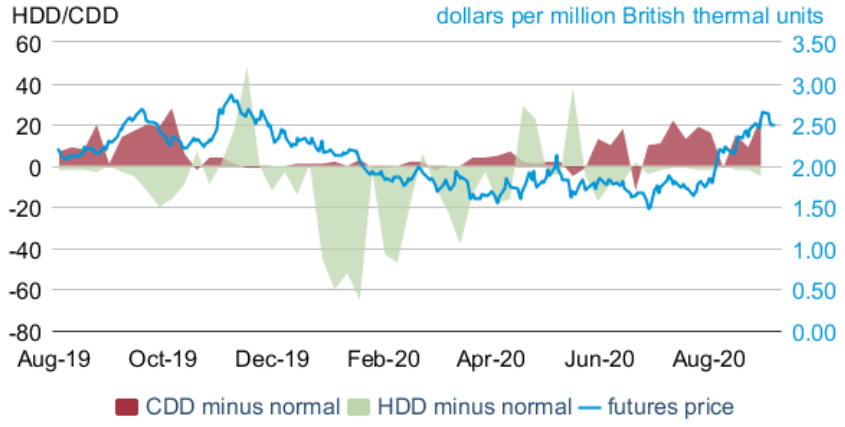
eia U.S. Energy Information Administration, using raw flight data from Cirium
Notes: China* inclusive of Hong Kong and Macau; consumption assigned to region of flight departure.

EIA assumes that the speed of each country's jet fuel demand recovery will depend on several factors, including the timing and intensity of each initial COVID-19 outbreak, the extent of government-required restrictions, and other non-aviation trends, such as gross domestic product growth and changes in energy intensity. Within the United States, EIA currently projects that jet fuel demand will rise from 1.1 million b/d in August 2020 to 1.5 million b/d in December 2020—59% and 85%, respectively, of the amount consumed in August and December 2019.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.49 per million British thermal units (MMBtu) on September 3, up 39 cents/MMBtu from August 3 **(Figure 10)**. The closing price on August 28 of $2.66/MMBtu was the highest price since November 22, 2019. The front-month futures price traded in a range of 89 cents/MMBtu in August, the widest trading range for August since 2010.

Figure 10. Natural gas front-month futures prices and actual minus historical average HDD and CDD

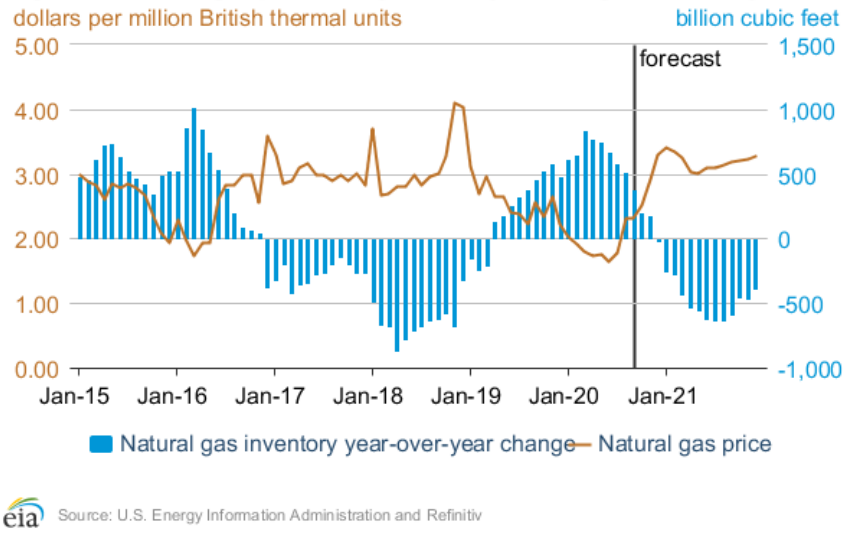


Source: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

Higher-than-normal temperatures continued to contribute to increased consumption of natural gas for power generation. EIA estimates that natural gas consumption from the electric power sector totaled 41.0 billion cubic feet per day (Bcf/d) in August 2020, the second-highest on record for the month of August. Low natural gas prices in recent months have contributed to increase consumption for power generation, but they have also contributed to decreasing natural gas production, which declined to 88.4 Bcf/d in August, 4.9 Bcf/d lower than August 2019. EIA forecasts that production will decline by about the same amount in 2021 as consumption declines, but that liquefied natural gas (LNG) exports will increase, which will tend to lower inventories compared with 2020 and provide upward pressure on Henry Hub prices. Rising international natural gas prices are further indications of increasing international demand for natural gas and LNG. The LNG Japan/Korea Marker and Title Transfer Facility price in the Netherlands both increased in August to the highest levels since January 2020.

Natural gas spot prices and inventory changes: The monthly average Henry Hub natural gas spot price rose to $2.30/MMBtu in August 2020, 53 cents/MMBtu higher than July and the first year-on-year increase in the monthly average price since March 2019. Natural gas inventories have shown year-on-year increases since April 2019 **(Figure 11)**. However, EIA forecasts that natural gas production will decline until March 2021, averaging 3.3 Bcf/d lower in 2021 than in 2020, and that natural gas inventories will begin showing year-on-year decreases in December 2020. The decline in inventories is expected to contribute to higher prices. EIA forecasts that Henry Hub spot prices will remain higher than $3.00/MMBtu throughout 2021, averaging $3.19/MMBtu, which would be $1.02/MMBtu higher than in 2020.

Figure 11. Natural gas prices and year-over-year change in inventory



Source: U.S. Energy Information Administration and Refinitiv

Notable forecast changes

- Because of the rapidly changing situation in energy markets, the U.S. Energy Information Administration's (EIA) current forecast includes a significant number of notable forecast changes. You can find more information in the detailed table of forecast changes.
- The macroeconomic forecast EIA used for this STEO assumes U.S. gross domestic product (GDP) declines by 4.8% in 2020 compared with an assumed decline of 6.1% in the August STEO. EIA also assumes a smaller increase in GDP in 2021 of 3.1%, compared with 3.7% growth assumed in the previous forecast. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit.
- EIA expects global consumption of petroleum and other liquid fuels will average 99.6 million barrels per day (b/d) in 2021, a reduction of 0.6 million b/d from the August STEO. The downward revision primarily reflects lower expected growth in China, where EIA forecasts liquid fuels consumption to rise by 1.0 million b/d in 2021 to average 15.0

million b/d. The revised petroleum consumption reflects a more plausible assessment of the country's energy intensity of economic growth.

- Recently released EIA data show that U.S. crude oil production for June was 10.4 million b/d, 0.7 million b/d more than estimated in last month's STEO forecast. The higher-than-expected production indicates a faster return of curtailed production than previously assumed. Despite the higher realized production levels, EIA's forecast for U.S. crude oil production for the fourth quarter of 2020 and 2021 is relatively unchanged.
- EIA forecasts U.S. dry natural gas production will average 86.6 billion cubic feet per day (Bcf/d) in 2021, which is 2.6 Bcf/d (3%) higher than forecast in the August STEO. The higher forecast largely reflects higher expected natural gas prices in the second half of 2020 because prices typically affect production with a lag.
- EIA expects Henry Hub natural gas spot prices to average $2.52 per million British thermal units (MMBtu) in the second half of 2020, compared with $2.26/MMBtu forecast in last month's STEO. The higher prices reflect an increase in demand for natural gas for use in power generation during a relatively hot August and also an increase in demand for U.S. exports of liquefied natural gas.
- EIA forecasts U.S. production of coal will total 600 MMst in 2021, which is 36 MMst (6%) higher than forecast in the August STEO. The higher forecast reflects higher expected natural gas prices in 2021 that will make coal more competitive in the U.S. electric power sector.

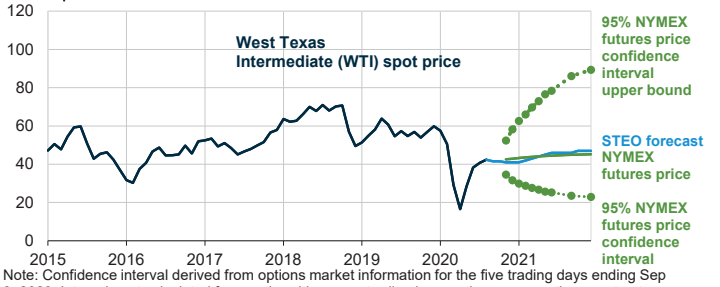
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

September 9, 2020

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

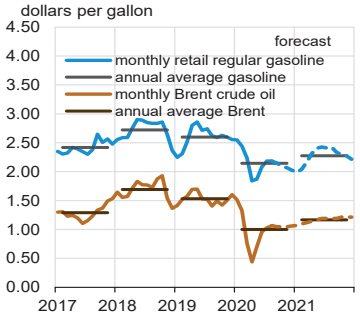


Note: Confidence interval derived from options market information for the five trading days ending Sep 3, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

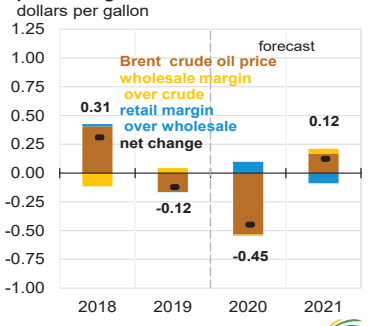
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020, CME Group, and Bloomberg, L.P.

eia

U.S. gasoline and crude oil prices
dollars per gallon



Components of annual gasoline price changes
dollars per gallon

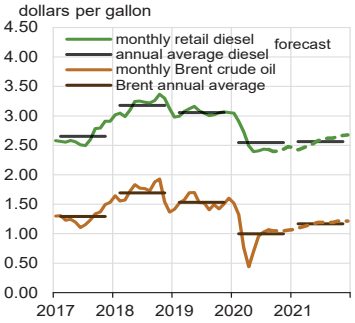


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

eia

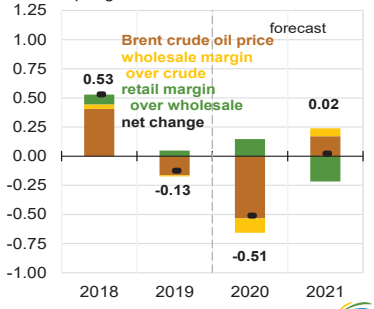
U.S. diesel and crude oil prices

dollars per gallon



Components of annual diesel prices changes

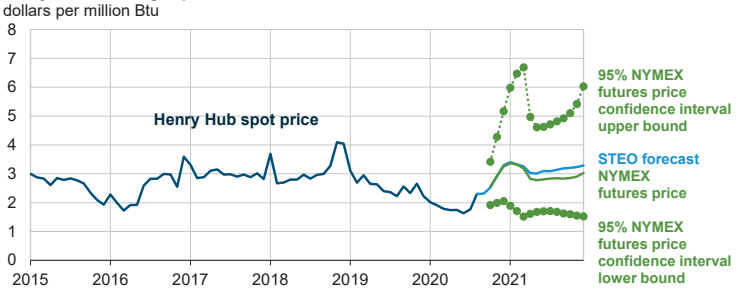
dollars per gallon



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

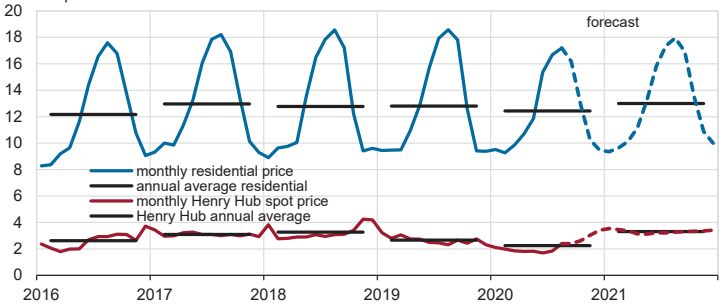


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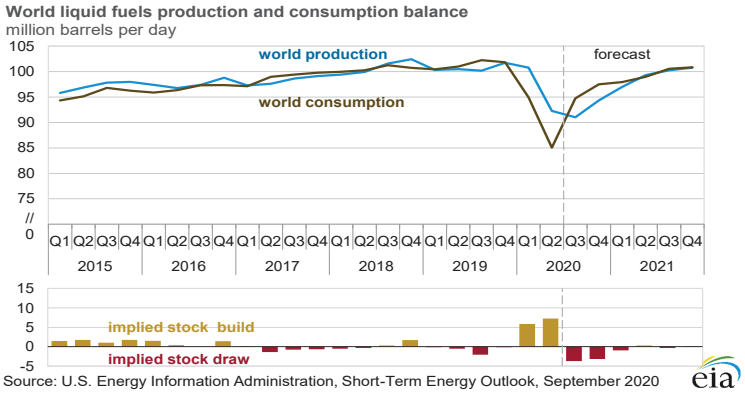
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020, and CME Group

U.S. natural gas prices

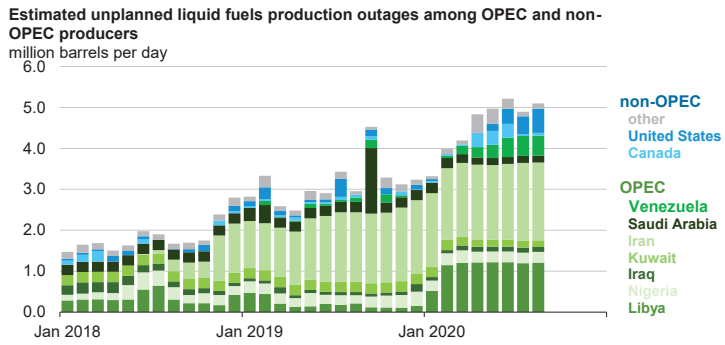
dollars per thousand cubic feet



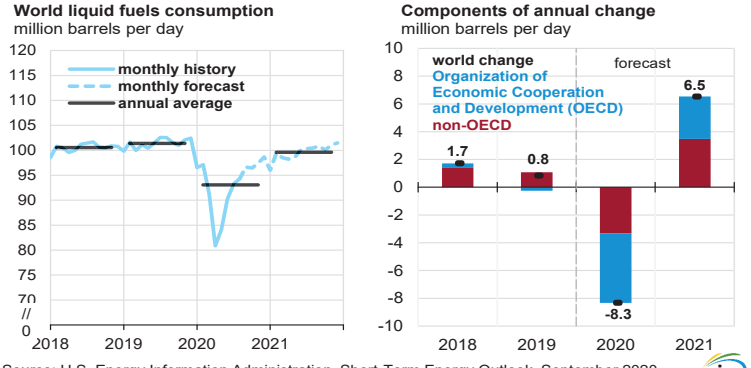
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020, and Refinitiv



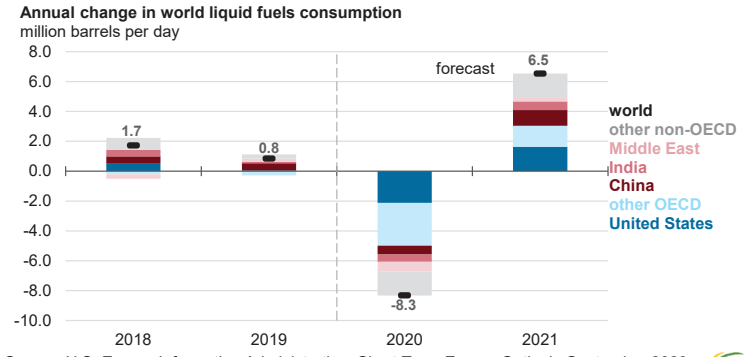
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



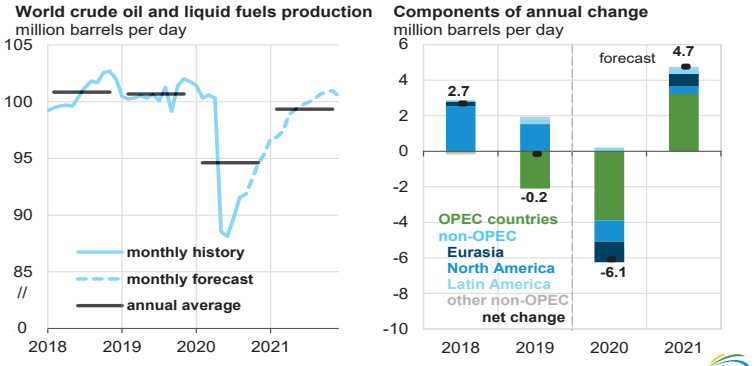
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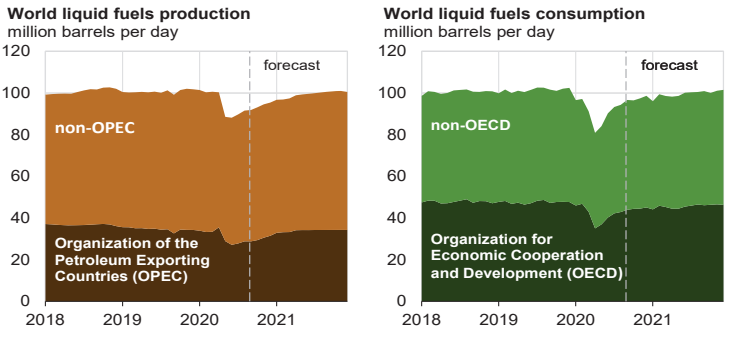
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Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

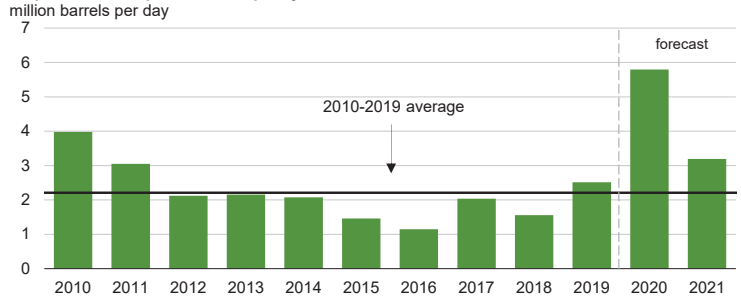


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



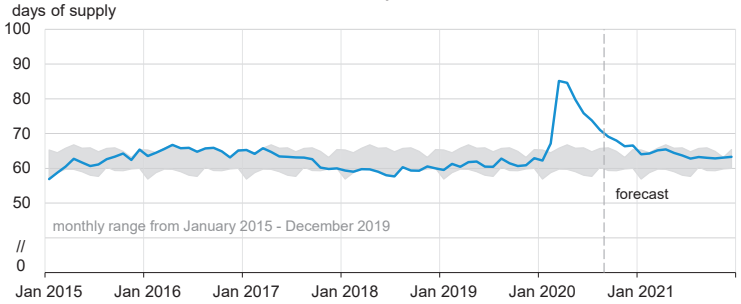
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



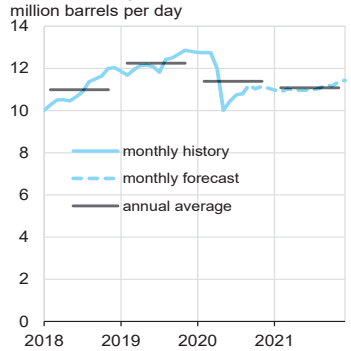
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

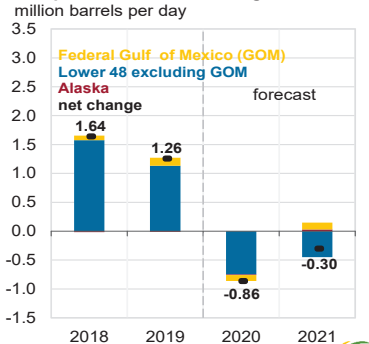


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. crude oil production
million barrels per day

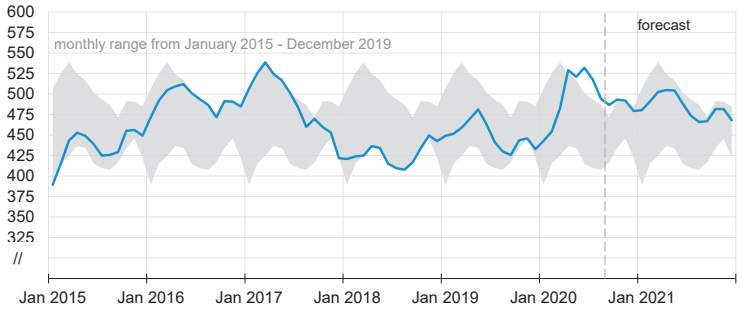


Components of annual change
million barrels per day



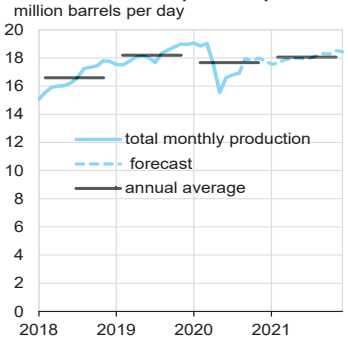
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. commercial crude oil inventories
million barrels

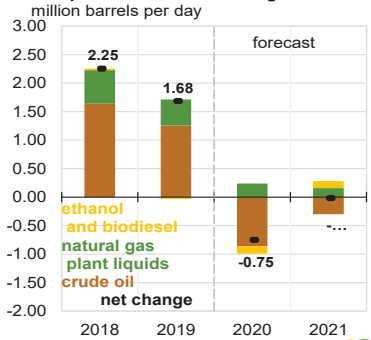


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. crude oil and liquid fuels production
million barrels per day

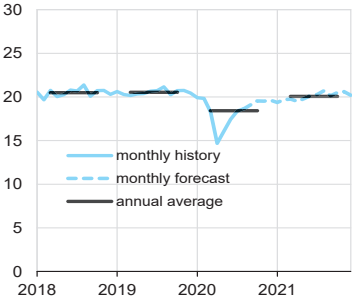


Components of annual change
million barrels per day

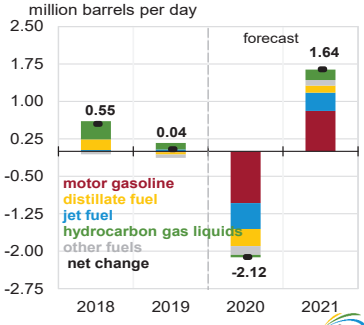


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. liquid fuels product supplied (consumption)
million barrels per day

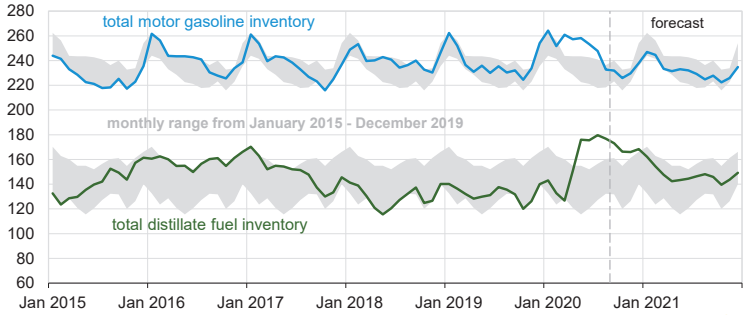


Components of annual change
million barrels per day



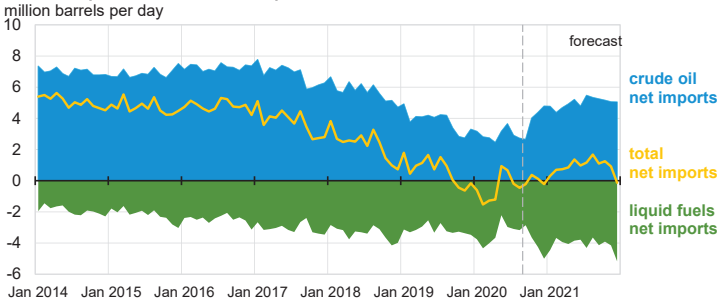
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. gasoline and distillate inventories
million barrels



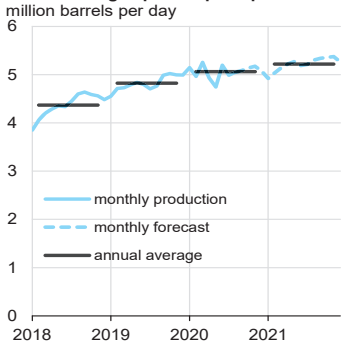
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. net imports of crude oil and liquid fuels
million barrels per day

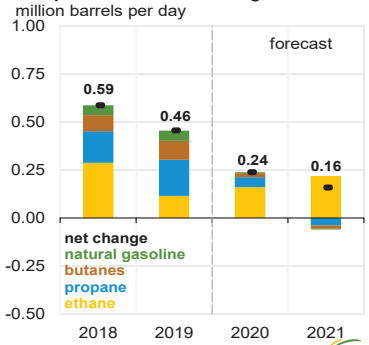


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

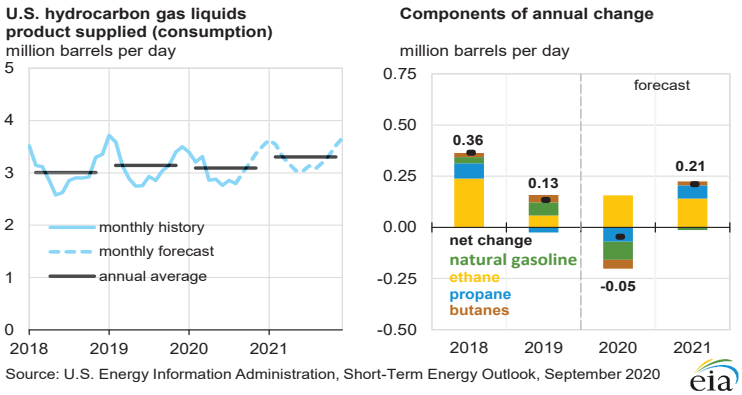
U.S. natural gas plant liquids production
million barrels per day



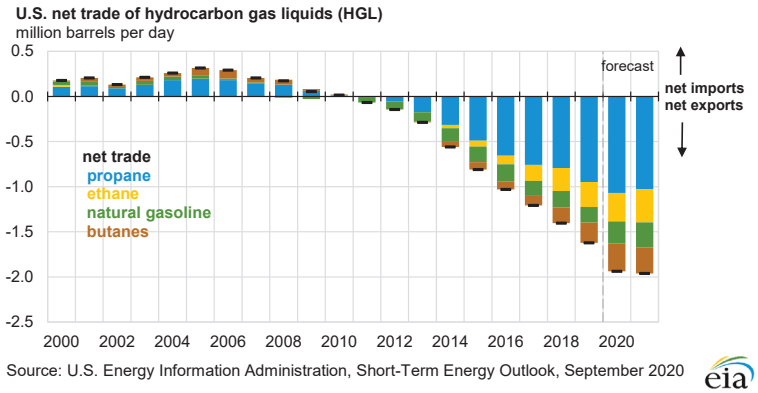
Components of annual change
million barrels per day



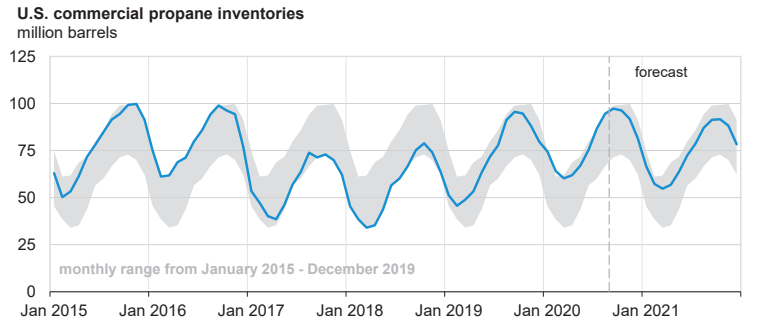
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



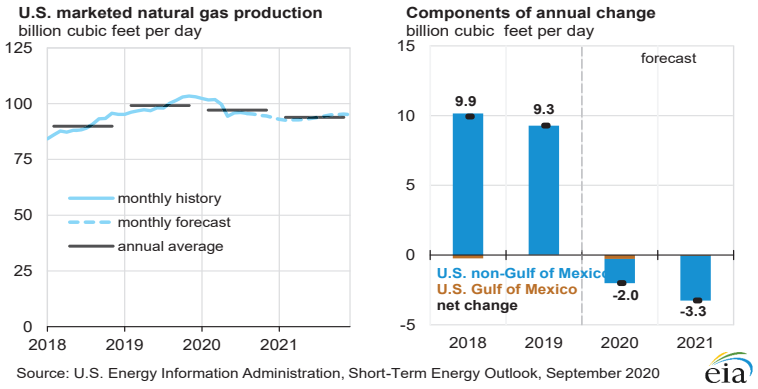
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



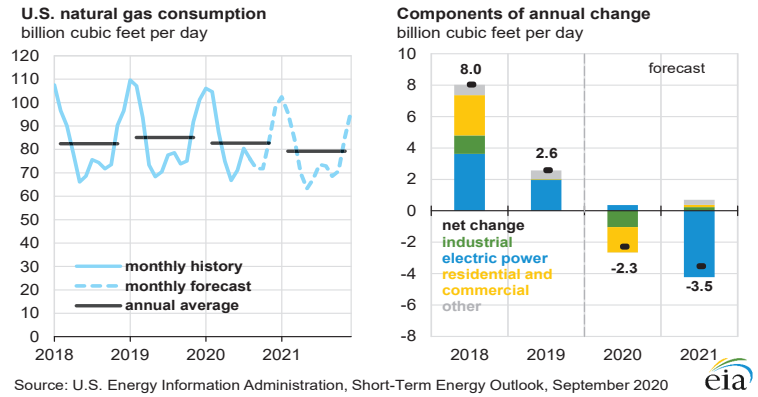
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



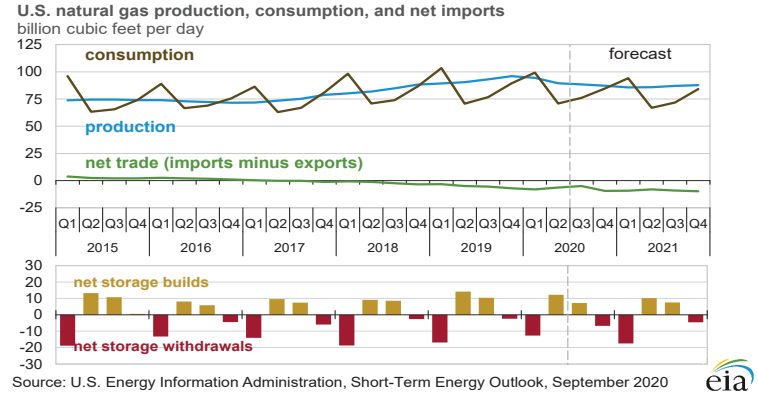
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

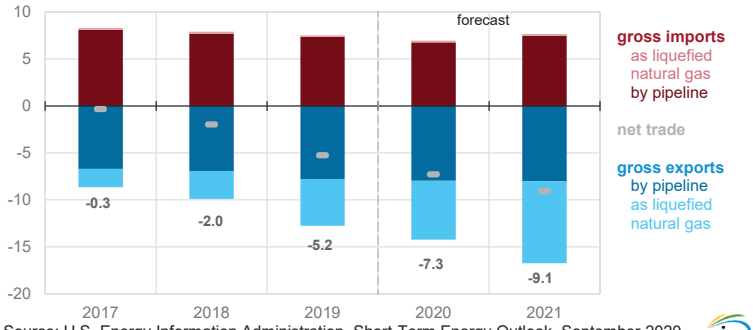


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



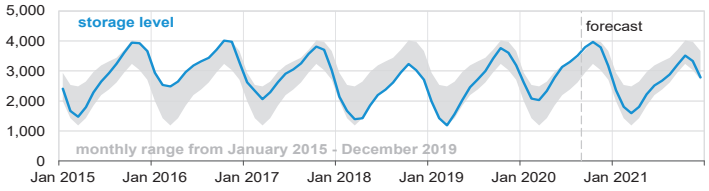
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. annual natural gas trade
billion cubic feet per day

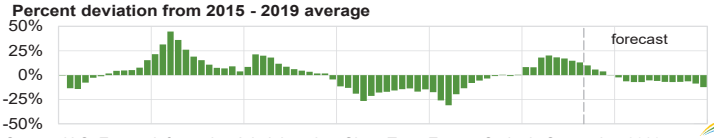


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. working natural gas in storage
billion cubic feet

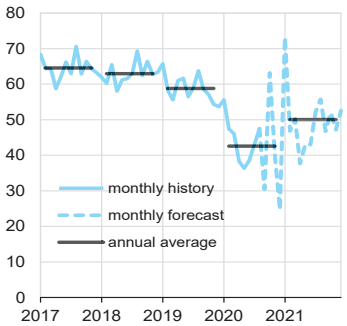


Percent deviation from 2015 - 2019 average

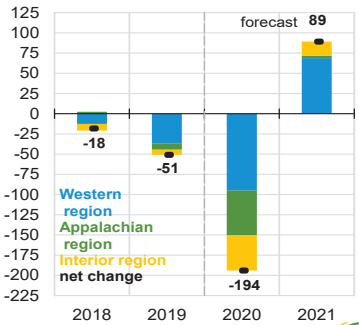


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

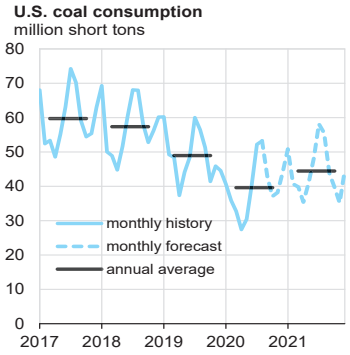
U.S. coal production
million short tons

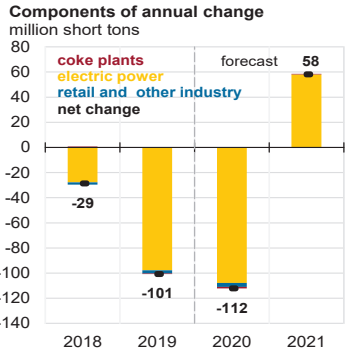


Components of annual change
million short tons

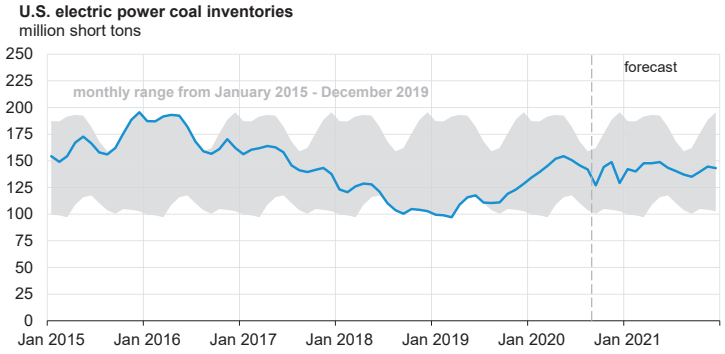


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

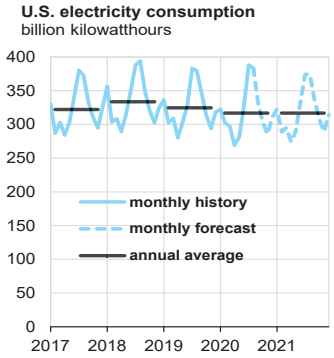


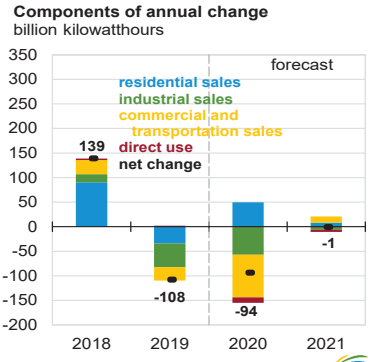


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



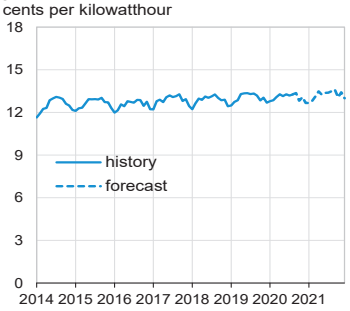
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020



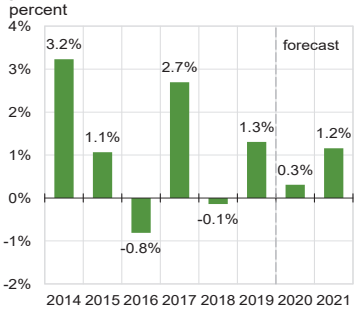


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. monthly residential electricity price
cents per kilowatthour

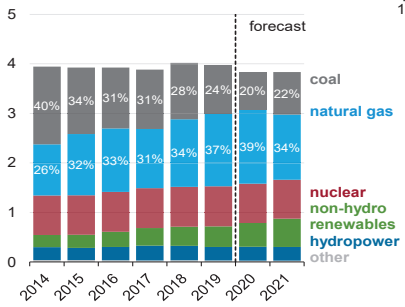


Annual growth in residential electricity prices
percent

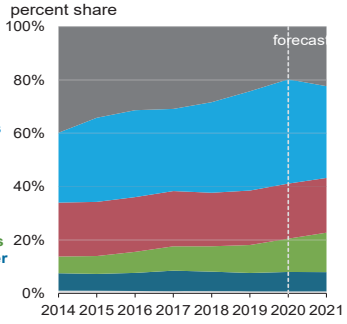


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. electricity generation by fuel, all sectors
trillion kilowatthours

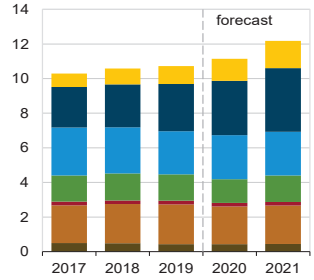


percent share

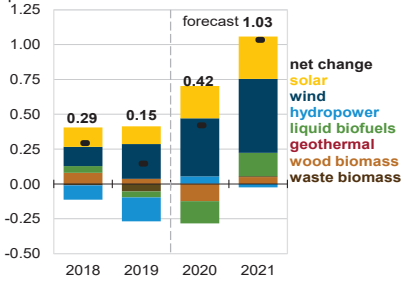


Note: Labels show percentage share of total generation provided by coal and natural gas.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. renewable energy supply
quadrillion British thermal units

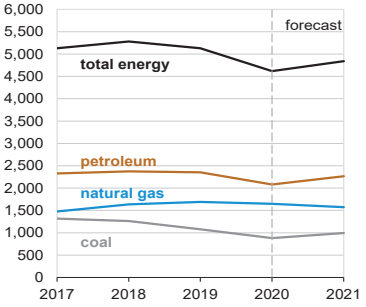


Components of annual change
quadrillion British thermal units

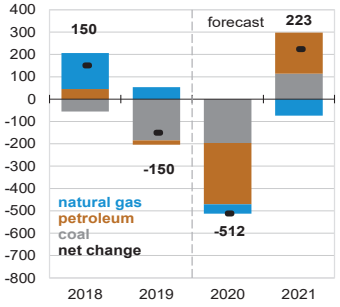


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. annual carbon emissions by source
million metric tons

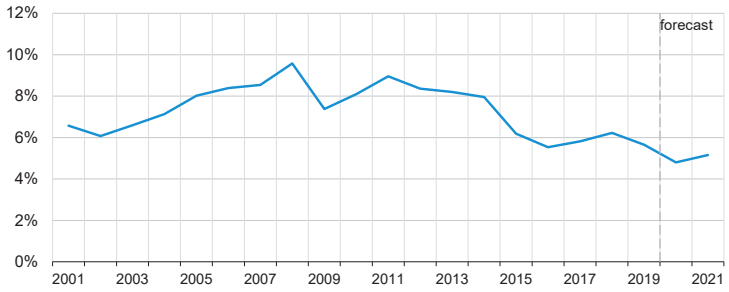


Components of annual change
million metric tons



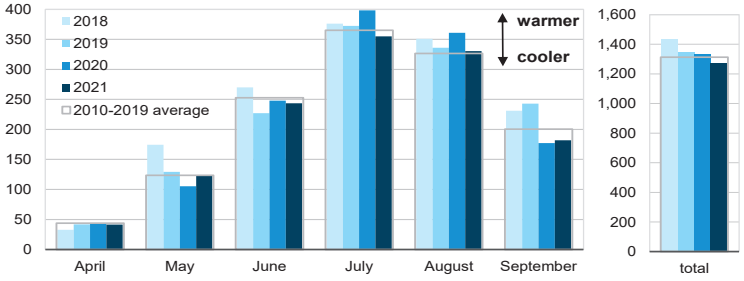
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

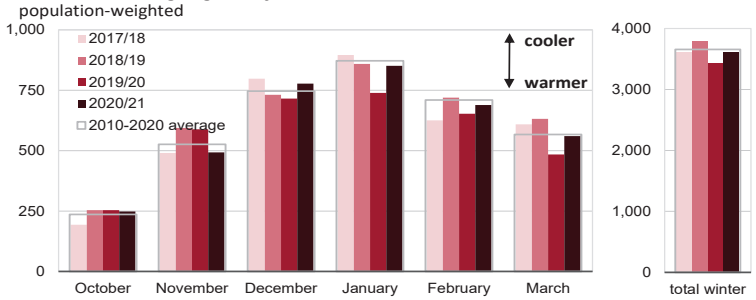
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

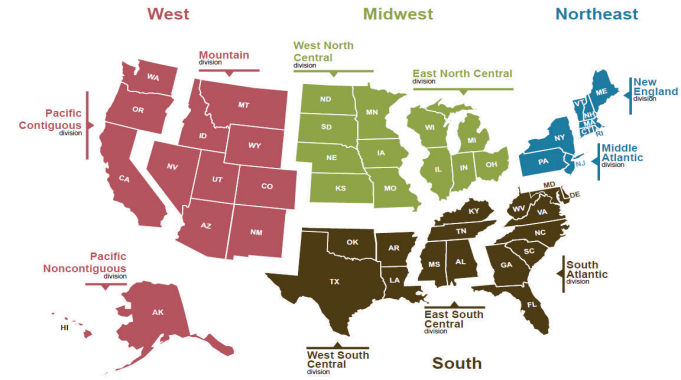
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.81**	*10.91*	*11.08*	*10.96*	*10.97*	*11.08*	*11.32*	**12.25**	*11.38*	*11.08*
Dry Natural Gas Production															
(billion cubic feet per day)	**89.32**	**90.50**	**92.98**	**95.97**	**94.48**	**89.50**	*88.44*	*87.14*	*85.67*	*85.87*	*87.07*	*87.73*	**92.21**	*89.88*	*86.59*
Coal Production															
(million short tons)	**180**	**179**	**181**	**165**	**149**	**113**	*121*	*128*	*170*	*124*	*155*	*152*	**705**	*511*	*600*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	*18.70*	*19.56*	*19.60*	*19.82*	*20.38*	*20.44*	**20.54**	*18.42*	*20.06*
Natural Gas															
(billion cubic feet per day)	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**70.90**	*76.07*	*84.54*	*94.18*	*66.84*	*71.71*	*84.05*	**84.97**	*82.68*	*79.14*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**132**	**109**	**98**	*148*	*119*	*131*	*125*	*158*	*120*	**587**	*475*	*533*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.02**	**12.06**	**10.07**	**10.13**	**9.64**	*12.00*	*9.77*	*10.07*	*9.88*	*11.78*	*9.91*	**10.67**	*10.39*	*10.41*
Renewables (c)															
(quadrillion Btu)	**2.80**	**3.07**	**2.79**	**2.78**	**2.90**	**3.00**	*2.90*	*2.95*	*3.19*	*3.38*	*3.15*	*3.16*	**11.44**	*11.76*	*12.88*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.54**	**23.43**	**24.97**	**25.22**	**25.10**	**20.60**	*23.24*	*23.83*	*24.81*	*22.59*	*24.03*	*24.34*	**100.17**	*92.77*	*95.77*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	*41.49*	*41.17*	*42.07*	*45.02*	*46.00*	*47.00*	**56.99**	*38.99*	*45.07*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	*2.13*	*2.91*	*3.33*	*3.04*	*3.14*	*3.24*	**2.57**	*2.16*	*3.19*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.90**	*2.00*	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,206**	*18,132*	*18,323*	*18,408*	*18,646*	*18,829*	*19,021*	**19,092**	*18,168*	*18,726*
Percent change from prior year	**2.3**	**2.0**	**2.1**	**2.3**	**0.3**	**-9.5**	*-5.3*	*-4.8*	*-3.2*	*8.4*	*3.8*	*3.8*	**2.2**	*-4.8*	*3.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.9**	*113.4*	*113.7*	*114.1*	*114.3*	*114.6*	*114.9*	**112.3**	*113.3*	*114.5*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	**0.6**	*0.7*	*0.6*	*0.6*	*1.3*	*1.1*	*1.1*	**1.8**	*0.9*	*1.0*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,060**	**16,524**	*16,173*	*16,216*	*14,800*	*14,944*	*15,057*	*15,125*	**14,883**	*15,993*	*14,981*
Percent change from prior year	**3.2**	**2.1**	**1.8**	**1.6**	**1.4**	**11.5**	*8.6*	*8.4*	*-1.7*	*-9.6*	*-6.9*	*-6.7*	**2.2**	*7.5*	*-6.3*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.1**	*98.0*	*97.6*	*98.1*	*99.2*	*100.1*	*101.3*	**106.0**	*97.2*	*99.7*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.0**	**-15.7**	*-7.5*	*-7.8*	*-6.0*	*11.4*	*2.1*	*3.8*	**0.0**	*-8.2*	*2.5*
Weather															
U.S. Heating Degree-Days	**2,210**	**480**	**56**	**1,558**	**1,876**	**540**	*67*	*1,518*	*2,100*	*483*	*72*	*1,499*	**4,304**	*4,000*	*4,153*
U.S. Cooling Degree-Days	**46**	**398**	**952**	**105**	**70**	**396**	*936*	*94*	*46*	*409*	*867*	*99*	**1,500**	*1,497*	*1,421*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	*41.49*	*41.17*	*42.07*	*45.02*	*46.00*	*47.00*	**56.99**	*38.99*	*45.07*
Brent Spot Average	**63.14**	**69.04**	**61.90**	**63.30**	**49.97**	**29.52**	*43.97*	*44.17*	*46.07*	*49.02*	*50.00*	*51.00*	**64.34**	*41.90*	*49.07*
U.S. Imported Average	**55.39**	**62.93**	**57.31**	**55.60**	**43.76**	**26.74**	*40.10*	*39.00*	*39.54*	*42.39*	*43.25*	*44.00*	**57.95**	*37.42*	*42.39*
U.S. Refiner Average Acquisition Cost	**57.08**	**63.54**	**58.67**	**58.05**	**47.48**	**28.77**	*44.10*	*41.49*	*41.04*	*43.41*	*44.25*	*45.00*	**59.36**	*40.91*	*43.48*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**153**	**104**	*135*	*129*	*136*	*161*	*161*	*150*	**186**	*131*	*152*
Diesel Fuel	**192**	**203**	**192**	**197**	**160**	**97**	*128*	*134*	*139*	*153*	*160*	*163*	**196**	*130*	*154*
Heating Oil	**189**	**195**	**184**	**191**	**160**	**87**	*114*	*125*	*140*	*149*	*157*	*161*	**190**	*125*	*148*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**165**	**85**	*118*	*122*	*132*	*141*	*150*	*156*	**197**	*129*	*145*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**163**	**176**	**103**	*135*	*136*	*103*	*104*	*105*	*106*	**158**	*138*	*104*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	**194**	*217*	*206*	*207*	*238*	*239*	*226*	**260**	*216*	*228*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**251**	**203**	*227*	*218*	*219*	*251*	*252*	*240*	**269**	*226*	*241*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	**243**	*242*	*244*	*245*	*253*	*261*	*267*	**306**	*255*	*257*
Heating Oil	**300**	**305**	**290**	**301**	**280**	**200**	*217*	*237*	*245*	*249*	*257*	*271*	**300**	*246*	*256*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	*2.21*	*3.02*	*3.46*	*3.16*	*3.26*	*3.37*	**2.67**	*2.25*	*3.31*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	*2.13*	*2.91*	*3.33*	*3.04*	*3.14*	*3.24*	**2.57**	*2.16*	*3.19*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	**2.86**	*2.93*	*3.98*	*4.75*	*4.11*	*4.10*	*4.55*	**3.91**	*3.36*	*4.40*
Commercial Sector	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	**7.67**	*7.95*	*7.35*	*7.61*	*8.24*	*8.71*	*8.02*	**7.62**	*7.41*	*7.96*
Residential Sector	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	**11.90**	*16.68*	*10.28*	*9.65*	*12.72*	*17.38*	*10.88*	**10.56**	*10.67*	*10.97*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.90**	*2.00*	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.39**	**2.10**	*2.35*	*3.26*	*3.97*	*3.33*	*3.35*	*3.62*	**2.88**	*2.49*	*3.54*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**6.75**	*7.50*	*8.12*	*8.70*	*9.92*	*9.65*	*9.58*	**12.72**	*8.58*	*9.35*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.37**	*10.02*	*10.67*	*11.03*	*12.10*	*12.49*	*12.81*	**15.16**	*10.65*	*12.14*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.62**	*7.25*	*6.69*	*6.49*	*6.73*	*7.26*	*6.70*	**6.83**	*6.74*	*6.81*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.63**	*10.79*	*10.39*	*10.30*	*10.77*	*11.02*	*10.57*	**10.66**	*10.55*	*10.68*
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.24**	*13.27*	*12.84*	*12.85*	*13.36*	*13.49*	*13.14*	**13.04**	*13.08*	*13.23*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.06**	**31.32**	**31.48**	**32.76**	**32.91**	**29.32**	*29.70*	*30.66*	*30.64*	*30.82*	*31.07*	*31.78*	**31.66**	*30.64*	*31.08*
U.S. (50 States)	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.58**	*18.24*	*18.62*	*18.45*	*18.72*	*18.88*	*19.18*	**19.47**	*18.67*	*18.81*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.83**	*4.82*	*5.29*	*5.39*	*5.47*	*5.52*	*5.74*	**5.50**	*5.15*	*5.53*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	*1.82*	*1.77*	*1.80*	*1.80*	*1.76*	*1.75*	**1.92**	*1.88*	*1.78*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.03**	**4.96**	*4.82*	*4.97*	*5.01*	*4.82*	*4.91*	*5.11*	**4.77**	*4.95*	*4.96*
Non-OECD	**69.28**	**69.16**	**68.70**	**68.98**	**67.88**	**62.97**	*61.32*	*63.69*	*66.36*	*68.47*	*69.18*	*69.00*	**69.03**	*63.96*	*68.26*
OPEC	**35.41**	**34.94**	**33.90**	**34.36**	**33.56**	**30.52**	*28.48*	*30.50*	*33.13*	*34.20*	*34.27*	*34.29*	**34.65**	*30.76*	*33.98*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	*23.65*	*25.59*	*28.09*	*29.23*	*29.31*	*29.33*	**29.27**	*25.78*	*28.99*
Other Liquids (b)	**5.47**	**5.47**	**5.24**	**5.34**	**5.28**	**4.88**	*4.83*	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.38**	*4.97*	*4.98*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	*12.74*	*13.20*	*13.73*	*14.13*	*14.30*	*14.44*	**14.63**	*13.47*	*14.15*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	*4.92*	*4.95*	*4.92*	*4.95*	*4.96*	*5.01*	**4.89**	*4.93*	*4.96*
Other Non-OECD	**14.12**	**14.88**	**15.33**	**15.08**	**14.62**	**14.34**	*15.19*	*15.05*	*14.58*	*15.19*	*15.65*	*15.26*	**14.86**	*14.80*	*15.17*
Total World Supply	**100.34**	**100.49**	**100.18**	**101.73**	**100.78**	**92.28**	*91.02*	*94.35*	*97.00*	*99.29*	*100.25*	*100.78*	**100.69**	*94.60*	*99.34*
Non-OPEC Supply	**64.93**	**65.55**	**66.28**	**67.37**	**67.22**	**61.76**	*62.55*	*63.85*	*63.87*	*65.09*	*65.98*	*66.49*	**66.04**	*63.84*	*65.37*
Consumption (million barrels per day) (c)															
OECD	**47.56**	**46.97**	**48.08**	**47.72**	**45.25**	**37.41**	*43.01*	*44.67*	*45.10*	*44.82*	*46.20*	*46.41*	**47.58**	*42.59*	*45.64*
U.S. (50 States)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	*18.70*	*19.56*	*19.60*	*19.82*	*20.38*	*20.44*	**20.54**	*18.42*	*20.06*
U.S. Territories	**0.19**	**0.17**	**0.17**	**0.18**	**0.17**	**0.15**	*0.15*	*0.16*	*0.17*	*0.15*	*0.16*	*0.17*	**0.18**	*0.16*	*0.16*
Canada	**2.31**	**2.32**	**2.57**	**2.49**	**2.33**	**1.82**	*2.21*	*2.29*	*2.36*	*2.32*	*2.43*	*2.40*	**2.42**	*2.16*	*2.38*
Europe	**14.04**	**14.18**	**14.66**	**14.06**	**13.35**	**11.04**	*12.99*	*13.00*	*13.02*	*13.35*	*13.92*	*13.69*	**14.24**	*12.60*	*13.50*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.84**	*3.04*	*3.38*	*3.63*	*3.00*	*3.10*	*3.35*	**3.65**	*3.24*	*3.27*
Other OECD	**6.61**	**6.46**	**6.54**	**6.61**	**6.38**	**5.47**	*5.92*	*6.28*	*6.31*	*6.18*	*6.22*	*6.37*	**6.55**	*6.01*	*6.27*
Non-OECD	**52.90**	**54.03**	**54.17**	**54.12**	**49.68**	**47.64**	*51.71*	*52.82*	*52.85*	*54.16*	*54.36*	*54.45*	**53.81**	*50.47*	*53.96*
Eurasia	**5.14**	**5.19**	**5.59**	**5.44**	**4.94**	**4.56**	*5.36*	*5.29*	*5.08*	*5.15*	*5.55*	*5.41*	**5.34**	*5.04*	*5.30*
Europe	**0.77**	**0.76**	**0.78**	**0.78**	**0.72**	**0.71**	*0.73*	*0.74*	*0.74*	*0.74*	*0.76*	*0.76*	**0.77**	*0.73*	*0.75*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.26**	**13.39**	*14.25*	*14.76*	*14.85*	*15.09*	*14.83*	*15.07*	**14.51**	*13.92*	*14.96*
Other Asia	**13.95**	**14.11**	**13.74**	**14.08**	**13.30**	**11.95**	*12.97*	*13.72*	*14.20*	*14.44*	*14.06*	*14.44*	**13.97**	*12.99*	*14.29*
Other Non-OECD	**18.59**	**19.31**	**19.70**	**19.24**	**17.46**	**17.03**	*18.39*	*18.32*	*17.97*	*18.73*	*19.16*	*18.76*	**19.21**	*17.81*	*18.66*
Total World Consumption	**100.45**	**100.99**	**102.25**	**101.84**	**94.92**	**85.05**	*94.72*	*97.50*	*97.95*	*98.98*	*100.56*	*100.87*	**101.39**	*93.07*	*99.60*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.21**	**-0.60**	**0.06**	**0.29**	**-0.43**	**-1.68**	*0.66*	*0.69*	*0.36*	*-0.19*	*-0.05*	*0.41*	**-0.01**	*-0.18*	*0.13*
Other OECD	**-0.20**	**0.01**	**-0.16**	**0.24**	**-0.56**	**-0.99**	*0.97*	*0.79*	*0.19*	*-0.04*	*0.11*	*-0.11*	**-0.03**	*0.06*	*0.04*
Other Stock Draws and Balance	**0.10**	**1.09**	**2.17**	**-0.41**	**-4.87**	**-4.56**	*2.07*	*1.66*	*0.40*	*-0.09*	*0.24*	*-0.22*	**0.74**	*-1.41*	*0.08*
Total Stock Draw	**0.11**	**0.51**	**2.07**	**0.11**	**-5.86**	**-7.23**	*3.70*	*3.15*	*0.95*	*-0.31*	*0.31*	*0.09*	**0.70**	*-1.53*	*0.25*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	*1,407*	*1,349*	*1,325*	*1,351*	*1,355*	*1,319*	**1,282**	*1,349*	*1,319*
OECD Commercial Inventory	**2,864**	**2,922**	**2,931**	**2,893**	**2,983**	**3,205**	*3,070*	*2,939*	*2,898*	*2,927*	*2,921*	*2,895*	**2,893**	*2,939*	*2,895*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.21**	**26.73**	**26.85**	**27.77**	**27.87**	**24.35**	*24.88*	*25.68*	*25.63*	*26.00*	*26.16*	*26.67*	**26.89**	*25.70*	*26.12*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.83**	*4.82*	*5.29*	*5.39*	*5.47*	*5.52*	*5.74*	**5.50**	*5.15*	*5.53*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	*1.82*	*1.77*	*1.80*	*1.80*	*1.76*	*1.75*	**1.92**	*1.88*	*1.78*
United States	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.58**	*18.24*	*18.62*	*18.45*	*18.72*	*18.88*	*19.18*	**19.47**	*18.67*	*18.81*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**6.04**	**6.07**	*6.86*	*6.60*	*6.09*	*6.76*	*7.22*	*6.85*	**6.23**	*6.39*	*6.74*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.68**	**0.58**	*0.67*	*0.67*	*0.66*	*0.59*	*0.68*	*0.67*	**0.69**	*0.65*	*0.65*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.44**	**3.89**	*4.34*	*4.00*	*3.51*	*4.38*	*4.72*	*4.33*	**3.67**	*3.92*	*4.24*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	**0.78**	*0.84*	*0.88*	*0.87*	*0.78*	*0.82*	*0.85*	**0.92**	*0.85*	*0.83*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	**0.35**	*0.53*	*0.53*	*0.52*	*0.51*	*0.49*	*0.48*	**0.53**	*0.49*	*0.50*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.48**	**0.47**	*0.49*	*0.53*	*0.52*	*0.51*	*0.52*	*0.52*	**0.42**	*0.49*	*0.52*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.39**	**4.36**	*4.28*	*4.41*	*4.45*	*4.27*	*4.36*	*4.57*	**4.12**	*4.36*	*4.41*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.05**	**2.01**	*1.99*	*2.07*	*2.12*	*2.08*	*2.12*	*2.22*	**1.75**	*2.03*	*2.14*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.17**	**1.21**	*1.14*	*1.17*	*1.16*	*1.03*	*1.09*	*1.18*	**1.17**	*1.17*	*1.11*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	*12.74*	*13.20*	*13.73*	*14.13*	*14.30*	*14.44*	**14.63**	*13.47*	*14.15*
Azerbaijan	**0.81**	**0.78**	**0.77**	**0.76**	**0.77**	**0.70**	*0.67*	*0.70*	*0.72*	*0.74*	*0.75*	*0.75*	**0.78**	*0.71*	*0.74*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	**1.86**	*1.74*	*1.87*	*1.97*	*1.90*	*1.94*	*1.98*	**1.97**	*1.88*	*1.95*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.55**	**10.25**	*9.93*	*10.24*	*10.67*	*11.12*	*11.25*	*11.35*	**11.49**	*10.49*	*11.10*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.24**	**0.24**	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.14*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.14**	**3.14**	**3.14**	**3.14**	**3.24**	**3.18**	*3.14*	*3.18*	*3.28*	*3.28*	*3.30*	*3.30*	**3.14**	*3.18*	*3.29*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	**1.01**	**0.95**	*0.90*	*0.95*	*1.01*	*1.01*	*1.03*	*1.03*	**0.98**	*0.95*	*1.02*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	**2.06**	*2.06*	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.52**	**9.55**	**9.41**	**9.52**	**9.47**	**9.18**	*9.21*	*9.34*	*9.30*	*9.28*	*9.27*	*9.29*	**9.50**	*9.30*	*9.29*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.49**	**0.50**	*0.50*	*0.52*	*0.51*	*0.51*	*0.50*	*0.49*	**0.49**	*0.50*	*0.50*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	*4.92*	*4.95*	*4.92*	*4.95*	*4.96*	*5.01*	**4.89**	*4.93*	*4.96*
India	**1.01**	**0.99**	**0.98**	**0.99**	**0.97**	**0.90**	*0.90*	*0.91*	*0.91*	*0.89*	*0.89*	*0.89*	**0.99**	*0.92*	*0.89*
Indonesia	**0.93**	**0.93**	**0.91**	**0.91**	**0.91**	**0.88**	*0.89*	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	**0.92**	*0.89*	*0.86*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.72**	**0.59**	*0.58*	*0.63*	*0.64*	*0.64*	*0.64*	*0.63*	**0.71**	*0.63*	*0.64*
Vietnam	**0.27**	**0.27**	**0.25**	**0.24**	**0.24**	**0.23**	*0.23*	*0.23*	*0.23*	*0.22*	*0.22*	*0.21*	**0.26**	*0.23*	*0.22*
Africa	**1.50**	**1.52**	**1.55**	**1.54**	**1.45**	**1.43**	*1.44*	*1.44*	*1.38*	*1.37*	*1.36*	*1.37*	**1.53**	*1.44*	*1.37*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	**0.60**	**0.60**	*0.61*	*0.61*	*0.57*	*0.57*	*0.57*	*0.57*	**0.65**	*0.60*	*0.57*
South Sudan	**0.15**	**0.16**	**0.18**	**0.18**	**0.18**	**0.15**	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.16*	*0.17*
Total non-OPEC liquids	**64.93**	**65.55**	**66.28**	**67.37**	**67.22**	**61.76**	*62.55*	*63.85*	*63.87*	*65.09*	*65.98*	*66.49*	**66.04**	*63.84*	*65.37*
OPEC non-crude liquids	**5.47**	**5.47**	**5.24**	**5.34**	**5.28**	**4.88**	*4.83*	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.38**	*4.97*	*4.98*
Non-OPEC + OPEC non-crude	**70.40**	**71.02**	**71.52**	**72.71**	**72.50**	**66.65**	*67.38*	*68.76*	*68.91*	*70.06*	*70.95*	*71.45*	**71.42**	*68.82*	*70.35*
Unplanned non-OPEC Production Outages	**0.38**	**0.28**	**0.39**	**0.31**	**0.16**	**0.88**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.34**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.02**	**0.90**	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	**1.26**	-	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	**0.29**	-	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	**0.12**	-	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.19**	**0.18**	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	**1.97**	-	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	**4.16**	-	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	**2.48**	-	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	**0.08**	-	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.72**	**1.55**	-	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	**9.28**	-	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	**2.88**	-	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	**0.50**	-	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	*23.65*	*25.59*	*28.09*	*29.23*	*29.31*	*29.33*	**29.27**	*25.78*	*28.99*
Other Liquids (a)	**5.47**	**5.47**	**5.24**	**5.34**	**5.28**	**4.88**	*4.83*	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.38**	*4.97*	*4.98*
Total OPEC Supply	**35.41**	**34.94**	**33.90**	**34.36**	**33.56**	**30.52**	*28.48*	*30.50*	*33.13*	*34.20*	*34.27*	*34.29*	**34.65**	*30.76*	*33.98*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	**26.02**	*26.06*	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.97*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.82**	**5.60**	*5.47*	*5.56*	*5.68*	*5.93*	*6.00*	*6.02*	**6.66**	*5.61*	*5.91*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.43**	**31.63**	*31.53*	*31.73*	*31.94*	*32.22*	*32.28*	*32.30*	**31.78**	*31.58*	*32.18*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.27**	*6.85*	*5.43*	*3.74*	*2.89*	*2.88*	*2.88*	**2.52**	*5.18*	*3.09*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	*1.03*	*0.71*	*0.12*	*0.10*	*0.09*	*0.09*	**0.00**	*0.62*	*0.10*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.99**	*7.88*	*6.13*	*3.85*	*2.99*	*2.97*	*2.97*	**2.52**	*5.80*	*3.19*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	**4.13**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.75**	**24.86**	**25.35**	**25.12**	**23.61**	**19.43**	*22.70*	*23.74*	*23.85*	*24.04*	*24.70*	*24.75*	**25.02**	*22.38*	*24.34*
Canada	**2.31**	**2.32**	**2.57**	**2.49**	**2.33**	**1.82**	*2.21*	*2.29*	*2.36*	*2.32*	*2.43*	*2.40*	**2.42**	*2.16*	*2.38*
Mexico	**2.07**	**2.07**	**2.06**	**1.99**	**1.94**	**1.52**	*1.77*	*1.88*	*1.87*	*1.90*	*1.89*	*1.90*	**2.05**	*1.78*	*1.89*
United States	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	*18.70*	*19.56*	*19.60*	*19.82*	*20.38*	*20.44*	**20.54**	*18.42*	*20.06*
Central and South America	**6.70**	**6.82**	**6.92**	**6.92**	**6.22**	**5.82**	*6.32*	*6.51*	*6.47*	*6.65*	*6.79*	*6.81*	**6.84**	*6.22*	*6.68*
Brazil	**3.03**	**3.10**	**3.19**	**3.18**	**2.80**	**2.57**	*2.88*	*3.00*	*2.95*	*3.04*	*3.15*	*3.16*	**3.13**	*2.81*	*3.07*
Europe	**14.81**	**14.94**	**15.44**	**14.85**	**14.07**	**11.75**	*13.73*	*13.75*	*13.76*	*14.09*	*14.67*	*14.45*	**15.01**	*13.33*	*14.25*
Eurasia	**5.14**	**5.19**	**5.59**	**5.44**	**4.94**	**4.56**	*5.36*	*5.29*	*5.08*	*5.15*	*5.55*	*5.41*	**5.34**	*5.04*	*5.30*
Russia	**3.64**	**3.74**	**4.04**	**3.89**	**3.52**	**3.20**	*3.90*	*3.81*	*3.65*	*3.76*	*4.08*	*3.93*	**3.83**	*3.61*	*3.86*
Middle East	**8.09**	**8.65**	**9.02**	**8.37**	**7.57**	**7.54**	*8.46*	*7.96*	*7.72*	*8.28*	*8.66*	*8.04*	**8.53**	*7.89*	*8.17*
Asia and Oceania	**36.47**	**36.01**	**35.50**	**36.51**	**34.16**	**31.72**	*33.90*	*35.77*	*36.64*	*36.32*	*35.80*	*36.84*	**36.12**	*33.89*	*36.40*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.26**	**13.39**	*14.25*	*14.76*	*14.85*	*15.09*	*14.83*	*15.07*	**14.51**	*13.92*	*14.96*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.84**	*3.04*	*3.38*	*3.63*	*3.00*	*3.10*	*3.35*	**3.65**	*3.24*	*3.27*
India	**4.89**	**4.95**	**4.66**	**4.94**	**4.63**	**3.77**	*4.34*	*4.79*	*5.00*	*5.08*	*4.75*	*5.06*	**4.86**	*4.38*	*4.97*
Africa	**4.50**	**4.52**	**4.44**	**4.63**	**4.34**	**4.22**	*4.26*	*4.48*	*4.44*	*4.45*	*4.37*	*4.56*	**4.52**	*4.33*	*4.46*
Total OECD Liquid Fuels Consumption	**47.56**	**46.97**	**48.08**	**47.72**	**45.25**	**37.41**	*43.01*	*44.67*	*45.10*	*44.82*	*46.20*	*46.41*	**47.58**	*42.59*	*45.64*
Total non-OECD Liquid Fuels Consumption	**52.90**	**54.03**	**54.17**	**54.12**	**49.68**	**47.64**	*51.71*	*52.82*	*52.85*	*54.16*	*54.36*	*54.45*	**53.81**	*50.47*	*53.96*
Total World Liquid Fuels Consumption	**100.45**	**100.99**	**102.25**	**101.84**	**94.92**	**85.05**	*94.72*	*97.50*	*97.95*	*98.98*	*100.56*	*100.87*	**101.39**	*93.07*	*99.60*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.0**	**112.8**	**112.8**	**112.4**	**109.1**	**102.1**	*107.0*	*108.9*	*111.0*	*112.5*	*113.3*	*114.0*	**112.5**	*106.8*	*112.7*
Percent change from prior year	**2.3**	**2.1**	**1.9**	**1.4**	**-2.6**	**-9.4**	*-5.1*	*-3.1*	*1.8*	*10.1*	*5.8*	*4.7*	**1.9**	*-5.1*	*5.5*
OECD Index, 2015 Q1 = 100	**108.9**	**109.8**	**110.0**	**109.4**	**108.1**	**97.1**	*103.8*	*105.2*	*107.0*	*108.6*	*109.3*	*109.6*	**109.5**	*103.6*	*108.6*
Percent change from prior year	**1.8**	**1.7**	**1.8**	**1.5**	**-0.8**	**-11.6**	*-5.6*	*-3.8*	*-1.0*	*11.8*	*5.3*	*4.2*	**1.7**	*-5.5*	*4.9*
Non-OECD Index, 2015 Q1 = 100	**115.0**	**115.6**	**115.5**	**115.3**	**110.0**	**107.1**	*110.2*	*112.5*	*114.9*	*116.2*	*117.2*	*118.4*	**115.3**	*109.9*	*116.7*
Percent change from prior year	**2.8**	**2.5**	**2.0**	**1.4**	**-4.4**	**-7.4**	*-4.6*	*-2.4*	*4.5*	*8.5*	*6.4*	*5.2*	**2.2**	*-4.7*	*6.1*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.38**	**106.01**	**106.51**	**106.33**	**106.87**	**108.68**	*107.49*	*106.59*	*105.83*	*105.49*	*105.05*	*104.56*	**106.06**	*107.41*	*105.23*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.0**	**1.4**	**2.5**	*0.9*	*0.2*	*-1.0*	*-2.9*	*-2.3*	*-1.9*	**2.1**	*1.3*	*-2.0*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.81**	*10.91*	*11.08*	*10.96*	*10.97*	*11.08*	*11.32*	**12.25**	*11.38*	*11.08*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.48**	**0.41**	*0.45*	*0.49*	*0.50*	*0.48*	*0.46*	*0.49*	**0.47**	*0.45*	*0.48*
Federal Gulf of Mexico (b)	**1.86**	**1.93**	**1.83**	**1.96**	**1.96**	**1.69**	*1.61*	*1.91*	*1.97*	*1.94*	*1.86*	*1.88*	**1.90**	*1.79*	*1.91*
Lower 48 States (excl GOM)	**9.48**	**9.73**	**9.99**	**10.33**	**10.31**	**8.71**	*8.86*	*8.68*	*8.49*	*8.55*	*8.76*	*8.95*	**9.89**	*9.14*	*8.69*
Crude Oil Net Imports (c)	**4.28**	**4.11**	**3.94**	**2.96**	**2.90**	**3.08**	*2.76*	*4.39*	*4.61*	*4.97*	*5.35*	*5.09*	**3.82**	*3.29*	*5.01*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	**-0.23**	*0.16*	*0.06*	*0.10*	*0.09*	*0.00*	*0.03*	**0.04**	*0.00*	*0.05*
Commercial Inventory Net Withdrawals	**-0.18**	**-0.05**	**0.41**	**-0.08**	**-0.55**	**-0.54**	*0.49*	*0.08*	*-0.26*	*0.15*	*0.23*	*-0.01*	**0.03**	*-0.13*	*0.03*
Crude Oil Adjustment (d)	**0.27**	**0.53**	**0.37**	**0.55**	**0.67**	**0.04**	*0.09*	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.43**	*0.24*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	*14.41*	*15.76*	*15.63*	*16.40*	*16.89*	*16.58*	**16.56**	*14.78*	*16.38*
Other Supply															
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	*1.01*	*1.11*	*1.10*	*1.14*	*1.13*	*1.13*	**1.07**	*0.99*	*1.12*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.82**	**5.00**	**5.12**	**4.96**	*5.04*	*5.13*	*5.04*	*5.23*	*5.28*	*5.33*	**4.82**	*5.06*	*5.22*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.11**	**0.80**	*1.07*	*1.09*	*1.14*	*1.17*	*1.17*	*1.18*	**1.12**	*1.02*	*1.17*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	**0.70**	*0.93*	*0.95*	*1.00*	*1.00*	*1.00*	*1.02*	**1.03**	*0.90*	*1.00*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	**0.19**	*0.21*	*0.21*	*0.21*	*0.22*	*0.22*	*0.22*	**0.21**	*0.21*	*0.22*
Product Net Imports (c)	**-3.19**	**-2.93**	**-3.10**	**-3.37**	**-4.03**	**-2.94**	*-3.04*	*-4.30*	*-4.03*	*-3.90*	*-4.03*	*-4.41*	**-3.15**	*-3.58*	*-4.09*
Hydrocarbon Gas Liquids	**-1.31**	**-1.67**	**-1.69**	**-1.81**	**-1.99**	**-1.86**	*-1.95*	*-1.95*	*-1.87*	*-2.00*	*-2.00*	*-1.97*	**-1.62**	*-1.94*	*-1.96*
Unfinished Oils	**0.25**	**0.47**	**0.47**	**0.52**	**0.31**	**0.25**	*0.35*	*0.36*	*0.35*	*0.45*	*0.44*	*0.32*	**0.43**	*0.32*	*0.39*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.10**	**-0.05**	*-0.10*	*-0.11*	*-0.14*	*-0.13*	*-0.12*	*-0.13*	**-0.06**	*-0.09*	*-0.13*
Motor Gasoline Blend Comp.	**0.46**	**0.81**	**0.71**	**0.47**	**0.39**	**0.36**	*0.49*	*0.16*	*0.41*	*0.70*	*0.50*	*0.16*	**0.61**	*0.35*	*0.44*
Finished Motor Gasoline	**-0.80**	**-0.61**	**-0.60**	**-0.87**	**-0.72**	**-0.40**	*-0.43*	*-0.67*	*-0.70*	*-0.73*	*-0.71*	*-0.79*	**-0.72**	*-0.56*	*-0.73*
Jet Fuel	**-0.08**	**-0.01**	**-0.04**	**-0.08**	**-0.07**	**0.09**	*0.12*	*-0.11*	*-0.11*	*-0.12*	*0.03*	*-0.04*	**-0.06**	*0.01*	*-0.06*
Distillate Fuel Oil	**-0.93**	**-1.22**	**-1.30**	**-0.97**	**-1.19**	**-0.86**	*-1.11*	*-1.21*	*-1.19*	*-1.30*	*-1.35*	*-1.11*	**-1.10**	*-1.09*	*-1.24*
Residual Fuel Oil	**-0.07**	**-0.15**	**-0.07**	**-0.02**	**-0.02**	**0.02**	*0.01*	*-0.02*	*-0.05*	*-0.13*	*-0.11*	*-0.02*	**-0.08**	*0.00*	*-0.08*
Other Oils (g)	**-0.63**	**-0.49**	**-0.52**	**-0.54**	**-0.65**	**-0.49**	*-0.43*	*-0.76*	*-0.72*	*-0.64*	*-0.72*	*-0.84*	**-0.55**	*-0.58*	*-0.73*
Product Inventory Net Withdrawals	**0.39**	**-0.60**	**-0.35**	**0.26**	**0.12**	**-0.91**	*0.01*	*0.55*	*0.52*	*-0.43*	*-0.28*	*0.40*	**-0.08**	*-0.06*	*0.05*
Total Supply	**20.44**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	*18.70*	*19.56*	*19.60*	*19.82*	*20.38*	*20.44*	**20.56**	*18.42*	*20.06*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.48**	**2.79**	**2.94**	**3.35**	**3.31**	**2.83**	*2.88*	*3.35*	*3.49*	*3.08*	*3.13*	*3.51*	**3.14**	*3.09*	*3.30*
Unfinished Oils	**0.00**	**0.09**	**0.05**	**0.11**	**0.14**	**0.11**	*-0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.06**	*0.06*	*0.00*
Motor Gasoline	**9.01**	**9.54**	**9.52**	**9.16**	**8.49**	**7.11**	*8.75*	*8.72*	*8.75*	*9.20*	*9.30*	*9.08*	**9.31**	*8.27*	*9.08*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.97**	**0.85**	**0.72**	*0.87*	*0.89*	*0.89*	*0.93*	*0.94*	*0.92*	**0.95**	*0.83*	*0.92*
Jet Fuel	**1.65**	**1.78**	**1.80**	**1.75**	**1.56**	**0.69**	*1.16*	*1.49*	*1.46*	*1.52*	*1.71*	*1.66*	**1.74**	*1.23*	*1.59*
Distillate Fuel Oil	**4.27**	**4.07**	**3.95**	**4.12**	**3.97**	**3.51**	*3.68*	*3.87*	*3.89*	*3.82*	*3.85*	*4.03*	**4.10**	*3.76*	*3.90*
Residual Fuel Oil	**0.27**	**0.23**	**0.33**	**0.27**	**0.17**	**0.15**	*0.27*	*0.27*	*0.26*	*0.21*	*0.26*	*0.26*	**0.28**	*0.21*	*0.25*
Other Oils (g)	**1.68**	**1.95**	**2.13**	**1.87**	**1.68**	**1.68**	*1.96*	*1.87*	*1.74*	*1.99*	*2.13*	*1.89*	**1.91**	*1.80*	*1.94*
Total Consumption	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	*18.70*	*19.56*	*19.60*	*19.82*	*20.38*	*20.44*	**20.54**	*18.42*	*20.06*
Total Petroleum and Other Liquids Net Imports	**1.09**	**1.18**	**0.84**	**-0.41**	**-1.13**	**0.14**	*-0.29*	*0.09*	*0.58*	*1.07*	*1.32*	*0.68*	**0.67**	*-0.29*	*0.91*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**458.9**	**463.4**	**425.6**	**432.8**	**482.5**	**531.9**	*486.7*	*479.3*	*502.3*	*488.4*	*466.8*	*468.1*	**432.8**	*479.3*	*468.1*
Hydrocarbon Gas Liquids	**160.3**	**224.5**	**262.8**	**211.7**	**180.8**	**233.9**	*277.1*	*231.6*	*192.0*	*238.2*	*273.9*	*230.7*	**211.7**	*231.6*	*230.7*
Unfinished Oils	**92.2**	**95.9**	**92.3**	**89.8**	**100.1**	**91.9**	*88.0*	*83.2*	*93.5*	*91.3*	*90.5*	*84.8*	**89.8**	*83.2*	*84.8*
Other HC/Oxygenates	**30.9**	**29.1**	**28.3**	**27.8**	**33.6**	**26.2**	*26.5*	*26.2*	*27.6*	*26.6*	*25.9*	*26.5*	**27.8**	*26.2*	*26.5*
Total Motor Gasoline	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	*231.8*	*237.9*	*233.3*	*232.1*	*227.8*	*234.7*	**254.1**	*237.9*	*234.7*
Finished Motor Gasoline	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	*24.3*	*24.0*	*22.8*	*21.4*	*22.3*	*22.6*	**26.1**	*24.0*	*22.6*
Motor Gasoline Blend Comp.	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	*207.6*	*213.9*	*210.6*	*210.7*	*205.5*	*212.2*	**228.0**	*213.9*	*212.2*
Jet Fuel	**41.6**	**40.5**	**44.3**	**40.5**	**39.9**	**41.5**	*41.2*	*39.9*	*39.7*	*40.6*	*42.8*	*39.9*	**40.5**	*39.9*	*39.9*
Distillate Fuel Oil	**132.2**	**131.1**	**131.8**	**140.1**	**126.7**	**175.4**	*173.1*	*168.3*	*147.6*	*144.4*	*145.8*	*149.2*	**140.1**	*168.3*	*149.2*
Residual Fuel Oil	**29.2**	**30.5**	**30.0**	**30.5**	**34.4**	**39.6**	*34.8*	*32.1*	*33.3*	*34.2*	*32.0*	*33.6*	**30.5**	*32.1*	*33.6*
Other Oils (g)	**63.3**	**59.2**	**51.2**	**54.6**	**62.0**	**59.2**	*47.3*	*50.0*	*55.9*	*55.0*	*49.5*	*51.9*	**54.6**	*50.0*	*51.9*
Total Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	*1,407*	*1,349*	*1,325*	*1,351*	*1,355*	*1,319*	**1,282**	*1,349*	*1,319*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	**656**	*641*	*636*	*627*	*618*	*618*	*616*	**635**	*636*	*616*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**1.87**	**1.72**	**1.85**	**1.93**	**1.92**	*1.99*	*2.12*	*2.13*	*2.22*	*2.20*	*2.27*	**1.83**	*1.99*	*2.21*
Propane	**1.50**	**1.56**	**1.61**	**1.68**	**1.72**	**1.61**	*1.62*	*1.61*	*1.56*	*1.60*	*1.62*	*1.63*	**1.59**	*1.64*	*1.60*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.91**	**0.86**	*0.86*	*0.86*	*0.82*	*0.85*	*0.87*	*0.87*	**0.85**	*0.87*	*0.85*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.61**	**0.58**	**0.56**	**0.57**	*0.57*	*0.54*	*0.52*	*0.56*	*0.59*	*0.56*	**0.56**	*0.56*	*0.56*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	*0.00*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	**0.24**	*0.27*	*0.28*	*0.27*	*0.30*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.25**	**0.26**	*0.27*	*0.28*	*0.28*	*0.29*	*0.29*	*0.29*	**0.28**	*0.26*	*0.29*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	**0.18**	*0.17*	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.02*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.01**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.26**	**-0.27**	**-0.28**	**-0.30**	**-0.30**	**-0.28**	*-0.33*	*-0.36*	*-0.35*	*-0.37*	*-0.38*	*-0.38*	**-0.28**	*-0.32*	*-0.37*
Propane/Propylene	**-0.75**	**-1.00**	**-0.99**	**-1.05**	**-1.12**	**-1.08**	*-1.01*	*-1.07*	*-0.99*	*-1.04*	*-1.02*	*-1.06*	**-0.95**	*-1.07*	*-1.03*
Butanes/Butylenes	**-0.14**	**-0.25**	**-0.26**	**-0.25**	**-0.30**	**-0.31**	*-0.34*	*-0.28*	*-0.25*	*-0.32*	*-0.32*	*-0.26*	**-0.23**	*-0.31*	*-0.29*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.15**	**-0.16**	**-0.21**	**-0.27**	**-0.19**	*-0.27*	*-0.25*	*-0.28*	*-0.27*	*-0.29*	*-0.27*	**-0.17**	*-0.24*	*-0.28*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.46**	**0.25**	*0.29*	*0.49*	*0.40*	*0.29*	*0.33*	*0.51*	**0.40**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.15**	**0.10**	*0.15*	*0.19*	*0.17*	*0.18*	*0.18*	*0.18*	**0.17**	*0.15*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.50**	**1.48**	**1.56**	**1.70**	**1.65**	*1.67*	*1.75*	*1.78*	*1.82*	*1.84*	*1.90*	**1.54**	*1.69*	*1.83*
Propane	**1.19**	**0.58**	**0.63**	**1.08**	**1.09**	**0.59**	*0.63*	*0.98*	*1.12*	*0.64*	*0.68*	*0.99*	**0.87**	*0.82*	*0.86*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.26**	**0.27**	*0.28*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.30**	*0.28*	*0.30*
Butanes/Butylenes	**0.19**	**0.22**	**0.30**	**0.24**	**0.17**	**0.20**	*0.20*	*0.21*	*0.20*	*0.23*	*0.21*	*0.21*	**0.24**	*0.19*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.19**	**0.20**	**0.23**	**0.17**	**0.09**	**0.13**	*0.11*	*0.11*	*0.09*	*0.08*	*0.10*	*0.11*	**0.20**	*0.11*	*0.10*
HGL Inventories (million barrels)															
Ethane	**49.14**	**56.54**	**56.84**	**58.84**	**52.57**	**49.54**	*50.81*	*52.95*	*51.93*	*56.23*	*55.44*	*57.02*	**55.37**	*51.47*	*55.17*
Propane	**48.94**	**71.71**	**95.61**	**79.67**	**60.28**	**75.31**	*97.26*	*81.20*	*54.78*	*72.41*	*91.33*	*78.35*	**79.67**	*81.20*	*78.35*
Propylene (at refineries only)	**1.68**	**1.76**	**2.65**	**1.66**	**1.41**	**1.50**	*2.20*	*2.75*	*2.76*	*3.21*	*3.71*	*4.13*	**1.66**	*2.75*	*4.13*
Butanes/Butylenes	**39.84**	**70.72**	**85.87**	**52.18**	**43.58**	**69.33**	*88.70*	*59.07*	*48.89*	*73.01*	*90.47*	*60.85*	**52.18**	*59.07*	*60.85*
Natural Gasoline (Pentanes Plus)	**18.43**	**19.72**	**21.26**	**20.90**	**23.99**	**35.67**	*37.72*	*36.01*	*32.51*	*32.75*	*32.71*	*31.15*	**20.90**	*36.01*	*31.15*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	*14.41*	*15.76*	*15.63*	*16.40*	*16.89*	*16.58*	**16.56**	*14.78*	*16.38*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	**0.35**	*0.44*	*0.67*	*0.57*	*0.47*	*0.51*	*0.69*	**0.57**	*0.52*	*0.56*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	**0.95**	*1.09*	*1.11*	*1.14*	*1.19*	*1.19*	*1.17*	**1.19**	*1.07*	*1.17*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.05**	**0.23**	*0.41*	*0.42*	*0.24*	*0.47*	*0.45*	*0.38*	**0.35**	*0.28*	*0.38*
Motor Gasoline Blend Components	**0.64**	**0.94**	**0.77**	**0.40**	**0.41**	**0.48**	*0.69*	*0.26*	*0.57*	*0.84*	*0.66*	*0.26*	**0.69**	*0.46*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.77**	**19.71**	**19.93**	**19.06**	**17.97**	**15.17**	*17.04*	*18.23*	*18.15*	*19.37*	*19.70*	*19.09*	**19.37**	*17.10*	*19.08*
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	*1.01*	*1.11*	*1.10*	*1.14*	*1.13*	*1.13*	**1.07**	*0.99*	*1.12*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.47**	**0.69**	*0.71*	*0.36*	*0.48*	*0.85*	*0.77*	*0.39*	**0.61**	*0.56*	*0.62*
Finished Motor Gasoline	**9.85**	**10.16**	**10.20**	**10.16**	**9.30**	**7.52**	*9.13*	*9.54*	*9.53*	*10.02*	*10.08*	*10.01*	**10.10**	*8.88*	*9.91*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	**0.62**	*1.04*	*1.58*	*1.57*	*1.65*	*1.70*	*1.66*	**1.80**	*1.22*	*1.65*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.95**	**4.83**	*4.68*	*4.95*	*4.82*	*5.02*	*5.14*	*5.10*	**5.14**	*4.85*	*5.02*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.30**	**0.23**	**0.18**	*0.21*	*0.26*	*0.33*	*0.35*	*0.34*	*0.30*	**0.36**	*0.22*	*0.33*
Other Oils (a)	**2.36**	**2.40**	**2.57**	**2.45**	**2.41**	**2.14**	*2.27*	*2.66*	*2.52*	*2.62*	*2.79*	*2.76*	**2.44**	*2.37*	*2.67*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**20.99**	**20.15**	**18.99**	**15.99**	*18.04*	*19.34*	*19.25*	*20.51*	*20.83*	*20.22*	**20.44**	*18.09*	*20.21*
Refinery Distillation Inputs	**16.54**	**17.14**	**17.42**	**16.85**	**16.36**	**13.65**	*15.00*	*16.10*	*15.94*	*16.64*	*17.14*	*16.81*	**16.99**	*15.28*	*16.64*
Refinery Operable Distillation Capacity	**18.81**	**18.81**	**18.81**	**18.81**	**18.98**	**18.75**	*18.55*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	**18.81**	*18.66*	*18.39*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	**0.73**	*0.81*	*0.88*	*0.87*	*0.90*	*0.93*	*0.91*	**0.90**	*0.82*	*0.90*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**153**	**104**	*135*	*129*	*136*	*161*	*161*	*150*	**186**	*131*	*152*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	**191**	*209*	*198*	*203*	*231*	*235*	*223*	**251**	*209*	*223*
PADD 2	**223**	**269**	**257**	**244**	**226**	**179**	*206*	*195*	*193*	*231*	*227*	*213*	**249**	*202*	*216*
PADD 3	**205**	**245**	**234**	**224**	**210**	**162**	*186*	*177*	*183*	*210*	*210*	*198*	**228**	*185*	*200*
PADD 4	**226**	**285**	**270**	**276**	**247**	**201**	*230*	*208*	*200*	*230*	*235*	*220*	**265**	*222*	*222*
PADD 5	**297**	**356**	**331**	**350**	**311**	**258**	*281*	*270*	*260*	*295*	*294*	*283*	**334**	*281*	*283*
U.S. Average	**236**	**279**	**265**	**259**	**241**	**194**	*217*	*206*	*207*	*238*	*239*	*226*	**260**	*216*	*228*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**251**	**203**	*227*	*218*	*219*	*251*	*252*	*240*	**269**	*226*	*241*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.5**	**59.8**	**65.0**	**65.6**	**71.0**	**73.0**	*60.4*	*59.2*	*58.7*	*60.7*	*58.0*	*58.2*	**65.6**	*59.2*	*58.2*
PADD 2	**54.5**	**49.6**	**51.0**	**55.0**	**60.2**	**52.6**	*49.2*	*51.4*	*54.3*	*53.9*	*52.8*	*50.4*	**55.0**	*51.4*	*50.4*
PADD 3	**82.3**	**82.6**	**81.6**	**92.0**	**84.8**	**90.5**	*86.6*	*88.4*	*82.4*	*80.5*	*80.3*	*86.3*	**92.0**	*88.4*	*86.3*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.2**	**7.7**	*6.9*	*7.2*	*7.6*	*7.8*	*7.4*	*7.8*	**8.3**	*7.2*	*7.8*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**35.6**	**29.4**	*28.8*	*31.7*	*30.3*	*29.2*	*29.3*	*32.0*	**33.2**	*31.7*	*32.0*
U.S. Total	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	*231.8*	*237.9*	*233.3*	*232.1*	*227.8*	*234.7*	**254.1**	*237.9*	*234.7*
Finished Gasoline Inventories															
U.S. Total	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	*24.3*	*24.0*	*22.8*	*21.4*	*22.3*	*22.6*	**26.1**	*24.0*	*22.6*
Gasoline Blending Components Inventories															
U.S. Total	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	*207.6*	*213.9*	*210.6*	*210.7*	*205.5*	*212.2*	**228.0**	*213.9*	*212.2*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.08**	**97.44**	**99.91**	**103.16**	**101.96**	**96.66**	*95.66*	*94.33*	*92.80*	*93.06*	*94.42*	*95.19*	**99.17**	*97.14*	*93.88*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.96**	**0.88**	*0.79*	*0.94*	*0.99*	*0.85*	*0.80*	*0.95*	**0.90**	*0.89*	*0.90*
Federal GOM (a)	**2.80**	**2.75**	**2.51**	**2.72**	**2.72**	**2.21**	*2.27*	*2.47*	*2.50*	*2.42*	*2.28*	*2.26*	**2.69**	*2.42*	*2.36*
Lower 48 States (excl GOM)	**92.32**	**93.76**	**96.61**	**99.51**	**98.27**	**93.57**	*92.60*	*90.92*	*89.31*	*89.80*	*91.34*	*91.98*	**95.57**	*93.83*	*90.62*
Total Dry Gas Production	**89.32**	**90.50**	**92.98**	**95.97**	**94.48**	**89.50**	*88.44*	*87.14*	*85.67*	*85.87*	*87.07*	*87.73*	**92.21**	*89.88*	*86.59*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	**0.12**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.18*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	**5.51**	*3.53*	*8.13*	*9.15*	*7.94*	*8.66*	*9.17*	**4.98**	*6.27*	*8.73*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.64**	**6.12**	*6.35*	*6.94*	*7.82*	*7.09*	*7.44*	*7.42*	**7.37**	*6.76*	*7.44*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.13**	**7.17**	*8.08*	*8.41*	*8.23*	*7.47*	*8.07*	*8.20*	**7.77**	*7.95*	*7.99*
Supplemental Gaseous Fuels	**0.20**	**0.16**	**0.15**	**0.17**	**0.19**	**0.17**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.17**	*0.17*	*0.16*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.44**	**12.74**	**-12.24**	*-7.18*	*6.78*	*17.50*	*-10.13*	*-7.50*	*4.57*	**-1.37**	*0.02*	*1.05*
Total Supply	**103.21**	**71.52**	**77.14**	**91.42**	**99.25**	**70.99**	*76.35*	*84.68*	*94.09*	*67.76*	*70.62*	*82.70*	**85.77**	*82.80*	*78.74*
Balancing Item (b)	**0.11**	**-0.79**	**-0.39**	**-2.09**	**0.00**	**-0.09**	*-0.28*	*-0.14*	*0.09*	*-0.92*	*1.09*	*1.35*	**-0.79**	*-0.13*	*0.41*
Total Primary Supply	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**70.90**	*76.07*	*84.54*	*94.18*	*66.84*	*71.71*	*84.05*	**84.97**	*82.68*	*79.14*
Consumption (billion cubic feet per day)															
Residential	**27.15**	**7.34**	**3.53**	**17.00**	**22.79**	**8.26**	*3.78*	*16.90*	*24.91*	*6.98*	*3.33*	*16.16*	**13.70**	*12.92*	*12.79*
Commercial	**16.19**	**6.36**	**4.68**	**11.45**	**14.07**	**5.90**	*4.62*	*10.63*	*14.71*	*6.49*	*4.73*	*10.43*	**9.65**	*8.80*	*9.07*
Industrial	**25.12**	**21.74**	**21.31**	**23.79**	**24.55**	**20.54**	*20.00*	*22.72*	*23.39*	*21.20*	*20.67*	*23.47*	**22.98**	*21.95*	*22.18*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	**29.60**	**29.04**	*40.44*	*26.26*	*22.83*	*24.61*	*35.13*	*25.76*	**30.98**	*31.35*	*27.11*
Lease and Plant Fuel	**4.93**	**5.00**	**5.13**	**5.29**	**5.23**	**4.96**	*4.91*	*4.84*	*4.76*	*4.78*	*4.84*	*4.88*	**5.09**	*4.98*	*4.82*
Pipeline and Distribution Use	**2.96**	**2.03**	**2.20**	**2.56**	**2.85**	**2.03**	*2.14*	*3.01*	*3.38*	*2.58*	*2.79*	*3.15*	**2.44**	*2.51*	*2.97*
Vehicle Use	**0.13**	**0.13**	**0.14**	**0.15**	**0.16**	**0.16**	*0.18*	*0.20*	*0.20*	*0.21*	*0.21*	*0.21*	**0.14**	*0.17*	*0.20*
Total Consumption	**103.32**	**70.74**	**76.74**	**89.33**	**99.25**	**70.90**	*76.07*	*84.54*	*94.18*	*66.84*	*71.71*	*84.05*	**84.97**	*82.68*	*79.14*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,189**	**2,030**	**3,133**	*3,794*	*3,170*	*1,595*	*2,517*	*3,207*	*2,787*	**3,189**	*3,170*	*2,787*
East Region (d)	**216**	**537**	**845**	**764**	**385**	**655**	*898*	*667*	*184*	*447*	*702*	*536*	**764**	*667*	*536*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	**747**	*1,060*	*862*	*312*	*559*	*879*	*733*	**885**	*862*	*733*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**857**	**1,221**	*1,268*	*1,154*	*756*	*1,031*	*1,080*	*1,051*	**1,095**	*1,154*	*1,051*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	**177**	*221*	*172*	*116*	*156*	*198*	*163*	**167**	*172*	*163*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	**308**	*320*	*287*	*199*	*296*	*320*	*276*	**245**	*287*	*276*
Alaska	**30**	**33**	**37**	**33**	**23**	**25**	*28*	*28*	*28*	*28*	*28*	*28*	**33**	*28*	*28*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	*2.21*	*3.02*	*3.46*	*3.16*	*3.26*	*3.37*	**2.67**	*2.25*	*3.31*
Residential Retail															
New England	**14.44**	**15.56**	**19.31**	**14.05**	**13.80**	**14.55**	*17.06*	*12.97*	*12.85*	*13.98*	*17.01*	*13.23*	**14.78**	*13.93*	*13.42*
Middle Atlantic	**10.79**	**13.08**	**18.50**	**11.38**	**10.80**	**11.85**	*16.13*	*10.38*	*9.89*	*12.43*	*17.13*	*11.46*	**11.74**	*11.20*	*11.19*
E. N. Central	**7.27**	**10.48**	**19.03**	**7.68**	**6.99**	**9.51**	*16.74*	*8.46*	*7.93*	*10.90*	*16.63*	*8.46*	**8.41**	*8.35*	*9.05*
W. N. Central	**7.93**	**10.67**	**18.16**	**8.16**	**7.30**	**9.88**	*16.48*	*8.55*	*7.82*	*10.91*	*17.11*	*9.18*	**8.81**	*8.50*	*9.17*
S. Atlantic	**11.63**	**18.34**	**26.03**	**12.90**	**12.17**	**15.41**	*21.60*	*11.81*	*10.89*	*16.36*	*22.60*	*12.79*	**13.83**	*13.26*	*13.04*
E. S. Central	**9.64**	**14.84**	**21.40**	**10.43**	**9.74**	**13.23**	*20.09*	*12.58*	*10.65*	*15.43*	*22.29*	*13.78*	**11.05**	*11.53*	*12.89*
W. S. Central	**8.29**	**13.38**	**21.45**	**10.54**	**8.55**	**14.25**	*20.04*	*11.75*	*9.59*	*15.12*	*20.79*	*12.22*	**10.54**	*11.42*	*12.09*
Mountain	**7.73**	**9.46**	**13.40**	**7.75**	**7.52**	**9.70**	*12.84*	*7.88*	*7.97*	*9.98*	*13.81*	*8.73*	**8.37**	*8.34*	*8.98*
Pacific	**12.44**	**12.75**	**13.50**	**12.06**	**13.41**	**14.32**	*13.84*	*12.74*	*13.28*	*14.17*	*14.93*	*13.88*	**12.50**	*13.44*	*13.82*
U.S. Average	**9.47**	**12.48**	**18.10**	**9.88**	**9.51**	**11.90**	*16.68*	*10.28*	*9.65*	*12.72*	*17.38*	*10.88*	**10.56**	*10.67*	*10.97*
Commercial Retail															
New England	**11.21**	**11.42**	**11.61**	**10.13**	**10.38**	**10.78**	*10.19*	*9.45*	*10.02*	*10.36*	*10.54*	*10.61*	**10.95**	*10.18*	*10.32*
Middle Atlantic	**8.43**	**7.72**	**6.86**	**7.47**	**7.91**	**7.02**	*6.38*	*7.18*	*7.55*	*7.51*	*7.00*	*7.58*	**7.85**	*7.33*	*7.48*
E. N. Central	**6.27**	**7.19**	**8.85**	**6.04**	**5.75**	**6.74**	*8.36*	*6.51*	*6.63*	*7.81*	*9.19*	*7.23*	**6.51**	*6.34*	*7.19*
W. N. Central	**6.79**	**7.11**	**8.20**	**6.16**	**5.97**	**6.52**	*7.88*	*6.71*	*7.33*	*7.88*	*9.06*	*7.55*	**6.73**	*6.42*	*7.61*
S. Atlantic	**8.85**	**9.54**	**9.64**	**8.82**	**8.56**	**9.20**	*9.34*	*8.72*	*8.77*	*9.58*	*9.85*	*8.89*	**9.05**	*8.82*	*9.07*
E. S. Central	**8.61**	**9.78**	**10.06**	**8.54**	**8.36**	**9.23**	*9.22*	*8.23*	*8.22*	*9.47*	*10.08*	*9.16*	**8.91**	*8.54*	*8.91*
W. S. Central	**6.02**	**6.57**	**7.42**	**6.38**	**5.70**	**6.82**	*7.47*	*7.06*	*7.22*	*7.80*	*8.41*	*7.89*	**6.41**	*6.49*	*7.69*
Mountain	**6.40**	**6.72**	**7.41**	**6.16**	**6.07**	**7.49**	*7.61*	*6.70*	*7.11*	*7.53*	*8.39*	*7.47*	**6.47**	*6.65*	*7.43*
Pacific	**9.08**	**8.82**	**9.14**	**8.90**	**9.60**	**9.30**	*8.52*	*8.24*	*8.74*	*8.99*	*9.30*	*9.00*	**8.99**	*8.95*	*8.95*
U.S. Average	**7.59**	**7.97**	**8.40**	**7.22**	**7.21**	**7.67**	*7.95*	*7.35*	*7.61*	*8.24*	*8.71*	*8.02*	**7.62**	*7.41*	*7.96*
Industrial Retail															
New England	**9.17**	**8.27**	**6.92**	**7.29**	**8.09**	**7.38**	*6.45*	*7.77*	*8.44*	*7.70*	*7.00*	*7.93*	**8.08**	*7.54*	*7.88*
Middle Atlantic	**8.76**	**7.65**	**6.99**	**6.95**	**7.46**	**6.76**	*6.47*	*7.04*	*7.80*	*7.35*	*7.44*	*7.72*	**7.86**	*7.08*	*7.66*
E. N. Central	**5.75**	**5.38**	**5.64**	**5.14**	**4.88**	**5.09**	*5.53*	*5.45*	*6.46*	*6.27*	*6.25*	*6.24*	**5.49**	*5.17*	*6.34*
W. N. Central	**5.16**	**3.94**	**3.37**	**4.19**	**3.94**	**3.27**	*3.23*	*4.51*	*5.48*	*4.76*	*4.68*	*5.38*	**4.24**	*3.80*	*5.12*
S. Atlantic	**5.52**	**4.60**	**4.40**	**4.52**	**4.17**	**3.71**	*3.92*	*4.89*	*5.61*	*4.98*	*4.96*	*5.33*	**4.80**	*4.20*	*5.25*
E. S. Central	**4.93**	**4.04**	**3.59**	**4.07**	**3.90**	**3.18**	*3.62*	*4.70*	*5.30*	*4.77*	*4.70*	*5.14*	**4.20**	*3.89*	*5.00*
W. S. Central	**3.47**	**2.88**	**2.53**	**2.64**	**2.17**	**1.91**	*2.27*	*3.10*	*3.65*	*3.31*	*3.48*	*3.61*	**2.89**	*2.41*	*3.52*
Mountain	**5.31**	**4.80**	**5.00**	**4.72**	**4.41**	**4.61**	*5.16*	*5.32*	*5.77*	*5.60*	*5.95*	*6.07*	**4.96**	*4.83*	*5.85*
Pacific	**7.68**	**6.66**	**6.49**	**6.83**	**7.54**	**6.35**	*5.77*	*6.09*	*7.02*	*6.65*	*6.80*	*6.92*	**6.97**	*6.47*	*6.86*
U.S. Average	**4.67**	**3.74**	**3.30**	**3.74**	**3.52**	**2.86**	*2.93*	*3.98*	*4.75*	*4.11*	*4.10*	*4.55*	**3.91**	*3.36*	*4.40*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**179.5**	**179.2**	**181.4**	**165.2**	**149.1**	**113.1**	*121.0*	*128.0*	*170.3*	*123.8*	*154.6*	*151.7*	**705.3**	*511.2*	*600.4*
Appalachia	**49.6**	**52.5**	**46.6**	**44.3**	**39.7**	**32.0**	*33.1*	*32.8*	*39.0*	*33.3*	*35.0*	*33.0*	**193.0**	*137.6*	*140.3*
Interior	**35.4**	**32.3**	**32.4**	**30.6**	**25.8**	**20.2**	*20.0*	*21.3*	*33.8*	*19.0*	*24.5*	*27.5*	**130.7**	*87.2*	*104.8*
Western	**94.5**	**94.4**	**102.4**	**90.3**	**83.6**	**60.9**	*67.9*	*74.0*	*97.5*	*71.5*	*95.0*	*91.3*	**381.7**	*286.4*	*355.2*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	**-0.5**	**0.8**	*-1.4*	*-1.4*	*0.7*	*1.5*	*1.9*	*-2.1*	**-2.7**	*-2.4*	*2.0*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	**1.1**	*1.1*	*1.2*	*1.0*	*1.0*	*1.3*	*1.3*	**6.7**	*4.8*	*4.6*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	**14.8**	*13.4*	*13.2*	*22.5*	*17.0*	*14.2*	*13.5*	**92.9**	*61.3*	*67.2*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	**9.0**	*8.7*	*9.3*	*14.2*	*11.1*	*9.4*	*9.0*	**55.1**	*38.7*	*43.8*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	**5.8**	*4.7*	*3.9*	*8.3*	*5.9*	*4.8*	*4.4*	**37.7**	*22.6*	*23.5*
Total Primary Supply	**154.5**	**156.7**	**159.9**	**145.2**	**129.9**	**100.3**	*107.3*	*114.7*	*149.4*	*109.3*	*143.6*	*137.5*	**616.4**	*452.2*	*539.7*
Secondary Inventory Withdrawals	**5.9**	**-21.0**	**6.4**	**-17.5**	**-16.5**	**-5.8**	*23.6*	*-2.0*	*-18.3*	*3.8*	*8.3*	*-7.6*	**-26.2**	*-0.7*	*-13.8*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**162.8**	**138.0**	**168.6**	**130.0**	**115.7**	**96.8**	*133.2*	*115.0*	*133.1*	*115.1*	*153.8*	*131.8*	**599.5**	*460.6*	*533.9*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.3**	**4.2**	**4.4**	*4.6*	*3.4*	*5.6*	*4.8*	*3.8*	*2.8*	**17.9**	*16.7*	*17.0*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	**97.6**	**87.2**	*137.3*	*109.5*	*119.0*	*113.3*	*147.3*	*110.3*	**539.4**	*431.6*	*489.7*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.4**	**6.6**	*6.3*	*6.6*	*6.7*	*6.5*	*6.5*	*6.8*	**30.0**	*26.8*	*26.4*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.3**	**0.1**	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.9*	*0.9*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.1**	**6.4**	*6.1*	*6.3*	*6.5*	*6.3*	*6.3*	*6.5*	**29.1**	*25.9*	*25.5*
Total Consumption	**157.9**	**129.9**	**167.8**	**131.8**	**109.2**	**98.2**	*148.2*	*119.5*	*131.3*	*124.6*	*157.5*	*119.8*	**587.3**	*475.1*	*533.2*
Discrepancy (c)	**5.0**	**8.2**	**0.8**	**-1.9**	**6.4**	**-1.3**	*-15.1*	*-4.5*	*1.8*	*-9.4*	*-3.7*	*12.0*	**12.1**	*-14.5*	*0.7*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	**24.9**	**24.1**	*25.5*	*26.9*	*26.2*	*24.7*	*22.8*	*24.8*	**24.4**	*26.9*	*24.8*
Secondary Inventories	**102.2**	**123.2**	**116.8**	**134.3**	**150.8**	**156.6**	*133.1*	*135.1*	*153.3*	*149.5*	*141.2*	*148.9*	**134.3**	*135.1*	*148.9*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	**145.5**	**150.7**	*127.0*	*129.3*	*147.7*	*143.5*	*135.1*	*143.1*	**128.5**	*129.3*	*143.1*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.0**	**3.6**	*3.7*	*3.5*	*3.8*	*3.7*	*3.8*	*3.6*	**3.3**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**2.2**	**2.1**	*2.2*	*2.1*	*1.7*	*2.1*	*2.2*	*2.0*	**2.3**	*2.1*	*2.0*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	*0.195*	*0.214*	*0.256*	*0.228*	*0.234*	*0.275*	**0.268**	*0.213*	*0.248*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.90**	*2.00*	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	**962**	**931**	*1,150*	*943*	*938*	*953*	*1,127*	*954*	**4,118**	*3,986*	*3,973*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	**921**	**894**	*1,112*	*908*	*903*	*918*	*1,089*	*917*	**3,956**	*3,835*	*3,828*
Industrial Sector (b)	**37**	**36**	**38**	**38**	**38**	**34**	*34*	*31*	*32*	*32*	*34*	*34*	**149**	*137*	*132*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*4*	*3*	*3*	*3*	*4*	*3*	**14**	*13*	*13*
Net Imports	**9**	**9**	**11**	**10**	**10**	**11**	*13*	*10*	*12*	*12*	*14*	*11*	**39**	*44*	*49*
Total Supply	**1,004**	**983**	**1,184**	**986**	**972**	**942**	*1,163*	*953*	*950*	*965*	*1,141*	*965*	**4,157**	*4,029*	*4,022*
Losses and Unaccounted for (c)	**57**	**71**	**74**	**59**	**50**	**65**	*59*	*54*	*44*	*66*	*57*	*54*	**262**	*227*	*221*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	**885**	**844**	*1059*	*868*	*875*	*868*	*1050*	*878*	**3750**	*3655*	*3670*
Residential Sector	**361**	**309**	**434**	**331**	**340**	**334**	*469*	*343*	*355*	*338*	*455*	*345*	**1435**	*1485*	*1493*
Commercial Sector	**320**	**328**	**382**	**325**	**313**	**293**	*355*	*308*	*303*	*308*	*358*	*312*	**1355**	*1268*	*1280*
Industrial Sector	**228**	**238**	**254**	**232**	**231**	**216**	*233*	*216*	*215*	*220*	*235*	*219*	**952**	*895*	*889*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**1**	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*7*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	**34**	*33*	*31*	*32*	*32*	*34*	*33*	**146**	*135*	*131*
Total Consumption	**948**	**912**	**1110**	**927**	**922**	**878**	*1104*	*899*	*906*	*899*	*1084*	*911*	**3896**	*3802*	*3801*
Average residential electricity usage per customer (kWh)	**2,676**	**2,289**	**3,212**	**2,449**	**2,496**	**2,455**	*3,482*	*2,517*	*2,598*	*2,472*	*3,329*	*2,523*	**10,627**	*10,950*	*10,922*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.90**	*2.00*	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.39**	**2.10**	*2.35*	*3.26*	*3.97*	*3.33*	*3.35*	*3.62*	**2.88**	*2.49*	*3.54*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**6.75**	*7.50*	*8.12*	*8.70*	*9.92*	*9.65*	*9.58*	**12.72**	*8.58*	*9.35*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.37**	*10.02*	*10.67*	*11.03*	*12.10*	*12.49*	*12.81*	**15.16**	*10.65*	*12.14*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.24**	*13.27*	*12.84*	*12.85*	*13.36*	*13.49*	*13.14*	**13.04**	*13.08*	*13.23*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.63**	*10.79*	*10.39*	*10.30*	*10.77*	*11.02*	*10.57*	**10.66**	*10.55*	*10.68*
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.62**	*7.25*	*6.69*	*6.49*	*6.73*	*7.26*	*6.70*	**6.83**	*6.74*	*6.81*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	**24.00**	*36.06*	*29.60*	*29.05*	*30.08*	*33.62*	*29.87*	**56.24**	*28.27*	*30.65*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	**19.21**	*57.40*	*39.11*	*36.16*	*34.83*	*35.81*	*38.28*	**38.15**	*36.09*	*36.27*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	**20.25**	*26.99*	*33.46*	*45.85*	*28.03*	*28.28*	*34.06*	**34.89**	*26.33*	*34.06*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	**18.13**	*25.12*	*24.78*	*27.15*	*25.60*	*26.97*	*27.07*	**30.56**	*22.46*	*26.70*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	**20.79**	*29.72*	*26.72*	*28.43*	*27.32*	*31.31*	*28.94*	**30.85**	*24.93*	*29.00*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	**23.00**	*31.24*	*28.97*	*28.87*	*28.87*	*32.81*	*30.43*	**29.51**	*26.91*	*30.24*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	**19.54**	*26.70*	*23.87*	*22.45*	*23.22*	*28.92*	*24.68*	**27.86**	*22.54*	*24.82*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	**18.23**	*26.06*	*27.44*	*26.15*	*26.30*	*30.82*	*28.39*	**30.25**	*23.83*	*27.92*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	**18.53**	*26.30*	*30.46*	*30.27*	*30.33*	*30.69*	*31.83*	**30.10**	*25.38*	*30.78*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	**14.49**	*28.42*	*29.17*	*26.72*	*25.47*	*26.61*	*28.53*	**36.12**	*23.71*	*26.83*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	**19.60**	*74.37*	*34.45*	*34.66*	*34.12*	*34.24*	*36.92*	**35.26**	*37.62*	*34.99*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	**11.7**	**10.9**	*15.0*	*11.8*	*12.5*	*11.1*	*13.9*	*11.9*	**46.1**	*49.3*	*49.4*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	**32.2**	**30.6**	*44.9*	*31.0*	*34.0*	*30.4*	*40.6*	*30.9*	**133.1**	*138.5*	*136.0*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	**46.4**	**43.7**	*61.4*	*46.5*	*48.9*	*43.9*	*58.1*	*46.9*	**185.9**	*198.0*	*197.8*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	**27.6**	**23.7**	*32.2*	*24.8*	*28.1*	*25.3*	*33.8*	*26.8*	**105.4**	*108.3*	*114.0*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	**83.7**	**86.3**	*117.0*	*85.6*	*90.0*	*87.9*	*114.4*	*85.6*	**368.5**	*372.6*	*377.9*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	**29.0**	**26.0**	*37.8*	*27.3*	*31.5*	*27.0*	*38.1*	*27.3*	**121.1**	*120.2*	*123.9*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	**48.6**	**52.7**	*77.7*	*50.6*	*49.3*	*53.2*	*76.9*	*50.4*	**227.1**	*229.7*	*229.8*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	**22.5**	**25.7**	*36.9*	*23.6*	*22.6*	*25.1*	*34.8*	*23.6*	**100.2**	*108.7*	*106.2*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	**36.7**	**33.2**	*44.6*	*40.1*	*37.0*	*32.9*	*43.2*	*40.0*	**143.1**	*154.5*	*153.2*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.3*	*1.3*	*1.3*	*1.1*	*1.3*	*1.3*	**4.7**	*5.0*	*4.9*
Total	**361.4**	**309.2**	**433.8**	**330.7**	**339.7**	**334.0**	*468.7*	*342.6*	*355.1*	*338.0*	*455.1*	*344.9*	**1,435.1**	*1,485.0*	*1,493.0*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	**12.2**	**10.6**	*12.9*	*11.7*	*11.8*	*10.8*	*12.5*	*11.8*	**51.2**	*47.4*	*46.8*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	**35.9**	**31.0**	*37.5*	*32.5*	*33.2*	*33.8*	*37.3*	*33.1*	**152.6**	*136.9*	*137.4*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	**43.1**	**38.3**	*47.2*	*41.5*	*41.9*	*41.3*	*47.8*	*42.2*	**181.6**	*170.1*	*173.2*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**24.7**	**21.6**	*25.7*	*23.9*	*24.2*	*22.1*	*26.2*	*24.4*	**102.5**	*96.0*	*97.0*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	**71.4**	**70.0**	*83.5*	*71.0*	*69.3*	*74.0*	*84.6*	*72.4*	**317.0**	*295.9*	*300.1*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	**20.7**	**19.4**	*25.4*	*20.9*	*20.5*	*20.6*	*25.8*	*21.1*	**92.3**	*86.4*	*88.0*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	**43.9**	**44.5**	*55.7*	*45.8*	*43.5*	*46.4*	*56.4*	*46.6*	**195.7**	*189.9*	*193.0*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	**22.5**	**22.1**	*26.5*	*22.6*	*22.0*	*23.1*	*26.4*	*23.0*	**98.2**	*93.7*	*94.5*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	**36.9**	**33.9**	*39.4*	*36.5*	*34.9*	*34.3*	*39.1*	*36.2*	**157.9**	*146.8*	*144.5*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	**1.4**	**1.2**	*1.2*	*1.3*	*1.4*	*1.4*	*1.5*	*1.5*	**5.7**	*5.1*	*5.7*
Total	**319.9**	**328.2**	**381.8**	**324.6**	**312.7**	**292.6**	*354.8*	*307.9*	*302.7*	*307.7*	*357.6*	*312.3*	**1,354.5**	*1,268.0*	*1,280.3*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	**3.7**	**3.5**	*3.7*	*3.5*	*3.4*	*3.5*	*3.6*	*3.5*	**15.4**	*14.5*	*14.1*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	**18.0**	**16.2**	*18.2*	*17.3*	*17.0*	*16.7*	*18.6*	*17.7*	**73.2**	*69.7*	*70.0*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	**44.0**	**37.7**	*40.5*	*37.7*	*38.5*	*36.8*	*38.8*	*36.5*	**181.5**	*160.0*	*150.7*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	**21.7**	**20.3**	*22.1*	*20.3*	*20.3*	*21.4*	*22.8*	*21.2*	**88.3**	*84.5*	*85.7*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	**33.0**	**31.0**	*33.6*	*31.3*	*31.2*	*31.9*	*34.1*	*31.9*	**137.5**	*128.9*	*129.1*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	**23.3**	**21.4**	*22.5*	*21.1*	*21.5*	*22.1*	*22.9*	*21.6*	**94.7**	*88.3*	*88.1*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	**46.5**	**44.7**	*46.5*	*44.0*	*44.0*	*46.5*	*47.7*	*45.7*	**189.5**	*181.6*	*183.9*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	**20.0**	**20.3**	*21.9*	*19.5*	*19.4*	*20.9*	*22.5*	*20.1*	**84.1**	*81.7*	*82.8*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	**19.2**	**19.7**	*22.9*	*19.6*	*18.4*	*19.5*	*22.7*	*19.4*	**83.1**	*81.4*	*80.0*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	**1.0**	*1.3*	*1.2*	*1.1*	*1.1*	*1.3*	*1.2*	**4.9**	*4.7*	*4.7*
Total	**228.2**	**237.7**	**254.2**	**232.1**	**230.5**	**215.9**	*233.2*	*215.6*	*214.9*	*220.3*	*235.1*	*219.0*	**952.1**	*895.3*	*889.3*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	**27.7**	**25.1**	*31.7*	*27.2*	*27.8*	*25.5*	*30.2*	*27.3*	**113.3**	*111.7*	*110.9*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	**87.0**	**78.5**	*101.6*	*81.7*	*85.3*	*81.9*	*97.5*	*82.7*	**362.8**	*348.8*	*347.4*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	**133.7**	**119.8**	*149.3*	*125.8*	*129.5*	*122.1*	*144.9*	*125.8*	**549.6**	*528.7*	*522.2*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	**74.0**	**65.7**	*80.0*	*69.0*	*72.6*	*68.8*	*82.8*	*72.5*	**296.2**	*288.8*	*296.8*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	**188.4**	**187.6**	*234.4*	*188.3*	*190.8*	*194.1*	*233.4*	*190.2*	**824.3**	*798.7*	*808.5*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	**73.0**	**66.9**	*85.7*	*69.3*	*73.4*	*69.7*	*86.8*	*70.1*	**308.1**	*294.9*	*300.1*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	**139.1**	**142.0**	*179.9*	*140.5*	*136.9*	*146.2*	*181.0*	*142.7*	**612.4**	*601.4*	*606.8*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	**65.0**	**68.2**	*85.3*	*65.8*	*64.0*	*69.1*	*83.7*	*66.8*	**282.7**	*284.3*	*283.7*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	**93.1**	**86.9**	*107.1*	*96.4*	*90.5*	*87.0*	*105.3*	*95.9*	**384.9**	*383.5*	*378.6*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.8**	**3.4**	*3.7*	*3.9*	*3.8*	*3.6*	*4.0*	*4.0*	**15.2**	*14.8*	*15.4*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	**884.8**	**843.9**	*1,058.7*	*868.0*	*874.7*	*867.9*	*1,049.7*	*878.0*	**3,749.5**	*3,655.5*	*3,670.4*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.57**	**20.70**	**20.87**	**21.76**	*21.33*	*20.09*	*20.47*	*21.61*	*21.68*	*20.95*	*21.75*	**21.14**	*20.85*	*21.47*
Middle Atlantic	**15.19**	**16.06**	**16.15**	**15.78**	**15.47**	*15.97*	*15.90*	*15.57*	*15.42*	*16.21*	*16.33*	*15.96*	**15.79**	*15.74*	*15.99*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.29**	**13.10**	*13.73*	*13.11*	*13.24*	*13.11*	*13.94*	*13.46*	*13.52*	**13.30**	*13.27*	*13.49*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.24**	**10.99**	*12.59*	*12.97*	*11.53*	*11.15*	*12.55*	*12.93*	*11.38*	**11.87**	*12.05*	*12.04*
S. Atlantic	**11.70**	**12.17**	**12.11**	**11.87**	**11.80**	*11.80*	*11.86*	*11.72*	*11.56*	*11.81*	*12.07*	*12.02*	**11.97**	*11.80*	*11.88*
E. S. Central	**11.10**	**11.70**	**11.37**	**11.23**	**11.25**	*11.57*	*11.26*	*11.25*	*11.13*	*11.65*	*11.51*	*11.55*	**11.34**	*11.32*	*11.45*
W. S. Central	**10.88**	**11.50**	**11.36**	**11.24**	**11.05**	*11.41*	*11.21*	*10.92*	*10.76*	*11.32*	*11.38*	*11.22*	**11.25**	*11.16*	*11.20*
Mountain	**11.51**	**12.18**	**12.23**	**11.59**	**11.42**	*12.08*	*12.17*	*11.53*	*11.38*	*12.11*	*12.28*	*11.67*	**11.91**	*11.85*	*11.91*
Pacific	**14.86**	**15.88**	**17.31**	**14.64**	**15.69**	*16.18*	*18.15*	*15.13*	*16.28*	*17.01*	*18.70*	*15.47*	**15.68**	*16.36*	*16.91*
U.S. Average	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	*13.24*	*13.27*	*12.84*	*12.85*	*13.36*	*13.49*	*13.14*	**13.04**	*13.08*	*13.23*
Commercial Sector															
New England	**16.83**	**16.24**	**15.97**	**15.76**	**16.23**	*15.66*	*15.23*	*15.33*	*16.06*	*15.82*	*15.76*	*15.99*	**16.19**	*15.61*	*15.91*
Middle Atlantic	**11.57**	**12.18**	**13.03**	**11.97**	**11.69**	*12.54*	*12.74*	*11.48*	*11.41*	*12.69*	*12.89*	*11.66*	**12.21**	*12.12*	*12.19*
E. N. Central	**10.14**	**10.29**	**10.09**	**10.05**	**9.95**	*10.37*	*10.03*	*10.04*	*10.07*	*10.60*	*10.29*	*10.29*	**10.14**	*10.09*	*10.31*
W. N. Central	**8.98**	**10.04**	**10.41**	**9.11**	**9.07**	*10.12*	*10.71*	*9.36*	*9.28*	*10.18*	*10.75*	*9.34*	**9.65**	*9.82*	*9.90*
S. Atlantic	**9.44**	**9.37**	**9.35**	**9.35**	**9.26**	*9.02*	*9.11*	*9.08*	*9.10*	*9.01*	*9.25*	*9.29*	**9.37**	*9.12*	*9.17*
E. S. Central	**10.70**	**10.70**	**10.65**	**10.62**	**10.75**	*10.83*	*10.64*	*10.63*	*10.79*	*10.88*	*10.87*	*10.90*	**10.67**	*10.71*	*10.86*
W. S. Central	**8.12**	**8.00**	**8.30**	**8.06**	**7.89**	*7.86*	*7.94*	*8.14*	*8.06*	*8.17*	*8.25*	*8.10*	**8.13**	*7.96*	*8.15*
Mountain	**9.20**	**9.71**	**10.00**	**9.18**	**8.99**	*9.82*	*10.03*	*9.22*	*9.04*	*9.94*	*10.22*	*9.33*	**9.55**	*9.54*	*9.66*
Pacific	**12.98**	**14.15**	**16.35**	**14.44**	**13.52**	*14.79*	*16.24*	*14.38*	*13.50*	*15.11*	*16.76*	*14.76*	**14.54**	*14.76*	*15.08*
U.S. Average	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	*10.63*	*10.79*	*10.39*	*10.30*	*10.77*	*11.02*	*10.57*	**10.66**	*10.55*	*10.68*
Industrial Sector															
New England	**13.45**	**12.89**	**12.66**	**12.70**	**12.74**	*12.63*	*12.17*	*12.48*	*12.69*	*12.78*	*12.41*	*12.76*	**12.92**	*12.50*	*12.66*
Middle Atlantic	**6.73**	**6.52**	**6.54**	**6.40**	**6.34**	*6.35*	*6.42*	*6.21*	*6.34*	*6.36*	*6.31*	*6.11*	**6.55**	*6.33*	*6.28*
E. N. Central	**7.03**	**6.84**	**6.83**	**6.76**	**6.51**	*6.79*	*6.94*	*6.83*	*6.66*	*6.95*	*7.02*	*6.91*	**6.87**	*6.76*	*6.88*
W. N. Central	**7.13**	**7.33**	**8.09**	**6.87**	**6.94**	*7.31*	*8.31*	*7.09*	*7.19*	*7.45*	*8.44*	*7.19*	**7.37**	*7.42*	*7.59*
S. Atlantic	**6.22**	**6.28**	**6.72**	**6.18**	**5.97**	*6.07*	*6.60*	*6.16*	*6.02*	*6.32*	*6.69*	*6.19*	**6.36**	*6.20*	*6.31*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.61**	**5.45**	*5.49*	*5.86*	*5.56*	*5.47*	*5.60*	*5.91*	*5.56*	**5.76**	*5.59*	*5.64*
W. S. Central	**5.25**	**5.28**	**6.05**	**5.29**	**5.05**	*4.94*	*5.53*	*5.27*	*5.11*	*4.85*	*5.38*	*5.11*	**5.48**	*5.20*	*5.11*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	**5.73**	*6.16*	*6.80*	*5.87*	*5.80*	*6.29*	*6.75*	*5.93*	**6.29**	*6.16*	*6.21*
Pacific	**8.65**	**9.45**	**11.26**	**10.16**	**8.97**	*10.33*	*12.11*	*10.54*	*9.36*	*10.83*	*12.34*	*10.89*	**9.95**	*10.56*	*10.94*
U.S. Average	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	*6.62*	*7.25*	*6.69*	*6.49*	*6.73*	*7.26*	*6.70*	**6.83**	*6.74*	*6.81*
All Sectors (a)															
New England	**18.35**	**17.72**	**17.50**	**17.34**	**18.07**	*17.67*	*17.14*	*17.14*	*18.09*	*17.90*	*17.72*	*18.04*	**17.73**	*17.49*	*17.93*
Middle Atlantic	**12.01**	**12.27**	**12.99**	**12.10**	**11.97**	*12.58*	*12.98*	*11.90*	*11.99*	*12.70*	*13.05*	*12.07*	**12.37**	*12.39*	*12.47*
E. N. Central	**10.13**	**10.12**	**10.20**	**10.03**	**9.91**	*10.46*	*10.45*	*10.26*	*10.20*	*10.70*	*10.68*	*10.51*	**10.12**	*10.27*	*10.52*
W. N. Central	**9.14**	**10.03**	**10.64**	**9.17**	**9.15**	*10.14*	*10.95*	*9.47*	*9.42*	*10.20*	*11.00*	*9.46*	**9.76**	*9.95*	*10.05*
S. Atlantic	**9.92**	**10.01**	**10.24**	**9.90**	**9.80**	*9.82*	*10.12*	*9.79*	*9.76*	*9.84*	*10.26*	*10.00*	**10.03**	*9.90*	*9.98*
E. S. Central	**9.30**	**9.43**	**9.65**	**9.27**	**9.25**	*9.41*	*9.66*	*9.34*	*9.38*	*9.50*	*9.85*	*9.50*	**9.42**	*9.43*	*9.57*
W. S. Central	**8.22**	**8.28**	**8.94**	**8.28**	**8.04**	*8.26*	*8.73*	*8.24*	*8.08*	*8.26*	*8.82*	*8.24*	**8.47**	*8.34*	*8.38*
Mountain	**9.12**	**9.43**	**9.98**	**8.98**	**8.83**	*9.58*	*10.12*	*9.06*	*8.88*	*9.63*	*10.15*	*9.14*	**9.42**	*9.45*	*9.50*
Pacific	**12.87**	**13.63**	**15.55**	**13.60**	**13.42**	*14.30*	*16.15*	*13.90*	*13.79*	*14.86*	*16.59*	*14.26*	**13.96**	*14.50*	*14.93*
U.S. Average	**10.37**	**10.52**	**11.03**	**10.38**	**10.29**	*10.64*	*11.10*	*10.44*	*10.40*	*10.75*	*11.25*	*10.61*	**10.60**	*10.64*	*10.78*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	**355.0**	**343.1**	*480.5*	*323.4*	*279.9*	*300.4*	*419.3*	*319.5*	**1,474.7**	*1,502.0*	*1,319.2*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	**170.2**	**151.2**	*242.7*	*194.2*	*207.1*	*196.0*	*258.9*	*193.3*	**959.5**	*758.3*	*855.3*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.2**	**190.7**	*201.4*	*196.8*	*198.2*	*189.5*	*204.9*	*194.3*	**809.4**	*793.1*	*786.9*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	**185.5**	**203.8**	*182.0*	*188.5*	*211.8*	*227.0*	*200.4*	*205.1*	**688.0**	*759.8*	*844.3*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**78.5**	*67.9*	*62.2*	*72.3*	*76.0*	*64.8*	*63.5*	**272.4**	*280.0*	*276.6*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**87.7**	*73.8*	*96.9*	*106.2*	*104.1*	*86.8*	*106.6*	**299.8**	*345.5*	*403.8*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**27.0**	*28.7*	*18.4*	*21.6*	*35.6*	*36.9*	*23.5*	**71.5**	*90.5*	*117.7*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.5**	*7.4*	*7.2*	*8.0*	*7.1*	*7.7*	*7.7*	**28.8**	*28.1*	*30.6*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**4.0**	*4.2*	*3.8*	*3.6*	*4.1*	*4.2*	*3.7*	**15.6**	*15.7*	*15.6*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	**-1.2**	*-1.8*	*-1.4*	*-1.1*	*-1.2*	*-1.8*	*-1.3*	**-5.3**	*-5.3*	*-5.4*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	**4.0**	**4.0**	*4.4*	*3.9*	*4.5*	*4.4*	*4.4*	*3.8*	**17.3**	*16.4*	*17.1*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	**1.1**	**0.4**	*1.1*	*0.9*	*1.0*	*0.4*	*1.0*	*0.9*	**4.3**	*3.6*	*3.3*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	**1.9**	**1.8**	*2.0*	*1.8*	*1.7*	*1.8*	*1.8*	*1.8*	**7.7**	*7.5*	*7.1*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	**920.9**	**893.9**	*1,112.4*	*908.1*	*903.2*	*918.2*	*1,089.0*	*917.3*	**3,955.8**	*3,835.3*	*3,827.7*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	**11.1**	**10.4**	*14.6*	*11.0*	*7.2*	*7.2*	*13.5*	*12.0*	**46.9**	*47.0*	*40.0*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	*0.1*	*0.0*	*0.5*	*0.0*	*0.1*	*0.1*	**0.5**	*0.2*	*0.7*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.3**	**4.9**	*7.3*	*6.2*	*7.0*	*7.1*	*7.2*	*5.6*	**29.8**	*25.7*	*26.9*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	**2.1**	**2.0**	*1.5*	*1.6*	*2.1*	*2.0*	*1.5*	*1.5*	**7.0**	*7.2*	*7.1*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	**2.6**	**2.6**	*2.7*	*2.8*	*3.4*	*2.7*	*2.8*	*3.0*	**10.3**	*10.7*	*11.9*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.5*	*1.3*	*0.3*	*0.4*	*0.4*	**1.5**	*1.6*	*2.4*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	**23.5**	**20.3**	*26.5*	*22.1*	*21.7*	*19.4*	*25.4*	*22.6*	**96.1**	*92.5*	*89.0*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**28.0**	**27.8**	**25.2**	*33.3*	*28.3*	*28.7*	*26.6*	*31.5*	*28.2*	**115.2**	*114.5*	*115.0*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	**12.8**	**11.7**	*24.4*	*16.7*	*14.1*	*16.0*	*25.0*	*19.3*	**54.0**	*65.6*	*74.4*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.7**	**9.2**	*9.0*	*9.1*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*38.1*	*30.3*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	**7.8**	**7.8**	*8.0*	*7.3*	*7.9*	*8.0*	*7.6*	*7.1*	**29.5**	*30.9*	*30.6*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	**1.9**	**1.8**	*1.6*	*1.8*	*2.1*	*2.1*	*2.0*	*2.6*	**6.5**	*7.2*	*8.8*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	**0.2**	**0.1**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.7*	*0.8*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	**33.5**	**30.7**	*43.2*	*35.1*	*33.2*	*33.8*	*41.9*	*35.8*	**136.2**	*142.6*	*144.8*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	**35.2**	**32.5**	*44.9*	*36.0*	*36.1*	*35.6*	*42.6*	*36.1*	**150.6**	*148.6*	*150.4*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	**77.9**	**69.7**	*97.8*	*68.8*	*70.6*	*69.1*	*92.3*	*68.3*	**295.1**	*314.2*	*300.3*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	**33.7**	**29.9**	*32.5*	*35.4*	*45.2*	*39.5*	*26.3*	*31.8*	**184.3**	*131.6*	*142.8*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.9**	**67.1**	*70.4*	*69.4*	*67.6*	*65.7*	*71.8*	*68.3*	**277.9**	*275.8*	*273.3*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	**3.2**	**3.1**	*1.8*	*2.2*	*3.3*	*3.1*	*1.7*	*2.1*	**10.6**	*10.3*	*10.2*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	**10.3**	**10.1**	*8.1*	*10.5*	*11.8*	*11.7*	*9.2*	*11.3*	**34.1**	*38.9*	*44.0*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	**0.6**	**0.6**	*0.5*	*0.4*	*0.8*	*0.6*	*0.4*	*0.3*	**2.5**	*2.2*	*2.1*
Total generation	**205.4**	**185.6**	**224.1**	**189.2**	**194.6**	**180.5**	*211.0*	*186.8*	*199.2*	*189.8*	*201.7*	*182.1*	**804.4**	*772.9*	*772.8*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	**181.9**	**164.1**	*214.5*	*177.9*	*186.2*	*171.7*	*202.8*	*177.7*	**760.9**	*738.3*	*738.5*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	**61.9**	**59.1**	*75.0*	*59.3*	*55.5*	*56.8*	*74.0*	*61.6*	**252.9**	*255.3*	*247.9*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**23.9**	**22.1**	*45.1*	*28.9*	*26.9*	*28.6*	*50.2*	*29.9*	**159.8**	*120.0*	*135.6*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.0**	**50.5**	*53.7*	*52.0*	*52.2*	*52.2*	*55.4*	*53.5*	**211.0**	*209.2*	*213.3*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	**11.1**	**10.3**	*6.8*	*8.0*	*11.2*	*10.4*	*6.5*	*7.6*	**35.5**	*36.1*	*35.7*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	**3.3**	**4.8**	*4.8*	*3.3*	*3.8*	*5.7*	*5.7*	*3.9*	**13.2**	*16.2*	*19.1*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	**-0.3**	*-0.6*	*-0.4*	*-0.1*	*-0.3*	*-0.6*	*-0.4*	**-1.2**	*-1.4*	*-1.4*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	**153.1**	**146.6**	*184.7*	*151.1*	*149.5*	*153.4*	*191.1*	*156.1*	**671.1**	*635.5*	*650.1*
Net energy for load (f)	**162.3**	**164.6**	**195.0**	**157.6**	**159.2**	**148.4**	*180.3*	*149.5*	*154.2*	*155.0*	*185.2*	*153.9*	**679.5**	*637.4*	*648.3*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	**40.1**	**45.8**	*52.3*	*36.4*	*32.9*	*39.2*	*47.2*	*36.4*	**174.4**	*174.6*	*155.7*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.1**	**3.5**	*5.2*	*5.6*	*6.4*	*7.8*	*7.8*	*6.1*	**18.6**	*16.4*	*28.1*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	**7.6**	*7.1*	*7.7*	*7.8*	*7.0*	*7.8*	*6.8*	**29.1**	*29.6*	*29.3*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.8**	**2.4**	*2.4*	*2.1*	*2.6*	*3.2*	*3.2*	*2.8*	**6.2**	*8.6*	*11.8*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	**0.8**	*0.8*	*0.7*	*0.9*	*0.7*	*0.8*	*0.7*	**3.1**	*3.1*	*3.0*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	**52.2**	**60.1**	*67.7*	*52.5*	*50.6*	*58.0*	*66.8*	*52.7*	**231.7**	*232.5*	*228.0*
Net energy for load (f)	**47.6**	**60.6**	**68.4**	**53.2**	**48.2**	**59.7**	*68.1*	*51.5*	*46.7*	*57.6*	*66.6*	*51.9*	**229.8**	*227.5*	*222.8*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	**44.1**	**43.3**	*58.6*	*38.7*	*33.7*	*35.4*	*50.0*	*37.0*	**177.2**	*184.7*	*156.1*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	**51.1**	**41.2**	*69.0*	*57.5*	*57.4*	*51.5*	*74.2*	*58.5*	**276.2**	*218.8*	*241.7*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	**22.9**	*23.8*	*24.1*	*24.9*	*23.9*	*25.0*	*24.4*	**102.3**	*97.4*	*98.2*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	**2.3**	**2.5**	*1.7*	*1.8*	*2.4*	*2.6*	*1.6*	*1.8*	**8.0**	*8.3*	*8.4*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	**19.9**	**19.6**	*15.7*	*23.4*	*24.8*	*24.0*	*19.2*	*25.8*	**66.1**	*78.6*	*93.8*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	**1.4**	**1.3**	*1.7*	*1.4*	*0.8*	*1.7*	*1.5*	*1.4*	**6.0**	*5.8*	*5.4*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	**145.6**	**130.7**	*170.5*	*147.0*	*144.0*	*139.1*	*171.5*	*148.9*	**635.7**	*593.7*	*603.4*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	**152.4**	**140.3**	*178.7*	*152.1*	*150.1*	*149.9*	*174.5*	*152.0*	**645.6**	*623.5*	*626.5*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	**17.3**	**16.1**	*23.0*	*13.3*	*11.1*	*12.4*	*19.8*	*12.8*	**71.1**	*69.7*	*56.1*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	**17.0**	**15.7**	*28.3*	*13.5*	*15.2*	*15.5*	*28.4*	*13.6*	**93.3**	*74.5*	*72.7*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	**4.4**	*4.4*	*3.5*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.6*	*16.0*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	**4.2**	**4.5**	*2.8*	*2.9*	*4.2*	*4.4*	*2.6*	*2.8*	**13.7**	*14.4*	*14.1*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	**20.6**	**21.7**	*19.0*	*24.1*	*26.2*	*26.6*	*23.5*	*27.2*	**75.0**	*85.3*	*103.5*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.8**	*0.4*	*0.4*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	**63.6**	**62.4**	*77.5*	*57.4*	*60.7*	*62.2*	*78.9*	*60.9*	**270.1**	*261.0*	*262.8*
Net energy for load (f)	**64.6**	**60.0**	**77.5**	**61.5**	**61.5**	**59.8**	*72.9*	*56.8*	*56.8*	*59.3*	*74.0*	*59.4*	**263.5**	*251.0*	*249.5*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	**36.8**	**41.7**	*55.5*	*28.1*	*20.9*	*27.5*	*40.4*	*23.6*	**180.1**	*162.1*	*112.4*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	**13.1**	**15.8**	*19.9*	*16.2*	*15.9*	*20.6*	*25.7*	*18.9*	**75.2**	*65.1*	*81.1*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	**9.7**	*11.0*	*10.0*	*10.7*	*9.9*	*10.3*	*9.6*	**41.3**	*41.1*	*40.5*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	**0.3**	**0.2**	*0.1*	*0.1*	*0.3*	*0.2*	*0.1*	*0.1*	**0.7**	*0.7*	*0.7*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	**22.7**	**25.1**	*23.9*	*26.0*	*28.2*	*31.5*	*29.6*	*29.6*	**81.1**	*97.7*	*119.0*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.6**	*1.5*	*1.4*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	**83.8**	**92.9**	*110.7*	*80.9*	*76.4*	*90.0*	*106.5*	*82.2*	**380.2**	*368.2*	*355.1*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	**83.8**	**92.9**	*110.7*	*80.9*	*76.4*	*90.0*	*106.5*	*82.2*	**380.2**	*368.2*	*355.1*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	**23.5**	**17.0**	*21.8*	*15.4*	*11.5*	*10.3*	*14.7*	*14.6*	**89.2**	*77.7*	*51.1*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	**22.0**	**15.9**	*32.2*	*28.7*	*31.8*	*23.8*	*35.6*	*27.2*	**105.1**	*98.8*	*118.4*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.4**	**2.0**	*2.4*	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.9**	*9.4*	*8.4*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	**33.9**	**38.1**	*30.8*	*30.0*	*34.8*	*35.0*	*29.5*	*32.4*	**118.0**	*132.7*	*131.7*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	**13.8**	**14.3**	*13.4*	*14.8*	*17.4*	*17.5*	*15.8*	*16.4*	**48.4**	*56.3*	*67.1*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**	**0.2**	*0.3*	*0.1*	*0.2*	*0.1*	*0.2*	*0.1*	**0.9**	*0.8*	*0.7*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	**95.9**	**87.4**	*100.9*	*91.5*	*98.1*	*87.9*	*98.2*	*93.3*	**370.5**	*375.7*	*377.5*
Net energy for load (f)	**94.5**	**83.1**	**92.2**	**87.7**	**87.8**	**78.9**	*92.2*	*86.4*	*85.4*	*80.5*	*90.6*	*86.6*	**357.4**	*345.2*	*343.1*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	**11.9**	**14.8**	*19.7*	*12.8*	*8.2*	*13.3*	*18.9*	*12.1*	**56.5**	*59.2*	*52.5*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	**5.3**	**5.3**	*8.3*	*5.5*	*5.5*	*5.4*	*8.0*	*4.5*	**36.7**	*24.4*	*23.4*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	**7.6**	*8.7*	*7.6*	*8.4*	*7.6*	*8.6*	*7.7*	**31.9**	*32.2*	*32.3*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	**2.6**	**3.9**	*4.2*	*2.6*	*2.7*	*4.0*	*3.9*	*2.5*	**13.9**	*13.4*	*13.0*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	**2.5**	**3.2**	*2.8*	*2.8*	*4.0*	*4.4*	*3.8*	*3.7*	**9.9**	*11.3*	*16.0*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.0**	*0.1*	*0.1*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	**30.6**	**34.9**	*43.7*	*31.3*	*28.7*	*34.8*	*43.3*	*30.5*	**148.9**	*140.5*	*137.3*
Net energy for load (f)	**18.2**	**23.1**	**34.0**	**22.3**	**21.8**	**26.6**	*35.6*	*23.3*	*22.0*	*26.9*	*34.5*	*23.5*	**97.7**	*107.3*	*106.9*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	**16.8**	**12.9**	*25.8*	*22.1*	*13.3*	*12.6*	*22.7*	*21.0*	**74.2**	*77.6*	*69.7*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	**1.2**	*1.8*	*2.3*	*1.9*	*2.8*	*1.9*	*2.3*	**7.5**	*6.7*	*9.0*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.8**	**4.9**	*3.7*	*4.7*	*4.4*	*4.1*	*4.9*	*4.9*	**16.2**	*18.1*	*18.3*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	**3.2**	**5.7**	*10.0*	*5.2*	*3.1*	*5.9*	*9.5*	*5.0*	**34.0**	*24.1*	*23.5*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	**14.5**	**19.3**	*19.4*	*14.3*	*14.8*	*20.9*	*20.4*	*14.9*	**63.7**	*67.4*	*71.0*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	**0.1**	*0.2*	*0.0*	*-0.1*	*0.1*	*0.2*	*0.0*	**0.2**	*0.3*	*0.2*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	**40.7**	**44.0**	*60.8*	*48.6*	*37.4*	*46.4*	*59.7*	*48.2*	**195.8**	*194.2*	*191.7*
Net energy for load (f)	**59.9**	**62.5**	**76.3**	**61.6**	**57.6**	**60.9**	*77.6*	*61.6*	*56.8*	*61.7*	*76.1*	*61.9*	**260.2**	*257.8*	*256.5*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	**0.034**	**0.036**	*0.038*	*0.034*	*0.033*	*0.037*	*0.038*	*0.034*	**0.142**	*0.143*	*0.142*
Hydroelectric Power (a)	**0.649**	**0.743**	**0.553**	**0.534**	**0.649**	**0.715**	*0.608*	*0.561*	*0.666*	*0.694*	*0.578*	*0.570*	**2.480**	*2.533*	*2.508*
Solar (b)	**0.121**	**0.199**	**0.206**	**0.126**	**0.149**	**0.246**	*0.262*	*0.167*	*0.197*	*0.324*	*0.336*	*0.214*	**0.651**	*0.824*	*1.071*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	**0.060**	**0.056**	*0.060*	*0.059*	*0.062*	*0.060*	*0.060*	*0.061*	**0.236**	*0.235*	*0.243*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	**0.050**	**0.045**	*0.054*	*0.053*	*0.063*	*0.050*	*0.060*	*0.059*	**0.211**	*0.202*	*0.232*
Wind	**0.675**	**0.715**	**0.603**	**0.736**	**0.792**	**0.799**	*0.672*	*0.882*	*0.967*	*0.947*	*0.791*	*0.971*	**2.729**	*3.145*	*3.676*
Subtotal	**1.594**	**1.803**	**1.517**	**1.537**	**1.735**	**1.896**	*1.694*	*1.758*	*1.987*	*2.114*	*1.863*	*1.909*	**6.450**	*7.082*	*7.873*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	*0.181*	*0.185*	*0.190*	*0.193*	*0.196*	*0.198*	**0.799**	*0.698*	*0.777*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	**0.003**	*0.002*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.006**	**0.010**	*0.010*	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.028**	*0.033*	*0.037*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.043**	**0.040**	*0.040*	*0.042*	*0.042*	*0.040*	*0.040*	*0.042*	**0.160**	*0.165*	*0.164*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.343**	**0.337**	*0.341*	*0.350*	*0.342*	*0.339*	*0.352*	*0.356*	**1.473**	*1.371*	*1.389*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.591**	**0.520**	*0.570*	*0.585*	*0.581*	*0.581*	*0.596*	*0.604*	**2.466**	*2.266*	*2.363*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.005**	**0.005**	*0.005*	*0.005*	*0.005*	*0.005*	*0.005*	*0.005*	**0.024**	*0.021*	*0.021*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.021**	**0.025**	**0.037**	*0.036*	*0.025*	*0.028*	*0.040*	*0.041*	*0.028*	**0.107**	*0.122*	*0.137*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.022*	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.085*	*0.085*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.067**	**0.076**	*0.079*	*0.066*	*0.069*	*0.081*	*0.084*	*0.070*	**0.278**	*0.287*	*0.305*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.058**	**0.088**	*0.089*	*0.060*	*0.065*	*0.099*	*0.101*	*0.069*	**0.257**	*0.296*	*0.333*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.124**	**0.126**	*0.133*	*0.133*	*0.124*	*0.126*	*0.133*	*0.133*	**0.529**	*0.517*	*0.517*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	**0.192**	**0.224**	*0.232*	*0.204*	*0.199*	*0.235*	*0.244*	*0.212*	**0.825**	*0.852*	*0.890*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	*0.062*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.256*	*0.337*
Ethanol (f)	**0.273**	**0.295**	**0.291**	**0.297**	**0.257**	**0.220**	*0.267*	*0.272*	*0.265*	*0.283*	*0.287*	*0.283*	**1.155**	*1.015*	*1.118*
Subtotal	**0.331**	**0.365**	**0.362**	**0.362**	**0.318**	**0.284**	*0.328*	*0.340*	*0.350*	*0.371*	*0.366*	*0.368*	**1.421**	*1.271*	*1.455*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	*0.062*	*0.069*	*0.084*	*0.089*	*0.079*	*0.085*	**0.265**	*0.256*	*0.337*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	*0.181*	*0.185*	*0.190*	*0.193*	*0.196*	*0.198*	**0.799**	*0.698*	*0.777*
Ethanol (f)	**0.284**	**0.306**	**0.302**	**0.308**	**0.267**	**0.228**	*0.277*	*0.282*	*0.276*	*0.293*	*0.298*	*0.293*	**1.200**	*1.054*	*1.161*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.050**	**0.052**	*0.055*	*0.051*	*0.049*	*0.054*	*0.055*	*0.050*	**0.209**	*0.208*	*0.207*
Hydroelectric Power (a)	**0.652**	**0.747**	**0.556**	**0.537**	**0.652**	**0.718**	*0.611*	*0.564*	*0.669*	*0.697*	*0.581*	*0.573*	**2.492**	*2.545*	*2.520*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.239**	**0.380**	*0.396*	*0.259*	*0.297*	*0.474*	*0.488*	*0.319*	**1.043**	*1.274*	*1.578*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.112**	**0.104**	*0.108*	*0.111*	*0.113*	*0.109*	*0.109*	*0.112*	**0.433**	*0.435*	*0.442*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.538**	**0.529**	*0.551*	*0.557*	*0.549*	*0.536*	*0.568*	*0.569*	**2.297**	*2.175*	*2.223*
Wind	**0.675**	**0.715**	**0.603**	**0.736**	**0.792**	**0.799**	*0.672*	*0.882*	*0.967*	*0.947*	*0.791*	*0.971*	**2.729**	*3.145*	*3.676*
Total Consumption	**2.797**	**3.073**	**2.789**	**2.782**	**2.902**	**2.999**	*2.903*	*2.954*	*3.186*	*3.383*	*3.153*	*3.163*	**11.440**	*11.758*	*12.885*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,807**	**6,761**	**6,662**	**6,672**	**6,672**	**6,590**	*6,595*	*6,628*	*6,628*	*6,630*	*6,550*	*6,638*	**6,672**	*6,628*	*6,638*
Waste	**4,005**	**3,973**	**3,963**	**3,945**	**3,946**	**3,864**	*3,868*	*3,902*	*3,902*	*3,904*	*3,824*	*3,912*	**3,945**	*3,902*	*3,912*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,511**	**79,490**	**79,314**	**79,370**	**79,383**	**79,393**	*79,545*	*79,569*	*79,651*	*79,600*	*79,676*	*79,700*	**79,370**	*79,569*	*79,700*
Geothermal	**2,486**	**2,486**	**2,486**	**2,506**	**2,506**	**2,506**	*2,506*	*2,506*	*2,506*	*2,506*	*2,506*	*2,548*	**2,506**	*2,506*	*2,548*
Large-Scale Solar (b)	**32,707**	**33,156**	**33,943**	**36,998**	**38,822**	**41,272**	*43,441*	*50,655*	*51,126*	*54,610*	*56,442*	*62,464*	**36,998**	*50,655*	*62,464*
Wind	**96,504**	**97,980**	**99,560**	**103,392**	**105,739**	**107,193**	*112,873*	*126,670*	*127,656*	*128,175*	*128,796*	*133,951*	**103,392**	*126,670*	*133,951*
Other Sectors (c)															
Biomass	**6,541**	**6,490**	**6,490**	**6,424**	**6,432**	**6,432**	*6,448*	*6,428*	*6,428*	*6,428*	*6,428*	*6,428*	**6,424**	*6,428*	*6,428*
Waste	**785**	**786**	**786**	**786**	**786**	**786**	*802*	*802*	*802*	*802*	*802*	*802*	**786**	*802*	*802*
Wood	**5,756**	**5,704**	**5,704**	**5,637**	**5,646**	**5,646**	*5,646*	*5,626*	*5,626*	*5,626*	*5,626*	*5,626*	**5,637**	*5,626*	*5,626*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*289*	*292*	*290*	*290*	**289**	*289*	*290*
Large-Scale Solar (b)	**409**	**414**	**426**	**432**	**432**	**443**	*443*	*445*	*445*	*445*	*446*	*446*	**432**	*445*	*446*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	**24,259**	**25,192**	*25,712*	*26,481*	*27,395*	*28,453*	*29,633*	*30,905*	**23,211**	*26,481*	*30,905*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	**14,963**	**15,582**	*16,028*	*16,529*	*17,092*	*17,778*	*18,532*	*19,353*	**14,229**	*16,529*	*19,353*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	**7,429**	**7,679**	*7,716*	*7,930*	*8,221*	*8,531*	*8,891*	*9,274*	**7,186**	*7,930*	*9,274*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	**1,867**	**1,931**	*1,969*	*2,022*	*2,082*	*2,144*	*2,210*	*2,279*	**1,796**	*2,022*	*2,279*
Wind	**118**	**118**	**118**	**118**	**118**	**344**	*353*	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.5**	*7.4*	*7.2*	*8.0*	*7.1*	*7.7*	*7.7*	**28.8**	*28.1*	*30.6*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	**4.0**	**3.8**	*4.0*	*4.0*	*4.2*	*4.0*	*4.0*	*4.1*	**15.7**	*15.7*	*16.3*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	**3.1**	**2.7**	*3.4*	*3.3*	*3.9*	*3.1*	*3.7*	*3.6*	**13.0**	*12.4*	*14.3*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**78.5**	*67.9*	*62.2*	*72.3*	*76.0*	*64.8*	*63.5*	**272.4**	*280.0*	*276.6*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**4.0**	*4.2*	*3.8*	*3.6*	*4.1*	*4.2*	*3.7*	**15.6**	*15.7*	*15.6*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**27.0**	*28.7*	*18.4*	*21.6*	*35.6*	*36.9*	*23.5*	**71.5**	*90.5*	*117.7*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**87.7**	*73.8*	*96.9*	*106.2*	*104.1*	*86.8*	*106.6*	**299.8**	*345.5*	*403.8*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	**7.4**	**7.0**	*7.6*	*7.4*	*7.3*	*7.0*	*7.6*	*7.4*	**29.7**	*29.4*	*29.3*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	**6.7**	**6.4**	*6.9*	*6.6*	*6.6*	*6.4*	*6.9*	*6.6*	**26.8**	*26.6*	*26.5*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	**0.4**	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	**1.3**	*1.3*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.7*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.3**	**12.3**	*12.3*	*8.4*	*9.4*	*14.0*	*14.2*	*9.8*	**35.0**	*41.3*	*47.4*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	**7.5**	*7.5*	*5.1*	*5.7*	*8.6*	*8.7*	*6.0*	**20.9**	*25.1*	*29.1*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	**2.6**	**3.8**	*3.7*	*2.6*	*2.9*	*4.2*	*4.3*	*3.0*	**11.1**	*12.8*	*14.4*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	**1.0**	*1.0*	*0.7*	*0.8*	*1.1*	*1.2*	*0.8*	**3.0**	*3.5*	*3.9*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.7*	*0.9*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,206**	*18,132*	*18,323*	*18,408*	*18,646*	*18,829*	*19,021*	**19,092**	*18,168*	*18,726*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,093**	**13,213**	**13,301**	**13,354**	**13,118**	**11,797**	*12,602*	*12,703*	*12,686*	*12,841*	*12,953*	*13,090*	**13,240**	*12,555*	*12,893*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,362**	**3,359**	**3,379**	**3,387**	**3,375**	**3,089**	*3,109*	*3,137*	*3,142*	*3,163*	*3,187*	*3,215*	**3,372**	*3,177*	*3,177*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**99**	**53**	**41**	**3**	**-52**	**-322**	*-244*	*-143*	*-72*	*2*	*62*	*112*	**49**	*-190*	*26*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,260**	**3,300**	**3,318**	**3,337**	**3,348**	**3,370**	*3,386*	*3,365*	*3,369*	*3,376*	*3,382*	*3,384*	**3,304**	*3,367*	*3,378*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,560**	**2,531**	**2,537**	**2,558**	**2,495**	**1,932**	*2,135*	*2,228*	*2,329*	*2,368*	*2,429*	*2,491*	**2,547**	*2,197*	*2,404*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,468**	**3,483**	**3,487**	**3,419**	**3,283**	**2,712**	*2,879*	*2,987*	*3,058*	*3,110*	*3,185*	*3,268*	**3,464**	*2,965*	*3,155*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,060**	**16,524**	*16,173*	*16,216*	*14,800*	*14,944*	*15,057*	*15,125*	**14,883**	*15,993*	*14,981*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**151.9**	**133.7**	*141.0*	*143.9*	*144.8*	*145.7*	*146.5*	*147.3*	**150.9**	*142.6*	*146.1*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	**13.0**	*9.5*	*8.3*	*8.1*	*7.7*	*7.5*	*7.1*	**3.7**	*8.6*	*7.6*
Housing Starts															
(millions - SAAR)	**1.20**	**1.26**	**1.29**	**1.43**	**1.48**	**1.06**	*1.37*	*1.29*	*1.30*	*1.31*	*1.31*	*1.31*	**1.30**	*1.30*	*1.31*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.7**	**93.5**	*100.0*	*99.0*	*99.7*	*101.0*	*102.3*	*103.8*	**109.5**	*100.0*	*101.7*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.1**	*98.0*	*97.6*	*98.1*	*99.2*	*100.1*	*101.3*	**106.0**	*97.2*	*99.7*
Food	**115.1**	**115.3**	**114.6**	**116.1**	**116.5**	**107.9**	*113.1*	*115.5*	*117.9*	*120.0*	*121.7*	*122.6*	**115.3**	*113.3*	*120.5*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.7**	**87.6**	*88.6*	*90.2*	*90.4*	*91.3*	*92.2*	*93.1*	**93.0**	*90.3*	*91.8*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.9**	**104.9**	**84.0**	*90.0*	*93.8*	*98.0*	*101.3*	*103.2*	*104.5*	**105.7**	*93.2*	*101.8*
Chemicals	**101.4**	**99.9**	**100.6**	**100.3**	**99.8**	**93.7**	*95.1*	*95.6*	*96.9*	*98.9*	*101.1*	*103.2*	**100.5**	*96.1*	*100.0*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.3**	**122.2**	**106.2**	*110.9*	*109.3*	*109.7*	*111.1*	*112.7*	*114.6*	**119.4**	*112.1*	*112.0*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.4**	**69.3**	*70.4*	*70.1*	*71.4*	*73.4*	*75.1*	*76.8*	**96.9**	*76.1*	*74.2*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.4**	**106.5**	**94.3**	*99.4*	*99.1*	*99.9*	*101.4*	*102.8*	*104.1*	**106.2**	*99.8*	*102.1*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.6**	**98.8**	**85.6**	*89.7*	*90.1*	*91.6*	*93.3*	*94.8*	*96.0*	**98.3**	*91.1*	*93.9*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**105.1**	**89.5**	*94.0*	*93.8*	*95.3*	*97.3*	*99.1*	*100.7*	**105.8**	*95.6*	*98.1*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**107.8**	**94.0**	*98.0*	*98.4*	*100.0*	*102.3*	*104.0*	*105.5*	**108.1**	*99.5*	*103.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	**2.56**	*2.59*	*2.59*	*2.61*	*2.63*	*2.65*	*2.66*	**2.56**	*2.58*	*2.64*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.98**	**1.88**	*1.94*	*1.96*	*1.99*	*2.01*	*2.02*	*2.03*	**2.00**	*1.94*	*2.01*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.95**	**1.93**	**1.74**	**1.09**	*1.50*	*1.50*	*1.46*	*1.61*	*1.64*	*1.60*	**1.94**	*1.46*	*1.58*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.9**	*113.4*	*113.7*	*114.1*	*114.3*	*114.6*	*114.9*	**112.3**	*113.3*	*114.5*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,295**	**9,328**	**9,292**	**8,901**	**7,754**	**6,874**	*8,425*	*8,431*	*8,024*	*9,007*	*9,070*	*8,803*	**8,957**	*7,874*	*8,729*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**712**	**688**	**615**	**380**	*595*	*648*	*575*	*601*	*671*	*674*	**682**	*560*	*630*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**320**	**156**	*289*	*334*	*308*	*335*	*388*	*387*	**410**	*275*	*355*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	**203.7**	*173.6*	*159.1*	*154.3*	*161.9*	*151.8*	*156.8*	**265.4**	*196.8*	*156.2*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	*0.195*	*0.214*	*0.256*	*0.228*	*0.234*	*0.275*	**0.268**	*0.213*	*0.248*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**575**	**587**	**597**	**596**	**552**	**442**	*528*	*558*	*546*	*557*	*578*	*582*	**2,354**	*2,080*	*2,263*
Natural Gas	**507**	**350**	**384**	**448**	**492**	**351**	*381*	*424*	*462*	*331*	*359*	*421*	**1,689**	*1,648*	*1,574*
Coal	**289**	**239**	**307**	**242**	**201**	**182**	*274*	*222*	*246*	*234*	*291*	*223*	**1,076**	*879*	*993*
Total Energy (c)	**1,374**	**1,178**	**1,291**	**1,288**	**1,248**	**978**	*1,186*	*1,206*	*1,257*	*1,125*	*1,231*	*1,229*	**5,130**	*4,618*	*4,841*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**997**	**999**	**1,005**	**1,011**	**997**	**889**	*942*	*951*	*957*	*970*	*980*	*991*	**1,003**	*945*	*974*
Middle Atlantic	**2,776**	**2,782**	**2,794**	**2,806**	**2,756**	**2,394**	*2,538*	*2,588*	*2,615*	*2,661*	*2,697*	*2,735*	**2,790**	*2,569*	*2,677*
E. N. Central	**2,531**	**2,535**	**2,548**	**2,561**	**2,524**	**2,249**	*2,395*	*2,426*	*2,440*	*2,476*	*2,499*	*2,526*	**2,544**	*2,399*	*2,485*
W. N. Central	**1,183**	**1,187**	**1,194**	**1,200**	**1,189**	**1,104**	*1,158*	*1,165*	*1,166*	*1,179*	*1,189*	*1,199*	**1,191**	*1,154*	*1,183*
S. Atlantic	**3,357**	**3,367**	**3,386**	**3,408**	**3,367**	**3,090**	*3,273*	*3,293*	*3,301*	*3,339*	*3,367*	*3,398*	**3,380**	*3,256*	*3,351*
E. S. Central	**833**	**835**	**840**	**845**	**833**	**770**	*815*	*820*	*823*	*833*	*840*	*847*	**839**	*810*	*835*
W. S. Central	**2,350**	**2,370**	**2,394**	**2,410**	**2,391**	**2,210**	*2,306*	*2,296*	*2,290*	*2,308*	*2,324*	*2,343*	**2,381**	*2,301*	*2,316*
Mountain	**1,253**	**1,261**	**1,270**	**1,279**	**1,265**	**1,175**	*1,236*	*1,244*	*1,248*	*1,262*	*1,272*	*1,283*	**1,266**	*1,230*	*1,266*
Pacific	**3,705**	**3,719**	**3,743**	**3,767**	**3,722**	**3,357**	*3,502*	*3,572*	*3,600*	*3,652*	*3,694*	*3,733*	**3,734**	*3,538*	*3,670*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.4**	**98.6**	**98.8**	**98.8**	**97.6**	**83.5**	*91.9*	*91.9*	*92.5*	*93.4*	*94.1*	*95.1*	**98.9**	*91.2*	*93.8*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**97.2**	**80.3**	*87.8*	*87.5*	*87.9*	*89.1*	*90.5*	*91.9*	**98.4**	*88.2*	*89.8*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**105.1**	**85.5**	*94.7*	*94.8*	*95.6*	*96.9*	*97.4*	*99.3*	**107.3**	*95.0*	*97.3*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.7**	**90.2**	*98.6*	*98.4*	*99.5*	*100.8*	*101.6*	*102.6*	**105.4**	*97.7*	*101.1*
S. Atlantic	**111.0**	**110.3**	**110.8**	**111.1**	**109.3**	**93.8**	*103.5*	*102.6*	*103.0*	*104.1*	*105.1*	*106.3*	**110.8**	*102.3*	*104.6*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**109.0**	**89.2**	*100.0*	*100.0*	*100.7*	*101.7*	*102.3*	*103.8*	**110.2**	*99.5*	*102.1*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**99.8**	**87.5**	*94.9*	*93.9*	*94.3*	*95.0*	*95.8*	*97.0*	**101.4**	*94.0*	*95.5*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.7**	**102.0**	*111.5*	*111.1*	*111.7*	*112.8*	*113.8*	*114.8*	**116.3**	*109.8*	*113.3*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.4**	**87.3**	*96.6*	*95.8*	*95.9*	*96.8*	*97.9*	*98.9*	**104.4**	*95.5*	*97.4*
Real Personal Income (Billion $2009)															
New England	**898**	**895**	**891**	**894**	**901**	**956**	*948*	*949*	*876*	*885*	*892*	*896*	**895**	*939*	*887*
Middle Atlantic	**2,285**	**2,288**	**2,285**	**2,287**	**2,297**	**2,424**	*2,394*	*2,402*	*2,220*	*2,244*	*2,260*	*2,269*	**2,286**	*2,379*	*2,248*
E. N. Central	**2,442**	**2,433**	**2,443**	**2,453**	**2,466**	**2,653**	*2,607*	*2,622*	*2,420*	*2,447*	*2,465*	*2,477*	**2,443**	*2,587*	*2,452*
W. N. Central	**1,151**	**1,147**	**1,161**	**1,164**	**1,173**	**1,268**	*1,244*	*1,246*	*1,149*	*1,162*	*1,172*	*1,179*	**1,156**	*1,233*	*1,166*
S. Atlantic	**3,200**	**3,202**	**3,211**	**3,229**	**3,258**	**3,579**	*3,506*	*3,511*	*3,231*	*3,261*	*3,284*	*3,300*	**3,211**	*3,464*	*3,269*
E. S. Central	**890**	**888**	**892**	**893**	**899**	**1,007**	*970*	*967*	*891*	*900*	*907*	*911*	**890**	*961*	*902*
W. S. Central	**1,995**	**1,993**	**2,006**	**2,009**	**2,027**	**2,199**	*2,165*	*2,150*	*1,977*	*1,990*	*2,004*	*2,012*	**2,001**	*2,135*	*1,996*
Mountain	**1,178**	**1,180**	**1,191**	**1,197**	**1,207**	**1,320**	*1,299*	*1,301*	*1,198*	*1,208*	*1,218*	*1,222*	**1,187**	*1,282*	*1,212*
Pacific	**2,786**	**2,799**	**2,792**	**2,829**	**2,848**	**3,006**	*2,986*	*3,014*	*2,793*	*2,823*	*2,848*	*2,862*	**2,801**	*2,964*	*2,831*
Households (Thousands)															
New England	**5,940**	**5,947**	**5,963**	**5,970**	**5,976**	**5,974**	*5,966*	*5,966*	*5,963*	*5,962*	*5,973*	*5,987*	**5,970**	*5,966*	*5,987*
Middle Atlantic	**16,253**	**16,279**	**16,322**	**16,341**	**16,355**	**16,353**	*16,337*	*16,342*	*16,336*	*16,335*	*16,363*	*16,402*	**16,341**	*16,342*	*16,402*
E. N. Central	**19,099**	**19,132**	**19,186**	**19,212**	**19,235**	**19,247**	*19,239*	*19,253*	*19,253*	*19,256*	*19,296*	*19,348*	**19,212**	*19,253*	*19,348*
W. N. Central	**8,694**	**8,716**	**8,749**	**8,767**	**8,782**	**8,788**	*8,786*	*8,795*	*8,796*	*8,802*	*8,824*	*8,851*	**8,767**	*8,795*	*8,851*
S. Atlantic	**25,706**	**25,788**	**25,904**	**25,985**	**26,058**	**26,089**	*26,099*	*26,142*	*26,171*	*26,212*	*26,301*	*26,414*	**25,985**	*26,142*	*26,414*
E. S. Central	**7,656**	**7,671**	**7,697**	**7,712**	**7,725**	**7,729**	*7,727*	*7,735*	*7,737*	*7,742*	*7,762*	*7,788*	**7,712**	*7,735*	*7,788*
W. S. Central	**14,822**	**14,871**	**14,938**	**14,985**	**15,027**	**15,048**	*15,058*	*15,089*	*15,110*	*15,140*	*15,197*	*15,264*	**14,985**	*15,089*	*15,264*
Mountain	**9,411**	**9,458**	**9,515**	**9,559**	**9,597**	**9,619**	*9,633*	*9,660*	*9,678*	*9,701*	*9,742*	*9,790*	**9,559**	*9,660*	*9,790*
Pacific	**18,916**	**18,951**	**19,013**	**19,049**	**19,079**	**19,087**	*19,085*	*19,114*	*19,132*	*19,157*	*19,216*	*19,284*	**19,049**	*19,114*	*19,284*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.5**	**6.4**	*6.8*	*6.9*	*7.0*	*7.1*	*7.1*	*7.2*	**7.5**	*6.9*	*7.1*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.1**	**16.7**	*17.8*	*18.3*	*18.5*	*18.7*	*18.9*	*19.0*	**20.0**	*18.3*	*18.8*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	**19.3**	*20.6*	*21.0*	*21.2*	*21.4*	*21.5*	*21.6*	**22.3**	*20.8*	*21.4*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	**9.8**	*10.3*	*10.4*	*10.4*	*10.5*	*10.5*	*10.6*	**10.8**	*10.3*	*10.5*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	**26.3**	*27.8*	*28.2*	*28.4*	*28.5*	*28.7*	*28.8*	**29.1**	*27.9*	*28.6*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.3**	**7.5**	*7.9*	*8.1*	*8.1*	*8.1*	*8.2*	*8.2*	**8.3**	*8.0*	*8.1*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	**16.4**	*17.2*	*17.4*	*17.4*	*17.4*	*17.4*	*17.5*	**17.8**	*17.2*	*17.4*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	**10.2**	*10.7*	*10.9*	*10.9*	*11.0*	*11.0*	*11.1*	**11.1**	*10.8*	*11.0*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.0**	**20.9**	*21.7*	*22.5*	*22.7*	*22.8*	*23.0*	*23.1*	**23.8**	*22.3*	*22.9*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,225**	**890**	**135**	**2,274**	**2,730**	**969**	*120*	*2,155*	*3,165*	*877*	*125*	*2,128*	**6,523**	*5,974*	*6,296*
Middle Atlantic	**2,986**	**634**	**68**	**2,062**	**2,470**	**834**	*73*	*1,980*	*2,933*	*700*	*75*	*1,947*	**5,749**	*5,357*	*5,655*
E. N. Central	**3,326**	**760**	**64**	**2,277**	**2,787**	**845**	*115*	*2,243*	*3,153*	*732*	*121*	*2,235*	**6,427**	*5,990*	*6,241*
W. N. Central	**3,645**	**772**	**107**	**2,546**	**3,039**	**799**	*138*	*2,418*	*3,238*	*703*	*158*	*2,432*	**7,070**	*6,394*	*6,531*
South Atlantic	**1,334**	**127**	**2**	**919**	**1,108**	**251**	*12*	*962*	*1,385*	*184*	*11*	*923*	**2,382**	*2,333*	*2,503*
E. S. Central	**1,711**	**193**	**1**	**1,274**	**1,483**	**338**	*20*	*1,294*	*1,778*	*231*	*18*	*1,269*	**3,179**	*3,135*	*3,296*
W. S. Central	**1,211**	**91**	**0**	**851**	**975**	**103**	*4*	*758*	*1,090*	*76*	*4*	*760*	**2,153**	*1,839*	*1,930*
Mountain	**2,428**	**786**	**127**	**1,966**	**2,217**	**674**	*123*	*1,803*	*2,197*	*687*	*147*	*1,810*	**5,307**	*4,817*	*4,841*
Pacific	**1,687**	**575**	**96**	**1,183**	**1,538**	**525**	*85*	*1,209*	*1,525*	*579*	*86*	*1,188*	**3,540**	*3,356*	*3,379*
U.S. Average	**2,210**	**480**	**56**	**1,558**	**1,876**	**540**	*67*	*1,518*	*2,100*	*483*	*72*	*1,499*	**4,304**	*4,000*	*4,153*
Heating Degree Days, Prior 10-year Average															
New England	**3,165**	**820**	**111**	**2,122**	**3,152**	**822**	*105*	*2,127*	*3,132*	*855*	*108*	*2,115*	**6,218**	*6,206*	*6,210*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	**644**	*69*	*1,944*	*2,913*	*677*	*70*	*1,926*	**5,623**	*5,606*	*5,586*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	**698**	*102*	*2,197*	*3,157*	*731*	*103*	*2,184*	**6,203**	*6,195*	*6,175*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	**702**	*131*	*2,379*	*3,247*	*728*	*130*	*2,377*	**6,477**	*6,500*	*6,482*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	**169**	*10*	*952*	*1,393*	*180*	*10*	*923*	**2,631**	*2,589*	*2,506*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,849**	**214**	*15*	*1,277*	*1,771*	*232*	*16*	*1,256*	**3,392**	*3,356*	*3,275*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	**83**	*3*	*794*	*1,140*	*86*	*3*	*788*	**2,079**	*2,079*	*2,018*
Mountain	**2,164**	**714**	**139**	**1,855**	**2,192**	**718**	*135*	*1,844*	*2,182*	*701*	*133*	*1,846*	**4,873**	*4,890*	*4,863*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	**580**	*85*	*1,162*	*1,462*	*552*	*82*	*1,159*	**3,283**	*3,283*	*3,256*
U.S. Average	**2,150**	**475**	**68**	**1,518**	**2,149**	**472**	*64*	*1,509*	*2,108*	*481*	*64*	*1,494*	**4,212**	*4,194*	*4,148*
Cooling Degree Days															
New England	**0**	**68**	**469**	**0**	**0**	**105**	*554*	*1*	*0*	*84*	*418*	*2*	**537**	*660*	*504*
Middle Atlantic	**0**	**145**	**632**	**8**	**0**	**159**	*711*	*4*	*0*	*153*	*547*	*5*	**784**	*874*	*706*
E. N. Central	**0**	**175**	**650**	**7**	**2**	**219**	*631*	*7*	*0*	*217*	*542*	*7*	**832**	*858*	*767*
W. N. Central	**0**	**223**	**729**	**2**	**6**	**296**	*703*	*11*	*3*	*265*	*674*	*10*	**954**	*1,015*	*953*
South Atlantic	**154**	**755**	**1,296**	**308**	**195**	**621**	*1,236*	*230*	*127*	*671*	*1,185*	*249*	**2,513**	*2,282*	*2,231*
E. S. Central	**29**	**549**	**1,215**	**87**	**72**	**423**	*1,075*	*65*	*30*	*538*	*1,079*	*72*	**1,880**	*1,635*	*1,718*
W. S. Central	**72**	**817**	**1,689**	**167**	**172**	**835**	*1,546*	*210*	*98*	*892*	*1,530*	*212*	**2,745**	*2,764*	*2,732*
Mountain	**10**	**342**	**985**	**59**	**9**	**467**	*1,037*	*78*	*19*	*430*	*934*	*80*	**1,397**	*1,591*	*1,463*
Pacific	**22**	**166**	**589**	**67**	**24**	**197**	*644*	*59*	*27*	*168*	*585*	*59*	**844**	*924*	*840*
U.S. Average	**46**	**398**	**952**	**105**	**70**	**396**	*936*	*94*	*46*	*409*	*867*	*99*	**1,500**	*1,497*	*1,421*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	**83**	*471*	*1*	*0*	*81*	*475*	*1*	**536**	*554*	*557*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	**170**	*609*	*6*	*0*	*163*	*613*	*6*	**760**	*786*	*782*
E. N. Central	**3**	**242**	**548**	**7**	**3**	**240**	*579*	*8*	*3*	*234*	*574*	*7*	**799**	*829*	*819*
W. N. Central	**7**	**298**	**669**	**11**	**7**	**296**	*697*	*11*	*7*	*294*	*690*	*11*	**985**	*1,011*	*1,003*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	**696**	*1,202*	*247*	*143*	*680*	*1,196*	*254*	**2,224**	*2,272*	*2,273*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	**557**	*1,082*	*72*	*42*	*532*	*1,066*	*73*	**1,706**	*1,746*	*1,712*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	**891**	*1,575*	*207*	*114*	*879*	*1,571*	*210*	**2,757**	*2,773*	*2,774*
Mountain	**25**	**438**	**932**	**81**	**24**	**433**	*939*	*81*	*24*	*445*	*949*	*82*	**1,476**	*1,476*	*1,500*
Pacific	**31**	**185**	**631**	**76**	**31**	**185**	*624*	*78*	*31*	*193*	*640*	*79*	**923**	*918*	*943*
U.S. Average	**46**	**417**	**873**	**97**	**47**	**420**	*892*	*100*	*52*	*415*	*894*	*102*	**1,433**	*1,459*	*1,463*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

October 2020

Short-Term Energy Outlook

Forecast highlights

Winter Fuels Outlook

- EIA forecasts that average household expenditures for all major home heating fuels, except heating oil, will increase this winter largely because of higher expected energy consumption. Average increases vary by fuel. Compared with last winter, EIA forecasts natural gas expenditures will increase by 6%, electricity by 7%, and propane by 14%. Home heating oil expenditures in EIA's forecast fall by 10%, driven primarily by a combination of low crude oil prices and high distillate fuel oil supplies heading into the winter. EIA generally expects more space heating demand this winter compared with last winter based on forecasts from the National Oceanic and Atmospheric Administration (NOAA) that indicate colder winter temperatures. U.S. average heating degree days in this forecast are 5% higher than last winter. In addition, EIA expects that ongoing 2019 novel coronavirus disease (COVID-19) mitigation efforts and more people working and attending school at home will contribute to higher levels of home heating use this winter than in previous years (*Winter Fuels Outlook*).

Global liquid fuels

- The October *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because mitigation and reopening efforts related to COVID-19 continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply patterns in 2020 and will continue to affect these patterns in the future. This STEO assumes U.S. gross domestic product (GDP) declined by 4.4% in the first half of 2020 from the same period a year ago. It assumes that GDP will rise beginning in the third quarter of 2020, and will grow 3.5% year-over-year in 2021. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit.

- Brent crude oil spot prices averaged $41 per barrel (b) in September, down $4/b from the average in August. The decrease in oil prices coincided with slowing increases in global oil demand. Month-over-month consumption rose by 1.0 million b/d on average during August and September compared with an increase of 4.1 million b/d from May through July. EIA estimates that global oil markets have shifted from global liquid fuels inventories building at a rate of 7.3 million barrels per day (b/d) in the second quarter of 2020 to drawing at a rate of 3.1 million b/d in the third quarter. EIA expects inventory

draws in the fourth quarter to be 3.0 million b/d before markets become more balanced, with inventory draws of 0.3 million b/d on average in 2021. Despite expected inventory draws in the coming months, EIA expects high inventory levels and surplus crude oil production capacity will limit upward pressure on oil prices. EIA forecasts monthly Brent spot prices will average $42/b during the fourth quarter of 2020 and will rise to an average of $47/b in 2021.

- EIA estimates that global consumption of petroleum and liquid fuels averaged 95.3 million b/d in September. Liquid fuels consumption was down 6.4 million b/d from September 2019, but it was up from an average of 85.1 million b/d during the second quarter of 2020 and 93.9 million b/d in August. EIA forecasts that global consumption of petroleum and liquid fuels will average 92.8 million b/d for all of 2020, down by 8.6 million b/d from 2019, before increasing by 6.3 million b/d in 2021. EIA's forecast for consumption growth in 2021 is 0.3 million b/d less than in the September STEO.

- EIA reported that U.S. crude oil production averaged 11.0 million b/d in July (the most recent month for which historical data are available), up 0.5 million b/d from June. In May, U.S. crude oil production reached a two-and-a-half-year low of 10.0 million b/d, resulting from curtailed production amid low oil prices. Since then, U.S. production has increased mainly because tight oil operators have brought wells back online in response to rising prices. EIA estimates that production rose to 11.2 million b/d in September. However, EIA expects U.S. crude oil production to generally decline to an average of 11.0 million b/d in the second quarter of 2021 because new drilling activity will not generate enough production to offset declines from existing wells. EIA expects drilling activity to rise later in 2021, contributing to U.S. crude oil production returning to 11.2 million b/d in the fourth quarter of 2021. On an annual average basis, EIA expects U.S. crude oil production to fall from 12.2 million b/d in 2019 to 11.5 million b/d in 2020 and 11.1 million b/d in 2021.

Natural Gas

- In September, the Henry Hub natural gas spot price averaged $1.92 per million British thermal units (MMBtu), down from an average of $2.30/MMBtu in August. Lower natural gas spot prices reflected declining demand for natural gas from the U.S. electric power sector as a result of cooler-than-normal temperatures during the second half of September and relatively low demand for U.S. liquefied natural gas (LNG) exports amid hurricane-related activity in the Gulf of Mexico. EIA expects that rising domestic demand for natural gas and demand for LNG exports heading into winter, combined with reduced production, will cause Henry Hub spot prices to rise to a monthly average of $3.38/MMBtu in January 2021. EIA expects that monthly average spot prices will remain higher than $3.00/MMBtu throughout 2021, averaging $3.13/MMBtu for the year, up from a forecast average of $2.07/MMBtu in 2020.

- EIA estimates that total U.S. working natural gas in storage ended September at more than 3.8 trillion cubic feet (Tcf), 12% more than the five-year (2015–19) average. In the forecast, EIA expects inventories to be more than 4.0 Tcf on October 31, which would be a record high. However, because expected natural gas production will be lower this winter than last winter, EIA forecasts inventory draws will outpace the five-year average during the heating season and end March 2021 at 1.7 Tcf, which would be 6% lower than the 2016–20 average.

- EIA expects that total U.S. consumption of natural gas will average 83.7 billion cubic feet per day (Bcf/d) in 2020, down 1.8% from 2019. The decline in total U.S. consumption reflects less heating demand in early 2020, contributing to residential and commercial demand in 2020 averaging 13.1 Bcf/d (down 0.7 Bcf/d from 2019) and 8.7 Bcf/d (down 0.9 Bcf/d from 2019), respectively. EIA forecasts industrial consumption will average 22.3 Bcf/d in 2020, down 0.8 Bcf/d from 2019 as a result of reduced manufacturing activity. EIA expects total U.S. natural gas consumption will average 78.7 Bcf/d in 2021, a 5.9% decline from 2020. The expected decline in 2021 is the result of rising natural gas prices that will reduce demand for natural gas in the electric power sector.

- EIA forecasts U.S. dry natural gas production will average 90.6 Bcf/d in 2020, down from an average of 93.1 Bcf/d in 2019. In the forecast, monthly average production falls from a record 97.0 Bcf/d in December 2019 to 85.9 Bcf/d in May 2021, before increasing slightly. Natural gas production declines the most in the Permian region, where EIA expects low crude oil prices will reduce associated natural gas output from oil-directed rigs. EIA's forecast of dry natural gas production in the United States averages 86.8 Bcf/d in 2021. EIA expects production to begin rising in the second quarter of 2021 in response to higher natural gas and crude oil prices.

- EIA estimates that U.S. LNG exports averaged 4.9 Bcf/d in September, an increase of 1.2 Bcf/d from August. Higher global forward prices indicate improving netbacks for buyers of U.S. LNG in European and Asian markets for the upcoming fall and winter seasons. The increased prices come amid expectations of natural gas demand recovery and potential LNG supply reductions because of maintenance at the Gorgon LNG plant in Australia. EIA forecasts that U.S. LNG exports will return to pre-COVID levels by November 2020 and will average more than 9.0 Bcf/d from December 2020 through February 2021.

Electricity, coal, renewables, and emissions

- EIA forecasts 2.2% less electricity consumption in the United States in 2020 compared with 2019. EIA expects retail sales of electricity to fall by 6.2% this year in the commercial sector and by 5.6% in the industrial sector. EIA forecasts residential sector retail sales will increase by 3.2% in 2020. Milder winter temperatures earlier in the year led to lower consumption for space heating, offset by increased summer cooling demand and increased electricity use by more people working and attending classes

from home. In 2021, EIA forecasts total U.S. electricity consumption will be similar to 2020 consumption. Higher forecast electricity consumption in the first quarter of 2021 because of an increase in demand for space heating is mostly offset by lower forecast electricity consumption in the third quarter of 2021 because of less cooling demand based on NOAA forecast of fewer cooling degree days.

- EIA expects the share of U.S. electric power sector generation from natural gas-fired power plants will increase from 37% in 2019 to 39% this year. In 2021, the forecast natural gas share declines to 34% in response to higher natural gas prices. Coal's forecast share of electricity generation falls from 24% in 2019 to 20% in 2020 and then returns to 24% in 2021. Electricity generation from renewable energy sources rises from 17% in 2019 to 20% in 2020 and to 22% in 2021. The increase in the share from renewables is the result of planned additions to wind and solar generating capacity. EIA expects 3% declines in nuclear generation in both 2020 and 2021, reflecting recent and planned retirements of nuclear generating capacity. The nuclear share of U.S. generation remains close to 20% in all years.

- In 2020, EIA expects U.S. residential electricity prices to average 13.1 cents per kilowatthour, which would be 0.4% higher than the average electricity price in 2019. Annual changes in regional residential electricity prices range from 1.4% lower prices in the South Atlantic region to 4.0% higher prices in the Pacific region.

- EIA forecasts that renewable energy will be the fastest-growing source of electricity generation in 2020. EIA expects the U.S. electric power sector will add 23.3 gigawatts (GW) of new wind capacity in 2020 and 7.3 GW of new capacity in 2021. Expected utility-scale solar capacity rises by 13.7 GW in 2020 and by 11.8 GW in 2021.

- EIA expects total U.S. coal production in 2020 to be 525 million short tons (MMst), compared with 705 MMst in 2019, a 26% decrease. COVID-19 and efforts to mitigate it along with reduced demand from the U.S. electric power sector amid low natural gas prices have contributed to mine idling and mine closures. EIA expects production to rise to 625 MMst in 2021, up 19% from 2020. This forecast increase reflects rising demand for coal from U.S. electricity generators because of higher natural gas prices compared with 2020.

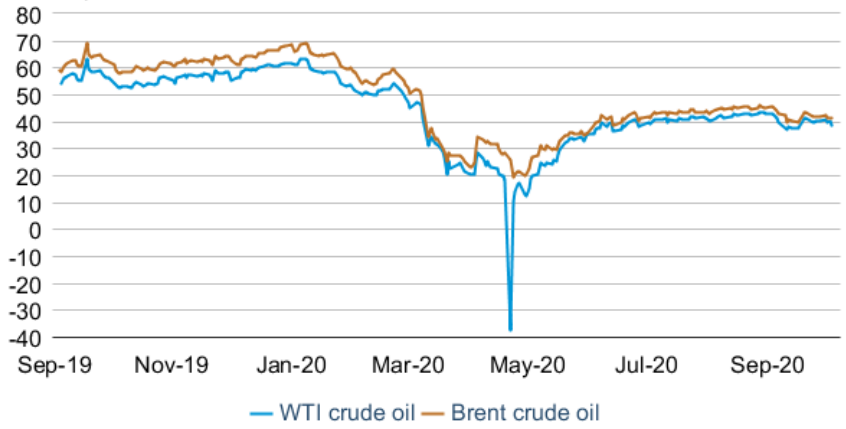
- EIA forecasts that U.S. energy-related carbon dioxide (CO2) emissions, after decreasing by 2.6% in 2019 from the previous year's level, will decrease by 10% (536 million metric tons) in 2020 as a result of reduced consumption of all fossil fuels. EIA expects emissions from coal will be down 19% from 2019 and emissions from petroleum will be down 13% from 2019. This decline in emissions is the result of less energy consumption related to slowing economic growth related to COVID-19 and efforts to mitigate it. In 2021, EIA forecasts that energy-related CO2 emissions will increase by 5.4% from the 2020 level as the economy recovers and energy use increases.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $40.93 per barrel (b) on October 1, 2020, a decrease of $4.65/b from September 1, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $4.04/b during the same period, settling at $38.72/b on October 1 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



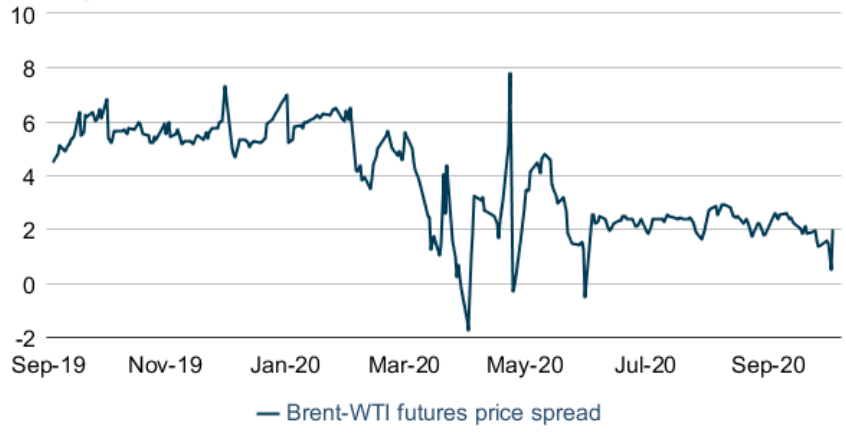
Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

During early September's heightened volatility, Brent crude oil prices fell to less than $40/b then began to stabilize from mid-September through October 1, trading at an average level of $42/b. Some of the initial decline in prices came as a result of announcements that opposing parties in Libya had agreed to lift the export blockade that had reduced production in the country from 0.8 million b/d in January (the month before the blockade began) to less than 0.1 million b/d in August (the month before the blockade was lifted).

Because Libya is excluded from the current production agreement among members of the Organization of the Petroleum Exporting Countries and partner countries (OPEC+), an increase in crude oil production from the country could significantly affect crude oil supply and inventories in the coming months. In addition, EIA estimates the rate of global oil demand growth slowed in August and September compared with the initial recovery from June and July. June and July's global oil demand increased by 6.0 million barrels per day (b/d) and 3.1 million b/d, respectively, whereas EIA estimates August and September demand increased by 0.6 million b/d and 1.3 million b/d, respectively. Recent increases in cases of COVID-19 in some countries have led to some renewed government imposed restrictions, albeit to a much lesser extent than in March and April 2020, which could also be contributing to some downward pressure on crude oil prices.

Brent–WTI futures price spread: Three developments this year have contributed to a reduction in the Brent–WTI futures price spread, which closed at a four-month low of 48 cents/b on September 30 **(Figure 2)**. First, the pace of crude oil production changes in the United States compared with the North Sea has likely affected the two crude oils' relative prices and contributed to a narrowing of the price spread. The significant crude oil price decline in the second quarter resulted in a faster crude oil production response from U.S. crude oil producers, who curtailed or shut in some wells to avoid financial losses. Although U.S. crude oil production has risen since the second quarter, the estimated September 2020 production level in the United States is 1.0 million b/d lower than the 2019 annual average production level of 12.2 million b/d. In contrast, EIA estimates total production in Norway and the United Kingdom—much of which is delivered or priced against Brent crude oil—was slightly higher than the 2019 annual average in September of 2020. Because North Sea production has not declined while U.S. production has declined, it is likely putting downward price pressure on Brent relative to WTI.

Figure 2. Brent–WTI futures price spread



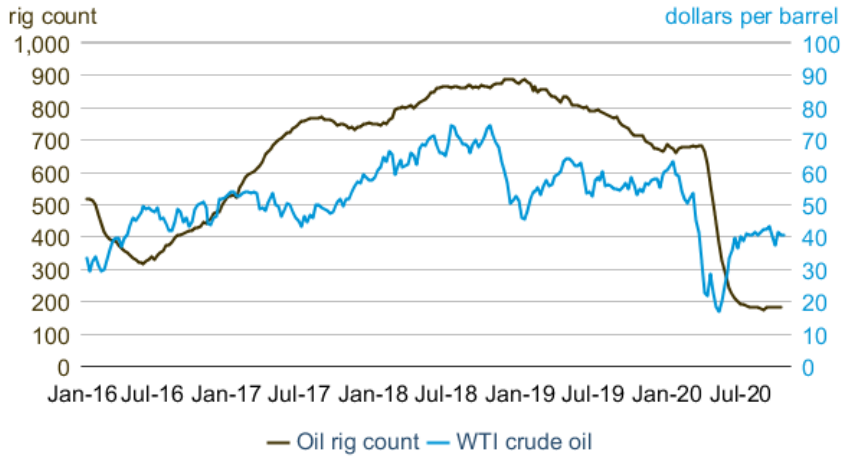
eia Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Second, the pace of global oil demand recovery from the second quarter has been slower than EIA estimated in the September STEO. A higher share of crude oil demand from importers in Asia could be met from a combination of inventories as well as rising OPEC+ production. EIA expects this trend will persist as global demand recovers into 2021, which could reduce export demand for U.S. crude oil from the most distant refining markets in Asia.

Third, crude oil export infrastructure has continued to expand along the U.S. Gulf Coast, which has improved efficiency and lowered U.S. crude oil export costs. As a result of all these developments, EIA forecasts the Brent–WTI spread will average $1.50/b in the fourth quarter of 2020 and $2.35/b in 2021, a decrease of $1.50/b and $1.65/b, respectively, from the September STEO.

Oil rigs: Oil-directed rigs in the United States increased in September from 180 rigs as of the last week in August to 183 rigs as of September 25, according to the weekly rig count from Baker Hughes **(Figure 3)**. September marked the first monthly increase in oil-directed rigs since the 2020 high of 683 oil-directed rigs in March.

Figure 3. U.S. oil rigs and WTI prices

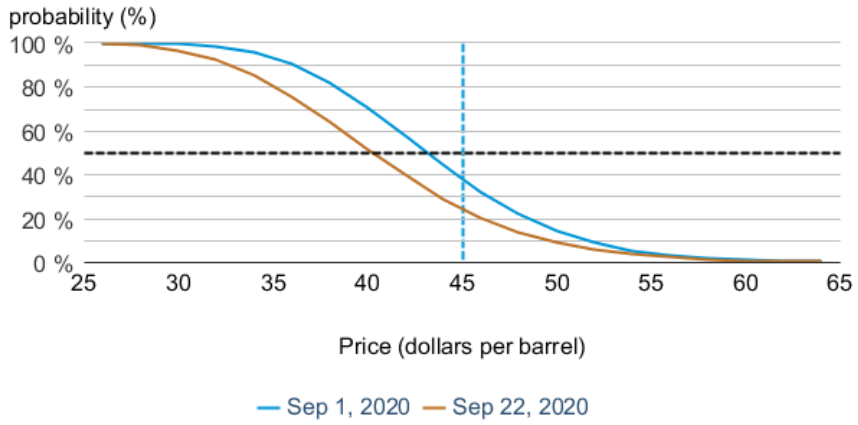


eia Baker Hughes and CME Group, as compiled by Bloomberg, L.P.
Note: WTI=West Texas Intermediate

Even as rigs declined during the summer, Lower 48 states' (L48) production rose from 8.0 million b/d in May to an estimated 9.0 million b/d in the third quarter as a result of operators bringing curtailed wells back online. However, EIA forecasts L48 crude oil production will decline to an average of 8.6 million b/d in the first half of 2021. Most curtailed production has already been brought back online, and although EIA expects rig counts to increase in some of the most highly productive areas of the Permian region, the total L48 new drilling activity is not expected to generate enough production to offset declines from existing wells. Because EIA forecasts WTI prices to average at or higher than $45/b from May to December 2021, EIA assumes producers will increase drilling activity in response to the higher oil prices, and forecasts L48 production will return to an average of 8.9 million b/d in the fourth quarter of 2021.

Market-derived probabilities: The December WTI futures contract averaged $40.08/b for the five trading days ending October 1 and has a 20% probability of expiring higher than $45/b **(Figure 4)**. The same contract for the five trading days ending September 1 had a 38% probability of expiring higher than $45/b. The probability is calculated from futures and options prices.

Figure 4. Probability of the December 2020 WTI contract expiring higher than price levels

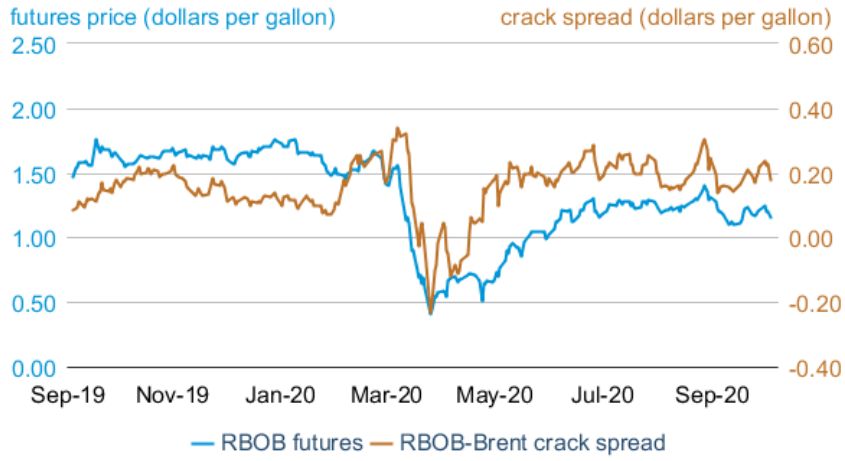


U.S. Energy Information Administration, CME Group
Note: WTI=West Texas Intermediate

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.15 per gallon (gal) on October 1, down 7 cents/gal from September 1, 2020 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 4 cents/gal to settle at 18 cents/gal during the same period. The average crack spread in September decreased from 20 cents/gal in August to average 18 cents/gal.

Figure 5. Historical RBOB front-month futures prices and crack spread



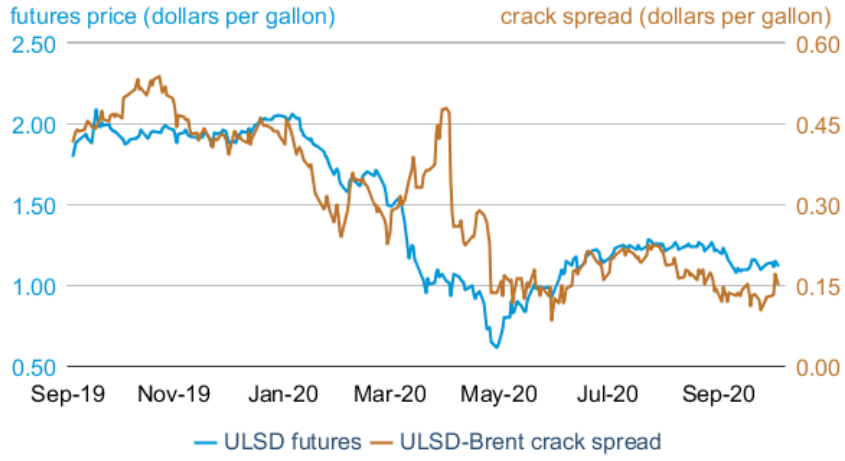
Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending

The transition to winter-grade gasoline and a decrease in gasoline consumption likely contributed to the decrease in the average crack spread from August. EIA estimates U.S. gasoline consumption totaled 8.5 million barrels per day (b/d) in September, down 0.3 million

b/d from August, and if confirmed in monthly data, it would be the lowest level for September since 1999. Nonetheless, the average crack spread came within the month's five-year (2015–19) range for the first time since January 2020 as U.S. total motor gasoline stocks declined by 3.9 million barrels from August, the largest September draw since 2008, when Hurricanes Gustav and Ike made landfall in the Gulf Coast. Lost gasoline production because of storm-related refinery closures contributed to this stock decrease. According to trade press, Citgo's 418,000 b/d Lake Charles refinery and Phillips 66's 260,000 b/d Westlake plant are expected to remain shut through at least mid-October after closing from Hurricane Laura in late-August, and Phillips 66's 255,600 b/d Alliance refinery, which was already scheduled for maintenance in October, has been shut since taking precautions for Hurricane Sally beginning on September 13.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at $1.13/gal on October 1, 2020, down 11 cents/gal from September 1, 2020 **(Figure 6)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) remained mostly unchanged at 15 cents/gal during the same period.

Figure 6. Historical ULSD front-month futures price and crack spread

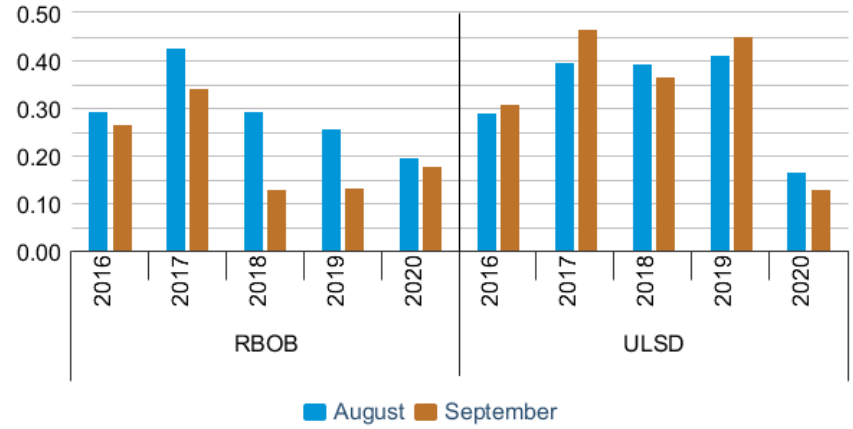


Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

The ULSD–Brent crack spread, which has averaged less than the five-year minimum in each of the past five months, was 27 cents/gal lower than the five-year average for September. Crack spreads decreased as consumption decreased and inventories remained high. EIA estimates that distillate consumption was 3.6 million b/d for September, down 5% from August's estimate of 3.7 million b/d and down 9% from a year ago. EIA also estimates that distillate production decreased in September, falling to 4.4 million b/d, the lowest for any month since March 2013. Despite lower month-over-month production, distillate yields for much of 2020 have remained higher than the 2019 level. Although distillate demand has declined this year, jet fuel demand has declined by more. As a result, refiners have shifted production away from jet fuel and toward distillate, which has contributed to persistently high distillate fuel inventories and low distillate fuel crack spreads.

August and September crack spreads: The RBOB–Brent crack spread typically decreases from August to September because futures contracts switch to the cheaper winter-grade gasoline and consumption decreases as the summer driving months come to an end. This year, the crack spread decreased less than in previous years **(Figure 7)**. Whereas the crack spread decreased in 2018 and 2019 by 17 cents/gal and 13 cents/gal, respectively, the crack spread only decreased by 2 cents/gal this year. The shallower decline this year likely reflects that the crack spread stayed at a lower level this summer because of lower gasoline demand as a result of more people working from home.

Figure 7. August and September average crack spreads



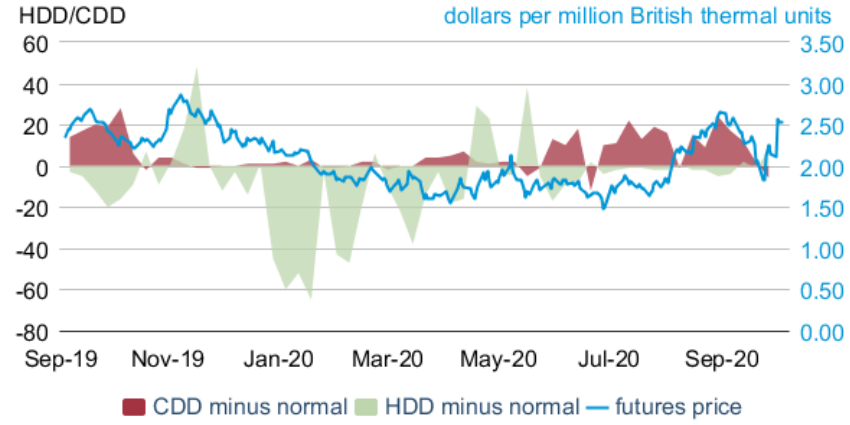
Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending, ULSD=ultra-low sulfur diesel

Unlike the RBOB–Brent crack spread, which typically decreases going into the fall, the ULSD–Brent crack spread typically increases. During the previous four years, the ULSD–Brent crack spread increased by an average of more than 2 cents/gal. In 2020, the crack spread decreased by 4 cents/gal, the largest August-to-September decrease in at least 10 years. The average crack spread for both months were at 10-year lows. As a result of gasoline's relative price premium over distillate, refiners have accordingly been reconfiguring equipment to favor gasoline over middle distillates, according to trade press.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.53 per million British thermal units (MMBtu) on October 1, unchanged from September 1 **(Figure 8)**. The front-month futures price fell sharply through September 22, when it reached a low of $1.83/MMBtu, before rising at the end of the month. On September 28, the contract for October delivery expired, and the spread between October delivery and November delivery was $0.69/MMBtu. The price spread between the first two natural gas contracts had reached $0.88/MMBtu on September 21, the widest inflation-adjusted spread between the first two natural gas futures contracts since October 2009.

Figure 8. Natural gas front-month futures prices and actual minus historical average HDD and CDD

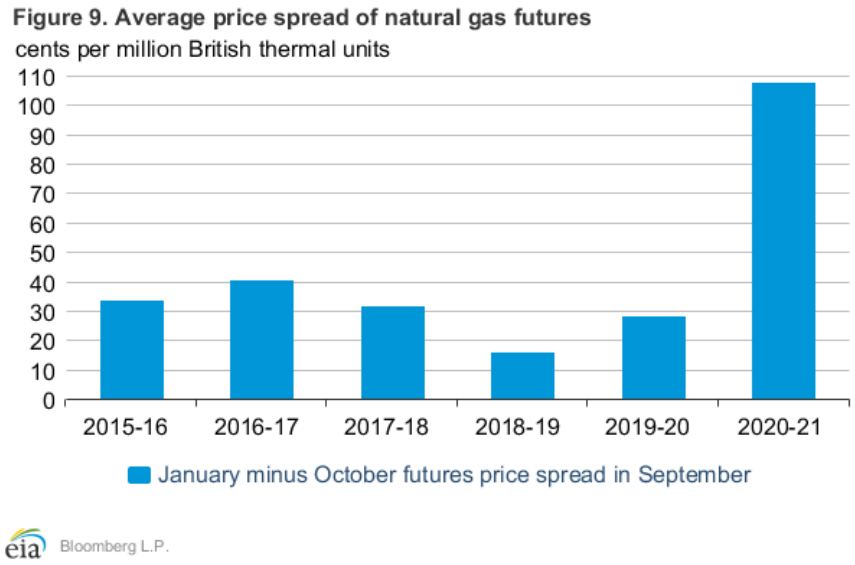


Source: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

Front-month natural gas futures prices decreased as a series of hurricanes and tropical storms in the U.S. Gulf Coast limited operations at some liquefied natural gas (LNG) export facilities, which can serve as a major source of natural gas demand. Both Cameron LNG and Sabine Pass LNG facilities reduced operations during the last week in August in advance of Hurricane Laura. Cameron LNG lost power until September 18, and continues to remain offline as a result of surrounding maritime infrastructure issues. EIA estimated that LNG exports in September were 4.9 billion cubic feet per day (Bcf/d), 8% less than the previous year and 39% lower than the amount exported at the peak in January 2020.

EIA also estimates that natural gas production declined to 89.4 Bcf/d in September, 5.3 Bcf/d lower than in September 2019. Despite falling production in 2020, falling LNG exports have contributed to high natural gas inventories. EIA estimates that U.S. natural gas inventories at the end of September reached a record high for the month of September and forecasts that inventory levels at the end of October could be the highest on record for any month.

Natural gas futures price spreads: In addition to the wide price spread between the first and second month natural gas futures contracts, the spread between natural gas prices for October 2020 delivery and January 2021 delivery was more than three times the five-year average in September **(Figure 9)** and the widest since 2009. The front-month futures price volatility was also higher; the contract for October delivery traded within an 88 cents/MMBtu range in September compared with a range of 32 cents/MMBtu for the January contract. The wide spread between these contracts reflects the current high level of inventories, but it also indicates that market participants expect the current oversupply situation to change in the next few months. EIA forecasts that production will continue to fall for the next several months and that LNG exports will grow rapidly and show year-on-year growth by October 2020. Those changes, combined with the usual seasonal increase in natural gas consumption, will begin to draw down inventories and tighten the market. EIA forecasts that natural gas inventories will decline to their monthly five-year average by January 2021.



Notable forecast changes

- EIA forecasts global consumption of petroleum and other liquid fuels will average 99.1 million barrels per day (b/d) in 2021, a decrease of 0.5 million b/d from the September STEO. The downward revision is primarily in India, which has realized larger economic declines in 2020 compared with initial estimates, which EIA expects will persist into 2021. In addition, EIA has reduced the 2021 global demand growth forecast as a result of a slower recovery in global jet fuel demand.

- EIA forecasts Brent crude oil prices to trade $2.35 per barrel (b) more than WTI prices in 2021. In the September STEO, EIA had forecast a $4.00/b spread in 2021. The narrower spread reflects EIA's expectation of reduced demand for U.S. crude oil globally because of lower global oil demand amid lower U.S. crude oil production.

- EIA forecasts U.S. jet fuel consumption will average 1.1 million b/d in the fourth quarter of 2020, down from a forecast of 1.5 million b/d in the September STEO. The lower forecast reflects incoming data that show the recovery in jet fuel consumption, particularly by internationally-bound flights, is proceeding more slowly than EIA expected.

- EIA forecasts crude oil inputs at U.S. refineries will average 15.9 million b/d in 2021, which is 0.5 million b/d less than forecast last month. The lower expected refinery inputs reflect updates to EIA's forecasting equation for crude oil refinery runs. The new equation uses U.S. petroleum demand and net petroleum product exports as explanatory variables, compared with refinery product margins and stock levels in the former equation.

- EIA has revised its modeling for retail electricity prices so that forecast retail prices are now a function of regional wholesale electricity prices. Previously, EIA modeled regional retail electricity prices as a function of the average U.S. cost of natural gas and coal delivered to electric generators. Forecast wholesale prices reflect the cost of fossil fuel-fired generators along with the cost of supplying renewable electricity.

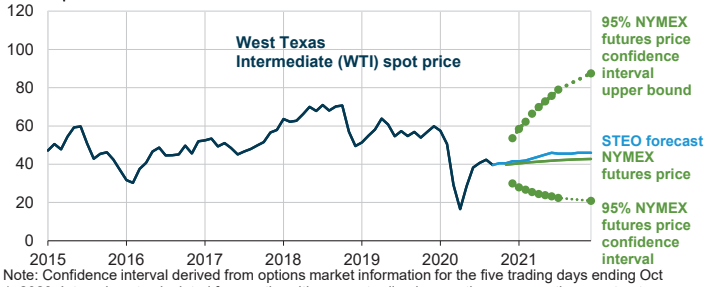
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Short-Term Energy Outlook
Chart Gallery

October 6, 2020

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

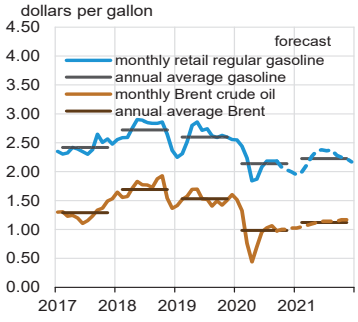


Note: Confidence interval derived from options market information for the five trading days ending Oct 1, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

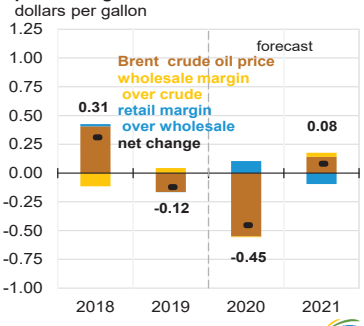
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020, CME Group, and Bloomberg, L.P.

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U.S. gasoline and crude oil prices
dollars per gallon



Components of annual gasoline price changes
dollars per gallon

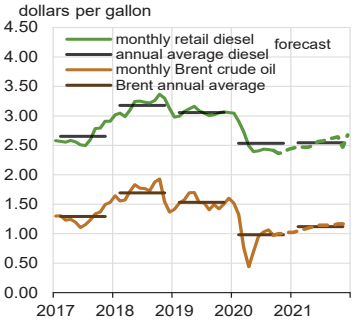


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

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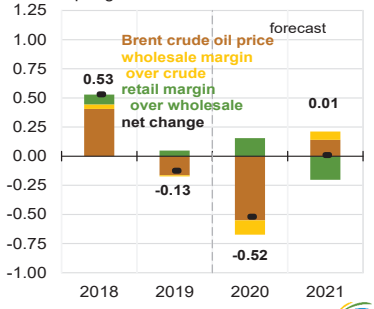
U.S. diesel and crude oil prices

dollars per gallon



Components of annual diesel prices changes

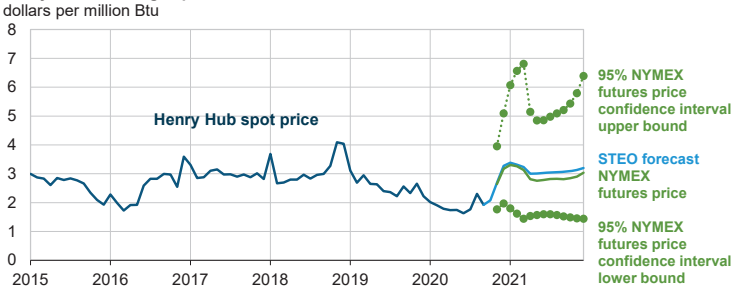
dollars per gallon



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

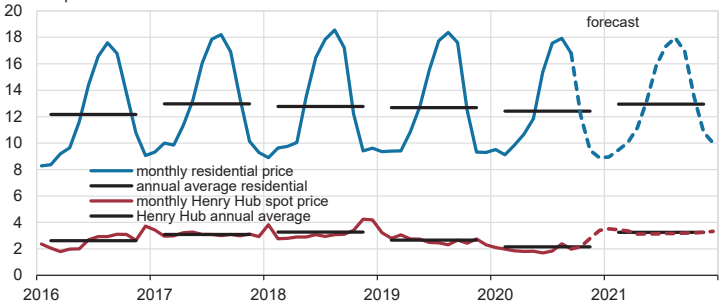


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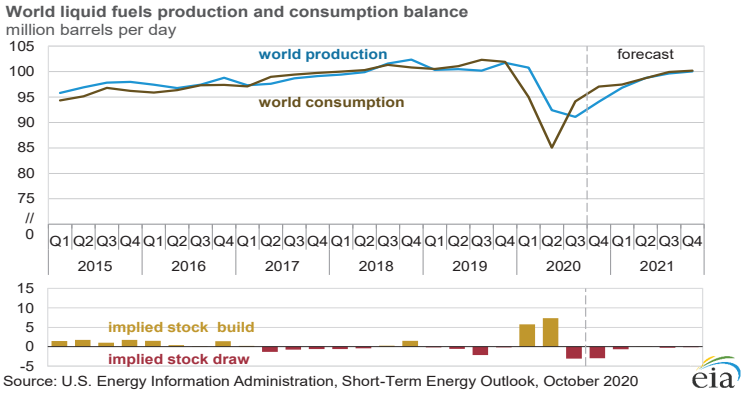
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020, and CME Group

U.S. natural gas prices

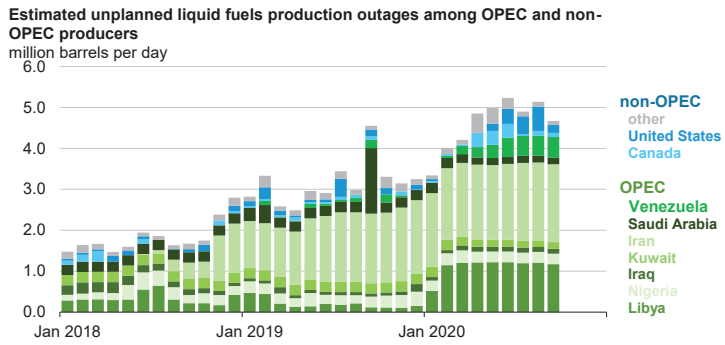
dollars per thousand cubic feet



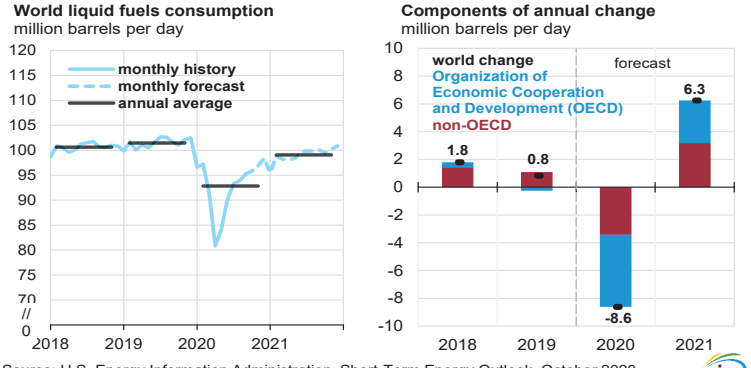
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020, and Refinitiv



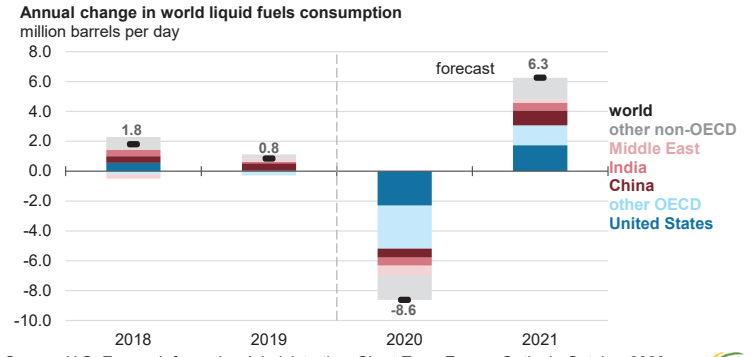
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



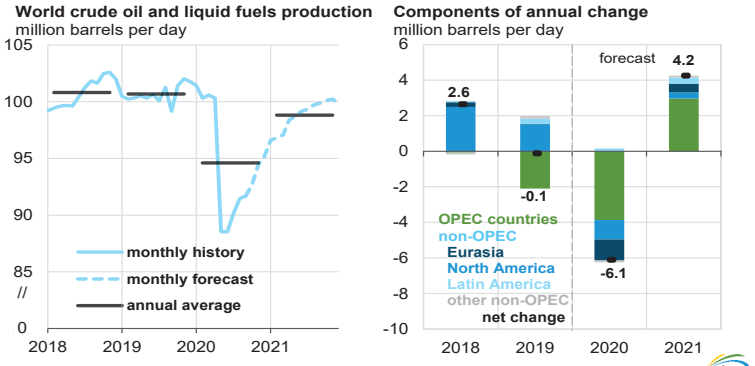
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



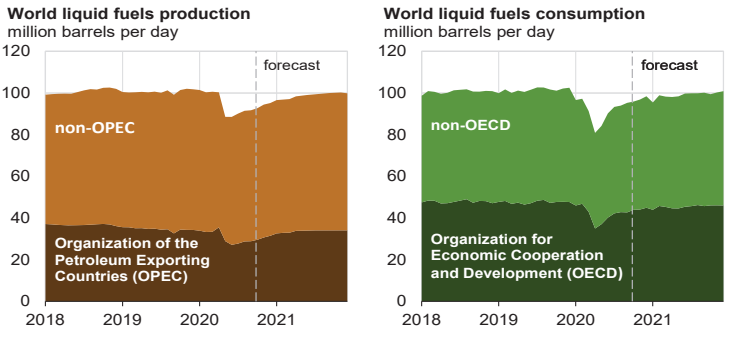
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

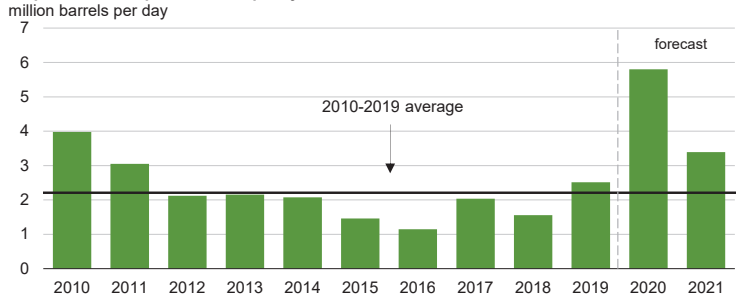


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



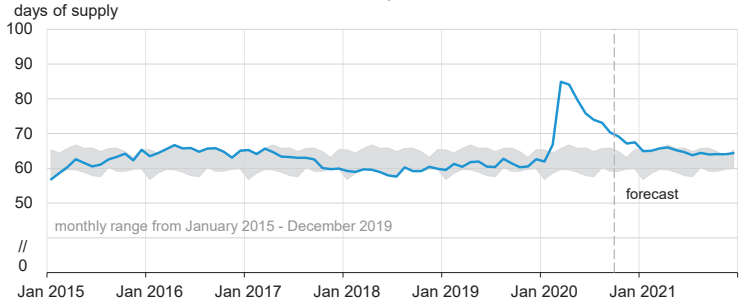
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



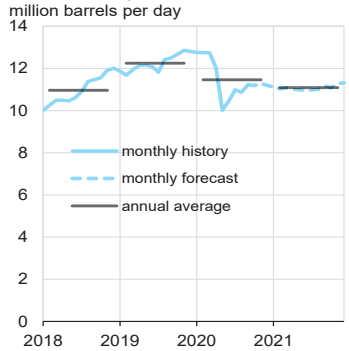
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

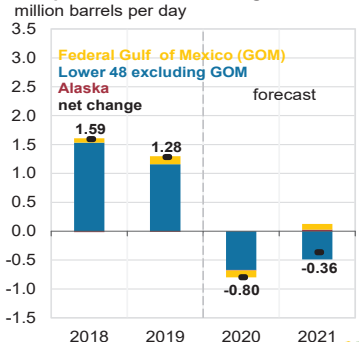


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

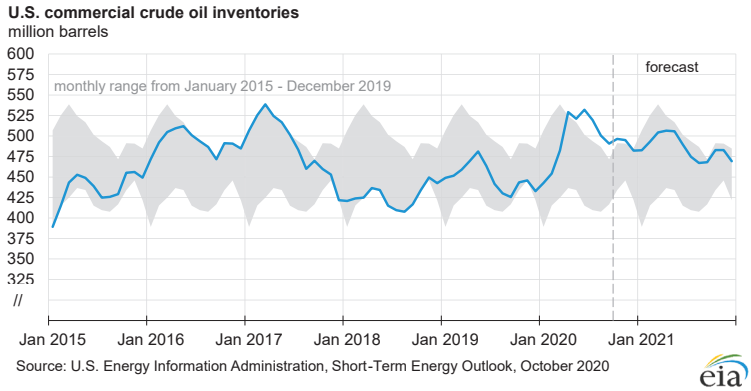
U.S. crude oil production
million barrels per day

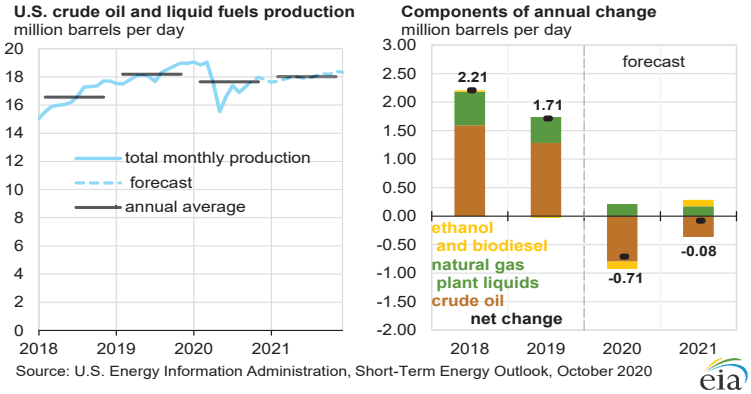


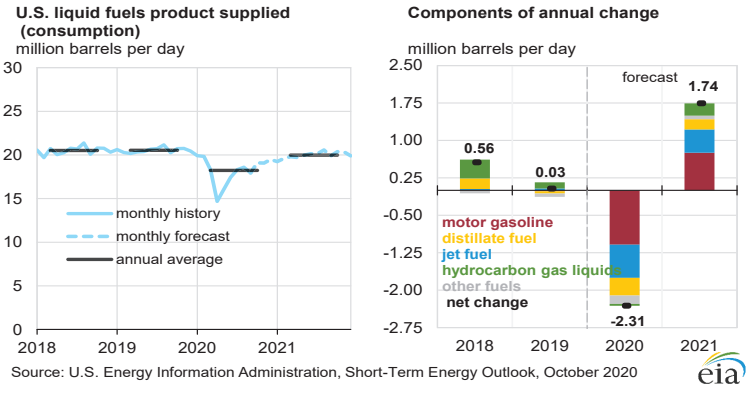
Components of annual change
million barrels per day



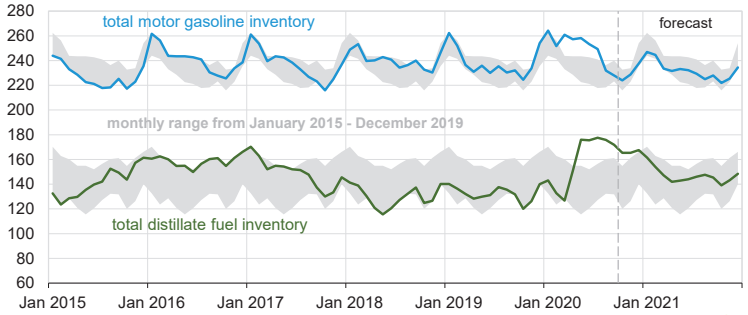
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2015 - December 2019
forecast
Jan 2015
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020
eia


U.S. crude oil and liquid fuels production
million barrels per day
20
18
16
14
12
10
8
6
4
2
0
total monthly production
forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
forecast
2.21
1.71
-0.71
-0.08
ethanol
and biodiesel
natural gas
plant liquids
crude oil
net change
2018
2019
2020
2021
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020
eia

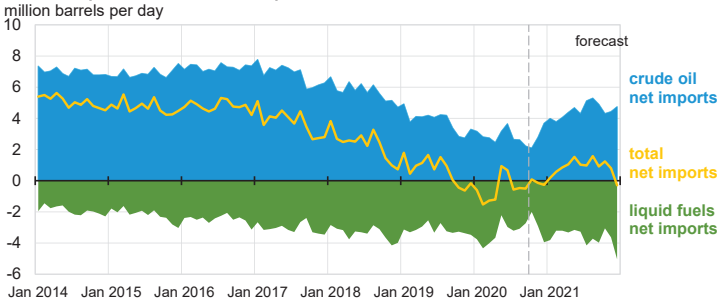

U.S. liquid fuels product supplied
(consumption)
million barrels per day
30
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2018
2019
2020
2021
Components of annual change
million barrels per day
2.50
1.75
1.00
0.25
-0.50
-1.25
-2.00
-2.75
forecast
0.56
0.03
-2.31
1.74
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
net change
2018
2019
2020
2021
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020
eia

U.S. gasoline and distillate inventories
million barrels



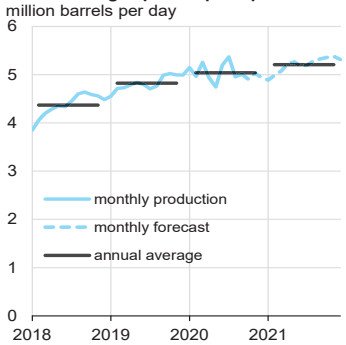
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

U.S. net imports of crude oil and liquid fuels
million barrels per day

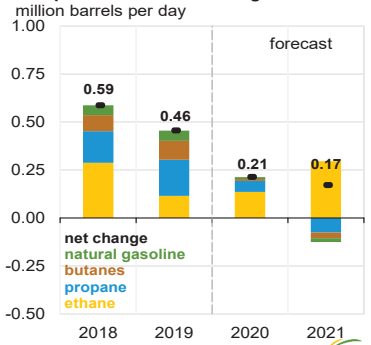


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

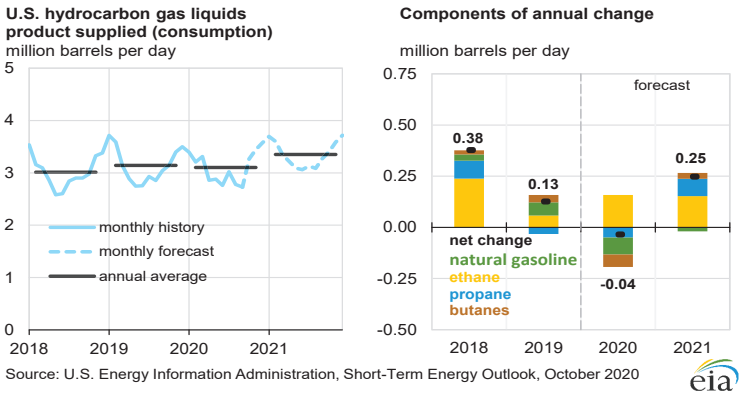
U.S. natural gas plant liquids production
million barrels per day



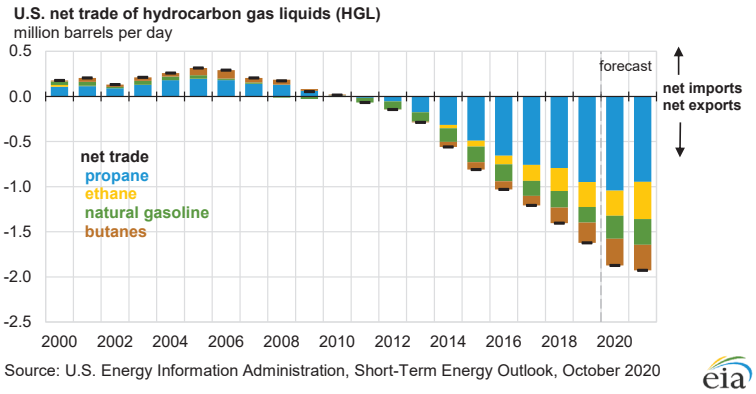
Components of annual change
million barrels per day



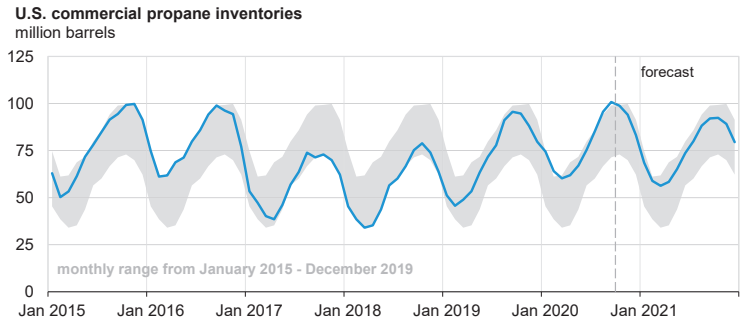
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



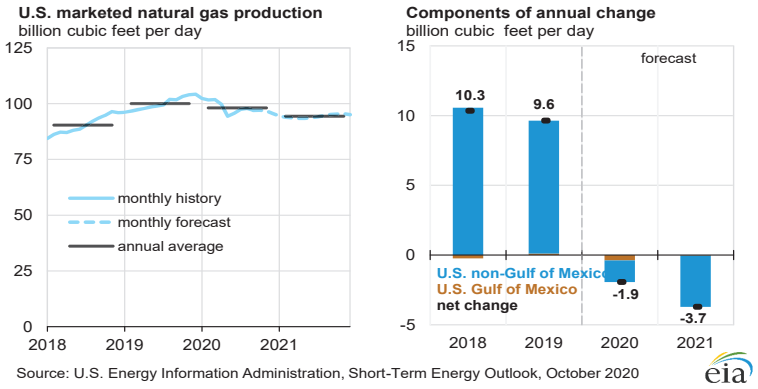
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



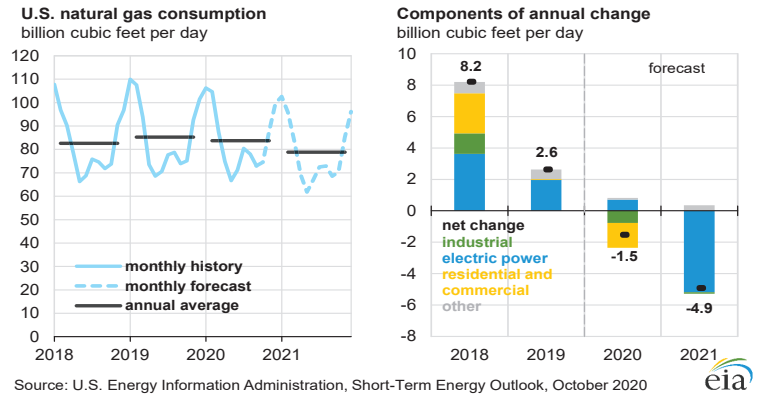
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



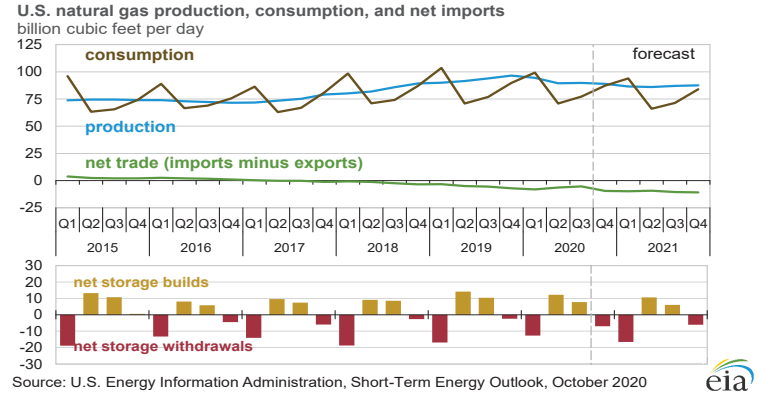
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



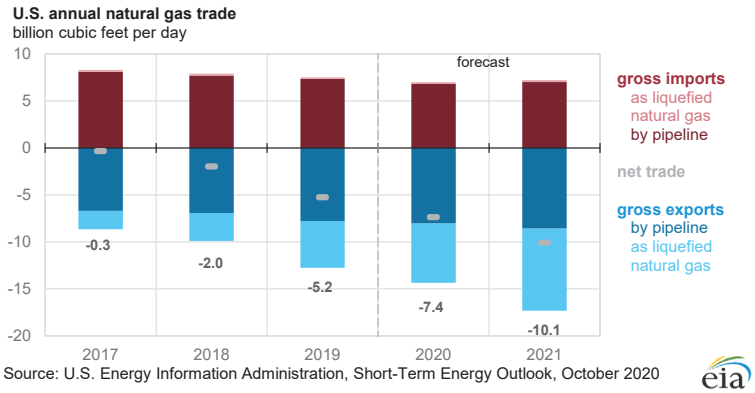
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



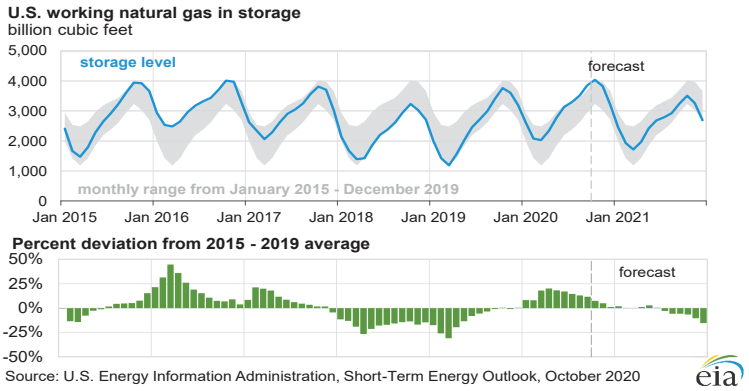
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



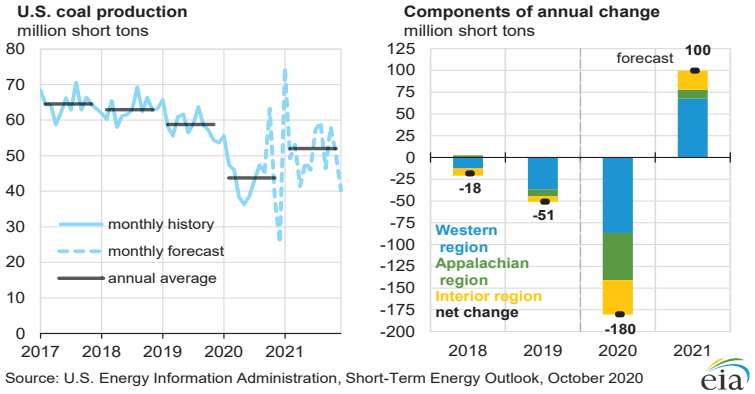
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



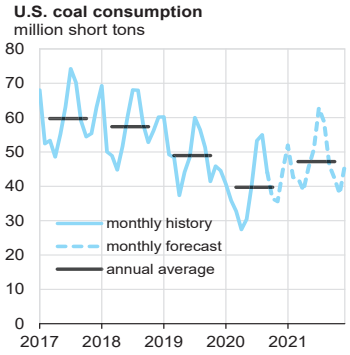
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

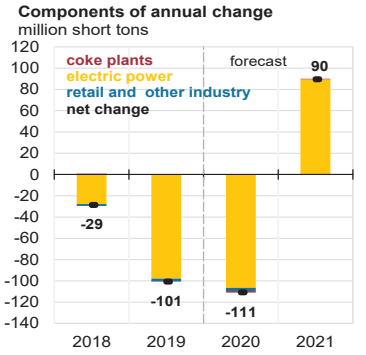


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

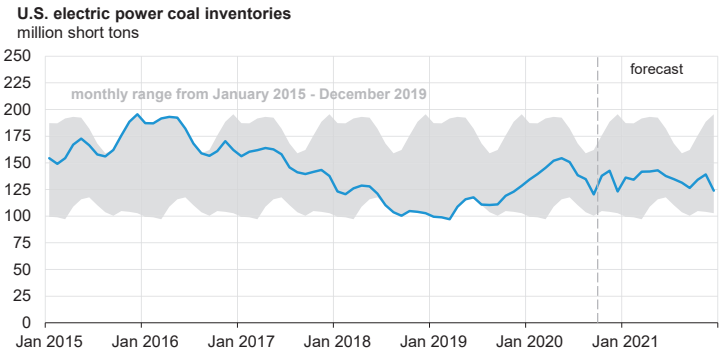


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

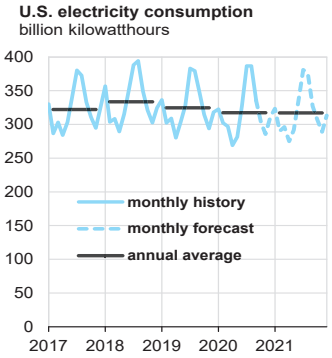


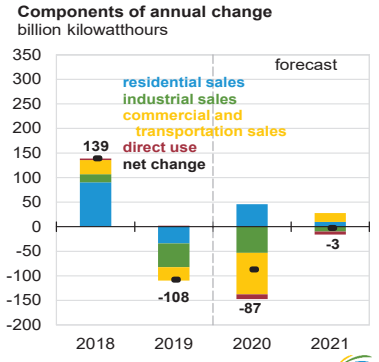


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

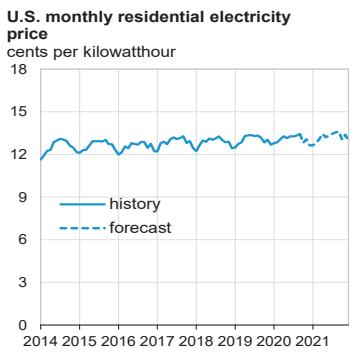


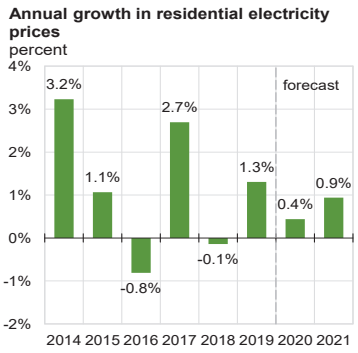
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



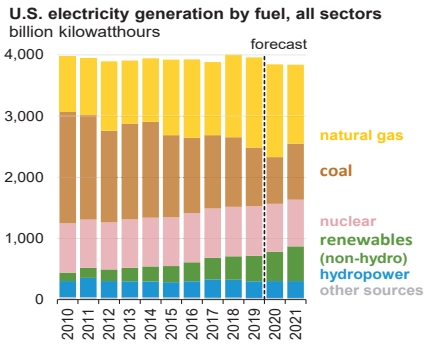


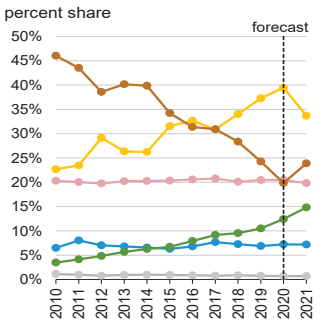
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



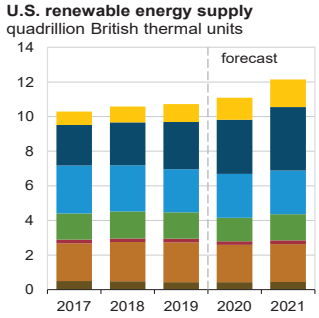


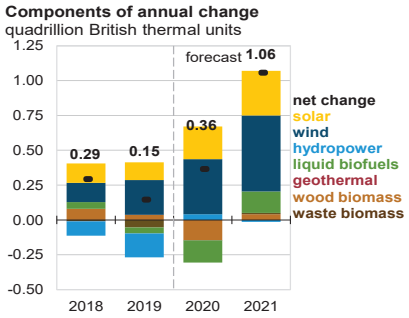
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

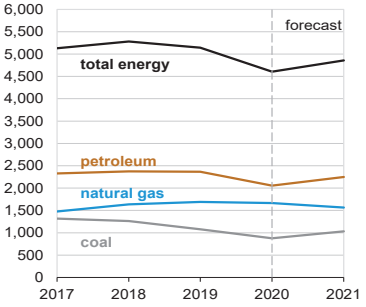




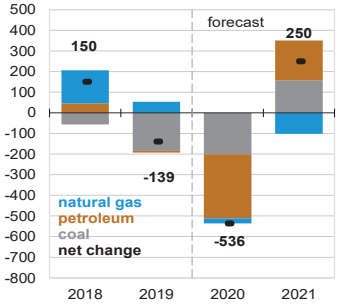
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

U.S. annual carbon emissions by source
million metric tons

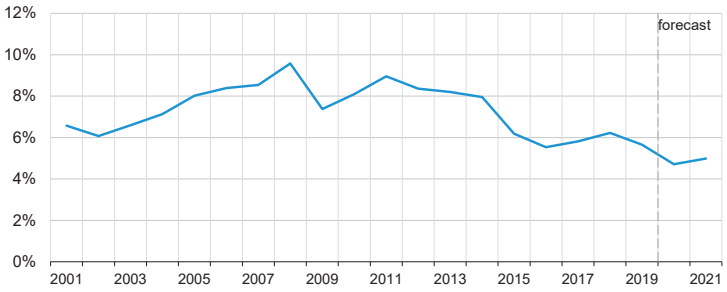


Components of annual change
million metric tons



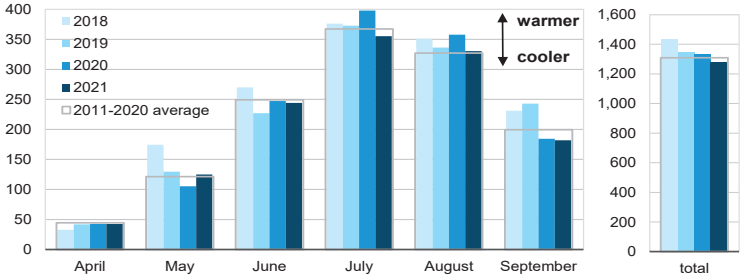
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

U.S. annual energy expenditures
share of gross domestic product



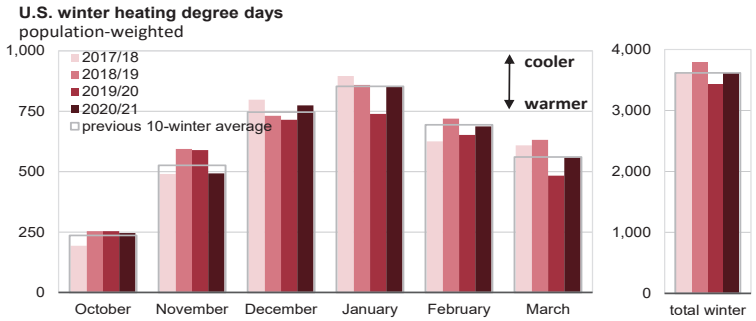
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020

U.S. summer cooling degree days
population-weighted



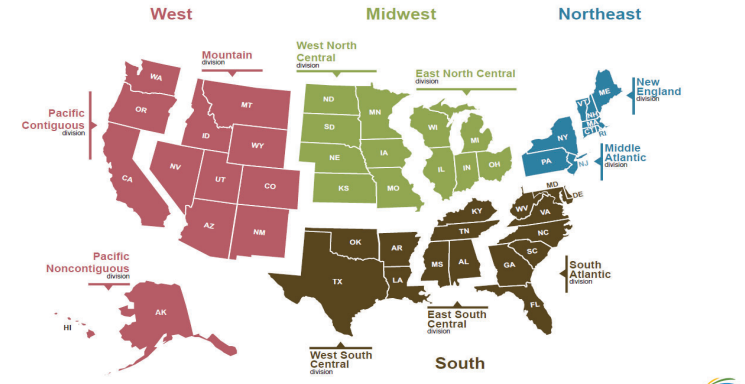
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2020



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

Fuel / Region	Winter of							Forecast	
	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	% Change
Natural Gas									
Northeast									
Consumption (Mcf**)	71.7	72.3	57.4	61.5	65.3	66.8	61.1	67.7	10.8
Price ($/mcf)	11.52	10.80	10.18	10.70	11.37	11.67	11.69	10.78	-7.7
Expenditures ($)	826	780	584	659	742	780	715	730	2.2
Midwest									
Consumption (Mcf)	84.2	79.1	63.6	64.8	73.9	76.9	69.7	75.6	8.5
Price ($/mcf)	8.68	8.54	7.55	8.28	7.83	7.82	7.39	7.35	-0.6
Expenditures ($)	731	676	480	536	578	601	515	556	7.8
South									
Consumption (Mcf)	52.7	50.9	40.3	37.9	45.5	46.0	41.5	46.1	11.1
Price ($/mcf)	10.71	10.75	10.72	12.04	11.23	10.61	11.10	10.67	-3.9
Expenditures ($)	564	547	432	457	512	488	460	492	6.8
West									
Consumption (Mcf)	45.2	40.1	44.7	45.6	43.8	48.8	47.4	48.4	2.1
Price ($/mcf)	9.96	10.71	9.92	10.68	10.25	10.15	10.56	11.01	4.3
Expenditures ($)	450	430	443	487	449	495	501	533	6.5
U.S. Average									
Consumption (Mcf)	63.9	60.7	51.8	52.9	57.6	60.2	55.5	59.9	7.9
Price ($/mcf)	9.95	9.89	9.28	10.06	9.82	9.72	9.73	9.55	-1.8
Expenditures ($)	636	600	481	533	565	586	540	572	5.9
Heating Oil									
U.S. Average									
Consumption (gallons)	547.5	548.2	436.6	468.2	495.6	512.0	467.8	519.2	11.0
Price ($/gallon)	3.87	3.04	2.06	2.41	2.78	3.07	2.89	2.35	-18.7
Expenditures ($)	2,121	1,668	900	1,128	1,376	1,570	1,353	1,221	-9.7
Electricity									
Northeast									
Consumption (kWh***)	8,879	8,927	7,705	8,050	8,346	8,482	8,017	8,667	8.1
Price ($/kwh)	0.163	0.168	0.164	0.165	0.169	0.169	0.171	0.170	-0.7
Expenditures ($)	1,448	1,501	1,263	1,324	1,407	1,436	1,374	1,475	7.3
Midwest									
Consumption (kWh)	11,362	10,816	9,365	9,479	10,381	10,707	10,002	10,665	6.6
Price ($/kwh)	0.112	0.118	0.122	0.124	0.124	0.123	0.124	0.125	0.5
Expenditures ($)	1,275	1,274	1,138	1,172	1,289	1,317	1,241	1,330	7.2
South									
Consumption (kWh)	10,488	10,302	8,782	8,511	9,544	9,538	8,896	9,755	9.7
Price ($/kwh)	0.109	0.111	0.110	0.111	0.112	0.113	0.115	0.112	-2.2
Expenditures ($)	1,141	1,141	968	948	1,065	1,075	1,022	1,096	7.2
West									
Consumption (kWh)	8,487	7,830	8,441	8,560	8,329	8,987	8,811	9,050	2.7
Price ($/kwh)	0.123	0.127	0.130	0.132	0.136	0.136	0.138	0.142	2.7
Expenditures ($)	1,045	993	1,095	1,128	1,130	1,224	1,217	1,283	5.5
U.S. Average									
Consumption (kWh)	9,729	9,418	8,456	8,424	9,049	9,256	8,764	9,431	7.6
Price ($/kwh)	0.120	0.123	0.124	0.125	0.126	0.127	0.129	0.128	-0.5
Expenditures ($)	1,163	1,158	1,044	1,055	1,142	1,174	1,128	1,209	7.1

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

Fuel / Region	Winter of							Forecast	
	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	% Change
Propane									
Northeast									
Consumption (gallons)	624.5	629.7	505.7	542.6	569.3	585.8	538.5	593.0	10.1
Price* ($/gallon)	3.56	3.00	2.71	3.06	3.26	3.22	2.61	2.79	6.9
Expenditures ($)	2,223	1,889	1,371	1,660	1,856	1,886	1,406	1,655	17.7
Midwest									
Consumption (gallons)	808.4	755.9	618.2	628.9	715.1	746.7	679.1	729.5	7.4
Price* ($/gallon)	2.61	1.91	1.47	1.73	1.95	1.83	1.58	1.64	4.1
Expenditures ($)	2,110	1,444	909	1,088	1,394	1,366	1,070	1,196	11.8
Number of households by primary space heating fuel (thousands)									
Northeast									
Natural gas	11,529	11,705	11,802	11,918	12,063	12,167	12,389	12,516	1.0
Heating oil	5,244	5,097	4,923	4,774	4,724	4,604	4,464	4,306	-3.5
Propane	846	856	884	933	977	1,018	1,042	1,042	0.0
Electricity	3,038	3,093	3,253	3,326	3,387	3,478	3,597	3,713	3.2
Wood	585	569	511	471	469	461	352	218	-37.9
Other/None	436	437	433	433	441	446	470	508	8.0
Midwest									
Natural gas	18,083	18,206	18,241	18,236	18,319	18,405	18,371	18,164	-1.1
Heating oil	336	319	301	286	278	273	264	249	-5.7
Propane	2,089	2,085	2,077	2,057	2,115	2,187	2,237	2,261	1.1
Electricity	5,425	5,514	5,747	5,871	5,978	6,036	6,273	6,545	4.3
Wood	632	617	587	552	527	508	476	429	-9.7
Other/None	353	351	354	359	361	349	366	397	8.7
South									
Natural gas	13,802	13,919	13,948	13,913	13,970	14,026	14,207	14,280	0.5
Heating oil	699	681	653	619	609	583	556	534	-4.0
Propane	1,944	1,925	1,899	1,858	1,852	1,861	1,899	1,903	0.2
Electricity	28,247	28,843	29,509	29,873	30,326	30,694	31,090	31,296	0.7
Wood	616	593	552	509	484	474	466	451	-3.2
Other/None	419	407	413	426	434	454	485	506	4.2
West									
Natural gas	15,068	15,227	15,312	15,427	15,570	15,653	15,738	15,636	-0.6
Heating oil	235	225	219	214	214	217	205	187	-8.6
Propane	930	915	923	935	963	988	973	944	-3.0
Electricity	8,759	8,927	9,228	9,351	9,490	9,648	9,905	10,118	2.1
Wood	744	749	719	700	689	677	670	667	-0.6
Other/None	1,016	1,075	1,087	1,058	1,089	1,091	1,128	1,226	8.6
U.S. Totals									
Natural gas	58,481	59,057	59,303	59,494	59,922	60,250	60,705	60,597	-0.2
Heating oil	6,513	6,322	6,095	5,893	5,825	5,678	5,489	5,276	-3.9
Propane	5,810	5,781	5,783	5,784	5,906	6,054	6,151	6,150	0.0
Electricity	45,470	46,377	47,737	48,420	49,180	49,857	50,865	51,672	1.6
Wood	2,578	2,528	2,369	2,232	2,170	2,122	1,964	1,765	-10.1
Other/None	2,223	2,271	2,287	2,277	2,326	2,340	2,449	2,637	7.6
Heating degree days									
Northeast	5,597	5,648	4,322	4,700	5,015	5,167	4,660	5,018	7.7
Midwest	6,451	6,002	4,688	4,792	5,577	5,843	5,226	5,472	4.7
South	2,784	2,689	2,013	1,881	2,349	2,358	2,071	2,283	10.2
West	2,992	2,569	2,957	3,041	2,887	3,296	3,184	3,137	-1.5
U.S. Average	4,111	3,882	3,202	3,255	3,610	3,788	3,433	3,611	5.2

Note: Winter covers the period October 1 through March 31. Fuel prices are nominal prices. Fuel consumption per household is based only on households that use that fuel as the primary space-heating fuel. Included in fuel consumption is consumption for water heating, appliances, electronics, and lighting (electricity). Per-household consumption based on EIA's 2015 Residential Energy Consumption Surveys corrected for actual and projected heating degree days. Number of households using heating oil includes kerosene.

* Prices exclude taxes
** thousand cubic feet
*** kilowatthour

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.82**	**11.02**	*11.22*	*11.07*	*11.00*	*11.05*	*11.22*	**12.25**	*11.45*	*11.09*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.01**	**91.57**	**94.00**	**96.58**	**94.48**	**89.44**	**89.81**	*88.86*	*86.56*	*86.02*	*87.04*	*87.58*	**93.06**	*90.64*	*86.81*
Coal Production															
(million short tons)	**180**	**179**	**181**	**165**	**149**	**113**	**136**	*127*	*177*	*136*	*163*	*149*	**705**	*525*	*625*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.29**	*19.21*	*19.54*	*19.94*	*20.19*	*20.20*	**20.54**	*18.23*	*19.97*
Natural Gas															
(billion cubic feet per day)	**103.63**	**70.89**	**76.82**	**89.72**	**99.32**	**70.86**	**77.21**	*87.28*	*93.86*	*65.97*	*71.38*	*83.91*	**85.20**	*83.66*	*78.73*
Coal (b)															
(million short tons)	**158**	**130**	**168**	**132**	**109**	**98**	**152**	*117*	*137*	*135*	*168*	*126*	**587**	*476*	*566*
Electricity															
(billion kilowatt hours per day)	**10.53**	**10.02**	**12.06**	**10.07**	**10.13**	**9.64**	**12.05**	*9.79*	*10.11*	*9.93*	*11.78*	*9.89*	**10.67**	*10.41*	*10.43*
Renewables (c)															
(quadrillion Btu)	**2.80**	**3.07**	**2.79**	**2.78**	**2.90**	**3.00**	**2.86**	*2.95*	*3.18*	*3.37*	*3.12*	*3.15*	**11.44**	*11.71*	*12.83*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.57**	**23.50**	**24.99**	**25.24**	**25.10**	**20.70**	**23.16**	*23.71*	*24.74*	*22.64*	*23.97*	*24.17*	**100.31**	*92.66*	*95.52*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	**40.89**	*40.84*	*42.22*	*45.02*	*45.50*	*46.00*	**56.99**	*38.76*	*44.72*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	**2.00**	*2.68*	*3.31*	*3.01*	*3.06*	*3.14*	**2.57**	*2.07*	*3.13*
Coal															
(dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.91**	**1.98**	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,282**	**18,435**	*18,543*	*18,687*	*18,886*	*19,032*	*19,198*	**19,092**	*18,318*	*18,951*
Percent change from prior year	**2.3**	**2.0**	**2.1**	**2.3**	**0.3**	**-9.1**	**-3.7**	*-3.7*	*-1.7*	*9.3*	*3.2*	*3.5*	**2.2**	*-4.1*	*3.5*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.8**	**113.6**	*113.9*	*114.3*	*114.6*	*115.1*	*115.5*	**112.3**	*113.4*	*114.9*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	**0.6**	**0.9**	*0.8*	*0.8*	*1.6*	*1.3*	*1.5*	**1.8**	*1.0*	*1.3*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,061**	**16,588**	**15,726**	*16,321*	*14,903*	*14,995*	*15,063*	*15,125*	**14,883**	*15,924*	*15,022*
Percent change from prior year	**3.2**	**2.1**	**1.8**	**1.6**	**1.4**	**11.9**	**5.6**	*9.1*	*-1.0*	*-9.6*	*-4.2*	*-7.3*	**2.2**	*7.0*	*-5.7*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.0**	**99.3**	*99.9*	*100.9*	*101.4*	*101.8*	*102.6*	**106.0**	*98.2*	*101.7*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.0**	**-15.7**	**-6.2**	*-5.6*	*-3.4*	*13.9*	*2.5*	*2.7*	**0.0**	*-7.4*	*3.6*
Weather															
U.S. Heating Degree-Days	**2,210**	**480**	**56**	**1,558**	**1,875**	**540**	**84**	*1,513*	*2,098*	*481*	*71*	*1,480*	**4,304**	*4,012*	*4,130*
U.S. Cooling Degree-Days	**46**	**398**	**952**	**105**	**70**	**395**	**940**	*95*	*46*	*411*	*868*	*98*	**1,501**	*1,501*	*1,423*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER). Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	**40.89**	*40.84*	*42.22*	*45.02*	*45.50*	*46.00*	**56.99**	*38.76*	*44.72*
Brent Spot Average	**63.14**	**69.04**	**61.90**	**63.30**	**49.97**	**29.52**	**42.98**	*42.34*	*44.07*	*47.02*	*48.00*	*49.00*	**64.34**	*41.19*	*47.07*
U.S. Imported Average	**55.39**	**62.93**	**57.31**	**55.60**	**43.76**	**26.34**	**39.58**	*38.76*	*39.73*	*42.39*	*42.75*	*43.00*	**57.95**	*36.86*	*42.07*
U.S. Refiner Average Acquisition Cost	**57.08**	**63.54**	**58.67**	**58.05**	**47.48**	**26.88**	**43.53**	*41.18*	*41.22*	*43.41*	*43.75*	*44.00*	**59.36**	*40.22*	*43.14*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**153**	**104**	**134**	*125*	*131*	*157*	*156*	*145*	**186**	*130*	*148*
Diesel Fuel	**192**	**203**	**192**	**197**	**160**	**97**	**126**	*129*	*135*	*149*	*155*	*158*	**196**	*128*	*150*
Fuel Oil	**189**	**195**	**184**	**191**	**160**	**87**	**113**	*120*	*131*	*139*	*146*	*153*	**190**	*123*	*140*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**165**	**85**	**116**	*118*	*129*	*138*	*145*	*151*	**197**	*129*	*141*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**163**	**176**	**93**	**122**	*134*	*103*	*104*	*104*	*104*	**158**	*132*	*104*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	**194**	**218**	*203*	*202*	*233*	*234*	*221*	**260**	*215*	*223*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**251**	**203**	**227**	*215*	*215*	*246*	*247*	*235*	**269**	*225*	*236*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	**243**	**243**	*239*	*247*	*251*	*260*	*260*	**306**	*254*	*255*
Heating Oil	**300**	**305**	**290**	**301**	**280**	**200**	**216**	*233*	*237*	*239*	*246*	*262*	**300**	*244*	*246*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	**2.07**	*2.79*	*3.44*	*3.13*	*3.18*	*3.26*	**2.67**	*2.15*	*3.25*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	**2.00**	*2.68*	*3.31*	*3.01*	*3.06*	*3.14*	**2.57**	*2.07*	*3.13*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.66**	**3.73**	**3.29**	**3.74**	**3.52**	**2.85**	**2.87**	*3.64*	*4.68*	*4.11*	*4.07*	*4.41*	**3.90**	*3.25*	*4.33*
Commercial Sector	**7.55**	**7.95**	**8.41**	**7.20**	**7.13**	**7.63**	**8.33**	*7.32*	*7.58*	*8.34*	*8.92*	*8.02*	**7.59**	*7.40*	*7.99*
Residential Sector	**9.39**	**12.36**	**17.90**	**9.78**	**9.46**	**11.89**	**17.41**	*9.60*	*9.41*	*12.74*	*17.37*	*10.88*	**10.46**	*10.48*	*10.87*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.91**	**1.98**	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.39**	**2.09**	**2.25**	*3.03*	*3.97*	*3.32*	*3.29*	*3.53*	**2.88**	*2.42*	*3.49*
Residual Fuel Oil (c)	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**6.65**	**7.40**	*7.79*	*8.22*	*9.43*	*9.18*	*9.16*	**12.72**	*8.39*	*8.81*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.43**	**9.91**	*10.34*	*10.71*	*11.82*	*12.16*	*12.48*	**15.16**	*10.53*	*11.78*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.62**	**7.20**	*6.64*	*6.47*	*6.72*	*7.22*	*6.67*	**6.83**	*6.71*	*6.78*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.63**	**10.83**	*10.41*	*10.29*	*10.77*	*11.08*	*10.63*	**10.66**	*10.56*	*10.71*
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.24**	**13.33**	*12.83*	*12.81*	*13.32*	*13.53*	*13.12*	**13.04**	*13.09*	*13.22*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.06**	**31.32**	**31.48**	**32.76**	**32.91**	**29.40**	**29.84**	*30.58*	*30.74*	*30.85*	*31.04*	*31.56*	**31.66**	*30.68*	*31.05*
U.S. (50 States)	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.59**	**18.38**	*18.51*	*18.45*	*18.71*	*18.81*	*19.04*	**19.47**	*18.67*	*18.75*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.94**	**4.89**	*5.39*	*5.53*	*5.55*	*5.59*	*5.71*	**5.50**	*5.21*	*5.60*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	**1.88**	*1.83*	*1.82*	*1.82*	*1.78*	*1.77*	**1.92**	*1.91*	*1.80*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.03**	**4.94**	**4.69**	*4.86*	*4.94*	*4.77*	*4.85*	*5.05*	**4.77**	*4.88*	*4.90*
Non-OECD	**69.28**	**69.16**	**68.70**	**68.98**	**67.88**	**63.01**	**61.24**	*63.52*	*66.08*	*67.90*	*68.60*	*68.49*	**69.03**	*63.90*	*67.78*
OPEC	**35.41**	**34.94**	**33.90**	**34.36**	**33.56**	**30.52**	**28.47**	*30.58*	*32.83*	*33.93*	*34.07*	*34.09*	**34.65**	*30.78*	*33.74*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	**23.64**	*25.68*	*27.79*	*28.96*	*29.11*	*29.13*	**29.27**	*25.80*	*28.75*
Other Liquids (b)	**5.47**	**5.47**	**5.24**	**5.34**	**5.28**	**4.88**	**4.83**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.38**	*4.97*	*4.98*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	**12.73**	*13.12*	*13.68*	*13.80*	*14.02*	*14.17*	**14.63**	*13.45*	*13.92*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	**4.94**	*4.95*	*4.89*	*4.93*	*4.93*	*4.98*	**4.89**	*4.93*	*4.93*
Other Non-OECD	**14.12**	**14.88**	**15.33**	**15.08**	**14.62**	**14.39**	**15.11**	*14.86*	*14.69*	*15.24*	*15.58*	*15.24*	**14.86**	*14.75*	*15.19*
Total World Supply	**100.34**	**100.49**	**100.18**	**101.73**	**100.78**	**92.41**	**91.08**	*94.09*	*96.82*	*98.75*	*99.65*	*100.05*	**100.69**	*94.58*	*98.83*
Non-OPEC Supply	**64.93**	**65.55**	**66.28**	**67.37**	**67.22**	**61.89**	**62.62**	*63.51*	*63.99*	*64.82*	*65.57*	*65.96*	**66.04**	*63.81*	*65.09*
Consumption (million barrels per day) (c)															
OECD	**47.56**	**46.98**	**48.10**	**47.73**	**45.25**	**37.41**	**42.59**	*44.33*	*45.00*	*44.89*	*45.89*	*46.07*	**47.60**	*42.40*	*45.47*
U.S. (50 States)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.29**	*19.21*	*19.54*	*19.94*	*20.19*	*20.20*	**20.54**	*18.23*	*19.97*
U.S. Territories	**0.20**	**0.18**	**0.18**	**0.20**	**0.18**	**0.16**	**0.16**	*0.17*	*0.19*	*0.16*	*0.17*	*0.18*	**0.19**	*0.17*	*0.18*
Canada	**2.31**	**2.32**	**2.57**	**2.49**	**2.33**	**1.87**	**2.23**	*2.30*	*2.35*	*2.31*	*2.41*	*2.39*	**2.42**	*2.18*	*2.36*
Europe	**14.03**	**14.18**	**14.66**	**14.06**	**13.34**	**11.01**	**13.01**	*13.04*	*13.06*	*13.35*	*13.87*	*13.58*	**14.24**	*12.60*	*13.47*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.89**	**3.05**	*3.39*	*3.66*	*3.01*	*3.09*	*3.41*	**3.65**	*3.25*	*3.29*
Other OECD	**6.61**	**6.46**	**6.54**	**6.61**	**6.38**	**5.41**	**5.85**	*6.22*	*6.21*	*6.11*	*6.16*	*6.31*	**6.55**	*5.97*	*6.20*
Non-OECD	**52.95**	**54.08**	**54.22**	**54.18**	**49.76**	**47.66**	**51.57**	*52.72*	*52.48*	*53.84*	*54.05*	*54.10*	**53.86**	*50.44*	*53.62*
Eurasia	**5.21**	**5.26**	**5.65**	**5.50**	**5.01**	**4.62**	**5.43**	*5.34*	*5.10*	*5.19*	*5.60*	*5.46*	**5.41**	*5.10*	*5.34*
Europe	**0.77**	**0.76**	**0.78**	**0.78**	**0.72**	**0.71**	**0.73**	*0.74*	*0.74*	*0.74*	*0.75*	*0.76*	**0.77**	*0.72*	*0.75*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.23**	**13.37**	**14.26**	*14.78*	*14.81*	*15.05*	*14.78*	*15.02*	**14.51**	*13.91*	*14.91*
Other Asia	**13.93**	**14.10**	**13.73**	**14.07**	**13.31**	**11.94**	**12.79**	*13.58*	*13.99*	*14.23*	*13.84*	*14.18*	**13.96**	*12.91*	*14.06*
Other Non-OECD	**18.59**	**19.31**	**19.70**	**19.24**	**17.49**	**17.03**	**18.36**	*18.28*	*17.85*	*18.63*	*19.08*	*18.68*	**19.21**	*17.79*	*18.56*
Total World Consumption	**100.51**	**101.06**	**102.32**	**101.91**	**95.01**	**85.07**	**94.16**	*97.05*	*97.48*	*98.72*	*99.94*	*100.17*	**101.46**	*92.84*	*99.09*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.15**	**-0.60**	**0.06**	**0.29**	**-0.43**	**-1.68**	**0.56**	*0.66*	*0.34*	*-0.19*	*-0.01*	*0.43*	**-0.02**	*-0.22*	*0.14*
Other OECD	**-0.20**	**0.01**	**-0.16**	**0.38**	**-0.57**	**-1.08**	**0.80**	*0.74*	*0.11*	*0.05*	*0.10*	*-0.10*	**0.01**	*-0.02*	*0.04*
Other Stock Draws and Balance	**0.22**	**1.16**	**2.24**	**-0.49**	**-4.78**	**-4.58**	**1.71**	*1.56*	*0.22*	*0.11*	*0.20*	*-0.21*	**0.79**	*-1.50*	*0.08*
Total Stock Draw	**0.17**	**0.57**	**2.15**	**0.18**	**-5.77**	**-7.34**	**3.07**	*2.96*	*0.66*	*-0.03*	*0.29*	*0.12*	**0.77**	*-1.74*	*0.26*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	**1,416**	*1,361*	*1,339*	*1,363*	*1,366*	*1,330*	**1,282**	*1,361*	*1,330*
OECD Commercial Inventory	**2,864**	**2,922**	**2,931**	**2,880**	**2,971**	**3,201**	**3,090**	*2,967*	*2,935*	*2,955*	*2,949*	*2,921*	**2,880**	*2,967*	*2,921*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.21**	**26.73**	**26.85**	**27.77**	**27.87**	**24.46**	**25.15**	*25.72*	*25.80*	*26.08*	*26.19*	*26.52*	**26.89**	*25.80*	*26.15*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.94**	**4.89**	*5.39*	*5.53*	*5.55*	*5.59*	*5.71*	**5.50**	*5.21*	*5.60*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	**1.88**	*1.83*	*1.82*	*1.82*	*1.78*	*1.77*	**1.92**	*1.91*	*1.80*
United States	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.59**	**18.38**	*18.51*	*18.45*	*18.71*	*18.81*	*19.04*	**19.47**	*18.67*	*18.75*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**6.04**	**6.08**	**6.75**	*6.47*	*6.15*	*6.76*	*7.10*	*6.78*	**6.23**	*6.34*	*6.70*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.68**	**0.58**	**0.63**	*0.63*	*0.66*	*0.63*	*0.66*	*0.67*	**0.69**	*0.63*	*0.66*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.44**	**3.89**	**4.34**	*3.94*	*3.57*	*4.34*	*4.67*	*4.29*	**3.67**	*3.90*	*4.22*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	**0.78**	**0.79**	*0.84*	*0.87*	*0.78*	*0.77*	*0.82*	**0.92**	*0.83*	*0.81*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	**0.35**	**0.52**	*0.53*	*0.52*	*0.51*	*0.49*	*0.48*	**0.53**	*0.49*	*0.50*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.48**	**0.48**	**0.47**	*0.53*	*0.52*	*0.51*	*0.51*	*0.52*	**0.42**	*0.49*	*0.52*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.39**	**4.34**	**4.20**	*4.33*	*4.42*	*4.25*	*4.34*	*4.54*	**4.12**	*4.31*	*4.38*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.05**	**2.01**	**1.97**	*2.03*	*2.11*	*2.07*	*2.10*	*2.20*	**1.75**	*2.02*	*2.12*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.17**	**1.19**	**1.08**	*1.13*	*1.14*	*1.03*	*1.08*	*1.17*	**1.17**	*1.14*	*1.11*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	**12.73**	*13.12*	*13.68*	*13.80*	*14.02*	*14.17*	**14.63**	*13.45*	*13.92*
Azerbaijan	**0.81**	**0.78**	**0.77**	**0.76**	**0.77**	**0.70**	**0.67**	*0.70*	*0.72*	*0.74*	*0.75*	*0.75*	**0.78**	*0.71*	*0.74*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	**1.86**	**1.74**	*1.84*	*1.94*	*1.88*	*1.91*	*1.95*	**1.97**	*1.87*	*1.92*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.55**	**10.25**	**9.93**	*10.19*	*10.64*	*10.82*	*10.99*	*11.11*	**11.49**	*10.48*	*10.89*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.24**	**0.24**	**0.25**	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.14**	**3.14**	**3.14**	**3.14**	**3.24**	**3.18**	**3.15**	*3.14*	*3.27*	*3.27*	*3.29*	*3.29*	**3.14**	*3.18*	*3.28*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	**1.01**	**0.95**	**0.91**	*0.91*	*1.00*	*1.00*	*1.02*	*1.02*	**0.98**	*0.95*	*1.01*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	**2.06**	**2.06**	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.52**	**9.55**	**9.41**	**9.52**	**9.47**	**9.19**	**9.19**	*9.30*	*9.27*	*9.25*	*9.24*	*9.26*	**9.50**	*9.29*	*9.26*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.49**	**0.49**	**0.45**	*0.49*	*0.48*	*0.48*	*0.47*	*0.46*	**0.49**	*0.48*	*0.47*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	**4.94**	*4.95*	*4.89*	*4.93*	*4.93*	*4.98*	**4.89**	*4.93*	*4.93*
India	**1.01**	**0.99**	**0.98**	**0.99**	**0.97**	**0.90**	**0.90**	*0.91*	*0.91*	*0.89*	*0.89*	*0.89*	**0.99**	*0.92*	*0.89*
Indonesia	**0.93**	**0.93**	**0.91**	**0.91**	**0.91**	**0.88**	**0.89**	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	**0.92**	*0.89*	*0.85*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.72**	**0.60**	**0.61**	*0.64*	*0.67*	*0.67*	*0.67*	*0.66*	**0.71**	*0.64*	*0.67*
Vietnam	**0.27**	**0.27**	**0.25**	**0.24**	**0.24**	**0.23**	**0.23**	*0.23*	*0.23*	*0.22*	*0.22*	*0.21*	**0.26**	*0.23*	*0.22*
Africa	**1.50**	**1.52**	**1.55**	**1.54**	**1.45**	**1.45**	**1.44**	*1.43*	*1.41*	*1.40*	*1.40*	*1.40*	**1.53**	*1.44*	*1.40*
Egypt	**0.66**	**0.65**	**0.65**	**0.65**	**0.60**	**0.60**	**0.60**	*0.60*	*0.57*	*0.57*	*0.57*	*0.57*	**0.65**	*0.60*	*0.57*
South Sudan	**0.15**	**0.16**	**0.18**	**0.18**	**0.18**	**0.16**	**0.16**	*0.16*	*0.17*	*0.17*	*0.18*	*0.18*	**0.17**	*0.16*	*0.17*
Total non-OPEC liquids	**64.93**	**65.55**	**66.28**	**67.37**	**67.22**	**61.89**	**62.62**	*63.51*	*63.99*	*64.82*	*65.57*	*65.96*	**66.04**	*63.81*	*65.09*
OPEC non-crude liquids	**5.47**	**5.47**	**5.24**	**5.34**	**5.28**	**4.88**	**4.83**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.38**	*4.97*	*4.98*
Non-OPEC + OPEC non-crude	**70.40**	**71.02**	**71.52**	**72.71**	**72.50**	**66.78**	**67.45**	*68.41*	*69.03*	*69.79*	*70.54*	*70.93*	**71.42**	*68.78*	*70.08*
Unplanned non-OPEC Production Outages	**0.38**	**0.28**	**0.41**	**0.33**	**0.18**	**0.90**	**n/a**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.35**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.02**	**0.90**	**-**	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	**1.26**	**-**	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	**0.29**	**-**	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	**0.12**	**-**	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.19**	**0.18**	**-**	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	**1.97**	**-**	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	**4.16**	**-**	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	**2.48**	**-**	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	**0.08**	**-**	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.72**	**1.55**	**-**	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	**9.28**	**-**	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	**2.88**	**-**	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	**0.50**	**-**	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	**23.64**	*25.68*	*27.79*	*28.96*	*29.11*	*29.13*	**29.27**	*25.80*	*28.75*
Other Liquids (a)	**5.47**	**5.47**	**5.24**	**5.34**	**5.28**	**4.88**	**4.83**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.38**	*4.97*	*4.98*
Total OPEC Supply	**35.41**	**34.94**	**33.90**	**34.36**	**33.56**	**30.52**	**28.47**	*30.58*	*32.83*	*33.93*	*34.07*	*34.09*	**34.65**	*30.78*	*33.74*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	**26.02**	**26.06**	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.97*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.82**	**5.60**	**5.48**	*5.64*	*5.58*	*5.86*	*6.00*	*6.02*	**6.66**	*5.64*	*5.86*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.43**	**31.63**	**31.54**	*31.81*	*31.84*	*32.15*	*32.28*	*32.30*	**31.78**	*31.60*	*32.14*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.27**	**6.87**	*5.43*	*3.94*	*3.09*	*3.08*	*3.08*	**2.52**	*5.18*	*3.29*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	**1.04**	*0.71*	*0.12*	*0.10*	*0.09*	*0.09*	**0.00**	*0.62*	*0.10*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.99**	**7.91**	*6.13*	*4.05*	*3.19*	*3.17*	*3.17*	**2.52**	*5.80*	*3.39*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	**4.13**	**n/a**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

STF-3-12 Attachment E

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.75**	**24.86**	**25.35**	**25.12**	**23.61**	**19.42**	**22.26**	*23.37*	*23.74*	*24.14*	*24.49*	*24.49*	**25.02**	*22.17*	*24.22*
Canada	**2.31**	**2.32**	**2.57**	**2.49**	**2.33**	**1.87**	**2.23**	*2.30*	*2.35*	*2.31*	*2.41*	*2.39*	**2.42**	*2.18*	*2.36*
Mexico	**2.07**	**2.07**	**2.06**	**1.99**	**1.94**	**1.46**	**1.74**	*1.85*	*1.85*	*1.88*	*1.87*	*1.89*	**2.05**	*1.75*	*1.87*
United States	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.29**	*19.21*	*19.54*	*19.94*	*20.19*	*20.20*	**20.54**	*18.23*	*19.97*
Central and South America	**6.70**	**6.82**	**6.92**	**6.92**	**6.25**	**5.83**	**6.33**	*6.53*	*6.45*	*6.63*	*6.77*	*6.78*	**6.84**	*6.24*	*6.66*
Brazil	**3.03**	**3.10**	**3.19**	**3.18**	**2.83**	**2.59**	**2.91**	*3.02*	*2.94*	*3.03*	*3.13*	*3.14*	**3.13**	*2.84*	*3.06*
Europe	**14.80**	**14.94**	**15.44**	**14.84**	**14.06**	**11.71**	**13.74**	*13.78*	*13.80*	*14.09*	*14.62*	*14.34*	**15.01**	*13.33*	*14.22*
Eurasia	**5.21**	**5.26**	**5.65**	**5.50**	**5.01**	**4.62**	**5.43**	*5.34*	*5.10*	*5.19*	*5.60*	*5.46*	**5.41**	*5.10*	*5.34*
Russia	**3.64**	**3.74**	**4.04**	**3.89**	**3.53**	**3.21**	**3.90**	*3.81*	*3.62*	*3.75*	*4.07*	*3.92*	**3.83**	*3.61*	*3.84*
Middle East	**8.09**	**8.65**	**9.02**	**8.37**	**7.57**	**7.52**	**8.43**	*7.91*	*7.62*	*8.20*	*8.60*	*7.99*	**8.53**	*7.86*	*8.10*
Asia and Oceania	**36.47**	**36.01**	**35.50**	**36.51**	**34.17**	**31.75**	**33.72**	*35.65*	*36.35*	*36.03*	*35.49*	*36.56*	**36.12**	*33.83*	*36.10*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.23**	**13.37**	**14.26**	*14.78*	*14.81*	*15.05*	*14.78*	*15.02*	**14.51**	*13.91*	*14.91*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.89**	**3.05**	*3.39*	*3.66*	*3.01*	*3.09*	*3.41*	**3.65**	*3.25*	*3.29*
India	**4.89**	**4.95**	**4.66**	**4.94**	**4.63**	**3.77**	**4.19**	*4.69*	*4.88*	*4.93*	*4.59*	*4.86*	**4.86**	*4.32*	*4.82*
Africa	**4.50**	**4.52**	**4.44**	**4.63**	**4.34**	**4.21**	**4.25**	*4.48*	*4.43*	*4.44*	*4.37*	*4.56*	**4.52**	*4.32*	*4.45*
Total OECD Liquid Fuels Consumption	**47.56**	**46.98**	**48.10**	**47.73**	**45.25**	**37.41**	**42.59**	*44.33*	*45.00*	*44.89*	*45.89*	*46.07*	**47.60**	*42.40*	*45.47*
Total non-OECD Liquid Fuels Consumption	**52.95**	**54.08**	**54.22**	**54.18**	**49.76**	**47.66**	**51.57**	*52.72*	*52.48*	*53.84*	*54.05*	*54.10*	**53.86**	*50.44*	*53.62*
Total World Liquid Fuels Consumption	**100.51**	**101.06**	**102.32**	**101.91**	**95.01**	**85.07**	**94.16**	*97.05*	*97.48*	*98.72*	*99.94*	*100.17*	**101.46**	*92.84*	*99.09*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.0**	**112.8**	**112.7**	**112.3**	**108.9**	**101.8**	**107.1**	*108.5*	*110.6*	*111.9*	*112.8*	*113.5*	**112.5**	*106.6*	*112.2*
Percent change from prior year	**2.3**	**2.1**	**1.8**	**1.4**	**-2.8**	**-9.8**	**-5.0**	*-3.5*	*1.5*	*10.0*	*5.3*	*4.7*	**1.9**	*-5.3*	*5.3*
OECD Index, 2015 Q1 = 100	**108.9**	**109.8**	**110.0**	**109.4**	**108.1**	**97.6**	**104.4**	*105.3*	*106.8*	*108.3*	*109.1*	*109.4*	**109.6**	*103.8*	*108.4*
Percent change from prior year	**1.8**	**1.7**	**1.8**	**1.5**	**-0.8**	**-11.2**	**-5.1**	*-3.8*	*-1.2*	*11.0*	*4.5*	*3.9*	**1.7**	*-5.2*	*4.4*
Non-OECD Index, 2015 Q1 = 100	**115.0**	**115.6**	**115.4**	**115.1**	**109.7**	**105.9**	**109.8**	*111.5*	*114.2*	*115.4*	*116.4*	*117.5*	**115.3**	*109.2*	*115.9*
Percent change from prior year	**2.8**	**2.6**	**1.9**	**1.3**	**-4.6**	**-8.4**	**-4.9**	*-3.1*	*4.1*	*9.0*	*6.0*	*5.4*	**2.2**	*-5.3*	*6.1*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.47**	**106.07**	**106.55**	**106.34**	**106.72**	**108.52**	**107.17**	*106.00*	*105.41*	*105.00*	*104.52*	*104.22*	**106.11**	*107.10*	*104.79*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**0.0**	**1.2**	**2.3**	**0.6**	*-0.3*	*-1.2*	*-3.2*	*-2.5*	*-1.7*	**2.1**	*0.9*	*-2.2*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.82**	**11.02**	*11.22*	*11.07*	*11.00*	*11.05*	*11.22*	**12.25**	*11.45*	*11.09*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.48**	**0.41**	**0.46**	*0.49*	*0.50*	*0.48*	*0.47*	*0.49*	**0.47**	*0.46*	*0.49*
Federal Gulf of Mexico (b)	**1.86**	**1.93**	**1.83**	**1.96**	**1.96**	**1.69**	**1.58**	*1.88*	*1.93*	*1.89*	*1.83*	*1.86*	**1.90**	*1.78*	*1.88*
Lower 48 States (excl GOM)	**9.48**	**9.73**	**9.99**	**10.33**	**10.31**	**8.71**	**8.98**	*8.86*	*8.65*	*8.63*	*8.76*	*8.87*	**9.89**	*9.21*	*8.72*
Crude Oil Net Imports (c)	**4.28**	**4.11**	**3.94**	**2.96**	**2.90**	**3.08**	**2.49**	*2.85*	*3.95*	*4.45*	*5.11*	*4.49*	**3.82**	*2.83*	*4.50*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	**-0.23**	**0.16**	*0.07*	*0.08*	*0.08*	*0.03*	*0.03*	**0.04**	*0.00*	*0.05*
Commercial Inventory Net Withdrawals	**-0.18**	**-0.05**	**0.41**	**-0.08**	**-0.55**	**-0.54**	**0.45**	*0.09*	*-0.25*	*0.16*	*0.24*	*-0.01*	**0.03**	*-0.13*	*0.04*
Crude Oil Adjustment (d)	**0.27**	**0.53**	**0.37**	**0.55**	**0.67**	**0.03**	**-0.14**	*0.15*	*0.22*	*0.22*	*0.23*	*0.16*	**0.43**	*0.18*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	**13.98**	*14.39*	*15.08*	*15.91*	*16.65*	*15.89*	**16.56**	*14.32*	*15.88*
Other Supply															
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	**0.99**	*1.03*	*1.06*	*1.11*	*1.12*	*1.09*	**1.07**	*0.96*	*1.09*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.82**	**5.00**	**5.12**	**4.96**	**5.11**	*4.96*	*4.98*	*5.22*	*5.27*	*5.35*	**4.82**	*5.04*	*5.21*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.11**	**0.80**	**1.05**	*1.09*	*1.13*	*1.17*	*1.16*	*1.16*	**1.12**	*1.02*	*1.16*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	**0.70**	**0.92**	*0.95*	*0.98*	*1.00*	*0.99*	*1.00*	**1.03**	*0.90*	*0.99*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	**0.19**	**0.21**	*0.21*	*0.20*	*0.21*	*0.22*	*0.21*	**0.21**	*0.21*	*0.21*
Product Net Imports (c)	**-3.19**	**-2.93**	**-3.10**	**-3.37**	**-4.03**	**-2.94**	**-3.01**	*-2.96*	*-3.41*	*-3.25*	*-3.95*	*-3.91*	**-3.15**	*-3.23*	*-3.63*
Hydrocarbon Gas Liquids	**-1.31**	**-1.67**	**-1.69**	**-1.81**	**-1.99**	**-1.86**	**-1.80**	*-1.83*	*-1.83*	*-1.97*	*-1.98*	*-1.93*	**-1.62**	*-1.87*	*-1.93*
Unfinished Oils	**0.25**	**0.47**	**0.47**	**0.52**	**0.31**	**0.25**	**0.30**	*0.39*	*0.36*	*0.45*	*0.44*	*0.31*	**0.43**	*0.31*	*0.39*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.10**	**-0.05**	**-0.08**	*-0.11*	*-0.14*	*-0.13*	*-0.12*	*-0.13*	**-0.06**	*-0.08*	*-0.13*
Motor Gasoline Blend Comp.	**0.46**	**0.81**	**0.71**	**0.47**	**0.39**	**0.36**	**0.47**	*0.21*	*0.41*	*0.70*	*0.50*	*0.16*	**0.61**	*0.36*	*0.44*
Finished Motor Gasoline	**-0.80**	**-0.61**	**-0.60**	**-0.87**	**-0.72**	**-0.40**	**-0.55**	*-0.25*	*-0.61*	*-0.55*	*-0.74*	*-0.73*	**-0.72**	*-0.48*	*-0.66*
Jet Fuel	**-0.08**	**-0.01**	**-0.04**	**-0.08**	**-0.07**	**0.09**	**0.11**	*-0.19*	*-0.16*	*-0.05*	*-0.01*	*-0.03*	**-0.06**	*-0.01*	*-0.06*
Distillate Fuel Oil	**-0.93**	**-1.22**	**-1.30**	**-0.97**	**-1.19**	**-0.86**	**-1.11**	*-0.75*	*-0.78*	*-1.00*	*-1.22*	*-0.85*	**-1.10**	*-0.98*	*-0.96*
Residual Fuel Oil	**-0.07**	**-0.15**	**-0.07**	**-0.02**	**-0.02**	**0.02**	**0.02**	*0.04*	*-0.01*	*-0.11*	*-0.10*	*0.01*	**-0.08**	*0.01*	*-0.05*
Other Oils (g)	**-0.63**	**-0.49**	**-0.52**	**-0.54**	**-0.65**	**-0.49**	**-0.35**	*-0.47*	*-0.65*	*-0.58*	*-0.71*	*-0.72*	**-0.55**	*-0.49*	*-0.67*
Product Inventory Net Withdrawals	**0.33**	**-0.60**	**-0.35**	**0.26**	**0.12**	**-0.91**	**-0.04**	*0.49*	*0.50*	*-0.43*	*-0.27*	*0.41*	**-0.09**	*-0.08*	*0.05*
Total Supply	**20.38**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.29**	*19.21*	*19.54*	*19.94*	*20.19*	*20.20*	**20.55**	*18.23*	*19.97*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.48**	**2.79**	**2.94**	**3.35**	**3.31**	**2.83**	**2.84**	*3.43*	*3.55*	*3.12*	*3.16*	*3.57*	**3.14**	*3.10*	*3.35*
Unfinished Oils	**0.00**	**0.09**	**0.05**	**0.11**	**0.14**	**0.11**	**0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.06**	*0.07*	*0.00*
Motor Gasoline	**9.01**	**9.54**	**9.52**	**9.16**	**8.49**	**7.11**	**8.57**	*8.70*	*8.62*	*9.21*	*9.17*	*8.89*	**9.31**	*8.22*	*8.97*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.97**	**0.85**	**0.72**	**0.87**	*0.89*	*0.87*	*0.93*	*0.92*	*0.90*	**0.95**	*0.83*	*0.91*
Jet Fuel	**1.65**	**1.78**	**1.80**	**1.75**	**1.56**	**0.69**	**0.99**	*1.07*	*1.37*	*1.55*	*1.65*	*1.61*	**1.74**	*1.08*	*1.54*
Distillate Fuel Oil	**4.27**	**4.07**	**3.95**	**4.12**	**3.97**	**3.51**	**3.64**	*3.89*	*4.04*	*3.91*	*3.87*	*4.01*	**4.10**	*3.75*	*3.96*
Residual Fuel Oil	**0.27**	**0.23**	**0.33**	**0.27**	**0.17**	**0.15**	**0.30**	*0.27*	*0.28*	*0.21*	*0.25*	*0.26*	**0.28**	*0.22*	*0.25*
Other Oils (g)	**1.68**	**1.95**	**2.13**	**1.87**	**1.68**	**1.68**	**1.91**	*1.86*	*1.69*	*1.94*	*2.09*	*1.86*	**1.91**	*1.78*	*1.90*
Total Consumption	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.29**	*19.21*	*19.54*	*19.94*	*20.19*	*20.20*	**20.54**	*18.23*	*19.97*
Total Petroleum and Other Liquids Net Imports	**1.09**	**1.18**	**0.84**	**-0.41**	**-1.13**	**0.14**	**-0.51**	*-0.11*	*0.53*	*1.21*	*1.16*	*0.58*	**0.67**	*-0.40*	*0.87*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**458.9**	**463.4**	**425.6**	**432.8**	**482.5**	**531.9**	**490.7**	*482.1*	*504.3*	*489.7*	*467.9*	*469.1*	**432.8**	*482.1*	*469.1*
Hydrocarbon Gas Liquids	**160.3**	**224.5**	**262.8**	**211.7**	**180.8**	**233.9**	**299.2**	*247.9*	*206.8*	*251.9*	*286.5*	*243.4*	**211.7**	*247.9*	*243.4*
Unfinished Oils	**92.2**	**95.9**	**92.3**	**89.8**	**100.1**	**91.9**	**80.8**	*81.4*	*93.1*	*91.2*	*90.2*	*83.9*	**89.8**	*81.4*	*83.9*
Other HC/Oxygenates	**30.9**	**29.1**	**28.3**	**27.8**	**33.6**	**26.2**	**25.0**	*24.8*	*26.1*	*25.1*	*24.4*	*25.0*	**27.8**	*24.8*	*25.0*
Total Motor Gasoline	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	**228.0**	*237.5*	*233.4*	*232.2*	*227.9*	*234.4*	**254.1**	*237.5*	*234.4*
Finished Motor Gasoline	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	**23.9**	*23.9*	*22.8*	*21.4*	*22.4*	*22.5*	**26.1**	*23.9*	*22.5*
Motor Gasoline Blend Comp.	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	**204.0**	*213.6*	*210.6*	*210.7*	*205.5*	*211.9*	**228.0**	*213.6*	*211.9*
Jet Fuel	**41.6**	**40.5**	**44.3**	**40.5**	**39.9**	**41.5**	**40.0**	*39.0*	*39.0*	*40.1*	*42.4*	*39.5*	**40.5**	*39.0*	*39.5*
Distillate Fuel Oil	**132.2**	**131.1**	**131.8**	**140.1**	**126.7**	**175.4**	**171.9**	*167.7*	*147.1*	*143.9*	*145.4*	*148.5*	**140.1**	*167.7*	*148.5*
Residual Fuel Oil	**29.2**	**30.5**	**30.0**	**30.5**	**34.4**	**39.6**	**31.6**	*30.3*	*32.3*	*33.6*	*31.5*	*33.2*	**30.5**	*30.3*	*33.2*
Other Oils (g)	**63.3**	**59.2**	**51.2**	**54.6**	**62.0**	**59.2**	**48.3**	*50.8*	*56.7*	*55.7*	*50.1*	*52.5*	**54.6**	*50.8*	*52.5*
Total Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	**1,416**	*1,361*	*1,339*	*1,363*	*1,366*	*1,330*	**1,282**	*1,361*	*1,330*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	**656**	**642**	*635*	*628*	*620*	*618*	*615*	**635**	*635*	*615*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**1.87**	**1.72**	**1.85**	**1.93**	**1.92**	**2.01**	*2.00*	*2.17*	*2.26*	*2.25*	*2.36*	**1.83**	*1.97*	*2.26*
Propane	**1.50**	**1.56**	**1.61**	**1.68**	**1.72**	**1.61**	**1.66**	*1.59*	*1.53*	*1.57*	*1.59*	*1.59*	**1.59**	*1.65*	*1.57*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.91**	**0.86**	**0.84**	*0.82*	*0.77*	*0.84*	*0.85*	*0.85*	**0.85**	*0.86*	*0.83*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.61**	**0.58**	**0.56**	**0.57**	**0.59**	*0.55*	*0.51*	*0.55*	*0.58*	*0.55*	**0.56**	*0.57*	*0.55*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	**0.24**	**0.27**	*0.27*	*0.26*	*0.29*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.25**	**0.26**	**0.26**	*0.27*	*0.28*	*0.29*	*0.28*	*0.29*	**0.28**	*0.26*	*0.28*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	**0.18**	**0.14**	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.01*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.01**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.26**	**-0.27**	**-0.28**	**-0.30**	**-0.30**	**-0.28**	**-0.29**	*-0.25*	*-0.38*	*-0.40*	*-0.41*	*-0.45*	**-0.28**	*-0.28*	*-0.41*
Propane/Propylene	**-0.75**	**-1.00**	**-0.99**	**-1.05**	**-1.12**	**-1.08**	**-1.01**	*-0.96*	*-0.88*	*-0.98*	*-0.97*	*-0.96*	**-0.95**	*-1.04*	*-0.95*
Butanes/Butylenes	**-0.14**	**-0.25**	**-0.26**	**-0.25**	**-0.30**	**-0.31**	**-0.27**	*-0.30*	*-0.25*	*-0.32*	*-0.31*	*-0.26*	**-0.23**	*-0.29*	*-0.28*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.15**	**-0.16**	**-0.21**	**-0.27**	**-0.19**	**-0.24**	*-0.32*	*-0.32*	*-0.28*	*-0.28*	*-0.26*	**-0.17**	*-0.26*	*-0.28*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.46**	**0.25**	**0.28**	*0.46*	*0.39*	*0.28*	*0.32*	*0.50*	**0.40**	*0.36*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.15**	**0.10**	**0.13**	*0.12*	*0.12*	*0.17*	*0.19*	*0.19*	**0.17**	*0.13*	*0.17*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.50**	**1.48**	**1.56**	**1.70**	**1.65**	**1.65**	*1.78*	*1.80*	*1.83*	*1.86*	*1.90*	**1.54**	*1.70*	*1.85*
Propane	**1.19**	**0.58**	**0.63**	**1.08**	**1.09**	**0.59**	**0.63**	*1.07*	*1.19*	*0.67*	*0.70*	*1.05*	**0.87**	*0.84*	*0.90*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.26**	**0.27**	**0.27**	*0.28*	*0.30*	*0.30*	*0.30*	*0.29*	**0.30**	*0.27*	*0.30*
Butanes/Butylenes	**0.19**	**0.22**	**0.30**	**0.24**	**0.17**	**0.20**	**0.16**	*0.18*	*0.17*	*0.23*	*0.21*	*0.21*	**0.24**	*0.18*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.19**	**0.20**	**0.23**	**0.17**	**0.09**	**0.13**	**0.14**	*0.10*	*0.09*	*0.08*	*0.10*	*0.11*	**0.20**	*0.11*	*0.09*
HGL Inventories (million barrels)															
Ethane	**49.14**	**56.54**	**56.84**	**58.84**	**52.57**	**49.54**	**56.39**	*57.02*	*55.54*	*59.37*	*58.22*	*59.75*	**55.37**	*53.90*	*58.23*
Propane	**48.94**	**71.71**	**95.61**	**79.67**	**60.28**	**75.31**	**100.79**	*83.22*	*56.34*	*73.65*	*92.02*	*79.49*	**79.67**	*83.22*	*79.49*
Propylene (at refineries only)	**1.68**	**1.76**	**2.65**	**1.66**	**1.41**	**1.50**	**1.79**	*2.19*	*2.08*	*2.45*	*2.88*	*3.23*	**1.66**	*2.19*	*3.23*
Butanes/Butylenes	**39.84**	**70.72**	**85.87**	**52.18**	**43.58**	**69.33**	**95.26**	*65.63*	*55.45*	*79.57*	*97.04*	*67.41*	**52.18**	*65.63*	*67.41*
Natural Gasoline (Pentanes Plus)	**18.43**	**19.72**	**21.26**	**20.90**	**23.99**	**35.67**	**42.30**	*40.26*	*36.47*	*36.43*	*36.12*	*34.24*	**20.90**	*40.26*	*34.24*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	**13.98**	*14.39*	*15.08*	*15.91*	*16.65*	*15.89*	**16.56**	*14.32*	*15.88*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	**0.35**	**0.41**	*0.58*	*0.51*	*0.45*	*0.51*	*0.69*	**0.57**	*0.49*	*0.54*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	**0.95**	**1.10**	*1.10*	*1.12*	*1.19*	*1.17*	*1.15*	**1.19**	*1.07*	*1.16*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.05**	**0.23**	**0.39**	*0.39*	*0.23*	*0.47*	*0.45*	*0.38*	**0.35**	*0.27*	*0.38*
Motor Gasoline Blend Components	**0.64**	**0.94**	**0.77**	**0.40**	**0.41**	**0.48**	**0.78**	*0.28*	*0.57*	*0.84*	*0.66*	*0.26*	**0.69**	*0.49*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.77**	**19.71**	**19.93**	**19.06**	**17.97**	**15.17**	**16.66**	*16.74*	*17.51*	*18.85*	*19.44*	*18.36*	**19.37**	*16.64*	*18.55*
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	**0.99**	*1.03*	*1.06*	*1.11*	*1.12*	*1.09*	**1.07**	*0.96*	*1.09*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.47**	**0.69**	**0.68**	*0.35*	*0.46*	*0.84*	*0.77*	*0.38*	**0.61**	*0.54*	*0.62*
Finished Motor Gasoline	**9.85**	**10.16**	**10.20**	**10.16**	**9.30**	**7.52**	**9.14**	*9.09*	*9.31*	*9.85*	*9.99*	*9.76*	**10.10**	*8.77*	*9.73*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	**0.62**	**0.86**	*1.24*	*1.52*	*1.61*	*1.69*	*1.60*	**1.80**	*1.09*	*1.60*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.95**	**4.83**	**4.63**	*4.52*	*4.56*	*4.81*	*5.03*	*4.83*	**5.14**	*4.73*	*4.81*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.30**	**0.23**	**0.18**	**0.20**	*0.22*	*0.31*	*0.33*	*0.33*	*0.28*	**0.36**	*0.21*	*0.31*
Other Oils (a)	**2.36**	**2.40**	**2.57**	**2.45**	**2.41**	**2.14**	**2.14**	*2.35*	*2.40*	*2.51*	*2.74*	*2.61*	**2.44**	*2.26*	*2.57*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**20.99**	**20.15**	**18.99**	**15.99**	**17.65**	*17.77*	*18.57*	*19.96*	*20.55*	*19.45*	**20.44**	*17.60*	*19.64*
Refinery Distillation Inputs	**16.54**	**17.14**	**17.42**	**16.85**	**16.36**	**13.65**	**14.58**	*14.89*	*15.45*	*16.20*	*16.93*	*16.20*	**16.99**	*14.87*	*16.20*
Refinery Operable Distillation Capacity	**18.81**	**18.81**	**18.81**	**18.81**	**18.98**	**18.75**	**18.55**	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	**18.81**	*18.66*	*18.39*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	**0.73**	**0.79**	*0.81*	*0.84*	*0.88*	*0.92*	*0.88*	**0.90**	*0.80*	*0.88*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**153**	**104**	**134**	*125*	*131*	*157*	*156*	*145*	**186**	*130*	*148*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	**191**	**211**	*195*	*199*	*226*	*230*	*218*	**251**	*209*	*219*
PADD 2	**223**	**269**	**257**	**244**	**226**	**179**	**207**	*194*	*189*	*226*	*223*	*208*	**249**	*202*	*212*
PADD 3	**205**	**245**	**234**	**224**	**210**	**162**	**186**	*174*	*179*	*205*	*205*	*193*	**228**	*184*	*196*
PADD 4	**226**	**285**	**270**	**276**	**247**	**201**	**233**	*206*	*196*	*225*	*230*	*215*	**265**	*222*	*217*
PADD 5	**297**	**356**	**331**	**350**	**311**	**258**	**283**	*263*	*253*	*289*	*290*	*279*	**334**	*280*	*278*
U.S. Average	**236**	**279**	**265**	**259**	**241**	**194**	**218**	*203*	*202*	*233*	*234*	*221*	**260**	*215*	*223*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**251**	**203**	**227**	*215*	*215*	*246*	*247*	*235*	**269**	*225*	*236*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.5**	**59.8**	**65.0**	**65.6**	**71.0**	**73.0**	**59.3**	*58.9*	*58.6*	*60.7*	*57.9*	*58.1*	**65.6**	*58.9*	*58.1*
PADD 2	**54.5**	**49.6**	**51.0**	**55.0**	**60.2**	**52.6**	**45.7**	*50.6*	*54.1*	*53.8*	*52.8*	*50.0*	**55.0**	*50.6*	*50.0*
PADD 3	**82.3**	**82.6**	**81.6**	**92.0**	**84.8**	**90.5**	**84.2**	*88.0*	*82.3*	*80.5*	*80.3*	*86.0*	**92.0**	*88.0*	*86.0*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.2**	**7.7**	**7.5**	*7.4*	*7.7*	*7.8*	*7.5*	*7.9*	**8.3**	*7.4*	*7.9*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**35.6**	**29.4**	**31.2**	*32.7*	*30.7*	*29.3*	*29.4*	*32.3*	**33.2**	*32.7*	*32.3*
U.S. Total	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	**228.0**	*237.5*	*233.4*	*232.2*	*227.9*	*234.4*	**254.1**	*237.5*	*234.4*
Finished Gasoline Inventories															
U.S. Total	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	**23.9**	*23.9*	*22.8*	*21.4*	*22.4*	*22.5*	**26.1**	*23.9*	*22.5*
Gasoline Blending Components Inventories															
U.S. Total	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	**204.0**	*213.6*	*210.6*	*210.7*	*205.5*	*211.9*	**228.0**	*213.6*	*211.9*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.76**	**98.44**	**101.05**	**103.83**	**101.96**	**96.59**	**97.47**	*96.48*	*94.04*	*93.50*	*94.66*	*95.30*	**100.04**	*98.12*	*94.38*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.96**	**0.88**	**0.88**	*0.94*	*0.99*	*0.85*	*0.80*	*0.95*	**0.90**	*0.92*	*0.90*
Federal GOM (a)	**2.88**	**2.82**	**2.63**	**2.80**	**2.72**	**2.21**	**2.19**	*2.49*	*2.50*	*2.42*	*2.28*	*2.26*	**2.78**	*2.40*	*2.36*
Lower 48 States (excl GOM)	**92.92**	**94.69**	**97.63**	**100.10**	**98.27**	**93.50**	**94.39**	*93.05*	*90.54*	*90.23*	*91.57*	*92.09*	**96.36**	*94.80*	*91.11*
Total Dry Gas Production	**90.01**	**91.57**	**94.00**	**96.58**	**94.48**	**89.44**	**89.81**	*88.86*	*86.56*	*86.02*	*87.04*	*87.58*	**93.06**	*90.64*	*86.81*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	**0.12**	**0.16**	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.18*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	**5.51**	**3.74**	*8.13*	*9.15*	*7.94*	*8.66*	*9.17*	**4.98**	*6.32*	*8.73*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.64**	**6.12**	**6.59**	*6.89*	*7.67*	*6.46*	*6.84*	*7.10*	**7.37**	*6.81*	*7.01*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.15**	**7.17**	**8.28**	*8.51*	*8.58*	*7.97*	*8.81*	*8.95*	**7.77**	*8.03*	*8.58*
Supplemental Gaseous Fuels	**0.16**	**0.17**	**0.17**	**0.18**	**0.19**	**0.17**	**0.18**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.18*	*0.17*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.45**	**12.74**	**-12.24**	**-7.79**	*6.95*	*16.56*	*-10.63*	*-6.09*	*6.07*	**-1.37**	*-0.09*	*1.43*
Total Supply	**103.87**	**72.60**	**78.18**	**92.05**	**99.23**	**70.92**	**76.91**	*86.43*	*93.55*	*66.28*	*70.67*	*82.98*	**86.62**	*83.36*	*78.32*
Balancing Item (b)	**-0.24**	**-1.71**	**-1.36**	**-2.33**	**0.09**	**-0.07**	**0.30**	*0.85*	*0.31*	*-0.31*	*0.70*	*0.93*	**-1.41**	*0.30*	*0.41*
Total Primary Supply	**103.63**	**70.89**	**76.82**	**89.72**	**99.32**	**70.86**	**77.21**	*87.28*	*93.86*	*65.97*	*71.38*	*83.91*	**85.20**	*83.66*	*78.73*
Consumption (billion cubic feet per day)															
Residential	**27.22**	**7.36**	**3.51**	**17.09**	**22.83**	**8.20**	**3.92**	*17.37*	*24.72*	*6.77*	*3.47*	*16.30*	**13.74**	*13.07*	*12.77*
Commercial	**16.11**	**6.33**	**4.62**	**11.53**	**13.93**	**5.82**	**4.53**	*10.59*	*14.70*	*6.49*	*4.70*	*10.30*	**9.62**	*8.71*	*9.02*
Industrial	**25.24**	**21.82**	**21.38**	**23.89**	**24.65**	**20.62**	**20.69**	*23.25*	*23.71*	*21.29*	*20.60*	*23.24*	**23.07**	*22.30*	*22.20*
Electric Power (c)	**26.83**	**28.13**	**39.74**	**29.09**	**29.60**	**29.04**	**40.49**	*27.60*	*22.04*	*23.70*	*34.58*	*25.58*	**30.98**	*31.69*	*26.51*
Lease and Plant Fuel	**4.89**	**4.98**	**5.11**	**5.25**	**5.16**	**4.88**	**4.93**	*4.88*	*4.75*	*4.73*	*4.79*	*4.82*	**5.06**	*4.96*	*4.77*
Pipeline and Distribution Use	**3.19**	**2.13**	**2.31**	**2.73**	**3.02**	**2.15**	**2.51**	*3.43*	*3.76*	*2.82*	*3.07*	*3.49*	**2.59**	*2.78*	*3.29*
Vehicle Use	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.15**	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	**0.14**	*0.15*	*0.17*
Total Consumption	**103.63**	**70.89**	**76.82**	**89.72**	**99.32**	**70.86**	**77.21**	*87.28*	*93.86*	*65.97*	*71.38*	*83.91*	**85.20**	*83.66*	*78.73*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,188**	**2,030**	**3,133**	**3,850**	*3,210*	*1,719*	*2,687*	*3,247*	*2,689*	**3,188**	*3,210*	*2,689*
East Region (d)	**216**	**537**	**845**	**764**	**385**	**655**	**889**	*660*	*207*	*479*	*685*	*473*	**764**	*660*	*473*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	**747**	**1,056**	*847*	*330*	*602*	*879*	*698*	**885**	*847*	*698*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**857**	**1,221**	**1,323**	*1,202*	*828*	*1,118*	*1,130*	*1,046*	**1,095**	*1,202*	*1,046*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	**177**	**234**	*185*	*127*	*163*	*203*	*166*	**167**	*185*	*166*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	**308**	**319**	*287*	*199*	*296*	*320*	*277*	**245**	*287*	*277*
Alaska	**30**	**33**	**37**	**33**	**23**	**25**	**29**	*29*	*29*	*29*	*29*	*29*	**33**	*29*	*29*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	**2.07**	*2.79*	*3.44*	*3.13*	*3.18*	*3.26*	**2.67**	*2.15*	*3.25*
Residential Retail															
New England	**14.42**	**15.46**	**19.05**	**14.02**	**13.77**	**14.50**	**17.61**	*13.09*	*12.90*	*14.01*	*17.03*	*13.24*	**14.72**	*14.00*	*13.45*
Middle Atlantic	**10.70**	**12.97**	**18.34**	**11.29**	**10.77**	**11.85**	**17.26**	*10.57*	*9.95*	*12.43*	*17.07*	*11.50*	**11.64**	*11.36*	*11.24*
E. N. Central	**7.26**	**10.47**	**19.05**	**7.67**	**6.99**	**9.50**	**18.24**	*7.09*	*7.43*	*10.89*	*16.63*	*8.43*	**8.39**	*8.05*	*8.77*
W. N. Central	**7.88**	**10.61**	**18.10**	**8.06**	**6.85**	**9.89**	**17.16**	*7.39*	*7.39*	*10.85*	*17.09*	*9.10*	**8.75**	*8.00*	*8.90*
S. Atlantic	**11.42**	**17.86**	**25.10**	**12.62**	**12.12**	**15.52**	**23.41**	*12.49*	*11.23*	*16.50*	*22.64*	*12.87*	**13.52**	*13.60*	*13.26*
E. S. Central	**9.68**	**14.93**	**21.63**	**10.45**	**9.69**	**13.34**	**20.75**	*10.30*	*9.92*	*15.41*	*22.37*	*13.67*	**11.09**	*11.01*	*12.33*
W. S. Central	**8.24**	**13.34**	**21.45**	**10.46**	**8.52**	**14.22**	**19.92**	*9.65*	*9.05*	*15.24*	*20.93*	*12.13*	**10.46**	*10.70*	*11.69*
Mountain	**7.64**	**9.36**	**13.16**	**7.66**	**7.55**	**9.37**	**12.62**	*7.70*	*7.88*	*10.01*	*13.83*	*8.71*	**8.25**	*8.27*	*8.93*
Pacific	**12.17**	**12.47**	**13.20**	**11.81**	**13.41**	**14.47**	**14.21**	*12.74*	*13.24*	*14.15*	*14.89*	*13.81*	**12.23**	*13.52*	*13.77*
U.S. Average	**9.39**	**12.36**	**17.90**	**9.78**	**9.46**	**11.89**	**17.41**	*9.60*	*9.41*	*12.74*	*17.37*	*10.88*	**10.46**	*10.48*	*10.87*
Commercial Retail															
New England	**10.81**	**11.05**	**11.37**	**9.85**	**9.93**	**10.40**	**10.40**	*9.52*	*9.79*	*10.28*	*10.81*	*10.34*	**10.60**	*9.94*	*10.16*
Middle Atlantic	**8.31**	**7.66**	**6.81**	**7.43**	**7.91**	**7.00**	**6.57**	*6.92*	*7.45*	*7.42*	*6.98*	*7.60*	**7.71**	*7.28*	*7.43*
E. N. Central	**6.23**	**7.14**	**8.79**	**6.00**	**5.75**	**6.73**	**8.74**	*6.50*	*6.62*	*7.96*	*9.44*	*7.09*	**6.46**	*6.36*	*7.18*
W. N. Central	**6.75**	**7.07**	**8.17**	**6.05**	**5.43**	**6.53**	**8.25**	*6.64*	*7.25*	*7.92*	*9.10*	*7.38*	**6.66**	*6.17*	*7.52*
S. Atlantic	**8.80**	**9.50**	**9.73**	**8.72**	**8.51**	**9.21**	**9.52**	*8.41*	*8.53*	*9.60*	*9.92*	*8.87*	**9.00**	*8.72*	*8.97*
E. S. Central	**8.63**	**9.82**	**10.13**	**8.47**	**8.38**	**9.20**	**9.85**	*8.41*	*8.30*	*9.62*	*10.38*	*9.24*	**8.90**	*8.67*	*9.02*
W. S. Central	**6.30**	**6.93**	**7.85**	**6.66**	**5.99**	**7.18**	**7.65**	*7.20*	*7.28*	*8.12*	*8.88*	*8.16*	**6.71**	*6.77*	*7.91*
Mountain	**6.40**	**6.73**	**7.33**	**6.15**	**6.09**	**6.85**	**7.69**	*6.63*	*6.99*	*7.50*	*8.45*	*7.40*	**6.46**	*6.54*	*7.36*
Pacific	**9.07**	**8.82**	**9.14**	**9.01**	**9.58**	**9.30**	**9.47**	*8.72*	*9.11*	*9.38*	*9.85*	*9.39*	**9.01**	*9.25*	*9.36*
U.S. Average	**7.55**	**7.95**	**8.41**	**7.20**	**7.13**	**7.63**	**8.33**	*7.32*	*7.58*	*8.34*	*8.92*	*8.02*	**7.59**	*7.40*	*7.99*
Industrial Retail															
New England	**9.24**	**8.32**	**6.96**	**7.34**	**8.15**	**7.41**	**5.96**	*6.98*	*8.16*	*7.51*	*6.73*	*7.63*	**8.14**	*7.25*	*7.62*
Middle Atlantic	**8.80**	**7.49**	**6.72**	**7.04**	**7.43**	**6.76**	**6.65**	*6.65*	*7.71*	*7.49*	*7.56*	*7.88*	**7.83**	*6.97*	*7.69*
E. N. Central	**5.66**	**5.31**	**5.56**	**5.05**	**4.84**	**5.10**	**4.10**	*4.90*	*6.04*	*5.91*	*5.83*	*5.71*	**5.41**	*4.81*	*5.89*
W. N. Central	**5.24**	**4.01**	**3.48**	**4.32**	**3.97**	**3.30**	**3.18**	*4.19*	*5.26*	*4.62*	*4.61*	*5.13*	**4.34**	*3.71*	*4.94*
S. Atlantic	**5.43**	**4.54**	**4.35**	**4.45**	**4.15**	**3.70**	**3.74**	*4.51*	*5.65*	*5.02*	*4.96*	*5.20*	**4.73**	*4.05*	*5.24*
E. S. Central	**4.99**	**4.09**	**3.62**	**4.12**	**3.92**	**3.24**	**3.37**	*4.29*	*5.28*	*4.72*	*4.65*	*5.02*	**4.25**	*3.75*	*4.94*
W. S. Central	**3.49**	**2.89**	**2.54**	**2.65**	**2.19**	**1.92**	**2.22**	*2.77*	*3.62*	*3.33*	*3.42*	*3.49*	**2.91**	*2.31*	*3.47*
Mountain	**5.23**	**4.71**	**4.88**	**4.64**	**4.40**	**4.59**	**4.80**	*4.95*	*5.49*	*5.66*	*6.09*	*6.04*	**4.88**	*4.66*	*5.80*
Pacific	**7.61**	**6.58**	**6.37**	**6.88**	**7.46**	**6.28**	**6.39**	*6.34*	*7.22*	*6.78*	*7.09*	*7.20*	**6.91**	*6.64*	*7.09*
U.S. Average	**4.66**	**3.73**	**3.29**	**3.74**	**3.52**	**2.85**	**2.87**	*3.64*	*4.68*	*4.11*	*4.07*	*4.41*	**3.90**	*3.25*	*4.33*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**179.5**	**179.2**	**181.4**	**165.2**	**149.1**	**113.1**	**135.9**	*126.8*	*177.0*	*135.7*	*163.2*	*148.7*	**705.3**	*524.9*	*624.5*
Appalachia	**49.6**	**52.5**	**46.6**	**44.3**	**39.7**	**32.0**	**36.1**	*31.1*	*40.7*	*37.0*	*38.1*	*33.3*	**193.0**	*138.9*	*149.0*
Interior	**35.4**	**32.3**	**32.4**	**30.6**	**25.8**	**20.2**	**22.7**	*22.5*	*36.5*	*22.0*	*26.7*	*27.9*	**130.7**	*91.1*	*113.0*
Western	**94.5**	**94.4**	**102.4**	**90.3**	**83.6**	**60.9**	**77.1**	*73.2*	*99.9*	*76.7*	*98.4*	*87.5*	**381.7**	*294.9*	*362.5*
Primary Inventory Withdrawals	**-1.5**	**1.3**	**-1.2**	**-1.4**	**-0.5**	**0.8**	**1.5**	*-1.5*	*0.3*	*1.1*	*1.6*	*-2.2*	**-2.7**	*0.3*	*0.9*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	**1.1**	**1.3**	*1.3*	*1.0*	*1.0*	*1.3*	*1.3*	**6.7**	*5.1*	*4.6*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	**14.8**	**16.4**	*14.3*	*23.2*	*17.9*	*15.3*	*14.2*	**92.9**	*65.4*	*70.6*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	**9.0**	**11.1**	*9.9*	*14.6*	*11.6*	*10.0*	*9.6*	**55.1**	*41.7*	*45.8*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	**5.8**	**5.3**	*4.4*	*8.6*	*6.3*	*5.3*	*4.6*	**37.7**	*23.7*	*24.8*
Total Primary Supply	**154.5**	**156.7**	**159.9**	**145.2**	**129.9**	**100.3**	**122.3**	*112.3*	*155.1*	*119.9*	*150.8*	*133.6*	**616.4**	*464.8*	*559.4*
Secondary Inventory Withdrawals	**5.9**	**-21.0**	**6.4**	**-17.5**	**-16.5**	**-5.8**	**30.2**	*-2.4*	*-18.5*	*3.8*	*11.1*	*2.9*	**-26.2**	*5.5*	*-0.8*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**162.8**	**138.0**	**168.6**	**130.0**	**115.7**	**96.8**	**154.8**	*112.2*	*138.6*	*125.6*	*163.9*	*138.5*	**599.5**	*479.5*	*566.6*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.3**	**4.2**	**4.4**	**3.9**	*3.9*	*4.1*	*4.1*	*4.4*	*4.4*	**17.9**	*16.5*	*17.0*
Electric Power Sector (b)	**145.3**	**118.0**	**156.2**	**119.9**	**97.6**	**87.2**	**141.9**	*106.1*	*125.8*	*124.4*	*156.7*	*115.4*	**539.4**	*432.8*	*522.4*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.4**	**6.6**	**6.4**	*6.7*	*6.8*	*6.6*	*6.5*	*6.7*	**30.0**	*27.1*	*26.5*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.3**	**0.1**	**0.2**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.9*	*0.8*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.1**	**6.4**	**6.2**	*6.4*	*6.6*	*6.4*	*6.3*	*6.5*	**29.1**	*26.1*	*25.7*
Total Consumption	**157.9**	**129.9**	**167.8**	**131.8**	**109.2**	**98.2**	**152.2**	*116.7*	*136.8*	*135.1*	*167.6*	*126.5*	**587.3**	*476.4*	*565.9*
Discrepancy (c)	**5.0**	**8.2**	**0.8**	**-1.9**	**6.4**	**-1.3**	**2.5**	*-4.5*	*1.8*	*-9.4*	*-3.7*	*12.0*	**12.1**	*3.1*	*0.7*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**23.2**	**21.9**	**23.1**	**24.4**	**24.9**	**24.1**	**22.6**	*24.1*	*23.8*	*22.7*	*21.1*	*23.3*	**24.4**	*24.1*	*23.3*
Secondary Inventories	**102.2**	**123.2**	**116.8**	**134.3**	**150.8**	**156.6**	**126.4**	*128.8*	*147.3*	*143.6*	*132.5*	*129.6*	**134.3**	*128.8*	*129.6*
Electric Power Sector	**97.1**	**117.7**	**111.0**	**128.5**	**145.5**	**150.7**	**120.4**	*123.1*	*141.7*	*137.7*	*126.5*	*123.8*	**128.5**	*123.1*	*123.8*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.0**	**3.6**	**3.7**	*3.5*	*3.8*	*3.7*	*3.8*	*3.6*	**3.3**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**2.2**	**2.1**	**2.2**	*2.1*	*1.6*	*2.0*	*2.1*	*2.0*	**2.3**	*2.1*	*2.0*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	**0.196**	*0.214*	*0.253*	*0.221*	*0.221*	*0.262*	**0.268**	*0.213*	*0.239*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.91**	**1.98**	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**995**	**974**	**1,173**	**976**	**962**	**931**	**1,157**	*942*	*942*	*957*	*1,130*	*952*	**4,118**	*3,993*	*3,981*
Electric Power Sector (a)	**955**	**935**	**1,131**	**934**	**921**	**894**	**1,119**	*907*	*906*	*922*	*1,092*	*915*	**3,956**	*3,841*	*3,836*
Industrial Sector (b)	**37**	**36**	**38**	**38**	**38**	**34**	**35**	*32*	*32*	*32*	*34*	*34*	**149**	*138*	*132*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**4**	*3*	*3*	*3*	*4*	*3*	**14**	*13*	*13*
Net Imports	**9**	**9**	**11**	**10**	**10**	**11**	**13**	*10*	*12*	*12*	*14*	*11*	**39**	*44*	*49*
Total Supply	**1,004**	**983**	**1,184**	**986**	**972**	**942**	**1,170**	*953*	*954*	*970*	*1,144*	*963*	**4,157**	*4,037*	*4,030*
Losses and Unaccounted for (c)	**57**	**71**	**74**	**59**	**50**	**65**	**61**	*52*	*44*	*66*	*60*	*53*	**262**	*228*	*224*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**911**	**877**	**1072**	**889**	**885**	**844**	**1060**	*869*	*878*	*872*	*1050*	*876*	**3750**	*3657*	*3676*
Residential Sector	**361**	**309**	**434**	**331**	**340**	**334**	**463**	*344*	*356*	*339*	*450*	*345*	**1435**	*1481*	*1491*
Commercial Sector	**320**	**328**	**382**	**325**	**313**	**293**	**359**	*307*	*304*	*309*	*363*	*312*	**1355**	*1271*	*1288*
Industrial Sector	**228**	**238**	**254**	**232**	**231**	**216**	**236**	*216*	*216*	*221*	*235*	*217*	**952**	*899*	*889*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**1**	**2**	*2*	*2*	*2*	*2*	*2*	**8**	*7*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	**34**	**34**	*31*	*32*	*32*	*34*	*33*	**146**	*137*	*130*
Total Consumption	**948**	**912**	**1110**	**927**	**922**	**878**	**1109**	*900*	*910*	*903*	*1084*	*909*	**3896**	*3809*	*3806*
Average residential electricity usage per customer (kWh)	**2,676**	**2,289**	**3,212**	**2,449**	**2,495**	**2,454**	**3,452**	*2,526*	*2,598*	*2,478*	*3,284*	*2,522*	**10,627**	*10,927*	*10,881*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.08**	**2.05**	**2.00**	**1.95**	**1.93**	**1.91**	**1.98**	*2.00*	*2.05*	*2.05*	*2.03*	*2.03*	**2.02**	*1.96*	*2.04*
Natural Gas	**3.71**	**2.73**	**2.51**	**2.78**	**2.39**	**2.09**	**2.25**	*3.03*	*3.97*	*3.32*	*3.29*	*3.53*	**2.88**	*2.42*	*3.49*
Residual Fuel Oil	**12.21**	**13.39**	**12.79**	**12.52**	**12.15**	**6.65**	**7.40**	*7.79*	*8.22*	*9.43*	*9.18*	*9.16*	**12.72**	*8.39*	*8.81*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.10**	**13.29**	**8.43**	**9.91**	*10.34*	*10.71*	*11.82*	*12.16*	*12.48*	**15.16**	*10.53*	*11.78*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.24**	**13.33**	*12.83*	*12.81*	*13.32*	*13.53*	*13.12*	**13.04**	*13.09*	*13.22*
Commercial Sector	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.63**	**10.83**	*10.41*	*10.29*	*10.77*	*11.08*	*10.63*	**10.66**	*10.56*	*10.71*
Industrial Sector	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.62**	**7.20**	*6.64*	*6.47*	*6.72*	*7.22*	*6.67*	**6.83**	*6.71*	*6.78*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	**24.00**	**34.12**	*26.71*	*30.35*	*31.26*	*33.03*	*29.42*	**56.24**	*27.06*	*31.02*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	**19.21**	**61.94**	*38.44*	*41.20*	*41.50*	*41.73*	*43.20*	**38.15**	*37.06*	*41.91*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	**20.25**	**27.20**	*31.46*	*45.88*	*29.97*	*29.45*	*32.02*	**34.89**	*25.88*	*34.33*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	**18.13**	**24.38**	*22.30*	*26.06*	*25.09*	*26.55*	*25.40*	**30.56**	*21.66*	*25.77*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	**20.79**	**28.24**	*25.12*	*26.97*	*26.08*	*29.54*	*26.54*	**30.85**	*24.16*	*27.28*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	**23.00**	**29.35**	*27.72*	*27.95*	*28.11*	*31.77*	*29.47*	**29.51**	*26.12*	*29.32*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	**19.54**	**26.27**	*23.51*	*22.76*	*23.62*	*28.92*	*24.71*	**27.86**	*22.35*	*25.00*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	**18.23**	**23.47**	*25.12*	*25.35*	*25.71*	*28.51*	*26.01*	**30.25**	*22.60*	*26.40*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	**18.53**	**23.75**	*27.30*	*29.26*	*29.52*	*29.61*	*29.76*	**30.10**	*23.95*	*29.54*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	**14.49**	**33.56**	*29.02*	*30.77*	*30.74*	*31.73*	*32.44*	**36.12**	*24.96*	*31.42*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	**19.60**	**80.81**	*31.41*	*40.86*	*37.67*	*36.85*	*39.26*	**35.26**	*38.47*	*38.66*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.4**	**9.7**	**13.1**	**10.9**	**11.7**	**10.9**	**14.9**	*11.8*	*12.5*	*11.1*	*13.7*	*11.8*	**46.1**	*49.3*	*49.1*
Middle Atlantic	**35.3**	**27.7**	**40.3**	**29.8**	**32.2**	**30.6**	**44.7**	*31.1*	*34.1*	*30.5*	*40.8*	*30.8*	**133.1**	*138.4*	*136.2*
E. N. Central	**50.0**	**38.1**	**54.3**	**43.4**	**46.4**	**43.7**	**59.6**	*46.4*	*49.0*	*44.1*	*57.1*	*47.0*	**185.9**	*196.1*	*197.1*
W. N. Central	**29.9**	**21.6**	**29.0**	**24.9**	**27.6**	**23.7**	**30.7**	*24.9*	*28.3*	*25.5*	*32.1*	*27.2*	**105.4**	*107.0*	*113.0*
S. Atlantic	**88.3**	**84.5**	**111.4**	**84.4**	**83.7**	**86.3**	**116.0**	*86.3*	*90.3*	*87.9*	*112.6*	*85.6*	**368.5**	*372.3*	*376.4*
E. S. Central	**30.6**	**25.9**	**36.9**	**27.8**	**29.0**	**26.0**	**37.6**	*27.5*	*31.6*	*27.0*	*37.8*	*27.5*	**121.1**	*120.2*	*123.9*
W. S. Central	**51.7**	**49.0**	**75.8**	**50.6**	**48.6**	**52.7**	**76.5**	*50.1*	*49.2*	*54.0*	*76.9*	*50.6*	**227.1**	*227.9*	*230.6*
Mountain	**23.1**	**22.0**	**33.0**	**22.1**	**22.5**	**25.7**	**36.9**	*23.7*	*22.6*	*25.2*	*34.4*	*23.6*	**100.2**	*108.8*	*105.9*
Pacific contiguous	**39.0**	**29.6**	**38.7**	**35.8**	**36.7**	**33.2**	**45.2**	*40.8*	*37.1*	*33.0*	*43.2*	*40.1*	**143.1**	*155.9*	*153.3*
AK and HI	**1.2**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	**1.2**	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.7**	*4.9*	*4.9*
Total	**361.4**	**309.2**	**433.8**	**330.7**	**339.7**	**334.0**	**463.4**	*343.8*	*355.8*	*339.4*	*449.8*	*345.5*	**1,435.1**	*1,480.9*	*1,490.5*
Commercial Sector															
New England	**12.8**	**12.1**	**13.9**	**12.4**	**12.2**	**10.6**	**12.8**	*11.8*	*11.8*	*10.8*	*12.5*	*11.8*	**51.2**	*47.3*	*46.9*
Middle Atlantic	**38.6**	**36.3**	**41.9**	**35.9**	**35.9**	**31.0**	**38.5**	*32.8*	*33.6*	*34.3*	*38.9*	*33.5*	**152.6**	*138.2*	*140.3*
E. N. Central	**44.6**	**43.1**	**50.4**	**43.5**	**43.1**	**38.3**	**47.7**	*41.4*	*42.1*	*41.5*	*48.8*	*42.4*	**181.6**	*170.5*	*174.7*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**24.7**	**21.6**	**26.8**	*24.2*	*24.4*	*22.2*	*27.5*	*24.7*	**102.5**	*97.4*	*98.9*
S. Atlantic	**72.1**	**79.4**	**90.1**	**75.5**	**71.4**	**70.0**	**83.7**	*69.9*	*69.3*	*73.9*	*84.8*	*71.4*	**317.0**	*295.0*	*299.4*
E. S. Central	**21.0**	**22.5**	**27.0**	**21.8**	**20.7**	**19.4**	**25.3**	*20.7*	*20.5*	*20.6*	*25.7*	*20.9*	**92.3**	*86.0*	*87.7*
W. S. Central	**43.2**	**47.6**	**58.0**	**46.9**	**43.9**	**44.5**	**55.6**	*45.4*	*43.5*	*46.9*	*57.1*	*46.6*	**195.7**	*189.4*	*194.1*
Mountain	**22.6**	**23.9**	**28.3**	**23.4**	**22.5**	**22.1**	**26.9**	*22.4*	*22.0*	*23.2*	*26.8*	*22.9*	**98.2**	*93.9*	*94.9*
Pacific contiguous	**38.0**	**37.9**	**42.9**	**39.0**	**36.9**	**33.9**	**39.9**	*37.0*	*35.1*	*34.5*	*39.6*	*36.5*	**157.9**	*147.7*	*145.6*
AK and HI	**1.4**	**1.4**	**1.5**	**1.4**	**1.4**	**1.2**	**1.3**	*1.3*	*1.4*	*1.4*	*1.5*	*1.5*	**5.7**	*5.2*	*5.7*
Total	**319.9**	**328.2**	**381.8**	**324.6**	**312.7**	**292.6**	**358.5**	*306.9*	*303.8*	*309.2*	*363.1*	*312.2*	**1,354.5**	*1,270.6*	*1,288.3*
Industrial Sector															
New England	**3.8**	**3.8**	**4.0**	**3.8**	**3.7**	**3.5**	**3.6**	*3.6*	*3.5*	*3.5*	*3.6*	*3.5*	**15.4**	*14.4*	*14.1*
Middle Atlantic	**17.7**	**17.5**	**19.8**	**18.2**	**18.0**	**16.2**	**18.7**	*17.4*	*17.1*	*16.8*	*18.8*	*17.7*	**73.2**	*70.2*	*70.4*
E. N. Central	**44.8**	**45.4**	**47.7**	**43.6**	**44.0**	**37.7**	**42.8**	*38.3*	*38.9*	*36.9*	*40.6*	*36.5*	**181.5**	*162.8*	*153.0*
W. N. Central	**21.1**	**22.0**	**23.4**	**21.8**	**21.7**	**20.3**	**22.5**	*20.6*	*20.5*	*21.5*	*22.8*	*21.2*	**88.3**	*85.2*	*86.1*
S. Atlantic	**33.0**	**34.8**	**36.2**	**33.4**	**33.0**	**31.0**	**33.7**	*31.6*	*31.5*	*32.1*	*33.8*	*31.9*	**137.5**	*129.3*	*129.3*
E. S. Central	**23.4**	**23.9**	**24.5**	**22.9**	**23.3**	**21.4**	**22.7**	*20.9*	*21.5*	*22.1*	*22.6*	*21.1*	**94.7**	*88.3*	*87.3*
W. S. Central	**44.8**	**47.7**	**50.2**	**46.6**	**46.5**	**44.7**	**47.1**	*44.5*	*44.4*	*46.7*	*47.7*	*45.5*	**189.5**	*182.7*	*184.3*
Mountain	**19.2**	**21.1**	**23.5**	**20.2**	**20.0**	**20.3**	**22.3**	*19.5*	*19.5*	*21.0*	*22.6*	*19.9*	**84.1**	*82.0*	*82.9*
Pacific contiguous	**19.1**	**20.4**	**23.4**	**20.2**	**19.2**	**19.7**	**21.7**	*18.6*	*18.0*	*19.3*	*21.4*	*18.3*	**83.1**	*79.2*	*77.0*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	**1.0**	**1.2**	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.9**	*4.7*	*4.7*
Total	**228.2**	**237.7**	**254.2**	**232.1**	**230.5**	**215.9**	**236.2**	*216.2*	*216.1*	*221.1*	*235.1*	*216.9*	**952.1**	*898.9*	*889.1*
Total All Sectors (a)															
New England	**29.1**	**25.6**	**31.3**	**27.2**	**27.7**	**25.1**	**31.5**	*27.2*	*27.9*	*25.6*	*29.9*	*27.3*	**113.3**	*111.5*	*110.7*
Middle Atlantic	**92.6**	**82.4**	**103.0**	**84.8**	**87.0**	**78.5**	**102.8**	*82.2*	*85.9*	*82.5*	*99.5*	*83.0*	**362.8**	*350.4*	*350.9*
E. N. Central	**139.6**	**126.7**	**152.6**	**130.7**	**133.7**	**119.8**	**150.2**	*126.3*	*130.1*	*122.6*	*146.7*	*126.0*	**549.6**	*530.0*	*525.4*
W. N. Central	**76.7**	**67.7**	**80.4**	**71.5**	**74.0**	**65.7**	**80.0**	*69.8*	*73.2*	*69.2*	*82.5*	*73.1*	**296.2**	*289.6*	*298.0*
S. Atlantic	**193.7**	**199.0**	**238.1**	**193.6**	**188.4**	**187.6**	**233.7**	*188.1*	*191.5*	*194.3*	*231.5*	*189.2*	**824.3**	*797.8*	*806.5*
E. S. Central	**75.0**	**72.3**	**88.3**	**72.4**	**73.0**	**66.9**	**85.6**	*69.1*	*73.5*	*69.8*	*86.1*	*69.5*	**308.1**	*294.5*	*298.9*
W. S. Central	**139.8**	**144.3**	**184.1**	**144.2**	**139.1**	**142.0**	**179.2**	*140.0*	*137.2*	*147.6*	*181.7*	*142.8*	**612.4**	*600.3*	*609.3*
Mountain	**65.0**	**67.1**	**84.8**	**65.7**	**65.0**	**68.2**	**86.1**	*65.6*	*64.2*	*69.4*	*83.8*	*66.5*	**282.7**	*284.9*	*283.9*
Pacific contiguous	**96.3**	**88.1**	**105.2**	**95.2**	**93.1**	**86.9**	**107.0**	*96.6*	*90.4*	*87.0*	*104.4*	*95.2*	**384.9**	*383.6*	*376.9*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.8**	**3.4**	**3.7**	*3.9*	*3.8*	*3.6*	*3.9*	*4.0*	**15.2**	*14.8*	*15.3*
Total	**911.5**	**876.9**	**1,071.8**	**889.3**	**884.8**	**843.9**	**1,059.9**	*868.8*	*877.6*	*871.6*	*1,050.0*	*876.4*	**3,749.5**	*3,657.5*	*3,675.6*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.53**	**21.57**	**20.70**	**20.87**	**21.76**	**21.33**	*20.85*	*20.72*	*21.69*	*21.69*	*21.74*	*22.04*	**21.14**	*21.14*	*21.79*
Middle Atlantic	**15.19**	**16.06**	**16.15**	**15.78**	**15.47**	**15.97**	*16.00*	*15.56*	*15.36*	*16.12*	*16.35*	*15.92*	**15.79**	*15.77*	*15.95*
E. N. Central	**12.92**	**13.86**	**13.27**	**13.29**	**13.10**	**13.73**	*13.18*	*13.24*	*13.09*	*13.90*	*13.48*	*13.50*	**13.30**	*13.30*	*13.48*
W. N. Central	**10.71**	**12.78**	**12.93**	**11.24**	**10.99**	**12.59**	*13.07*	*11.50*	*11.14*	*12.59*	*13.18*	*11.42*	**11.87**	*12.06*	*12.11*
S. Atlantic	**11.70**	**12.17**	**12.11**	**11.87**	**11.80**	**11.81**	*11.93*	*11.66*	*11.51*	*11.76*	*12.11*	*11.94*	**11.97**	*11.81*	*11.84*
E. S. Central	**11.10**	**11.70**	**11.37**	**11.23**	**11.25**	**11.57**	*11.21*	*11.17*	*11.07*	*11.60*	*11.44*	*11.46*	**11.34**	*11.29*	*11.39*
W. S. Central	**10.88**	**11.50**	**11.36**	**11.24**	**11.05**	**11.41**	*11.27*	*10.92*	*10.72*	*11.26*	*11.39*	*11.22*	**11.25**	*11.18*	*11.18*
Mountain	**11.51**	**12.18**	**12.23**	**11.59**	**11.42**	**12.08**	*12.15*	*11.52*	*11.38*	*12.13*	*12.30*	*11.70*	**11.91**	*11.84*	*11.93*
Pacific	**14.86**	**15.88**	**17.31**	**14.64**	**15.69**	**16.18**	*18.00*	*15.11*	*16.26*	*16.99*	*18.50*	*15.48*	**15.68**	*16.31*	*16.84*
U.S. Average	**12.68**	**13.33**	**13.27**	**12.85**	**12.90**	**13.24**	*13.33*	*12.83*	*12.81*	*13.32*	*13.53*	*13.12*	**13.04**	*13.09*	*13.22*
Commercial Sector															
New England	**16.83**	**16.24**	**15.97**	**15.76**	**16.23**	**15.66**	*15.90*	*15.60*	*16.18*	*15.86*	*16.48*	*16.30*	**16.19**	*15.86*	*16.22*
Middle Atlantic	**11.57**	**12.18**	**13.03**	**11.97**	**11.69**	**12.54**	*12.80*	*11.48*	*11.38*	*12.65*	*12.94*	*11.65*	**12.21**	*12.14*	*12.18*
E. N. Central	**10.14**	**10.29**	**10.09**	**10.05**	**9.95**	**10.37**	*9.98*	*10.02*	*10.03*	*10.55*	*10.21*	*10.26*	**10.14**	*10.07*	*10.26*
W. N. Central	**8.98**	**10.04**	**10.41**	**9.11**	**9.07**	**10.12**	*10.51*	*9.33*	*9.28*	*10.24*	*10.69*	*9.39*	**9.65**	*9.76*	*9.92*
S. Atlantic	**9.44**	**9.37**	**9.35**	**9.35**	**9.26**	**9.02**	*9.03*	*9.04*	*9.03*	*8.94*	*9.14*	*9.24*	**9.37**	*9.09*	*9.09*
E. S. Central	**10.70**	**10.70**	**10.65**	**10.62**	**10.75**	**10.83**	*10.54*	*10.55*	*10.71*	*10.82*	*10.73*	*10.81*	**10.67**	*10.66*	*10.77*
W. S. Central	**8.12**	**8.00**	**8.30**	**8.06**	**7.89**	**7.86**	*7.94*	*8.14*	*8.08*	*8.21*	*8.29*	*8.10*	**8.13**	*7.96*	*8.18*
Mountain	**9.20**	**9.71**	**10.00**	**9.18**	**8.99**	**9.82**	*10.05*	*9.24*	*9.05*	*9.97*	*10.29*	*9.38*	**9.55**	*9.55*	*9.70*
Pacific	**12.98**	**14.15**	**16.35**	**14.44**	**13.52**	**14.79**	*16.55*	*14.55*	*13.58*	*15.26*	*17.30*	*15.15*	**14.54**	*14.89*	*15.38*
U.S. Average	**10.43**	**10.64**	**11.00**	**10.53**	**10.35**	**10.63**	*10.83*	*10.41*	*10.29*	*10.77*	*11.08*	*10.63*	**10.66**	*10.56*	*10.71*
Industrial Sector															
New England	**13.45**	**12.89**	**12.66**	**12.70**	**12.74**	**12.63**	*12.87*	*12.77*	*12.80*	*12.82*	*13.13*	*13.06*	**12.92**	*12.75*	*12.95*
Middle Atlantic	**6.73**	**6.52**	**6.54**	**6.40**	**6.34**	**6.35**	*6.38*	*6.17*	*6.31*	*6.34*	*6.27*	*6.07*	**6.55**	*6.31*	*6.24*
E. N. Central	**7.03**	**6.84**	**6.83**	**6.76**	**6.51**	**6.79**	*6.79*	*6.78*	*6.64*	*6.93*	*6.88*	*6.87*	**6.87**	*6.71*	*6.83*
W. N. Central	**7.13**	**7.33**	**8.09**	**6.87**	**6.94**	**7.31**	*8.20*	*7.06*	*7.17*	*7.43*	*8.37*	*7.18*	**7.37**	*7.39*	*7.56*
S. Atlantic	**6.22**	**6.28**	**6.72**	**6.18**	**5.97**	**6.06**	*6.55*	*6.11*	*6.01*	*6.30*	*6.67*	*6.15*	**6.36**	*6.18*	*6.29*
E. S. Central	**5.69**	**5.78**	**5.95**	**5.61**	**5.45**	**5.49**	*5.73*	*5.51*	*5.45*	*5.59*	*5.78*	*5.51*	**5.76**	*5.55*	*5.59*
W. S. Central	**5.25**	**5.28**	**6.05**	**5.29**	**5.05**	**4.94**	*5.40*	*5.18*	*5.09*	*4.85*	*5.30*	*5.08*	**5.48**	*5.14*	*5.08*
Mountain	**6.14**	**6.25**	**6.78**	**5.89**	**5.73**	**6.15**	*7.00*	*5.92*	*5.85*	*6.32*	*6.93*	*6.00*	**6.29**	*6.22*	*6.30*
Pacific	**8.65**	**9.45**	**11.26**	**10.16**	**8.97**	**10.33**	*12.45*	*10.54*	*9.41*	*10.87*	*12.66*	*10.94*	**9.95**	*10.63*	*11.04*
U.S. Average	**6.66**	**6.71**	**7.25**	**6.66**	**6.38**	**6.62**	*7.20*	*6.64*	*6.47*	*6.72*	*7.22*	*6.67*	**6.83**	*6.71*	*6.78*
All Sectors (a)															
New England	**18.35**	**17.72**	**17.50**	**17.34**	**18.07**	**17.67**	*17.85*	*17.40*	*18.19*	*17.93*	*18.45*	*18.34*	**17.73**	*17.75*	*18.24*
Middle Atlantic	**12.01**	**12.27**	**12.99**	**12.10**	**11.97**	**12.58**	*13.01*	*11.89*	*11.93*	*12.64*	*13.07*	*12.04*	**12.37**	*12.39*	*12.45*
E. N. Central	**10.13**	**10.12**	**10.20**	**10.03**	**9.91**	**10.46**	*10.34*	*10.22*	*10.16*	*10.66*	*10.56*	*10.48*	**10.12**	*10.23*	*10.46*
W. N. Central	**9.14**	**10.03**	**10.64**	**9.17**	**9.15**	**10.14**	*10.84*	*9.43*	*9.40*	*10.23*	*11.02*	*9.51*	**9.76**	*9.91*	*10.07*
S. Atlantic	**9.92**	**10.01**	**10.24**	**9.90**	**9.80**	**9.81**	*10.11*	*9.75*	*9.70*	*9.78*	*10.22*	*9.94*	**10.03**	*9.88*	*9.93*
E. S. Central	**9.30**	**9.43**	**9.65**	**9.27**	**9.25**	**9.41**	*9.56*	*9.27*	*9.33*	*9.46*	*9.75*	*9.46*	**9.42**	*9.38*	*9.51*
W. S. Central	**8.22**	**8.28**	**8.94**	**8.28**	**8.04**	**8.26**	*8.69*	*8.19*	*8.06*	*8.26*	*8.82*	*8.25*	**8.47**	*8.32*	*8.38*
Mountain	**9.12**	**9.43**	**9.98**	**8.98**	**8.83**	**9.58**	*10.16*	*9.08*	*8.90*	*9.65*	*10.21*	*9.19*	**9.42**	*9.47*	*9.54*
Pacific	**12.87**	**13.63**	**15.55**	**13.60**	**13.42**	**14.30**	*16.32*	*14.00*	*13.84*	*14.92*	*16.83*	*14.46*	**13.96**	*14.58*	*15.08*
U.S. Average	**10.37**	**10.52**	**11.03**	**10.38**	**10.29**	**10.64**	*11.11*	*10.43*	*10.37*	*10.73*	*11.26*	*10.63*	**10.60**	*10.64*	*10.77*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**317.1**	**330.9**	**473.7**	**353.0**	**355.0**	**343.1**	**481.4**	*336.8*	*272.1*	*290.5*	*411.1*	*318.3*	**1,474.7**	*1,516.3*	*1,292.0*
Coal	**257.9**	**208.9**	**279.4**	**213.3**	**170.2**	**151.2**	**252.7**	*188.4*	*220.2*	*215.3*	*278.1*	*202.9*	**959.5**	*762.5*	*916.5*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.2**	**190.7**	**202.0**	*188.4*	*192.9*	*184.6*	*200.0*	*183.6*	**809.4**	*785.2*	*761.0*
Renewable Energy Sources:	**169.9**	**192.9**	**161.3**	**163.9**	**185.5**	**203.8**	**177.0**	*188.8*	*213.8*	*226.9*	*198.0*	*205.6*	**688.0**	*755.0*	*844.4*
Conventional Hydropower	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**78.5**	**65.9**	*61.9*	*73.1*	*75.5*	*63.4*	*63.6*	**272.4**	*277.6*	*275.7*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**87.7**	**71.0**	*97.6*	*106.9*	*104.3*	*85.1*	*107.1*	**299.8**	*343.3*	*403.3*
Solar (a)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**27.0**	**28.6**	*18.4*	*21.8*	*35.6*	*37.4*	*23.6*	**71.5**	*90.4*	*118.3*
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.5**	**7.3**	*7.1*	*8.3*	*7.4*	*7.9*	*7.6*	**28.8**	*27.9*	*31.2*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**4.0**	**4.2**	*3.8*	*3.7*	*4.1*	*4.2*	*3.7*	**15.6**	*15.8*	*15.8*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	**-1.2**	**-1.8**	*-1.3*	*-1.1*	*-1.3*	*-1.9*	*-1.3*	**-5.3**	*-5.4*	*-5.6*
Petroleum (b)	**4.9**	**4.2**	**4.8**	**3.5**	**4.0**	**4.0**	**4.7**	*3.8*	*5.8*	*3.9*	*4.6*	*3.1*	**17.3**	*16.5*	*17.4*
Other Gases	**1.1**	**1.0**	**1.2**	**1.0**	**1.1**	**0.4**	**0.8**	*0.9*	*0.9*	*0.4*	*0.8*	*0.8*	**4.3**	*3.2*	*2.9*
Other Nonrenewable Fuels (c)	**1.9**	**1.9**	**2.0**	**1.9**	**1.9**	**1.8**	**2.0**	*1.8*	*1.7*	*1.7*	*1.7*	*1.8*	**7.7**	*7.5*	*7.0*
Total Generation	**955.2**	**935.5**	**1,130.7**	**934.4**	**920.9**	**893.9**	**1,118.7**	*907.5*	*906.3*	*922.1*	*1,092.4*	*914.9*	**3,955.8**	*3,841.0*	*3,835.7*
New England (ISO-NE)															
Natural Gas	**10.6**	**10.0**	**14.8**	**11.5**	**11.1**	**10.4**	**16.7**	*12.7*	*9.1*	*9.2*	*16.5*	*14.2*	**46.9**	*50.8*	*49.1*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.4*	*0.0*	*0.0*	*0.1*	**0.5**	*0.2*	*0.5*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.3**	**4.9**	**5.5**	*3.5*	*4.4*	*4.4*	*4.5*	*3.7*	**29.8**	*21.3*	*17.0*
Conventional hydropower	**2.1**	**1.9**	**1.5**	**1.6**	**2.1**	**2.0**	**1.4**	*1.6*	*2.1*	*2.0*	*1.4*	*1.5*	**7.0**	*7.1*	*7.0*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.6**	**2.5**	**2.6**	**2.6**	**2.5**	*2.8*	*3.5*	*2.7*	*2.7*	*3.0*	**10.3**	*10.5*	*11.8*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.9*	*2.0*	*0.3*	*0.3*	*0.4*	**1.5**	*2.0*	*3.1*
Total generation	**24.5**	**21.7**	**26.5**	**23.3**	**23.5**	**20.3**	**26.6**	*21.6*	*21.4*	*18.6*	*25.5*	*23.0*	**96.1**	*92.0*	*88.5*
Net energy for load (f)	**29.5**	**25.8**	**31.9**	**28.0**	**27.8**	**25.2**	**33.0**	*27.9*	*28.6*	*26.6*	*31.4*	*28.1*	**115.2**	*113.9*	*114.8*
New York (NYISO)															
Natural Gas	**11.9**	**11.1**	**18.4**	**12.6**	**12.8**	**11.7**	**23.7**	*17.1*	*13.7*	*15.6*	*25.1*	*19.0*	**54.0**	*65.3*	*73.4*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.7**	**9.2**	**9.2**	*9.0*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*38.1*	*30.2*
Conventional hydropower	**7.4**	**7.3**	**7.4**	**7.4**	**7.8**	**7.8**	**7.7**	*7.3*	*7.9*	*8.0*	*7.6*	*7.1*	**29.5**	*30.6*	*30.6*
Nonhydro renewables (d)	**1.6**	**1.8**	**1.5**	**1.6**	**1.9**	**1.8**	**1.6**	*1.8*	*2.1*	*2.1*	*2.0*	*2.6*	**6.5**	*7.1*	*8.8*
Other energy sources (e)	**0.4**	**0.1**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	**0.9**	*0.7*	*0.8*
Total generation	**32.1**	**31.1**	**39.3**	**33.6**	**33.5**	**30.7**	**42.4**	*35.5*	*32.9*	*33.4*	*42.0*	*35.5*	**136.2**	*142.0*	*143.8*
Net energy for load (f)	**37.4**	**34.3**	**43.3**	**35.7**	**35.2**	**32.5**	**44.1**	*35.6*	*36.1*	*35.6*	*42.9*	*36.0*	**150.6**	*147.4*	*150.7*
Mid-Atlantic (PJM)															
Natural Gas	**69.3**	**64.2**	**90.9**	**70.7**	**77.9**	**69.7**	**96.5**	*68.0*	*66.7*	*66.6*	*90.8*	*68.9*	**295.1**	*312.1*	*292.9*
Coal	**53.5**	**39.9**	**52.0**	**38.9**	**33.7**	**29.9**	**38.0**	*33.8*	*49.0*	*43.9*	*35.0*	*33.5*	**184.3**	*135.4*	*161.5*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.9**	**67.1**	**71.1**	*69.3*	*67.5*	*65.7*	*72.3*	*62.3*	**277.9**	*276.4*	*267.8*
Conventional hydropower	**3.4**	**3.0**	**1.9**	**2.2**	**3.2**	**3.1**	**1.9**	*2.2*	*3.3*	*3.1*	*1.8*	*2.1*	**10.6**	*10.4*	*10.4*
Nonhydro renewables (d)	**8.8**	**9.3**	**7.1**	**8.9**	**10.1**	**9.9**	**8.0**	*10.4*	*11.7*	*11.6*	*9.3*	*11.4*	**34.1**	*38.4*	*43.8*
Other energy sources (e)	**0.9**	**0.7**	**0.5**	**0.4**	**0.6**	**0.6**	**0.5**	*0.4*	*0.7*	*0.6*	*0.4*	*0.3*	**2.5**	*2.2*	*2.1*
Total generation	**205.4**	**185.6**	**224.1**	**189.2**	**194.4**	**180.3**	**216.0**	*184.1*	*198.9*	*191.6*	*209.6*	*178.5*	**804.4**	*774.8*	*778.5*
Net energy for load (f)	**195.1**	**173.0**	**212.3**	**180.4**	**181.9**	**164.1**	**213.4**	*175.7*	*186.0*	*172.2*	*205.0*	*176.9*	**760.9**	*735.1*	*740.1*
Southeast (SERC)															
Natural Gas	**56.3**	**59.2**	**77.8**	**59.6**	**61.9**	**59.1**	**73.6**	*61.2*	*55.5*	*56.9*	*70.5*	*59.8*	**252.9**	*255.8*	*242.7*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**23.9**	**22.1**	**49.2**	*32.4*	*31.1*	*31.3*	*52.9*	*32.5*	**159.8**	*127.6*	*147.8*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.0**	**50.5**	**53.0**	*49.0*	*49.7*	*50.7*	*52.8*	*50.9*	**211.0**	*205.5*	*204.0*
Conventional hydropower	**10.9**	**9.3**	**7.1**	**8.2**	**11.1**	**10.3**	**6.6**	*8.0*	*11.2*	*10.4*	*6.5*	*7.6*	**35.5**	*35.9*	*35.8*
Nonhydro renewables (d)	**2.6**	**3.8**	**3.9**	**2.8**	**3.3**	**4.8**	**4.8**	*3.3*	*3.9*	*5.8*	*5.8*	*3.9*	**13.2**	*16.2*	*19.4*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	**-0.3**	**-0.6**	*-0.4*	*-0.1*	*-0.4*	*-0.7*	*-0.4*	**-1.2**	*-1.3*	*-1.6*
Total generation	**157.2**	**162.9**	**195.2**	**155.8**	**153.1**	**146.6**	**186.5**	*153.5*	*151.3*	*154.7*	*187.8*	*154.3*	**671.1**	*639.7*	*648.1*
Net energy for load (f)	**162.5**	**164.9**	**195.3**	**157.5**	**159.4**	**149.4**	**186.8**	*154.7*	*158.5*	*157.8*	*186.7*	*154.0*	**680.3**	*650.2*	*657.0*
Florida (FRCC)															
Natural Gas	**35.5**	**46.4**	**52.6**	**39.9**	**40.1**	**45.8**	**52.2**	*37.3*	*31.7*	*36.9*	*46.3*	*35.8*	**174.4**	*175.4*	*150.6*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.1**	**3.5**	**6.2**	*4.3*	*7.2*	*9.4*	*9.2*	*6.8*	**18.6**	*16.1*	*32.6*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	**7.6**	**7.6**	*7.3*	*7.7*	*6.9*	*7.8*	*6.7*	**29.1**	*29.8*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.8**	**2.4**	**2.4**	*2.0*	*2.8*	*3.4*	*3.3*	*2.7*	**6.2**	*8.6*	*12.2*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	**0.8**	**0.9**	*0.7*	*0.9*	*0.7*	*0.8*	*0.7*	**3.1**	*3.3*	*3.1*
Total generation	**49.3**	**60.2**	**68.1**	**54.1**	**52.2**	**60.1**	**69.4**	*51.7*	*50.4*	*57.3*	*67.4*	*52.7*	**231.7**	*233.4*	*227.8*
Net energy for load (f)	**47.6**	**60.7**	**68.5**	**53.2**	**48.2**	**60.1**	**69.4**	*50.7*	*46.6*	*57.3*	*66.7*	*51.8*	**230.1**	*228.3*	*222.3*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**35.9**	**40.9**	**58.1**	**42.3**	**44.1**	**43.3**	**54.5**	*39.8*	*30.5*	*33.5*	*47.5*	*36.3*	**177.2**	*181.8*	*147.8*
Coal	**77.5**	**61.2**	**76.2**	**61.3**	**51.1**	**41.2**	**71.7**	*56.4*	*61.6*	*54.7*	*77.6*	*63.3*	**276.2**	*220.3*	*257.3*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	**22.9**	**24.5**	*22.6*	*24.8*	*23.3*	*24.9*	*24.3*	**102.3**	*96.6*	*97.3*
Conventional hydropower	**2.2**	**2.3**	**1.7**	**1.8**	**2.3**	**2.5**	**1.8**	*1.8*	*2.4*	*2.6*	*1.8*	*1.8*	**8.0**	*8.5*	*8.6*
Nonhydro renewables (d)	**16.7**	**17.3**	**13.5**	**18.6**	**20.1**	**19.7**	**15.3**	*23.9*	*25.0*	*24.3*	*19.0*	*25.8*	**66.1**	*79.1*	*94.1*
Other energy sources (e)	**2.0**	**1.4**	**1.7**	**0.9**	**1.4**	**1.3**	**1.4**	*0.9*	*1.2*	*1.2*	*1.4*	*0.8*	**6.0**	*5.0*	*4.6*
Total generation	**159.5**	**146.3**	**178.2**	**151.7**	**145.8**	**130.9**	**169.3**	*145.4*	*145.5*	*139.6*	*172.3*	*152.2*	**635.7**	*591.3*	*609.7*
Net energy for load (f)	**159.6**	**151.5**	**180.6**	**153.8**	**152.4**	**140.3**	**176.8**	*147.8*	*148.1*	*148.8*	*174.6*	*150.8*	**645.6**	*617.3*	*622.4*
Central (Southwest Power Pool)															
Natural Gas	**14.0**	**15.8**	**26.1**	**15.3**	**17.3**	**16.1**	**23.0**	*13.8*	*10.6*	*11.5*	*20.1*	*12.0*	**71.1**	*70.2*	*54.2*
Coal	**27.3**	**19.1**	**27.3**	**19.5**	**17.0**	**15.7**	**26.9**	*12.8*	*15.4*	*16.9*	*26.7*	*14.7*	**93.3**	*72.4*	*73.7*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	**4.4**	**4.3**	*3.6*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.6*	*16.0*
Conventional hydropower	**3.9**	**4.1**	**2.7**	**3.0**	**4.2**	**4.5**	**3.0**	*2.9*	*4.2*	*4.4*	*2.9*	*2.8*	**13.7**	*14.6*	*14.4*
Nonhydro renewables (d)	**18.1**	**18.5**	**17.5**	**20.9**	**20.6**	**21.7**	**17.6**	*23.9*	*26.3*	*26.6*	*22.4*	*27.2*	**75.0**	*83.7*	*102.6*
Other energy sources (e)	**0.2**	**0.3**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.8**	*0.4*	*0.4*
Total generation	**68.0**	**62.1**	**77.7**	**62.3**	**63.6**	**62.4**	**74.8**	*57.0*	*60.6*	*62.8*	*76.6*	*61.3*	**270.1**	*257.9*	*261.2*
Net energy for load (f)	**64.3**	**59.7**	**77.0**	**61.5**	**61.3**	**59.7**	**73.2**	*56.6*	*57.0*	*59.6*	*74.0*	*59.8*	**262.6**	*250.8*	*250.4*
Texas (ERCOT)															
Natural Gas	**34.7**	**43.1**	**62.3**	**40.1**	**36.8**	**41.7**	**56.0**	*31.6*	*20.8*	*26.5*	*39.9*	*22.7*	**180.1**	*166.1*	*109.9*
Coal	**18.1**	**18.3**	**21.6**	**17.2**	**13.1**	**15.8**	**19.9**	*15.5*	*16.7*	*22.4*	*26.6*	*19.4*	**75.2**	*64.4*	*85.1*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	**9.7**	**11.1**	*10.0*	*10.7*	*9.9*	*10.3*	*9.6*	**41.3**	*41.2*	*40.5*
Conventional hydropower	**0.3**	**0.2**	**0.1**	**0.1**	**0.3**	**0.2**	**0.0**	*0.1*	*0.3*	*0.2*	*0.0*	*0.1*	**0.7**	*0.7*	*0.6*
Nonhydro renewables (d)	**19.3**	**21.4**	**19.5**	**20.9**	**22.7**	**25.1**	**23.3**	*26.0*	*28.5*	*32.0*	*29.8*	*30.1*	**81.1**	*97.1*	*120.3*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.6**	*1.5*	*1.4*
Total generation	**83.2**	**93.2**	**114.9**	**88.9**	**83.7**	**92.9**	**110.7**	*83.7*	*77.4*	*91.3*	*107.0*	*82.2*	**380.2**	*371.0*	*357.9*
Net energy for load (f)	**83.2**	**93.2**	**114.9**	**88.9**	**83.7**	**92.9**	**110.7**	*83.7*	*77.4*	*91.3*	*107.0*	*82.2*	**380.2**	*371.0*	*357.9*
Northwest															
Natural Gas	**20.1**	**16.7**	**29.4**	**23.1**	**23.5**	**17.0**	**23.4**	*17.6*	*12.0*	*7.7*	*12.8*	*16.4*	**89.2**	*81.5*	*48.8*
Coal	**29.7**	**18.0**	**29.4**	**27.9**	**22.0**	**15.9**	**30.3**	*25.4*	*30.4*	*27.1*	*38.2*	*25.4*	**105.1**	*93.7*	*121.2*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.4**	**2.0**	**2.5**	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.9**	*9.4*	*8.4*
Conventional hydropower	**30.5**	**36.5**	**24.6**	**26.4**	**33.9**	**38.1**	**30.8**	*29.7*	*35.3*	*34.7*	*29.2*	*32.6*	**118.0**	*132.5*	*131.8*
Nonhydro renewables (d)	**11.2**	**13.4**	**12.0**	**11.8**	**13.8**	**14.3**	**13.1**	*15.2*	*18.0*	*17.6*	*15.9*	*16.9*	**48.4**	*56.3*	*68.4*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**	**0.2**	**0.2**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*0.8*	*0.7*
Total generation	**94.3**	**86.2**	**98.1**	**92.0**	**95.9**	**87.4**	**100.3**	*90.5*	*98.2*	*88.5*	*98.7*	*93.8*	**370.5**	*374.2*	*379.4*
Net energy for load (f)	**94.5**	**83.1**	**92.2**	**87.7**	**87.8**	**78.9**	**90.6**	*86.1*	*85.2*	*80.4*	*90.1*	*86.1*	**357.4**	*343.4*	*341.8*
Southwest															
Natural Gas	**10.4**	**12.7**	**19.1**	**14.3**	**11.9**	**14.8**	**20.6**	*13.5*	*7.1*	*13.0*	*18.6*	*11.7*	**56.5**	*60.8*	*50.3*
Coal	**9.7**	**7.9**	**11.8**	**7.4**	**5.3**	**5.3**	**8.1**	*4.9*	*5.6*	*6.3*	*9.2*	*4.5*	**36.7**	*23.6*	*25.5*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	**7.6**	**8.8**	*7.6*	*8.4*	*7.6*	*8.6*	*7.7*	**31.9**	*32.3*	*32.3*
Conventional hydropower	**3.0**	**4.3**	**4.0**	**2.6**	**2.6**	**3.9**	**4.0**	*2.6*	*2.7*	*3.9*	*3.9*	*2.5*	**13.9**	*13.2*	*13.1*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.4**	**2.5**	**3.1**	**2.7**	*2.8*	*3.5*	*3.9*	*3.3*	*3.2*	**9.9**	*11.0*	*14.0*
Other energy sources (e)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.0**	*0.1*	*0.0*
Total generation	**33.8**	**35.3**	**46.1**	**33.7**	**30.5**	**34.8**	**44.3**	*31.4*	*27.4*	*34.7*	*43.6*	*29.6*	**148.9**	*141.0*	*135.2*
Net energy for load (f)	**18.2**	**23.1**	**34.0**	**22.3**	**21.8**	**26.6**	**35.8**	*23.2*	*22.0*	*26.9*	*34.3*	*23.4*	**97.7**	*107.4*	*106.6*
California															
Natural Gas	**17.7**	**10.2**	**23.4**	**22.9**	**16.8**	**12.9**	**25.7**	*23.4*	*13.7*	*12.5*	*22.4*	*20.7*	**74.2**	*78.8*	*69.3*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	**1.2**	**1.9**	*2.3*	*2.3*	*2.8*	*2.2*	*2.3*	**7.5**	*6.8*	*9.6*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.8**	**4.9**	**4.5**	*3.9*	*4.4*	*4.1*	*4.9*	*4.9*	**16.2**	*18.1*	*18.3*
Conventional hydropower	**7.1**	**12.4**	**9.6**	**4.9**	**3.2**	**5.7**	**8.2**	*5.1*	*3.2*	*5.8*	*7.8*	*5.0*	**34.0**	*22.3*	*21.8*
Nonhydro renewables (d)	**13.8**	**18.3**	**18.5**	**13.1**	**14.5**	**19.5**	**19.5**	*14.3*	*15.1*	*20.9*	*20.6*	*14.9*	**63.7**	*67.8*	*71.4*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	**0.1**	**0.3**	*0.0*	*-0.1*	*0.1*	*0.2*	*0.0*	**0.2**	*0.3*	*0.3*
Total generation	**44.4**	**47.2**	**58.3**	**45.9**	**40.8**	**44.1**	**60.1**	*49.2*	*38.6*	*46.1*	*58.1*	*47.8*	**195.8**	*194.2*	*190.6*
Net energy for load (f)	**59.9**	**62.5**	**76.3**	**61.6**	**57.6**	**60.9**	**78.3**	*61.8*	*57.1*	*61.9*	*75.9*	*61.7*	**260.2**	*258.6*	*256.7*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.037**	**0.035**	**0.037**	**0.033**	**0.034**	**0.036**	**0.038**	*0.035*	*0.034*	*0.038*	*0.039*	*0.034*	**0.142**	*0.144*	*0.144*
Hydroelectric Power (a)	**0.649**	**0.743**	**0.553**	**0.534**	**0.649**	**0.715**	**0.598**	*0.558*	*0.670*	*0.692*	*0.573*	*0.572*	**2.480**	*2.520*	*2.507*
Solar (b)	**0.121**	**0.199**	**0.206**	**0.126**	**0.149**	**0.246**	**0.261**	*0.168*	*0.199*	*0.324*	*0.340*	*0.215*	**0.651**	*0.823*	*1.077*
Waste Biomass (c)	**0.059**	**0.058**	**0.059**	**0.060**	**0.060**	**0.056**	**0.059**	*0.059*	*0.062*	*0.061*	*0.060*	*0.060*	**0.236**	*0.233*	*0.244*
Wood Biomass	**0.053**	**0.052**	**0.058**	**0.048**	**0.050**	**0.045**	**0.054**	*0.051*	*0.067*	*0.054*	*0.062*	*0.058*	**0.211**	*0.200*	*0.241*
Wind	**0.675**	**0.715**	**0.603**	**0.736**	**0.792**	**0.799**	**0.646**	*0.888*	*0.973*	*0.949*	*0.775*	*0.975*	**2.729**	*3.125*	*3.672*
Subtotal	**1.594**	**1.803**	**1.517**	**1.537**	**1.735**	**1.896**	**1.656**	*1.759*	*2.005*	*2.117*	*1.849*	*1.913*	**6.450**	*7.046*	*7.884*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	**0.180**	*0.185*	*0.187*	*0.193*	*0.193*	*0.194*	**0.800**	*0.696*	*0.767*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	**0.003**	**0.002**	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	**0.010**	*0.010*	*0.010*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.006**	**0.010**	**0.010**	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.028**	*0.033*	*0.037*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.043**	**0.040**	**0.039**	*0.042*	*0.041*	*0.040*	*0.040*	*0.042*	**0.160**	*0.163*	*0.162*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.343**	**0.337**	**0.333**	*0.342*	*0.334*	*0.331*	*0.344*	*0.347*	**1.473**	*1.355*	*1.355*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.591**	**0.519**	**0.559**	*0.577*	*0.570*	*0.572*	*0.585*	*0.591*	**2.467**	*2.245*	*2.317*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.005**	**0.005**	**0.005**	*0.005*	*0.005*	*0.005*	*0.005*	*0.005*	**0.024**	*0.020*	*0.021*
Solar (b)	**0.022**	**0.032**	**0.032**	**0.021**	**0.025**	**0.037**	**0.037**	*0.025*	*0.029*	*0.041*	*0.042*	*0.029*	**0.107**	*0.124*	*0.140*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	**0.009**	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.084*	*0.084*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.067**	**0.076**	**0.079**	*0.067*	*0.070*	*0.082*	*0.084*	*0.070*	**0.278**	*0.288*	*0.306*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.058**	**0.088**	**0.089**	*0.061*	*0.067*	*0.101*	*0.103*	*0.070*	**0.257**	*0.297*	*0.341*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.124**	**0.124**	**0.133**	*0.133*	*0.124*	*0.124*	*0.133*	*0.133*	**0.529**	*0.514*	*0.514*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	**0.192**	**0.221**	**0.233**	*0.205*	*0.200*	*0.235*	*0.246*	*0.214*	**0.825**	*0.851*	*0.895*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	**0.067**	*0.069*	*0.078*	*0.084*	*0.076*	*0.081*	**0.265**	*0.261*	*0.318*
Ethanol (f)	**0.273**	**0.295**	**0.291**	**0.297**	**0.257**	**0.220**	**0.267**	*0.272*	*0.261*	*0.283*	*0.284*	*0.277*	**1.155**	*1.015*	*1.105*
Subtotal	**0.331**	**0.365**	**0.362**	**0.362**	**0.318**	**0.284**	**0.334**	*0.341*	*0.339*	*0.367*	*0.360*	*0.358*	**1.421**	*1.276*	*1.423*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	**0.067**	*0.069*	*0.078*	*0.084*	*0.076*	*0.081*	**0.265**	*0.261*	*0.318*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	**0.180**	*0.185*	*0.187*	*0.193*	*0.193*	*0.194*	**0.800**	*0.696*	*0.767*
Ethanol (f)	**0.284**	**0.306**	**0.302**	**0.308**	**0.267**	**0.228**	**0.277**	*0.282*	*0.271*	*0.294*	*0.295*	*0.288*	**1.200**	*1.054*	*1.147*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.050**	**0.052**	**0.055**	*0.051*	*0.050*	*0.054*	*0.055*	*0.050*	**0.209**	*0.208*	*0.208*
Hydroelectric Power (a)	**0.652**	**0.747**	**0.556**	**0.537**	**0.652**	**0.718**	**0.601**	*0.561*	*0.673*	*0.695*	*0.576*	*0.575*	**2.492**	*2.532*	*2.519*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.239**	**0.380**	**0.397**	*0.261*	*0.301*	*0.477*	*0.496*	*0.322*	**1.043**	*1.277*	*1.596*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.112**	**0.104**	**0.107**	*0.110*	*0.113*	*0.109*	*0.109*	*0.111*	**0.433**	*0.432*	*0.441*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.538**	**0.526**	**0.541**	*0.548*	*0.545*	*0.529*	*0.561*	*0.559*	**2.297**	*2.152*	*2.194*
Wind	**0.675**	**0.715**	**0.603**	**0.736**	**0.792**	**0.799**	**0.646**	*0.888*	*0.973*	*0.949*	*0.775*	*0.975*	**2.729**	*3.125*	*3.672*
Total Consumption	**2.797**	**3.073**	**2.789**	**2.782**	**2.902**	**2.996**	**2.860**	*2.948*	*3.184*	*3.372*	*3.124*	*3.145*	**11.441**	*11.706*	*12.825*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,807**	**6,761**	**6,662**	**6,672**	**6,672**	**6,590**	**6,595**	*6,628*	*6,628*	*6,630*	*6,550*	*6,638*	**6,672**	*6,628*	*6,638*
Waste	**4,005**	**3,973**	**3,963**	**3,945**	**3,946**	**3,864**	**3,868**	*3,902*	*3,902*	*3,904*	*3,824*	*3,912*	**3,945**	*3,902*	*3,912*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,511**	**79,490**	**79,314**	**79,370**	**79,383**	**79,393**	**79,545**	*79,569*	*79,651*	*79,600*	*79,676*	*79,700*	**79,370**	*79,569*	*79,700*
Geothermal	**2,486**	**2,486**	**2,486**	**2,506**	**2,506**	**2,506**	**2,506**	*2,506*	*2,506*	*2,506*	*2,506*	*2,548*	**2,506**	*2,506*	*2,548*
Large-Scale Solar (b)	**32,707**	**33,156**	**33,943**	**36,998**	**38,822**	**41,272**	**43,441**	*50,655*	*51,126*	*54,610*	*56,442*	*62,464*	**36,998**	*50,655*	*62,464*
Wind	**96,504**	**97,980**	**99,560**	**103,392**	**105,739**	**107,193**	**112,873**	*126,670*	*127,656*	*128,175*	*128,796*	*133,951*	**103,392**	*126,670*	*133,951*
Other Sectors (c)															
Biomass	**6,541**	**6,490**	**6,490**	**6,424**	**6,432**	**6,432**	**6,448**	*6,428*	*6,428*	*6,428*	*6,428*	*6,428*	**6,424**	*6,428*	*6,428*
Waste	**785**	**786**	**786**	**786**	**786**	**786**	**802**	*802*	*802*	*802*	*802*	*802*	**786**	*802*	*802*
Wood	**5,756**	**5,704**	**5,704**	**5,637**	**5,646**	**5,646**	**5,646**	*5,626*	*5,626*	*5,626*	*5,626*	*5,626*	**5,637**	*5,626*	*5,626*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*292*	*290*	*290*	**289**	*289*	*290*
Large-Scale Solar (b)	**409**	**414**	**426**	**432**	**432**	**443**	**443**	*445*	*445*	*445*	*446*	*446*	**432**	*445*	*446*
Small-Scale Solar (d)	**20,284**	**21,137**	**22,103**	**23,211**	**24,259**	**25,192**	**26,196**	*27,176*	*28,244*	*29,290*	*30,428*	*31,598*	**23,211**	*27,176*	*31,598*
Residential Sector	**12,271**	**12,840**	**13,526**	**14,229**	**14,963**	**15,582**	**16,316**	*17,027*	*17,738*	*18,406*	*19,111*	*19,822*	**14,229**	*17,027*	*19,822*
Commercial Sector	**6,402**	**6,609**	**6,841**	**7,186**	**7,429**	**7,679**	**7,889**	*8,104*	*8,400*	*8,715*	*9,080*	*9,469*	**7,186**	*8,104*	*9,469*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,796**	**1,867**	**1,931**	**1,991**	*2,045*	*2,106*	*2,169*	*2,237*	*2,307*	**1,796**	*2,045*	*2,307*
Wind	**118**	**118**	**118**	**118**	**118**	**344**	**353**	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**7.0**	**7.6**	**6.9**	**7.0**	**6.5**	**7.3**	*7.1*	*8.3*	*7.4*	*7.9*	*7.6*	**28.8**	*27.9*	*31.2*
Waste	**3.9**	**3.9**	**4.0**	**3.9**	**4.0**	**3.8**	**3.9**	*3.9*	*4.2*	*4.1*	*4.0*	*4.0*	**15.7**	*15.6*	*16.4*
Wood	**3.3**	**3.1**	**3.6**	**3.0**	**3.1**	**2.7**	**3.3**	*3.2*	*4.1*	*3.3*	*3.8*	*3.6*	**13.0**	*12.3*	*14.9*
Conventional Hydroelectric	**71.2**	**81.7**	**60.8**	**58.7**	**71.3**	**78.5**	**65.9**	*61.9*	*73.1*	*75.5*	*63.4*	*63.6*	**272.4**	*277.6*	*275.7*
Geothermal	**4.0**	**3.9**	**4.1**	**3.6**	**3.8**	**4.0**	**4.2**	*3.8*	*3.7*	*4.1*	*4.2*	*3.7*	**15.6**	*15.8*	*15.8*
Large-Scale Solar (b)	**13.3**	**21.8**	**22.6**	**13.9**	**16.4**	**27.0**	**28.6**	*18.4*	*21.8*	*35.6*	*37.4*	*23.6*	**71.5**	*90.4*	*118.3*
Wind	**74.2**	**78.6**	**66.2**	**80.8**	**87.0**	**87.7**	**71.0**	*97.6*	*106.9*	*104.3*	*85.1*	*107.1*	**299.8**	*343.3*	*403.3*
Other Sectors (c)															
Biomass	**7.4**	**7.3**	**7.6**	**7.4**	**7.4**	**7.0**	**7.4**	*7.4*	*7.3*	*7.0*	*7.4*	*7.4*	**29.7**	*29.1*	*29.1*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.6**	**6.9**	**6.6**	**6.7**	**6.4**	**6.7**	*6.6*	*6.6*	*6.4*	*6.7*	*6.6*	**26.8**	*26.3*	*26.3*
Conventional Hydroelectric	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	**0.4**	**0.3**	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	**1.3**	*1.4*	*1.3*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.8*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.3**	**12.3**	**12.5**	*8.6*	*9.6*	*14.4*	*14.6*	*10.1*	**35.0**	*41.7*	*48.7*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	**7.5**	**7.6**	*5.2*	*5.9*	*8.9*	*9.0*	*6.2*	**20.9**	*25.2*	*30.0*
Commercial Sector	**2.3**	**3.3**	**3.3**	**2.2**	**2.6**	**3.8**	**3.8**	*2.6*	*3.0*	*4.3*	*4.4*	*3.0*	**11.1**	*12.9*	*14.7*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	**1.0**	**1.1**	*0.7*	*0.8*	*1.2*	*1.2*	*0.8*	**3.0**	*3.5*	*4.0*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.7*	*0.9*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,282**	**18,435**	*18,543*	*18,687*	*18,886*	*19,032*	*19,198*	**19,092**	*18,318*	*18,951*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,093**	**13,213**	**13,301**	**13,354**	**13,118**	**11,820**	**12,871**	*12,890*	*12,941*	*13,107*	*13,197*	*13,319*	**13,240**	*12,675*	*13,141*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,362**	**3,359**	**3,379**	**3,387**	**3,375**	**3,100**	**3,239**	*3,245*	*3,254*	*3,265*	*3,278*	*3,298*	**3,372**	*3,240*	*3,274*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**99**	**53**	**41**	**3**	**-52**	**-298**	**-112**	*-69*	*-9*	*39*	*86*	*110*	**49**	*-133*	*57*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,260**	**3,300**	**3,318**	**3,337**	**3,348**	**3,371**	**3,353**	*3,315*	*3,315*	*3,319*	*3,325*	*3,325*	**3,304**	*3,347*	*3,321*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,560**	**2,531**	**2,537**	**2,558**	**2,495**	**1,943**	**2,249**	*2,360*	*2,464*	*2,484*	*2,534*	*2,594*	**2,547**	*2,262*	*2,519*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,468**	**3,483**	**3,487**	**3,419**	**3,283**	**2,704**	**3,158**	*3,236*	*3,304*	*3,355*	*3,408*	*3,461*	**3,464**	*3,095*	*3,382*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,061**	**16,588**	**15,726**	*16,321*	*14,903*	*14,995*	*15,063*	*15,125*	**14,883**	*15,924*	*15,022*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**151.9**	**133.7**	**140.9**	*143.8*	*145.8*	*147.0*	*147.7*	*148.5*	**150.9**	*142.6*	*147.2*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	**13.0**	**8.9**	*7.7*	*6.9*	*6.5*	*6.3*	*6.0*	**3.7**	*8.4*	*6.4*
Housing Starts															
(millions - SAAR)	**1.20**	**1.26**	**1.29**	**1.43**	**1.48**	**1.08**	**1.46**	*1.36*	*1.33*	*1.33*	*1.31*	*1.31*	**1.30**	*1.35*	*1.32*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.7**	**93.5**	**101.4**	*101.2*	*102.4*	*103.5*	*104.2*	*105.2*	**109.5**	*100.9*	*103.8*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.0**	**99.3**	*99.9*	*100.9*	*101.4*	*101.8*	*102.6*	**106.0**	*98.2*	*101.7*
Food	**115.1**	**115.3**	**114.6**	**116.1**	**116.5**	**108.0**	**113.9**	*116.6*	*118.5*	*120.0*	*121.2*	*121.8*	**115.3**	*113.8*	*120.4*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.7**	**87.3**	**85.4**	*84.8*	*85.0*	*85.5*	*86.1*	*86.7*	**93.0**	*88.0*	*85.8*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.9**	**105.0**	**82.6**	**90.9**	*91.8*	*93.4*	*94.6*	*95.5*	*96.3*	**105.7**	*92.6*	*94.9*
Chemicals	**101.4**	**99.9**	**100.6**	**100.3**	**99.8**	**94.0**	**96.8**	*98.5*	*100.0*	*101.6*	*103.6*	*105.3*	**100.5**	*97.3*	*102.6*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.3**	**122.2**	**106.1**	**114.1**	*113.2*	*113.2*	*113.3*	*113.4*	*113.8*	**119.4**	*113.9*	*113.4*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.4**	**69.5**	**74.2**	*71.9*	*72.4*	*73.4*	*74.1*	*74.9*	**96.9**	*77.5*	*73.7*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.4**	**106.5**	**94.2**	**100.7**	*100.8*	*101.5*	*102.4*	*103.1*	*103.8*	**106.2**	*100.6*	*102.7*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.6**	**98.8**	**85.5**	**92.0**	*92.6*	*93.5*	*94.1*	*94.7*	*95.3*	**98.3**	*92.2*	*94.4*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**105.1**	**89.5**	**97.3**	*96.3*	*97.3*	*98.4*	*99.4*	*100.3*	**105.8**	*97.0*	*98.8*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**107.8**	**94.3**	**100.4**	*100.2*	*101.2*	*102.5*	*103.6*	*104.6*	**108.1**	*100.7*	*103.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	**2.56**	**2.59**	*2.60*	*2.62*	*2.64*	*2.66*	*2.67*	**2.56**	*2.59*	*2.65*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	**1.88**	**1.94**	*1.97*	*2.00*	*2.02*	*2.03*	*2.04*	**2.00**	*1.94*	*2.02*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.95**	**1.93**	**1.74**	**1.09**	**1.46**	*1.47*	*1.43*	*1.58*	*1.60*	*1.56*	**1.94**	*1.44*	*1.54*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.8**	**113.6**	*113.9*	*114.3*	*114.6*	*115.1*	*115.5*	**112.3**	*113.4*	*114.9*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,293**	**9,323**	**9,281**	**8,898**	**7,753**	**6,870**	**8,427**	*8,410*	*7,930*	*9,047*	*9,081*	*8,730*	**8,951**	*7,868*	*8,700*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**712**	**688**	**628**	**362**	**516**	*522*	*560*	*552*	*569*	*639*	**682**	*507*	*580*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**328**	**152**	**234**	*281*	*309*	*309*	*350*	*376*	**410**	*249*	*336*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	**203.7**	**198.4**	*182.5*	*178.3*	*186.3*	*181.0*	*187.6*	**265.4**	*208.9*	*183.3*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	**0.196**	*0.214*	*0.253*	*0.221*	*0.221*	*0.262*	**0.268**	*0.213*	*0.239*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**578**	**592**	**599**	**597**	**552**	**442**	**517**	*544*	*543*	*560*	*571*	*574*	**2,365**	*2,054*	*2,248*
Natural Gas	**507**	**350**	**384**	**448**	**492**	**351**	**386**	*436*	*460*	*327*	*357*	*419*	**1,689**	*1,665*	*1,563*
Coal	**289**	**239**	**307**	**242**	**201**	**181**	**279**	*214*	*250*	*246*	*306*	*232*	**1,076**	*875*	*1,033*
Total Energy (c)	**1,376**	**1,183**	**1,293**	**1,290**	**1,248**	**977**	**1,184**	*1,196*	*1,256*	*1,135*	*1,237*	*1,227*	**5,142**	*4,606*	*4,855*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**997**	**999**	**1,005**	**1,011**	**997**	**894**	**957**	*964*	*972*	*982*	*991*	*1,000*	**1,003**	*953*	*987*
Middle Atlantic	**2,776**	**2,782**	**2,794**	**2,806**	**2,756**	**2,398**	**2,597**	*2,618*	*2,643*	*2,681*	*2,714*	*2,748*	**2,790**	*2,592*	*2,696*
E. N. Central	**2,531**	**2,535**	**2,548**	**2,561**	**2,524**	**2,265**	**2,455**	*2,468*	*2,481*	*2,509*	*2,527*	*2,548*	**2,544**	*2,428*	*2,516*
W. N. Central	**1,183**	**1,187**	**1,194**	**1,200**	**1,189**	**1,110**	**1,173**	*1,177*	*1,181*	*1,190*	*1,198*	*1,206*	**1,191**	*1,163*	*1,194*
S. Atlantic	**3,357**	**3,367**	**3,386**	**3,408**	**3,367**	**3,097**	**3,293**	*3,313*	*3,338*	*3,368*	*3,385*	*3,413*	**3,380**	*3,268*	*3,376*
E. S. Central	**833**	**835**	**840**	**845**	**833**	**774**	**823**	*825*	*829*	*835*	*840*	*846*	**839**	*814*	*838*
W. S. Central	**2,350**	**2,370**	**2,394**	**2,410**	**2,391**	**2,228**	**2,346**	*2,349*	*2,359*	*2,380*	*2,393*	*2,410*	**2,381**	*2,329*	*2,385*
Mountain	**1,253**	**1,261**	**1,270**	**1,279**	**1,265**	**1,180**	**1,248**	*1,252*	*1,261*	*1,272*	*1,281*	*1,290*	**1,266**	*1,236*	*1,276*
Pacific	**3,705**	**3,719**	**3,743**	**3,767**	**3,722**	**3,368**	**3,576**	*3,609*	*3,657*	*3,702*	*3,737*	*3,772*	**3,734**	*3,569*	*3,717*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.4**	**98.6**	**98.8**	**98.8**	**97.6**	**83.2**	**92.2**	*93.1*	*94.3*	*94.9*	*95.2*	*95.9*	**98.9**	*91.5*	*95.1*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**97.1**	**80.1**	**89.7**	*90.1*	*90.9*	*91.6*	*92.4*	*93.2*	**98.4**	*89.2*	*92.0*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**105.1**	**85.8**	**98.5**	*99.4*	*100.2*	*100.9*	*101.0*	*102.2*	**107.3**	*97.2*	*101.1*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.7**	**90.0**	**99.3**	*99.8*	*101.3*	*102.1*	*102.6*	*103.2*	**105.4**	*98.2*	*102.3*
S. Atlantic	**111.0**	**110.3**	**110.8**	**111.1**	**109.3**	**94.0**	**104.1**	*104.8*	*105.8*	*106.4*	*106.8*	*107.5*	**110.8**	*103.0*	*106.6*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**109.0**	**89.8**	**103.2**	*104.1*	*104.9*	*105.2*	*105.3*	*106.1*	**110.2**	*101.5*	*105.4*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**99.8**	**87.5**	**95.7**	*95.8*	*96.5*	*96.8*	*97.4*	*98.1*	**101.4**	*94.7*	*97.2*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.7**	**102.4**	**113.0**	*113.5*	*114.7*	*115.3*	*115.5*	*116.3*	**116.3**	*110.9*	*115.4*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.4**	**86.5**	**96.7**	*96.9*	*97.5*	*97.9*	*98.4*	*98.9*	**104.4**	*95.6*	*98.2*
Real Personal Income (Billion $2009)															
New England	**898**	**895**	**891**	**894**	**901**	**961**	**924**	*951*	*883*	*889*	*894*	*898*	**895**	*934*	*891*
Middle Atlantic	**2,285**	**2,288**	**2,285**	**2,287**	**2,297**	**2,429**	**2,338**	*2,416*	*2,231*	*2,248*	*2,260*	*2,270*	**2,286**	*2,370*	*2,252*
E. N. Central	**2,442**	**2,433**	**2,443**	**2,453**	**2,465**	**2,664**	**2,554**	*2,657*	*2,443*	*2,460*	*2,470*	*2,481*	**2,443**	*2,585*	*2,463*
W. N. Central	**1,151**	**1,147**	**1,161**	**1,164**	**1,172**	**1,272**	**1,217**	*1,253*	*1,155*	*1,162*	*1,167*	*1,172*	**1,156**	*1,229*	*1,164*
S. Atlantic	**3,200**	**3,202**	**3,211**	**3,229**	**3,257**	**3,590**	**3,415**	*3,543*	*3,256*	*3,276*	*3,288*	*3,302*	**3,211**	*3,451*	*3,280*
E. S. Central	**890**	**888**	**892**	**893**	**899**	**1,012**	**949**	*992*	*893*	*898*	*902*	*905*	**890**	*963*	*899*
W. S. Central	**1,995**	**1,993**	**2,006**	**2,009**	**2,027**	**2,199**	**2,097**	*2,157*	*1,985*	*1,993*	*2,001*	*2,009*	**2,001**	*2,120*	*1,997*
Mountain	**1,178**	**1,180**	**1,191**	**1,197**	**1,206**	**1,322**	**1,263**	*1,307*	*1,207*	*1,215*	*1,220*	*1,225*	**1,187**	*1,275*	*1,217*
Pacific	**2,786**	**2,799**	**2,792**	**2,829**	**2,847**	**3,014**	**2,908**	*2,993*	*2,816*	*2,835*	*2,851*	*2,864*	**2,801**	*2,940*	*2,842*
Households (Thousands)															
New England	**5,940**	**5,947**	**5,963**	**5,970**	**5,976**	**5,975**	**5,970**	*5,974*	*5,975*	*5,978*	*5,988*	*6,001*	**5,970**	*5,974*	*6,001*
Middle Atlantic	**16,253**	**16,279**	**16,322**	**16,341**	**16,355**	**16,355**	**16,347**	*16,361*	*16,365*	*16,373*	*16,400*	*16,439*	**16,341**	*16,361*	*16,439*
E. N. Central	**19,099**	**19,132**	**19,186**	**19,212**	**19,235**	**19,249**	**19,250**	*19,275*	*19,287*	*19,300*	*19,337*	*19,388*	**19,212**	*19,275*	*19,388*
W. N. Central	**8,694**	**8,716**	**8,749**	**8,767**	**8,782**	**8,789**	**8,792**	*8,805*	*8,811*	*8,821*	*8,843*	*8,870*	**8,767**	*8,805*	*8,870*
S. Atlantic	**25,706**	**25,788**	**25,904**	**25,985**	**26,058**	**26,091**	**26,114**	*26,172*	*26,216*	*26,270*	*26,357*	*26,467*	**25,985**	*26,172*	*26,467*
E. S. Central	**7,656**	**7,671**	**7,697**	**7,712**	**7,725**	**7,730**	**7,732**	*7,743*	*7,750*	*7,759*	*7,779*	*7,804*	**7,712**	*7,743*	*7,804*
W. S. Central	**14,822**	**14,871**	**14,938**	**14,985**	**15,027**	**15,049**	**15,067**	*15,106*	*15,137*	*15,175*	*15,232*	*15,298*	**14,985**	*15,106*	*15,298*
Mountain	**9,411**	**9,458**	**9,515**	**9,559**	**9,597**	**9,620**	**9,639**	*9,671*	*9,695*	*9,723*	*9,762*	*9,810*	**9,559**	*9,671*	*9,810*
Pacific	**18,916**	**18,951**	**19,013**	**19,049**	**19,079**	**19,088**	**19,098**	*19,138*	*19,169*	*19,206*	*19,265*	*19,334*	**19,049**	*19,138*	*19,334*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.5**	**6.4**	**6.8**	*7.0*	*7.1*	*7.2*	*7.2*	*7.3*	**7.5**	*6.9*	*7.2*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.1**	**16.8**	**18.0**	*18.5*	*18.8*	*19.0*	*19.1*	*19.3*	**20.0**	*18.3*	*19.0*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	**19.3**	**20.6**	*21.1*	*21.4*	*21.6*	*21.7*	*21.8*	**22.3**	*20.8*	*21.6*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	**9.8**	**10.2**	*10.4*	*10.5*	*10.5*	*10.6*	*10.6*	**10.8**	*10.3*	*10.5*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	**26.4**	**27.7**	*28.1*	*28.5*	*28.7*	*28.8*	*29.0*	**29.1**	*27.9*	*28.7*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.3**	**7.5**	**7.9**	*8.0*	*8.1*	*8.1*	*8.2*	*8.2*	**8.3**	*8.0*	*8.1*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	**16.4**	**17.0**	*17.2*	*17.4*	*17.5*	*17.5*	*17.6*	**17.8**	*17.1*	*17.5*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	**10.2**	**10.6**	*10.8*	*11.0*	*11.0*	*11.1*	*11.1*	**11.1**	*10.7*	*11.1*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.0**	**20.9**	**21.8**	*22.4*	*22.9*	*23.1*	*23.3*	*23.4*	**23.8**	*22.3*	*23.2*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,226**	**891**	**135**	**2,276**	**2,730**	**970**	**146**	*2,146*	*3,164*	*877*	*125*	*2,078*	**6,528**	*5,992*	*6,243*
Middle Atlantic	**2,987**	**633**	**68**	**2,064**	**2,471**	**837**	**102**	*1,981*	*2,930*	*701*	*75*	*1,889*	**5,753**	*5,392*	*5,595*
E. N. Central	**3,324**	**761**	**64**	**2,276**	**2,787**	**845**	**160**	*2,239*	*3,154*	*731*	*121*	*2,212*	**6,425**	*6,031*	*6,218*
W. N. Central	**3,643**	**771**	**107**	**2,546**	**3,036**	**799**	**186**	*2,405*	*3,240*	*699*	*158*	*2,431*	**7,068**	*6,427*	*6,528*
South Atlantic	**1,335**	**128**	**2**	**919**	**1,108**	**252**	**39**	*958*	*1,388*	*189*	*11*	*902*	**2,384**	*2,356*	*2,489*
E. S. Central	**1,712**	**193**	**1**	**1,273**	**1,481**	**337**	**47**	*1,280*	*1,780*	*234*	*18*	*1,272*	**3,180**	*3,145*	*3,304*
W. S. Central	**1,210**	**91**	**0**	**850**	**972**	**103**	**12**	*746*	*1,071*	*69*	*4*	*767*	**2,151**	*1,833*	*1,911*
Mountain	**2,427**	**786**	**127**	**1,965**	**2,214**	**673**	**101**	*1,797*	*2,183*	*672*	*147*	*1,803*	**5,304**	*4,786*	*4,805*
Pacific	**1,686**	**576**	**96**	**1,183**	**1,536**	**524**	**62**	*1,213*	*1,529*	*574*	*87*	*1,173*	**3,540**	*3,336*	*3,361*
U.S. Average	**2,210**	**480**	**56**	**1,558**	**1,875**	**540**	**84**	*1,513*	*2,098*	*481*	*71*	*1,480*	**4,304**	*4,012*	*4,130*
Heating Degree Days, Prior 10-year Average															
New England	**3,165**	**820**	**111**	**2,122**	**3,152**	**822**	**105**	*2,127*	*3,133*	*855*	*110*	*2,114*	**6,218**	*6,206*	*6,212*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	**644**	**69**	*1,944*	*2,913*	*677*	*73*	*1,926*	**5,623**	*5,606*	*5,590*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,197**	**698**	**102**	*2,197*	*3,156*	*731*	*108*	*2,184*	**6,203**	*6,194*	*6,179*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	**702**	**131**	*2,379*	*3,246*	*728*	*135*	*2,376*	**6,477**	*6,499*	*6,485*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	**169**	**10**	*952*	*1,393*	*180*	*13*	*922*	**2,631**	*2,589*	*2,509*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,849**	**214**	**15**	*1,277*	*1,771*	*231*	*19*	*1,254*	**3,392**	*3,356*	*3,276*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	**83**	**3**	*794*	*1,140*	*86*	*4*	*787*	**2,079**	*2,079*	*2,017*
Mountain	**2,164**	**714**	**139**	**1,855**	**2,192**	**718**	**135**	*1,844*	*2,182*	*701*	*131*	*1,846*	**4,873**	*4,889*	*4,860*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	**580**	**85**	*1,162*	*1,462*	*552*	*80*	*1,160*	**3,283**	*3,283*	*3,254*
U.S. Average	**2,150**	**475**	**68**	**1,518**	**2,149**	**472**	**64**	*1,509*	*2,108*	*482*	*66*	*1,494*	**4,212**	*4,194*	*4,149*
Cooling Degree Days															
New England	**0**	**67**	**471**	**0**	**0**	**106**	**568**	*1*	*0*	*84*	*419*	*2*	**538**	*675*	*505*
Middle Atlantic	**0**	**145**	**632**	**8**	**0**	**156**	**693**	*4*	*0*	*153*	*548*	*5*	**784**	*854*	*706*
E. N. Central	**0**	**176**	**650**	**7**	**2**	**218**	**601**	*7*	*0*	*217*	*543*	*7*	**833**	*827*	*767*
W. N. Central	**0**	**223**	**729**	**2**	**6**	**295**	**665**	*12*	*3*	*269*	*675*	*10*	**954**	*977*	*956*
South Atlantic	**153**	**756**	**1,296**	**308**	**195**	**618**	**1,245**	*231*	*126*	*659*	*1,184*	*248*	**2,513**	*2,289*	*2,217*
E. S. Central	**29**	**550**	**1,215**	**87**	**73**	**422**	**1,085**	*69*	*29*	*532*	*1,078*	*70*	**1,880**	*1,649*	*1,710*
W. S. Central	**72**	**817**	**1,693**	**167**	**173**	**835**	**1,502**	*216*	*102*	*924*	*1,534*	*210*	**2,750**	*2,726*	*2,770*
Mountain	**11**	**341**	**985**	**61**	**10**	**466**	**1,075**	*79*	*19*	*437*	*934*	*79*	**1,397**	*1,630*	*1,469*
Pacific	**22**	**166**	**589**	**67**	**24**	**198**	**719**	*59*	*27*	*169*	*585*	*59*	**844**	*1,000*	*841*
U.S. Average	**46**	**398**	**952**	**105**	**70**	**395**	**940**	*95*	*46*	*411*	*868*	*98*	**1,501**	*1,501*	*1,423*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	**83**	**471**	*1*	*0*	*81*	*477*	*1*	**536**	*555*	*559*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	**170**	**609**	*6*	*0*	*163*	*611*	*6*	**760**	*786*	*780*
E. N. Central	**3**	**242**	**548**	**7**	**3**	**240**	**579**	*8*	*3*	*234*	*571*	*7*	**799**	*829*	*816*
W. N. Central	**7**	**298**	**669**	**11**	**7**	**296**	**697**	*11*	*7*	*294*	*687*	*11*	**985**	*1,011*	*999*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	**696**	**1,201**	*247*	*143*	*680*	*1,197*	*254*	**2,224**	*2,272*	*2,273*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	**557**	**1,082**	*72*	*42*	*532*	*1,067*	*73*	**1,706**	*1,746*	*1,714*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	**891**	**1,575**	*207*	*114*	*879*	*1,567*	*211*	**2,757**	*2,774*	*2,771*
Mountain	**25**	**438**	**932**	**81**	**24**	**432**	**939**	*81*	*24*	*444*	*953*	*82*	**1,476**	*1,476*	*1,504*
Pacific	**31**	**185**	**631**	**76**	**31**	**185**	**624**	*78*	*31*	*193*	*648*	*79*	**923**	*918*	*950*
U.S. Average	**46**	**417**	**873**	**97**	**47**	**420**	**892**	*100*	*52*	*415*	*894*	*102*	**1,433**	*1,459*	*1,463*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the October 2020 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Aug 2020	Sep 2020	Aug- Sep 2020 Average	Aug - Sep 2019 Average	2017 - 2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	91.5	91.7	91.6	100.2	99.9
Global Petroleum and Other Liquids Consumption (b)	93.9	95.3	94.6	102.1	100.3
Biofuels Production (c)	2.9	2.9	2.9	3.0	2.5
Biofuels Consumption (c)	2.2	2.3	2.3	2.3	2.3
Iran Liquid Fuels Production	2.7	2.7	2.7	3.0	4.1
Iran Liquid Fuels Consumption	1.7	1.8	1.7	1.9	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	85.9	86.1	86.0	94.3	93.3
Consumption (d)	90.0	91.2	90.6	97.9	96.1
Production minus Consumption	-4.1	-5.1	-4.6	-3.7	-2.9
World Inventory Net Withdrawals Including Iran	2.5	3.6	3.0	1.9	0.4
Estimated OECD Inventory Level (e) (million barrels)	3,124	3,090	3,107	2,949	2,910
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	7.6	7.6	7.6	2.4	2.0

Note: The term “petroleum and other liquids” encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.
(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
(b) Consumption of petroleum by the OECD countries is synonymous with “products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Aug 2020	Sep 2020	Aug- Sep 2020 Average	Aug - Sep 2019 Average	2017 - 2019 Average
Brent Front Month Futures Price ($ per barrel)	45.02	41.87	43.45	60.83	63.53
WTI Front Month Futures Price ($ per barrel)	42.39	39.63	41.01	55.85	57.60
Dubai Front Month Futures Price ($ per barrel)	44.41	41.47	42.94	60.51	62.36
Brent 1st - 13th Month Futures Spread ($ per barrel)	-3.27	-4.02	-3.65	3.44	2.02
WTI 1st - 13th Month Futures Spread ($ per barrel)	-2.55	-3.32	-2.94	3.46	1.39
RBOB Front Month Futures Price ($ per gallon)	1.27	1.18	1.22	1.65	1.76
Heating Oil Front Month Futures Price ($ per gallon)	1.24	1.13	1.18	1.88	1.90
RBOB - Brent Futures Crack Spread ($ per gallon)	0.20	0.18	0.19	0.20	0.24
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.17	0.13	0.15	0.43	0.39

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).



Independent Statistics & Analysis
U.S. Energy Information Administration

November 2020

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The November *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply patterns in 2020 and will continue to affect these patterns in the future. U.S. gross domestic product (GDP) declined by 4.4% in the first half of 2020 compared with the same period a year ago. GDP began rising in the third quarter of 2020, and this STEO assumes it will grow by 3.7% from 2020 to 2021. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit.

- Brent crude oil spot prices averaged $40 per barrel (b) in October, down $1/b from the average in September. Brent prices fell in October as previously disrupted crude oil production in Libya came back online and as COVID-19 cases began increasing in many countries, which could reduce oil demand in the coming months. Despite these developments, the U.S. Energy Information Administration (EIA) expects global oil inventories to continue falling in the coming months. However, EIA expects high global oil inventory levels and surplus crude oil production capacity will limit upward pressure on oil prices and that Brent prices will remain near $40/b through the end of 2020. EIA expects that as global oil demand rises, forecast inventory draws in 2021 will cause some upward oil price pressures. EIA forecasts Brent crude oil prices will average $47/b in 2021.

- EIA estimates that an average of 95.3 million barrels per day (b/d) of petroleum and liquid fuels was consumed globally in October. Liquid fuels consumption was down 5.9 million b/d from October 2019, but it was up from both the third-quarter 2020 average of 94.1 million b/d and the second-quarter 2020 average of 85.3 million b/d. EIA forecasts that global consumption of petroleum and liquid fuels will average 92.9 million b/d for all of 2020, down by 8.6 million b/d from 2019, before increasing by 5.9 million b/d in 2021.

- EIA reported that 10.6 million b/d of crude oil was produced in the United States in August (the most recent month for which historical data are available), down 0.4 million b/d from July. Production fell in August mainly because hurricanes disrupted production from the U.S. Gulf of Mexico. EIA reported that U.S. crude oil production in the Gulf of

Mexico averaged 1.2 million b/d in August, down 0.5 million b/d from July. Since reaching a two-and-a-half year low of 10.0 million b/d in May, when producers curtailed wells, U.S. crude oil production has increased mainly because tight oil operators have brought wells back online in response to rising prices. EIA estimates that production will rise to 11.2 million b/d in November. However, EIA expects U.S. crude oil production to generally decline to an average of 11.0 million b/d in the second quarter of 2021 because new drilling activity will not generate enough production to offset declines from existing wells. EIA expects drilling activity to rise later in 2021, contributing to U.S. crude oil production reaching 11.3 million b/d in the fourth quarter of 2021. On an annual average basis, EIA expects U.S. crude oil production to fall from 12.2 million b/d in 2019 to 11.4 million b/d in 2020 and 11.1 million b/d in 2021.

Natural Gas

- In October, the Henry Hub natural gas spot price averaged $2.39 per million British thermal units (MMBtu), up from an average of $1.92/MMBtu in September. Higher natural gas spot prices reflected stronger demand for liquefied natural gas (LNG) exports as LNG terminals increased liquefaction following hurricane-related disruptions in August and September. EIA expects Henry Hub spot prices to rise to a monthly average of $3.42/MMBtu in January 2021 because of rising domestic demand for natural gas for space heating, rising U.S. LNG exports, and reduced production. EIA expects that monthly average spot prices will remain higher than $3.00/MMBtu throughout 2021, averaging $3.14/MMBtu for the year, up from a forecast average of $2.14/MMBtu in 2020.

- EIA estimates that total U.S. working natural gas in storage ended October at almost 4.0 trillion cubic feet (Tcf), 5% more than the five-year (2015–19) average and the second-highest end-of-October level on record. However, because EIA forecasts less U.S. natural gas production this winter than last winter, EIA forecasts that inventory draws will outpace the five-year average during the heating season (October–March) and end March 2021 at 1.5 Tcf, which would be 16% lower than the 2016–20 average.

- EIA expects that total U.S. consumption of natural gas will average 83.7 billion cubic feet per day (Bcf/d) in 2020, down 1.7% from 2019. The decline in total U.S. consumption reflects less heating demand in early 2020, contributing to residential demand in 2020 averaging 13.2 Bcf/d (down 0.6 Bcf/d from 2019) and commercial demand in 2020 averaging 8.8 Bcf/d (down 0.9 Bcf/d from 2019). EIA forecasts industrial consumption will average 22.5 Bcf/d in 2020, down 0.6 Bcf/d from 2019 as a result of reduced manufacturing activity. EIA expects total U.S. natural gas consumption will average 79.4 Bcf/d in 2021, a 5.2% decline from 2020. The expected decline in 2021 is the result of rising natural gas prices that will reduce demand for natural gas in the electric power sector.

- EIA forecasts U.S. dry natural gas production will average 91.0 Bcf/d in 2020, down from an average of 93.1 Bcf/d in 2019. In the forecast, monthly average production falls from a record 97.0 Bcf/d in December 2019 to 87.0 Bcf/d in April 2021 before increasing slightly. EIA forecasts dry natural gas production in the United States to average 87.9 Bcf/d in 2021. EIA expects production to begin rising in the second quarter of 2021 in response to higher natural gas and crude oil prices. The increase in crude oil prices is expected to raise associated gas production from oil-directed wells in late-2021, especially in the Permian region.

- EIA estimates that the United States exported 7.2 Bcf/d of LNG in October, an increase of 2.3 Bcf/d from September—the largest month-on-month increase since U.S. LNG exports began in 2016. Cameron LNG resumed LNG exports in October after being shut down following Hurricane Laura and Hurricane Delta. Cove Point LNG completed its scheduled three-week annual maintenance and resumed LNG exports in mid-October. Higher global forward prices for LNG indicate improving netbacks for buyers of U.S. LNG in European and Asian markets for the upcoming winter season. The increased prices come amid expectations of natural gas demand recovery in those markets and potential LNG supply reductions because of outages at several LNG export facilities in the Pacific Basin and Atlantic Basin. EIA forecasts that U.S. LNG exports will be above pre-COVID levels in November 2020, averaging 8.5 Bcf/d, and will average 8.4 Bcf/d in 2021, a 31% increase from 2020.

Electricity, coal, renewables, and emissions

- EIA forecasts that the consumption of electricity in the United States will decrease by 3.6% in 2020. EIA expects retail sales of electricity to fall by 6.4% this year in the commercial sector and by 8.8% in the industrial sector. EIA forecasts residential sector retail sales will increase by 2.5% in 2020. Milder winter temperatures earlier this year led to less residential consumption for space heating, offset by increased summer cooling demand and increased electricity use by more people working and attending classes from home. In 2021, EIA forecasts total U.S. electricity consumption will increase by 0.9%. Higher forecast electricity consumption in the first half of 2021 because of increased demand for space heating will be offset slightly by less forecast electricity consumption in the third quarter of 2021 because of less cooling demand based on the NOAA forecast of fewer cooling degree days.

- EIA expects the share of U.S. electric power sector generation from natural gas-fired power plants will increase from 37% in 2019 to 39% this year. In 2021, the forecast natural gas share declines to 33% in response to higher natural gas prices. Coal's forecast share of electricity generation falls from 24% in 2019 to 20% in 2020 and then increases to 25% in 2021. Electricity generation from renewable energy sources rises from 18% in 2019 to 20% in 2020 and to 22% in 2021. The increase in renewables' share is the result of planned additions to wind and solar generating capacity. EIA expects nuclear generation to decline by about 2% in both 2020 and 2021, reflecting recent and

planned retirements of nuclear generating capacity. The nuclear share of U.S. generation remains close to 20% in these years.

- In 2020, EIA expects U.S. residential electricity prices to average 13.1 cents per kilowatthour, which is 0.7% higher than the average electricity price was in 2019. Annual changes in regional residential electricity prices this year range from 0.8% lower in the South Atlantic region to 4.0% higher in the Pacific region.

- EIA forecasts that renewable energy will be the fastest-growing source of electricity generation in 2020. EIA expects the U.S. electric power sector will add 23.2 gigawatts (GW) of new wind capacity in 2020 and 7.9 GW of new capacity in 2021. Expected utility-scale solar capacity rises by 12.8 GW in 2020 and by 13.0 GW in 2021.

- EIA expects U.S. coal production to be 521 million short tons (MMst) in 2020, a decline of 26% compared with 2019 levels. EIA forecasts production to rise to 627 MMst in 2021, an increase of 20%. EIA expects coal production to increase in 2021 in response to increased natural gas prices and increased demand in electric power consumption because of lower-than-average winter temperatures, especially in the Upper Midwest and Northwest regions of the United States. EIA expects that an 18% decline in U.S. coal consumption from the electric power sector in 2020 will be followed by a 23% increase in 2021.

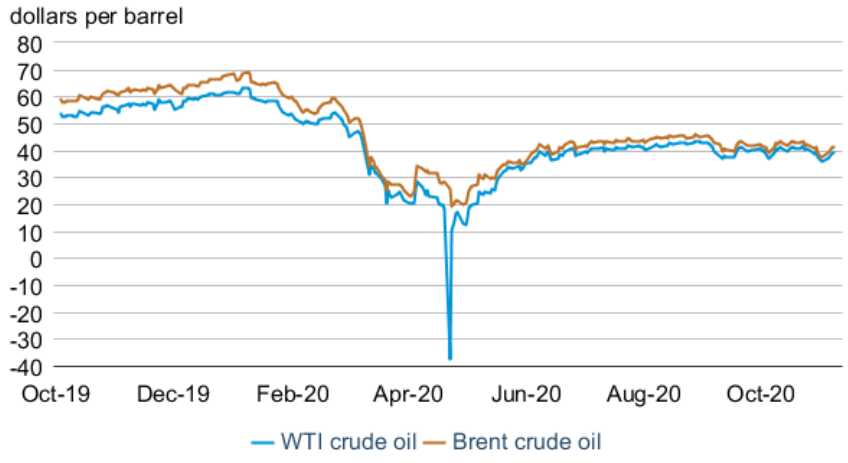
- EIA forecasts that U.S. energy-related carbon dioxide (CO2) emissions, after decreasing by 2.6% in 2019 from the previous year's level, will decrease by 10% in 2020 as a result of reduced consumption of all fossil fuels. EIA expects emissions from coal will be down 18% from 2019 and emissions from petroleum will be down 13% from 2019. This decline in emissions is the result of less energy consumption related to slowing economic growth in response to the COVID-19 pandemic. In 2021, EIA forecasts that energy-related CO2 emissions will increase by 6% from the 2020 level as the economy recovers and energy use increases.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $40.93 per barrel (b) on November 5, 2020, unchanged from October 1, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by 7 cents/b during the same period, settling at $38.79/b on November 5 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

Crude oil price pressures were mostly downward in October, pushing Brent to less than $38/b late in the month. However, prices increased during the first week of November to about $40/b. The general downward price pressures came amid renewed crude oil price volatility that was primarily the result of a supply increase from Libya that came sooner than many market participants expected as well as responses to increasing COVID-19 cases.

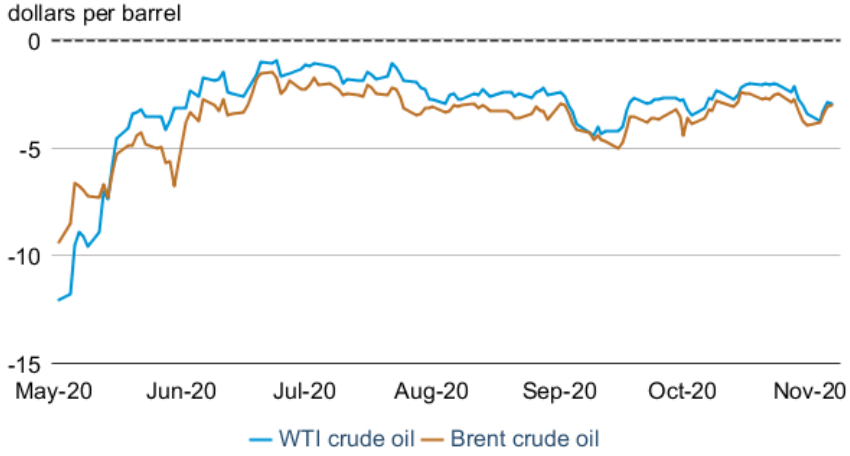
Rapid increases in crude oil production in Libya likely magnified the downside price effects of reduced demand. EIA estimates that Libya's crude oil production increased to 0.4 million barrels per day (b/d) in October 2020 from 0.1 million b/d in September. In addition, trade press reports indicate that production had increased to more than 0.5 million b/d by the end of October, a level EIA had previously forecast would not be reached until the middle of 2021. The increase in crude oil production adds supply to the current market where petroleum inventories remain high, crude oil refinery runs are subdued, and the rate of increase in global oil demand growth is slowing.

Globally, daily cases of COVID-19 increased to a record high in late October, leading to renewed economic pressure. Uncertainty about responses to increasing COVID-19 cases presents downside risk to EIA's global oil demand forecast for the fourth quarter of 2020 and first half of 2021. EIA now expects global oil consumption will average 97.3 million b/d from the fourth quarter of 2020 through the first half of 2021, which is 0.4 million b/d lower than forecast in the

October *Short-Term Energy Outlook* (STEO). The pace of oil demand recovery will affect not only expectations of petroleum inventory withdrawals but also could affect planned oil supply increases from members of the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+), who are scheduled to meet on November 30. OPEC+ members currently plan to increase crude oil production by nearly 2.0 million b/d in January 2021. EIA forecasts that OPEC+ production will generally be tailored to match the pace of global oil demand recovery. As a result of EIA's reduced demand growth expectations, EIA forecasts closer adherence to announced production targets from OPEC. For OPEC, EIA forecasts first-half 2021 crude oil production will be 27.9 million b/d, 0.5 million b/d lower than the October STEO. The lower forecast comes despite EIA's assumption of higher production in Libya during early-2021.

These supply and demand developments have primarily affected the front-month contracts for both Brent and WTI, initially contributing to a wider contango (when near-month prices are lower than longer-dated ones) in mid-October before narrowing slightly on the month. The 1st–13th spread for Brent narrowed to -$3.04/b on November 5 from -$3.64/b on October 1, and the WTI 1st–13th spread narrowed to -$2.95/b from -$3.27/b on October 1 **(Figure 2)**. Although increases in Libya's crude oil production may be adding supply to a market with relatively high inventory levels, increased tropical storm and hurricane activity in the U.S. Gulf Coast contributed to significant inventory withdrawals in the United States and is contributing to a narrower contango. In October, rising U.S. petroleum consumption, shutdowns on offshore crude oil production platforms, and lower refinery output in the U.S. Gulf Coast contributed to total U.S. commercial crude oil and petroleum products inventories drawing at a rate of more than 1.3 million b/d, the largest withdrawal rate for any month since February 2007.

Figure 2. Crude oil front-month to 13th month futures price spread

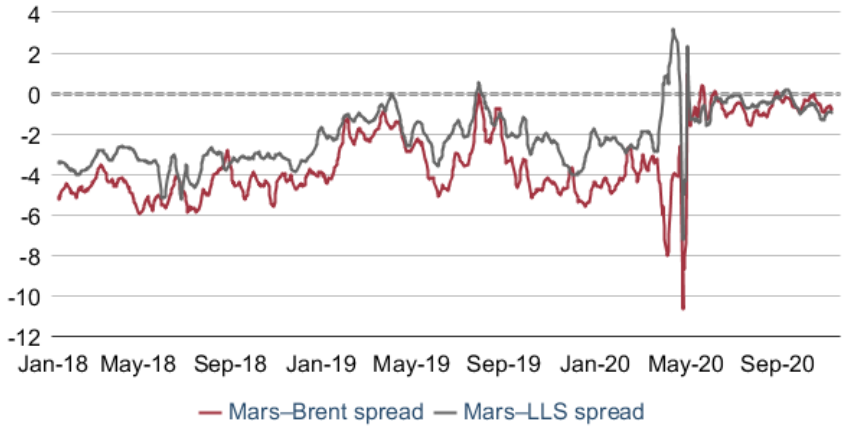


Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

Crude oil price spreads: A combination of crude oil supply disruptions in the U.S. Gulf Coast and voluntary production reductions from OPEC+ producers of primarily medium-sour crude oils have contributed to higher price spreads for Mars (a medium-sour U.S. Gulf Coast crude oil) compared with light-sweet crude oils in recent months. Mars and other medium-sour crude oils

are popular with complex refiners along the U.S. Gulf Coast, and its price spread with light-sweet crude oils (such as Light Louisiana Sweet (LLS) and Brent) can affect crack spreads and refinery purchasing decisions. The five-day moving average of the Mars-LLS price spread has traded at a premium several times in 2020 and settled at -95 cents/b on November 5, and the Mars-Brent spread settled at -80 cents/b **(Figure 3)**.

Figure 3. Mars crude oil price spreads
dollars per barrel, five-day moving average



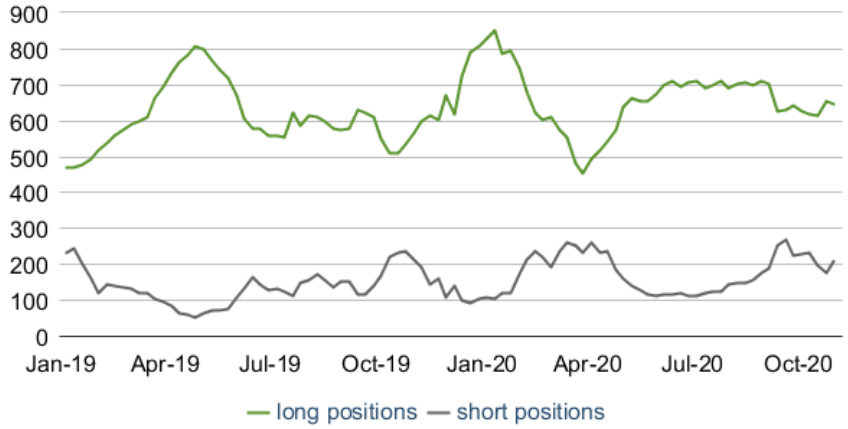
Source: Bloomberg L.P.
Note: LLS=Light Louisiana Sweet.

An active tropical storm and hurricane season in the U.S. Gulf Coast has contributed to several personnel evacuations and well shut-ins on offshore platforms, which continued into October following Hurricanes Delta and Zeta. Aside from these supply disruptions, Mars and other medium-sour crude oil prices have increased relative to light-sweet crude oils more broadly since 2018. The largest voluntary production reductions from OPEC+ members have been from countries that produce mainly medium-sour crude oil, including Saudi Arabia and Russia. In addition, lower production from Iran and Venezuela since 2019 have contributed to the loss of medium and heavy crude oil production in those countries, adding further upward price premiums on available medium-sour crude oils like Mars. Year-to-date through November 5, 2020, the Mars-LLS spread averaged -98 cents/b, up from -$3.35/b in 2018 and from -$1.89/b in 2019, and the Mars-Brent spread has averaged -$2.04/b year-to-date, up from -$4.64/b in 2018 and from -$3.24/b in 2019. Aside from the various supply-side factors contributing to higher medium-sour crude oil price spreads, increased refining capacity in Asia in recent years has also contributed to higher medium-sour crude oil prices because the capacity has broadly been designed to process medium-sour crude oil.

Money manager positions: Money managers that hold long positions in Brent and WTI futures contracts can often be an important source of liquidity in the futures market and can often trade indirectly with producers that short crude oil futures. As of October 2020, total open interest in Brent and WTI futures contracts has declined since each of their respective 2020 highs in April, and it is at about the same level as in October 2019. Among the various trader classifications the Commodity Futures Trading Commission (CFTC) determines, WTI long positions held by money

managers increased by more than any other trader's position from the last week in October 2019 through October 27, 2020, increasing by more than 169,000 contracts **(Figure 4)**. Brent money manager long positions, on the other hand, decreased by 86,000 contracts during the same period. The combined contracts' money manager short positions nearly offset each other. WTI short positions decreased by 20,000 contracts, and Brent short positions increased by 19,000 contracts during the year. Money flowing into exchange-traded funds that hold WTI futures contracts reached record highs in the first quarter of 2020, and total assets under management remained at elevated levels, which partially explains the large increase in money manager WTI long positions.

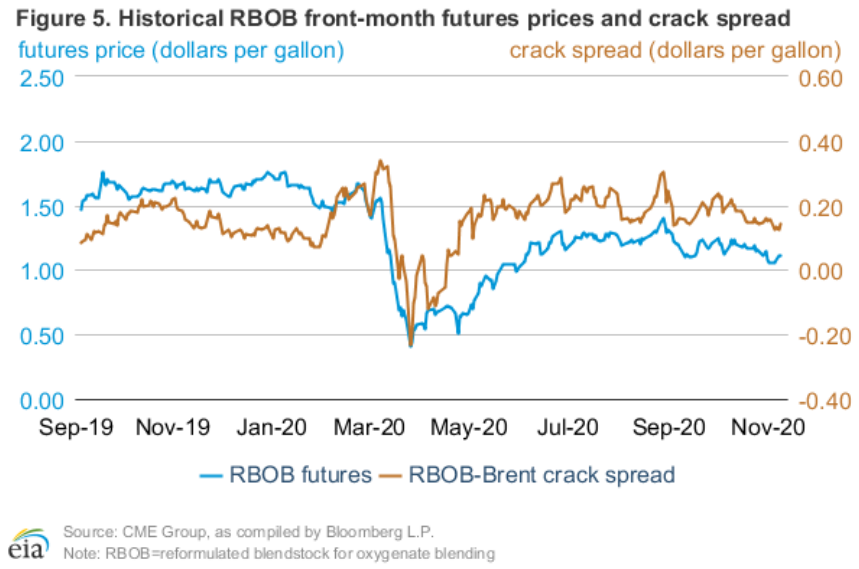
Figure 4. Combined WTI and Brent money manager open interest



Source: U.S. Commodity Futures Trading Commission, Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.12 per gallon (gal) on November 5, down 4 cents/gal from October 1, 2020 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 4 cents/gal to settle at 14 cents/gal during the same period. The crack spread peaked on October 6 at 22 cents/gal and fell to 12 cents/gal on November 2.

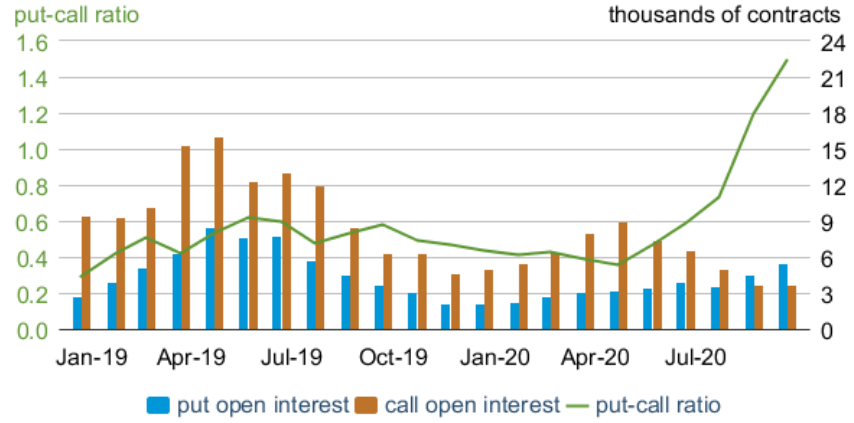


Despite the futures price falling as low as $1.05/gal on October 30, the lowest since May 29, and the crack spread decreasing throughout the month, the average crack spread in October remained within the five-year (2015–19) monthly range for the second consecutive month. One factor that likely supported gasoline crack spreads was reduced production due to temporary disruptions to refineries from Hurricanes Delta, which shut in 62% of gasoline production at U.S. Gulf Coast refiners at its peak on October 9, and Zeta, which shut in 58% of gasoline production at U.S. Gulf Coast refiners at its peak on October 28.

RBOB put-call ratio: The put-call ratio can provide insight into the expectations of market participants. Changes in the relationships between put and call options for RBOB contracts may indicate that market participants are concerned about the continuing economic effects of COVID-19. A put option increases in value when the underlying commodity price declines, and a call option increases in value when the underlying commodity price increases. The put-call ratio is calculated by dividing the open interest (number of contracts outstanding) of put options by the open interest of call options. Put and call options can be used for hedging or mitigating price risk among refiners or other traders.

The average monthly put-call ratio for all RBOB contracts from 2015 to 2019 was 0.53, meaning market participants held almost twice as many calls as puts. After eight consecutive months of ratios that were lower than the average, the ratio increased to higher than the average in July 2020 and has increased since. In September 2020, the ratio increased to 1.20, the first time since January 2018 that the ratio was higher than 1.0 and the highest ratio since April 2012. In October, the ratio increased further to a 10-year record of 1.49. Although overall open interest for both put options and call options are down in 2020, put option open interest has generally increased since May 2020, whereas call options have generally decreased during the same period **(Figure 6)**.

Figure 6. Put-call ratio on open interest for all RBOB contracts, monthly average

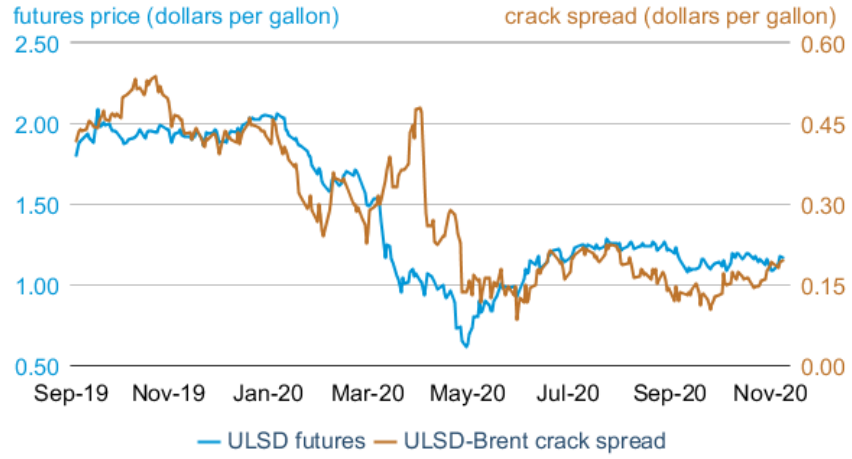


Source: CME Group, Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending

For RBOB options as of October 2020, 61% of the put options and 78% of the call options were for the November and December 2020 contracts. The put-call ratio in October for November contracts was 0.90, and the ratio for December contracts was 1.32. In addition, 33% of the open interest on put options was for April contracts, the first contract for delivery of summer-grade gasoline. The put-call ratio of 21.46 for April RBOB contracts drove October's put-call ratio to 1.49. A possible explanation for this phenomenon is that market participants are hedging against a potential continuation of economic effects of COVID-19 into the 2021 summer driving season. This trend of buying or holding April puts in October is not customary. In the previous three years, the open interest for April puts in October was 0.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at $1.17/gal on November 5, 2020, up 4 cents/gal from October 1, 2020 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased by 4 cents/gal to settle at 20 cents/gal during the same period.

Figure 7. Historical ULSD front-month futures price and crack spread

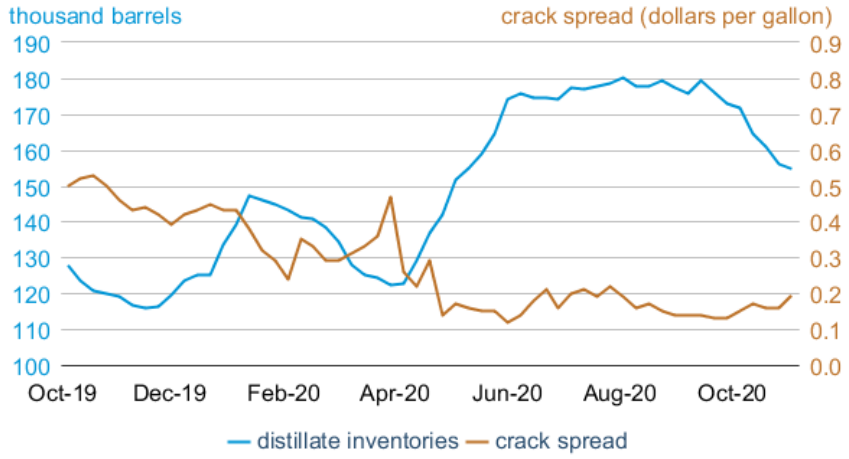


Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

Inventories of distillate fuel typically decline in the United States during October because U.S. distillate demand typically increases during the fall when diesel-powered agricultural equipment is used to harvest crops, the winter heating season begins, and many refineries reduce crude oil runs to perform maintenance. This year, U.S. distillate consumption increased by 0.4 million barrels per day (b/d) from September to 3.9 million b/d in October, which is more than the five-year (2015–19) average increase of 0.1 million b/d. Whereas in the past five years, the increase in consumption and decrease in inventories led to an average September to October increase of 1 cent/gal on the ULSD–Brent crack spread, this year the average crack spread increased by 3 cents/gal.

From the week ending October 4, 2019, to the week ending October 2, 2020, distillate inventories increased 44 million barrels (35%), contributing to a decrease in the monthly average crack spread from 51 cents/gal in October 2019 to 13 cents/gal in September 2020, a decrease of 38 cents/gal **(Figure 8)**. Although the month-over-month withdrawal from September to October is typically high, averaging 8.7 million barrels the past five years, this October saw a monthly draw of 17.6 million barrels, which was the largest draw of any month since January 2003. These inventory draws can partially be explained by the decrease in distillate production because of refinery closures in response to Hurricanes Delta and Zeta. If confirmed by monthly data, October's distillate production of 4.1 million b/d would be the lowest since February 2011. October's decrease in distillate inventory was met with an increase in the ULSD–Brent crack spread from 15 cents/gal on October 1 to 19 cents/gal on October 30. EIA expects further inventory decreases in the winter and spring because of lower-than-average refinery distillate production and the U.S. Department of Agriculture's forecast of a larger-than-usual harvest season this year for corn and soybeans.

Figure 8. Weekly U.S. distillate inventories and crack spreads

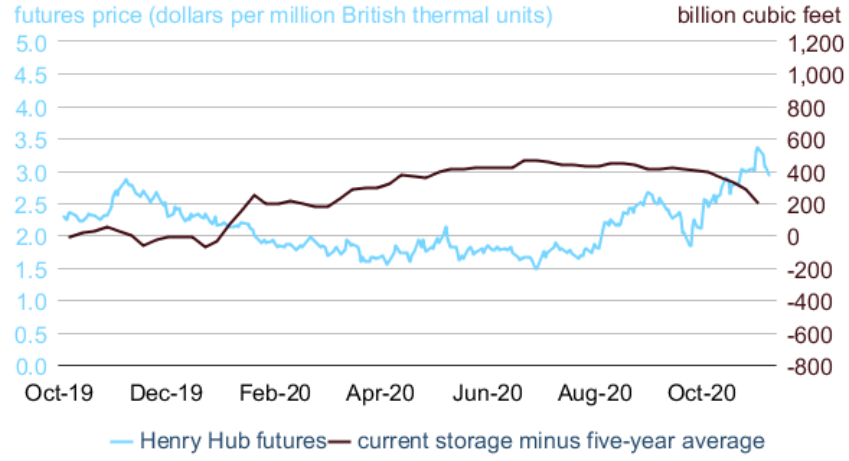


Source: U.S. Energy Information Administration

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.94 per million British thermal units (MMBtu) on November 5, up 42 cents/MMBtu from October 1 **(Figure 9)**. The front-month contract changed from November to December delivery on October 29, 2020, and that change contributed 30 cents/MMBtu to the front-month price increase. When the front-month futures price settled at $3.02/MMBtu on October 21, 2020, it was the first time that the front-month price had risen higher than $3.00/MMBtu since January 25, 2019.

Figure 9. U.S. natural gas front-month futures prices and storage



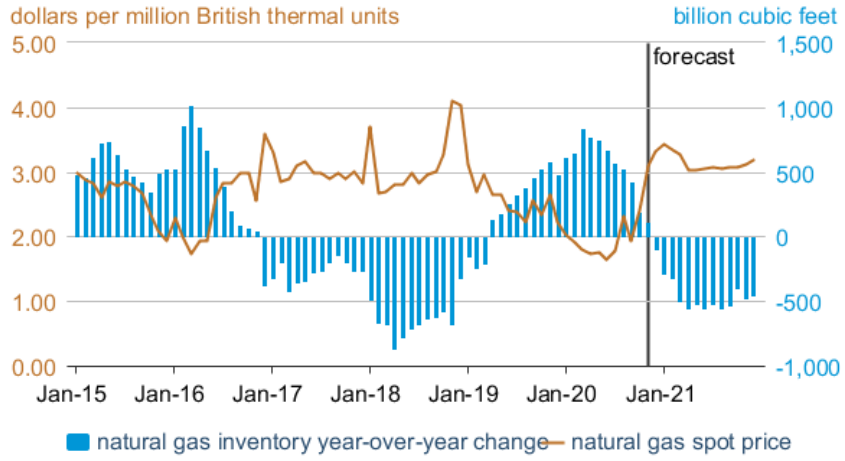
Source: U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

Natural gas prices received support from higher U.S. LNG exports and lower natural gas production. EIA estimates that LNG exports rose to 7.2 billion cubic feet per day (Bcf/d) in October, an increase of 2.3 Bcf/d from the previous month and 1.5 Bcf/d from October 2019.

U.S. natural gas production decreased 0.7 Bcf/d in October from September, and it was 6.6 Bcf/d lower than October 2019 production. The reduction in year-on-year production in October 2020 contributed to the smallest increase in U.S. natural gas inventories in the month of October since 2002. Despite the decreased additions to storage, EIA estimates the level of natural gas inventories increased to the second-highest level on record at the end of October. Although high inventories tend to push prices lower, market participants appear to be focusing on expected changes in market balances over the next several months.

Natural gas prices and changes in inventory: EIA forecasts that natural gas inventories will decline by 2,419 Bcf from the end of October 2020 to the end of March 2021, which would be the third-largest decrease recorded during those months, and that monthly inventories will fall below the previous year's levels by December 2020 **(Figure 10)**. Decreasing natural gas production, which EIA forecasts will fall from November 2020 until May 2021, is one key factor affecting the decline in inventories, but EIA also forecasts that LNG exports will increase, rising to a record high in November 2020. Higher prices for natural gas and LNG in Europe and Asia are helping to boost U.S. LNG exports. Lower production and higher exports, combined with the usual seasonal increase in natural gas consumption, will contribute to the rapid decline in inventories during the winter. This expected change in market fundamentals contributed to the large increase in natural gas prices in October and contributed to EIA's forecast of higher natural gas prices in 2021 compared with 2020.

Figure 10. Natural gas prices and year-over-year change in inventory



eia Source: U.S. Energy Information Administration and Refinitiv

Notable forecast changes

- EIA forecasts U.S. gasoline consumption will average 8.4 million barrels per day (b/d) in the fourth quarter of 2020 and 8.7 million b/d in the first half of 2021. Those forecasts are 0.3 and 0.2 million b/d less, respectively, than forecast in the October STEO.
- EIA forecasts OPEC crude oil production will average 25.4 million b/d in the fourth quarter of 2020 and 27.9 million b/d in the first half of 2021, which are 0.3 million b/d and 0.5 million b/d lower than previously forecast. The reduced forecast reflects less production in response to lower forecast global oil consumption, as EIA forecasts closer adherence to announced production targets from OPEC.
- This edition of the STEO incorporates revised historical data for electricity consumption and supply in 2019 and in 2020. Most of these data are relatively similar to the data published in the October STEO. However, retail sales of electricity to the industrial sector for 2019 are about 5% higher than previously estimated, and 2020 retail sales are about 2% higher. As a result, the current STEO forecasts industrial electricity use will fall by 9% between 2019 and 2020 compared with a forecast decline of 6% in the previous STEO.

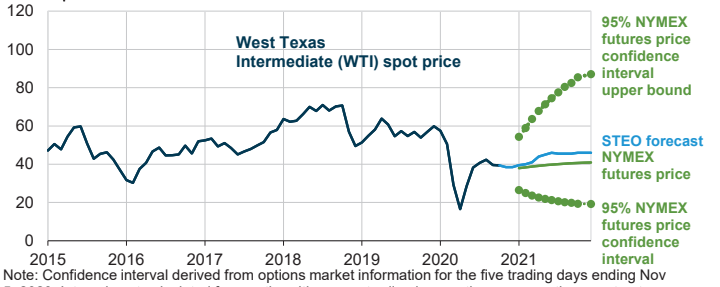
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

November 10, 2020

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

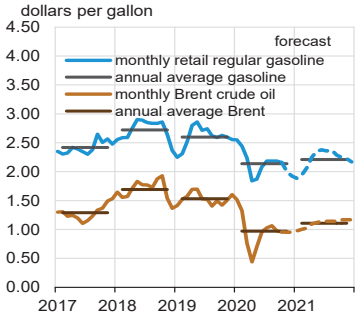


Note: Confidence interval derived from options market information for the five trading days ending Nov 5, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

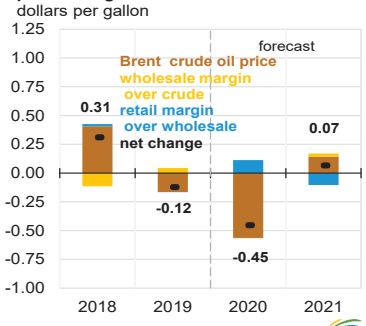
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020, CME Group, and Bloomberg, L.P.

eia

U.S. gasoline and crude oil prices
dollars per gallon



Components of annual gasoline price changes
dollars per gallon

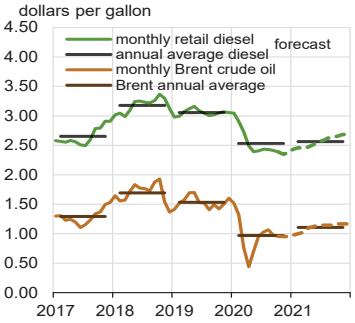


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

eia

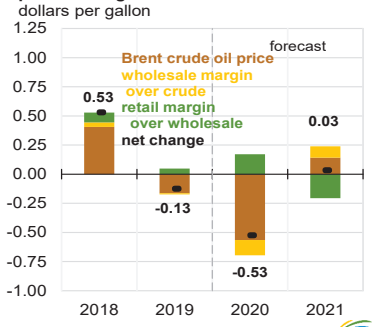
U.S. diesel and crude oil prices

dollars per gallon



Components of annual diesel prices changes

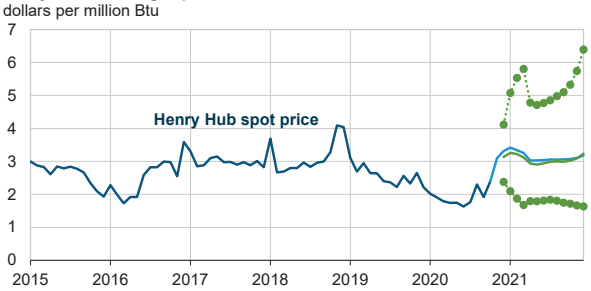
dollars per gallon



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

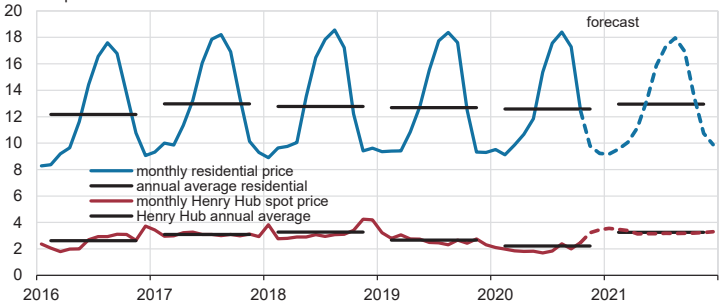


Note: Confidence interval derived from options market information for the five trading days ending Nov 5, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

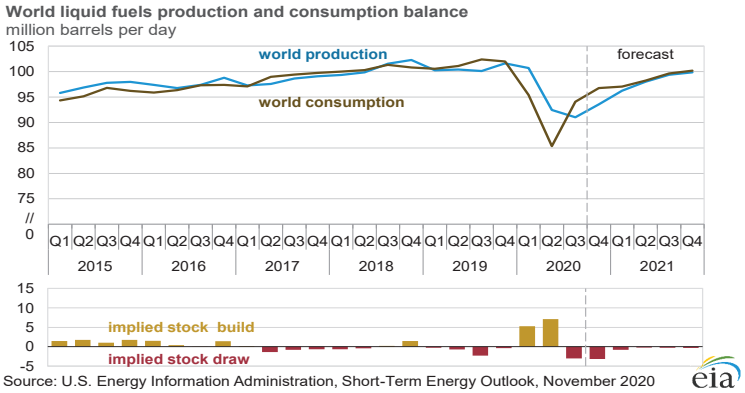
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020, and CME Group

U.S. natural gas prices

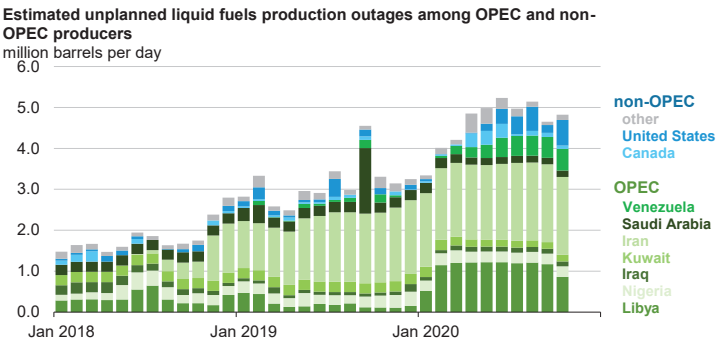
dollars per thousand cubic feet



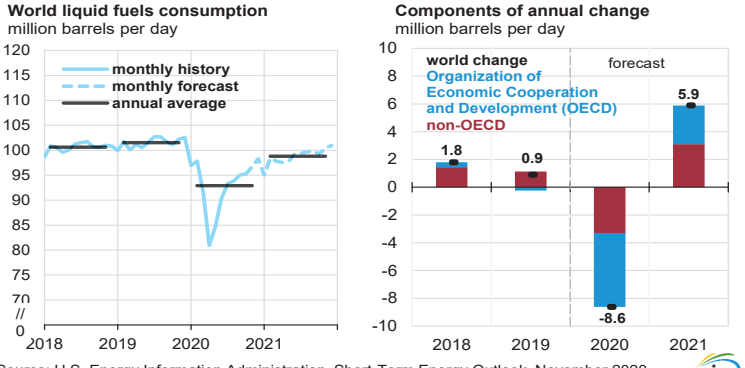
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020, and Refinitiv



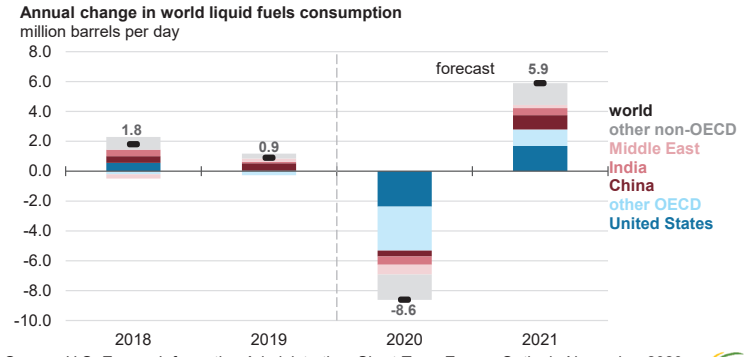
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



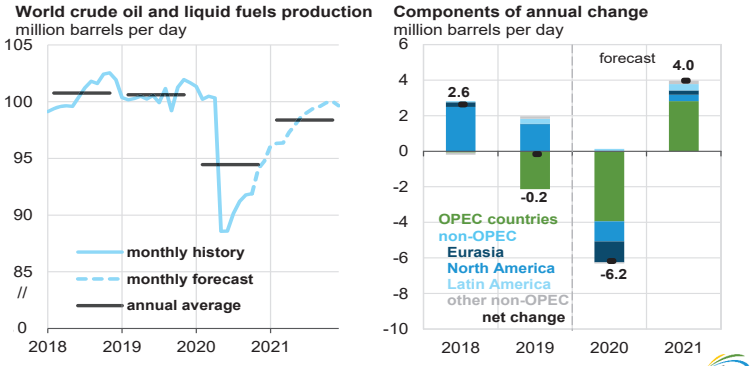
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



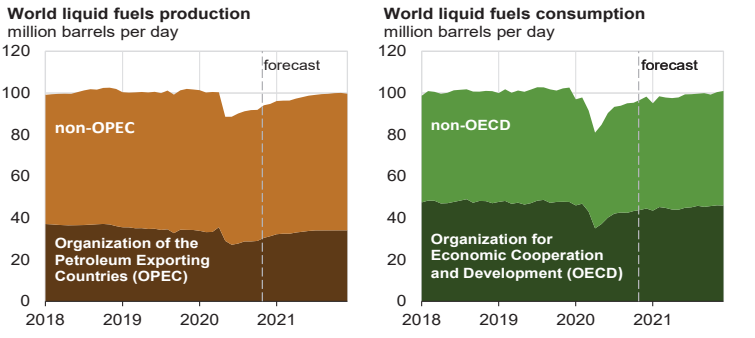
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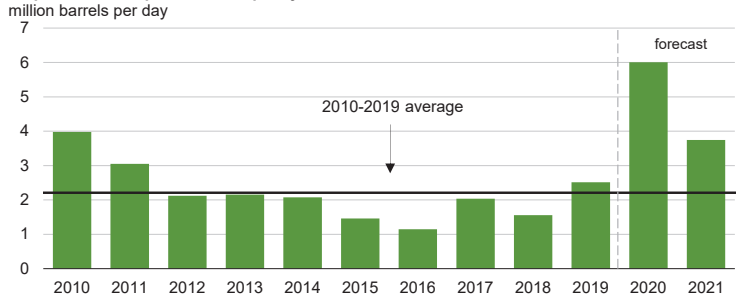


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



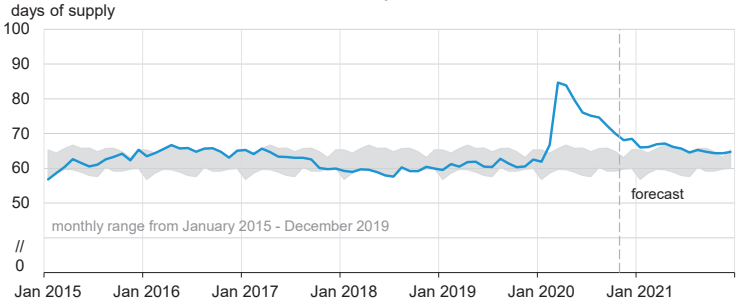
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



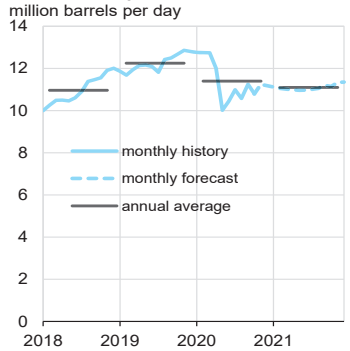
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

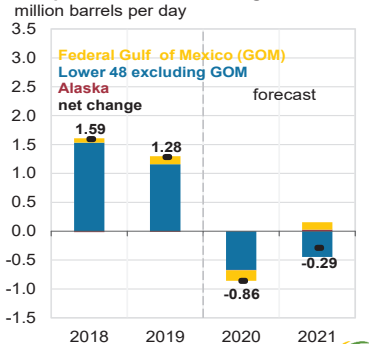


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. crude oil production
million barrels per day

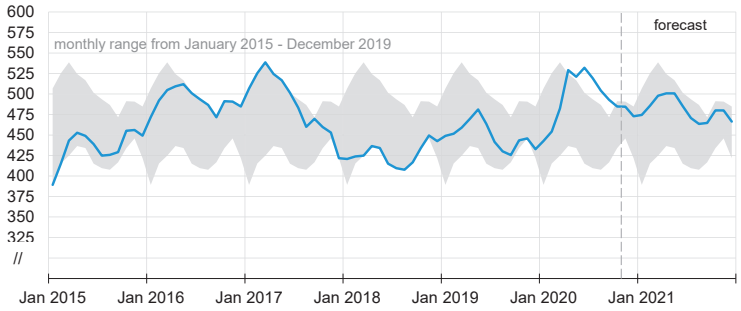


Components of annual change
million barrels per day



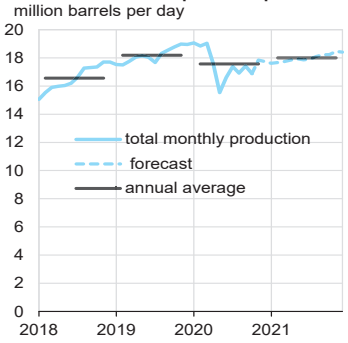
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. commercial crude oil inventories
million barrels

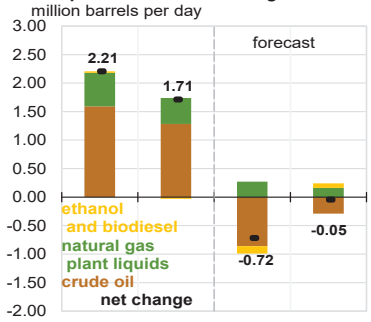


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. crude oil and liquid fuels production
million barrels per day

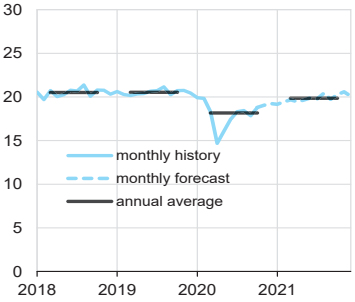


Components of annual change
million barrels per day

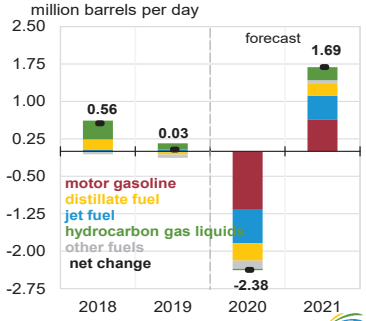


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. liquid fuels product supplied (consumption)
million barrels per day

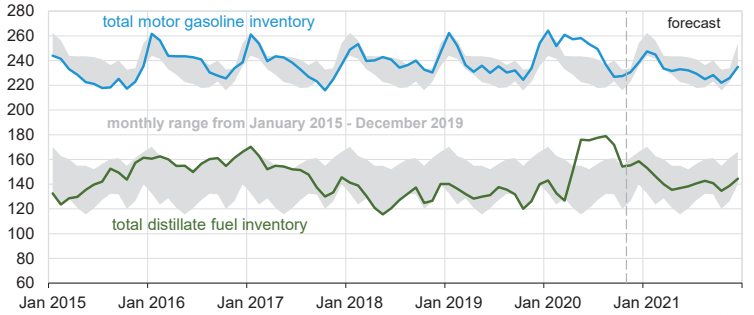


Components of annual change
million barrels per day



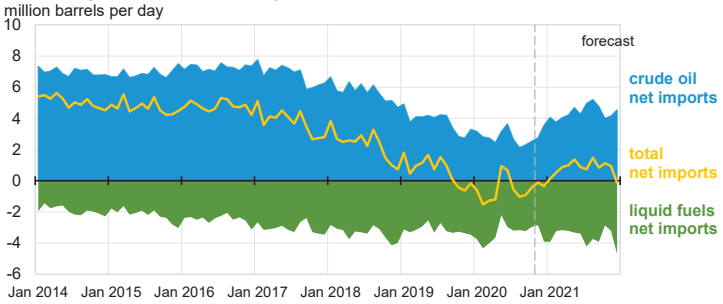
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. gasoline and distillate inventories
million barrels



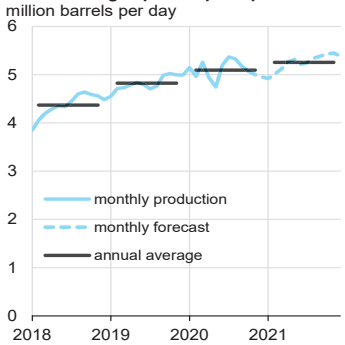
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. net imports of crude oil and liquid fuels
million barrels per day

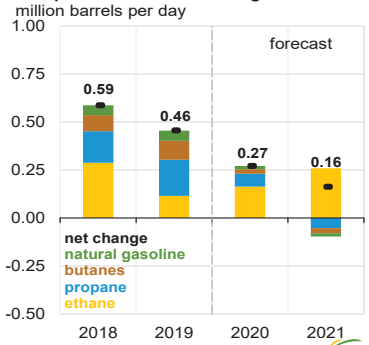


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

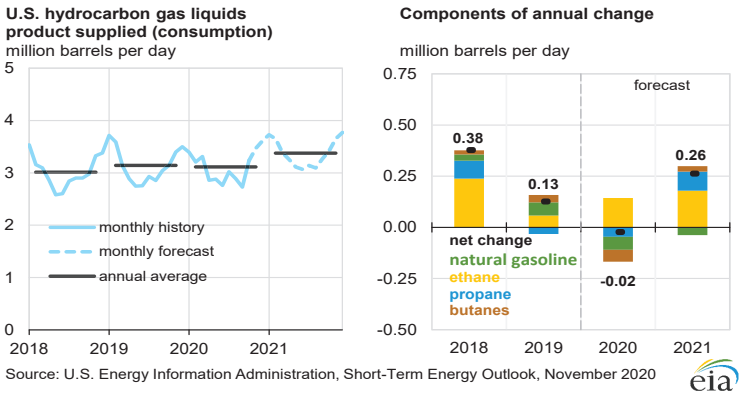
U.S. natural gas plant liquids production
million barrels per day



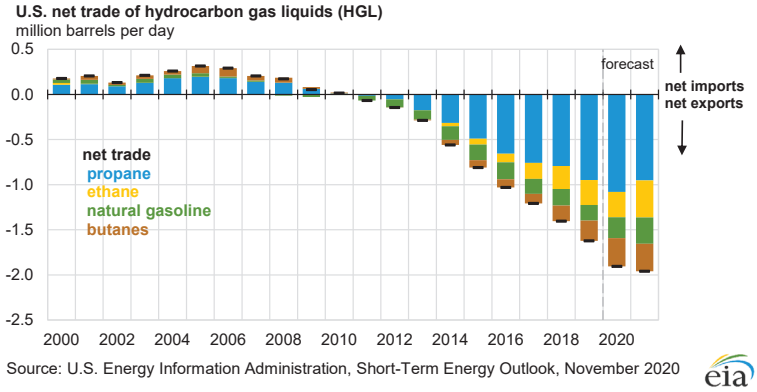
Components of annual change
million barrels per day



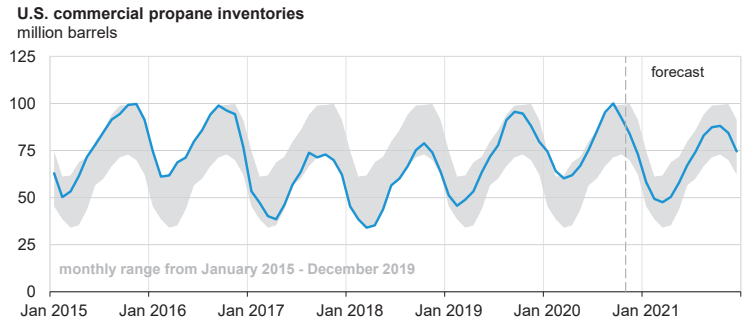
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



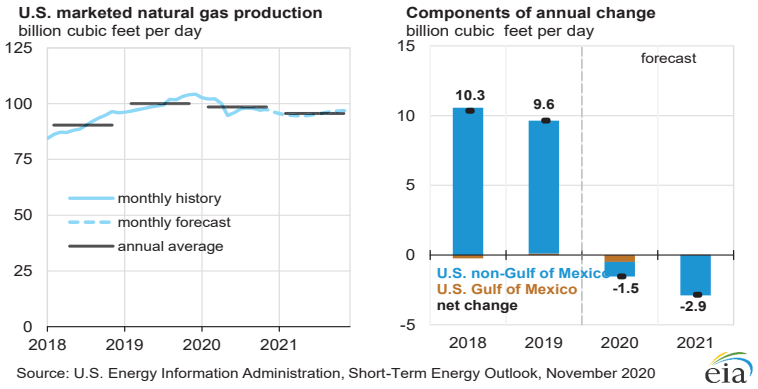
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



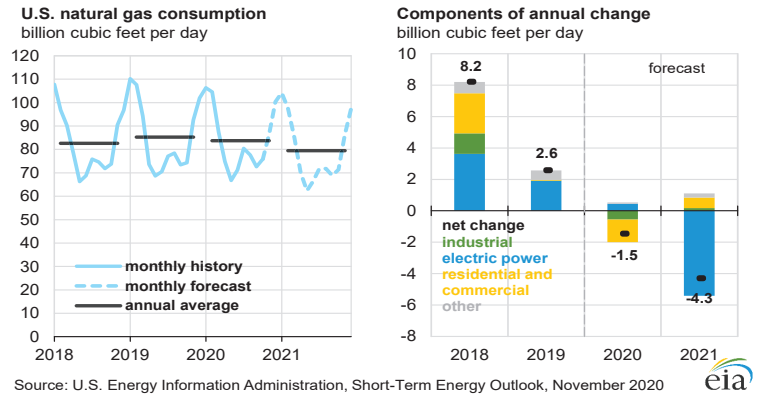
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



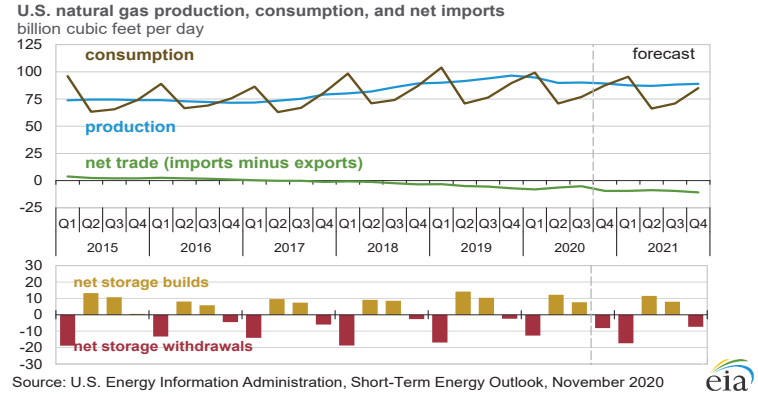
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

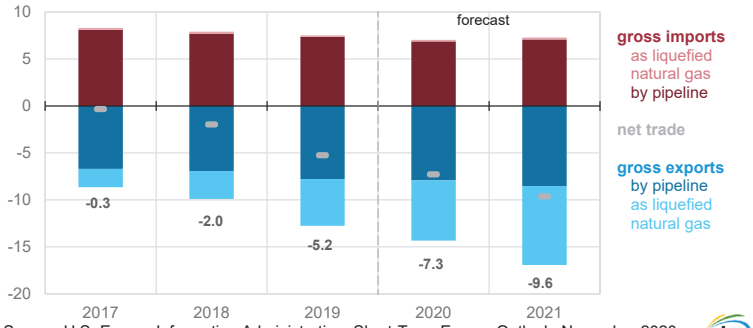


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



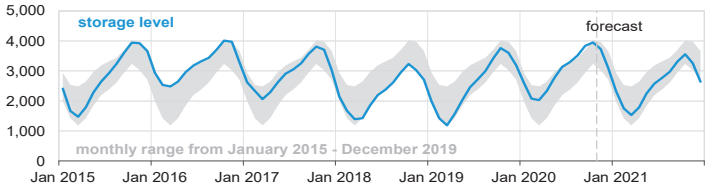
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. annual natural gas trade
billion cubic feet per day

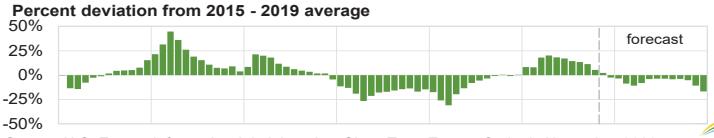


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. working natural gas in storage
billion cubic feet

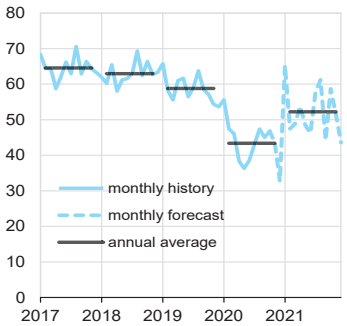


Percent deviation from 2015 - 2019 average

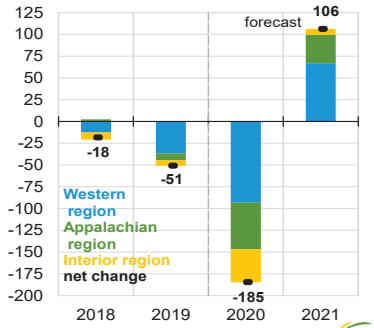


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

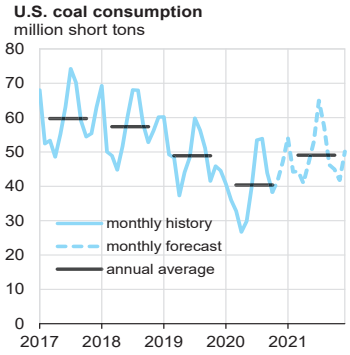
U.S. coal production
million short tons

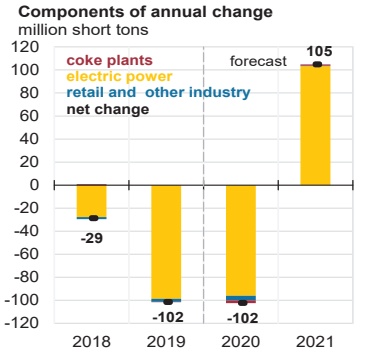


Components of annual change
million short tons

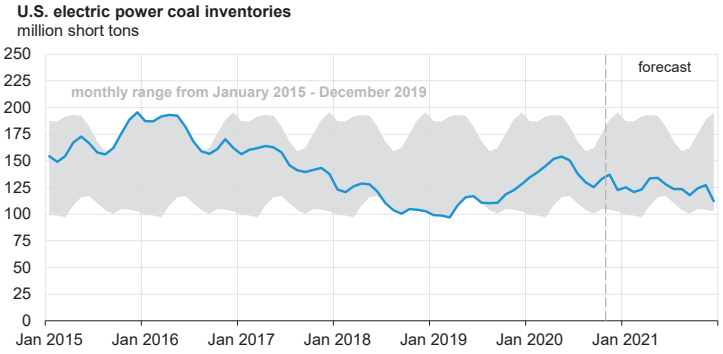


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

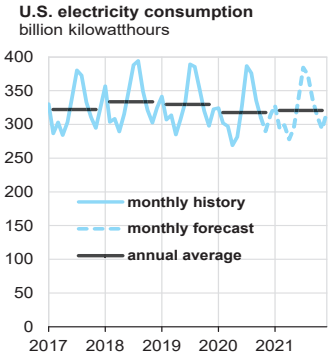


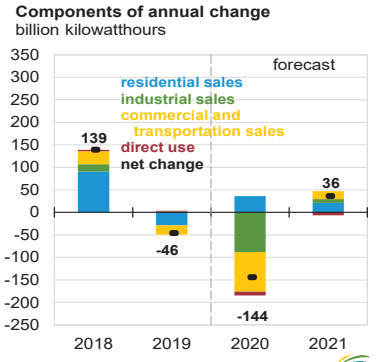


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

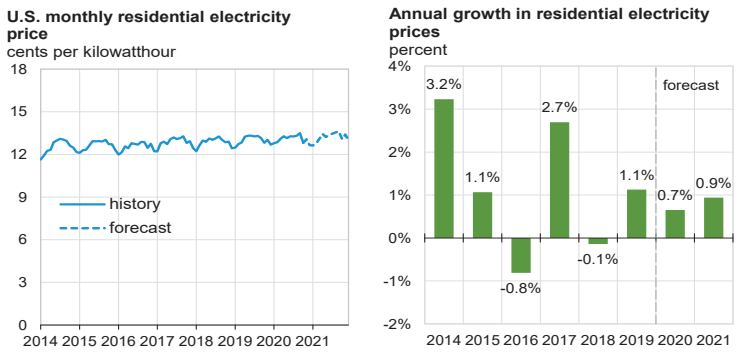


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

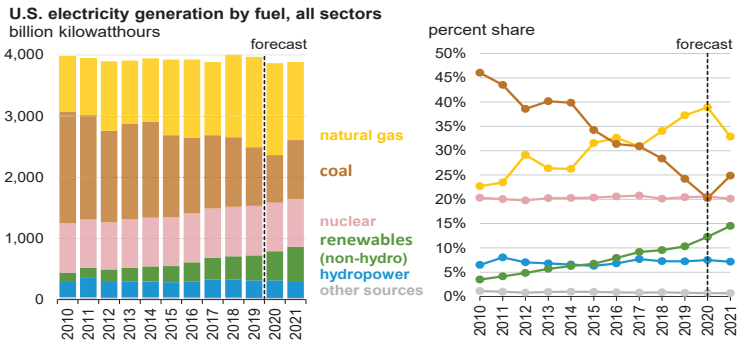




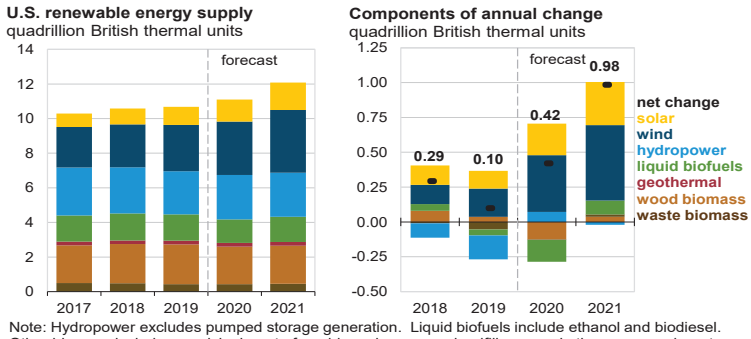
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



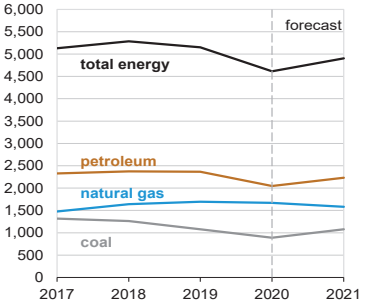
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020



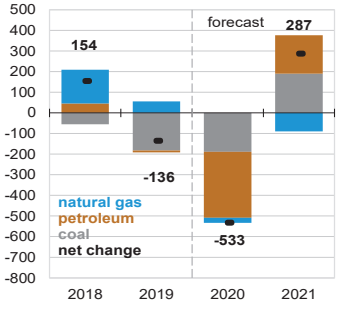
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. annual carbon emissions by source
million metric tons

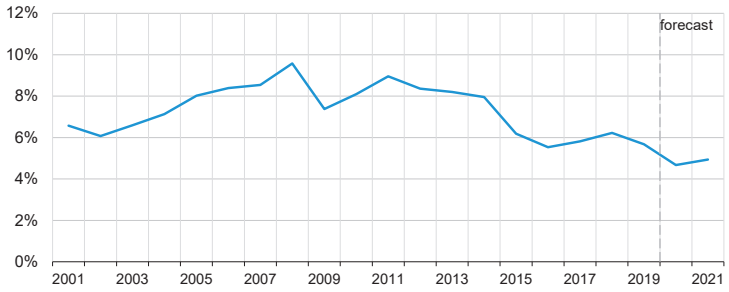


Components of annual change
million metric tons



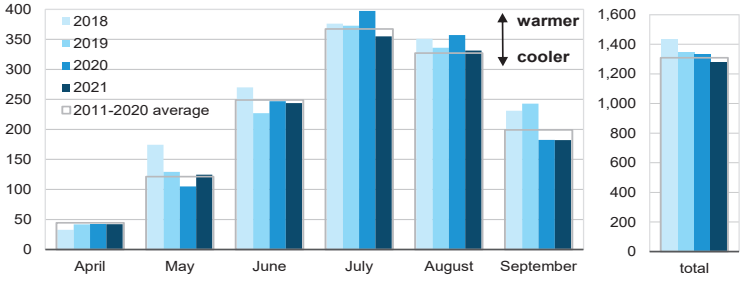
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

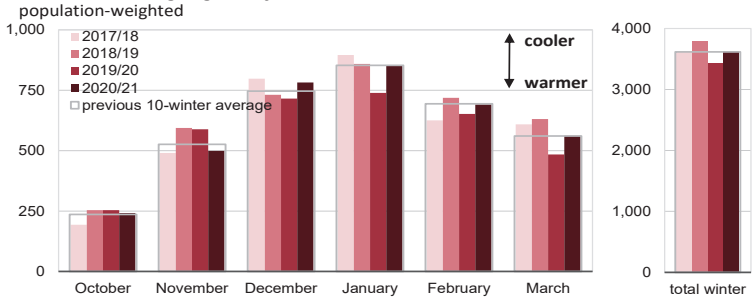
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

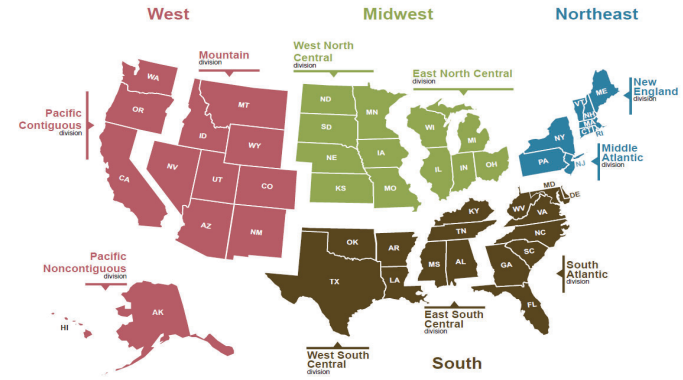
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2020

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.81**	**10.93**	*11.07*	*11.06*	*10.97*	*11.08*	*11.28*	**12.25**	*11.39*	*11.10*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.01**	**91.57**	**94.00**	**96.58**	**94.85**	**89.73**	**90.14**	*89.29*	*87.50*	*87.10*	*88.16*	*88.86*	**93.06**	*90.99*	*87.91*
Coal Production															
(million short tons)	**180**	**179**	**181**	**165**	**149**	**113**	**135**	*123*	*162*	*148*	*163*	*154*	**705**	*521*	*627*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.21**	*19.03*	*19.42*	*19.67*	*19.99*	*20.31*	**20.54**	*18.16*	*19.85*
Natural Gas															
(billion cubic feet per day)	**103.92**	**70.95**	**76.35**	**89.62**	**99.31**	**70.89**	**76.96**	*87.59*	*95.54*	*66.27*	*70.91*	*84.97*	**85.15**	*83.68*	*79.37*
Coal (b)															
(million short tons)	**158**	**130**	**167**	**132**	**109**	**96**	**151**	*127*	*143*	*141*	*169*	*137*	**587**	*484*	*589*
Electricity															
(billion kilowatt hours per day)	**10.69**	**10.19**	**12.26**	**10.22**	**10.15**	**9.64**	**11.94**	*9.93*	*10.22*	*10.02*	*11.90*	*10.03*	**10.84**	*10.42*	*10.55*
Renewables (c)															
(quadrillion Btu)	**2.78**	**3.05**	**2.79**	**2.76**	**2.90**	**3.00**	**2.87**	*2.95*	*3.17*	*3.35*	*3.11*	*3.11*	**11.38**	*11.71*	*12.74*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.62**	**23.53**	**25.01**	**25.29**	**25.12**	**20.67**	**23.27**	*23.96*	*25.02*	*22.71*	*23.93*	*24.56*	**100.45**	*93.01*	*96.22*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	**40.89**	*38.81*	*40.22*	*45.02*	*45.50*	*46.00*	**56.99**	*38.24*	*44.24*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	**2.00**	*2.93*	*3.34*	*3.03*	*3.06*	*3.12*	**2.57**	*2.14*	*3.14*
Coal															
(dollars per million Btu)	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.93**	*2.00*	*2.04*	*2.06*	*2.03*	*2.04*	**2.01**	*1.94*	*2.04*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,303**	**18,583**	*18,748*	*18,904*	*19,029*	*19,158*	*19,302*	**19,092**	*18,411*	*19,098*
Percent change from prior year	**2.3**	**2.0**	**2.1**	**2.3**	**0.3**	**-9.0**	**-2.9**	*-2.6*	*-0.6*	*10.0*	*3.1*	*3.0*	**2.2**	*-3.6*	*3.7*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.9**	**113.8**	*114.2*	*114.5*	*114.9*	*115.3*	*115.7*	**112.3**	*113.6*	*115.1*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	**0.6**	**1.1**	*1.0*	*1.0*	*1.8*	*1.3*	*1.4*	**1.8**	*1.1*	*1.4*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,061**	**16,576**	**15,754**	*16,443*	*15,020*	*15,062*	*15,127*	*15,182*	**14,883**	*15,958*	*15,098*
Percent change from prior year	**3.2**	**2.1**	**1.8**	**1.6**	**1.4**	**11.9**	**5.8**	*9.9*	*-0.3*	*-9.1*	*-4.0*	*-7.7*	**2.2**	*7.2*	*-5.4*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.2**	**99.5**	*100.5*	*101.5*	*101.6*	*101.7*	*102.3*	**106.0**	*98.4*	*101.8*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.0**	**-15.6**	**-6.1**	*-5.0*	*-2.8*	*13.9*	*2.2*	*1.7*	**0.0**	*-7.2*	*3.4*
Weather															
U.S. Heating Degree-Days	**2,209**	**480**	**56**	**1,558**	**1,875**	**540**	**70**	*1,523*	*2,107*	*482*	*70*	*1,494*	**4,303**	*4,008*	*4,153*
U.S. Cooling Degree-Days	**45**	**398**	**952**	**105**	**70**	**394**	**937**	*118*	*45*	*410*	*869*	*99*	**1,500**	*1,520*	*1,423*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	**40.89**	*38.81*	*40.22*	*45.02*	*45.50*	*46.00*	**56.99**	*38.24*	*44.24*
Brent Spot Average	**63.14**	**69.04**	**61.90**	**63.30**	**49.97**	**29.52**	**42.97**	*40.07*	*42.07*	*47.02*	*48.00*	*49.00*	**64.34**	*40.61*	*46.59*
U.S. Imported Average	**55.39**	**62.93**	**57.31**	**55.60**	**43.76**	**26.33**	**39.31**	*36.59*	*37.73*	*42.40*	*42.75*	*43.00*	**57.95**	*36.21*	*41.61*
U.S. Refiner Average Acquisition Cost	**57.08**	**63.54**	**58.67**	**58.05**	**47.48**	**26.88**	**42.10**	*39.10*	*39.22*	*43.42*	*43.75*	*44.00*	**59.36**	*39.34*	*42.66*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**153**	**104**	**135**	*121*	*126*	*156*	*156*	*145*	**186**	*129*	*146*
Diesel Fuel	**192**	**203**	**192**	**197**	**160**	**97**	**123**	*123*	*134*	*150*	*156*	*159*	**196**	*126*	*150*
Fuel Oil	**189**	**195**	**184**	**191**	**160**	**87**	**111**	*115*	*130*	*140*	*148*	*154*	**190**	*121*	*143*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**165**	**85**	**114**	*113*	*127*	*138*	*146*	*152*	**197**	*128*	*142*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**163**	**176**	**93**	**120**	*130*	*98*	*103*	*104*	*104*	**158**	*129*	*102*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	**194**	**218**	*203*	*197*	*233*	*234*	*221*	**260**	*215*	*222*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**251**	**203**	**227**	*213*	*209*	*245*	*247*	*235*	**269**	*224*	*235*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	**243**	**243**	*237*	*245*	*251*	*261*	*268*	**306**	*253*	*256*
Heating Oil	**300**	**305**	**290**	**301**	**280**	**200**	**214**	*229*	*236*	*240*	*248*	*265*	**300**	*243*	*247*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	**2.07**	*3.05*	*3.47*	*3.15*	*3.18*	*3.24*	**2.67**	*2.22*	*3.26*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	**2.00**	*2.93*	*3.34*	*3.03*	*3.06*	*3.12*	**2.57**	*2.14*	*3.14*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.66**	**3.73**	**3.29**	**3.74**	**3.52**	**2.85**	**2.85**	*3.85*	*4.72*	*4.13*	*4.08*	*4.38*	**3.90**	*3.31*	*4.34*
Commercial Sector	**7.55**	**7.95**	**8.41**	**7.20**	**7.13**	**7.63**	**8.39**	*7.43*	*7.67*	*8.36*	*8.93*	*8.00*	**7.59**	*7.44*	*8.02*
Residential Sector	**9.39**	**12.36**	**17.90**	**9.78**	**9.46**	**11.89**	**17.74**	*9.93*	*9.53*	*12.74*	*17.38*	*10.78*	**10.46**	*10.59*	*10.90*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.93**	*2.00*	*2.04*	*2.06*	*2.03*	*2.04*	**2.01**	*1.94*	*2.04*
Natural Gas	**3.72**	**2.73**	**2.51**	**2.79**	**2.41**	**2.10**	**2.18**	*3.29*	*4.01*	*3.35*	*3.32*	*3.52*	**2.89**	*2.45*	*3.52*
Residual Fuel Oil (c)	**12.22**	**13.39**	**12.80**	**12.52**	**12.15**	**6.65**	**7.21**	*7.44*	*7.94*	*9.31*	*9.20*	*9.18*	**12.73**	*8.33*	*8.78*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.08**	**13.29**	**8.43**	**10.08**	*9.92*	*10.62*	*11.84*	*12.24*	*12.57*	**15.16**	*10.50*	*11.83*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.67**	**6.69**	**7.20**	**6.65**	**6.37**	**6.63**	**7.03**	*6.60*	*6.42*	*6.72*	*7.03*	*6.61*	**6.81**	*6.66*	*6.70*
Commercial Sector	**10.43**	**10.66**	**11.00**	**10.55**	**10.33**	**10.63**	**10.95**	*10.48*	*10.29*	*10.78*	*11.20*	*10.68*	**10.67**	*10.61*	*10.76*
Residential Sector	**12.67**	**13.30**	**13.24**	**12.83**	**12.90**	**13.24**	**13.34**	*12.83*	*12.81*	*13.33*	*13.53*	*13.14*	**13.01**	*13.10*	*13.22*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.06**	**31.32**	**31.48**	**32.76**	**32.91**	**29.42**	**29.92**	*30.42*	*30.73*	*30.78*	*31.07*	*31.67*	**31.66**	*30.66*	*31.07*
U.S. (50 States)	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.58**	**18.39**	*18.35*	*18.40*	*18.61*	*18.80*	*19.07*	**19.47**	*18.64*	*18.72*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.94**	**4.89**	*5.39*	*5.53*	*5.55*	*5.59*	*5.71*	**5.50**	*5.21*	*5.60*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	**1.91**	*1.82*	*1.82*	*1.82*	*1.78*	*1.77*	**1.92**	*1.92*	*1.80*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.03**	**4.96**	**4.72**	*4.86*	*4.98*	*4.80*	*4.89*	*5.12*	**4.77**	*4.89*	*4.95*
Non-OECD	**69.21**	**69.09**	**68.62**	**68.87**	**67.78**	**63.03**	**61.12**	*63.15*	*65.54*	*67.22*	*68.30*	*68.19*	**68.95**	*63.76*	*67.32*
OPEC	**35.38**	**34.91**	**33.89**	**34.33**	**33.49**	**30.59**	**28.43**	*30.26*	*32.40*	*33.43*	*34.07*	*34.09*	**34.63**	*30.69*	*33.50*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	**23.61**	*25.36*	*27.36*	*28.46*	*29.11*	*29.13*	**29.27**	*25.71*	*28.52*
Other Liquids (b)	**5.44**	**5.44**	**5.24**	**5.31**	**5.21**	**4.95**	**4.83**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.36**	*4.97*	*4.98*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	**12.75**	*13.07*	*13.54*	*13.59*	*13.74*	*13.83*	**14.63**	*13.44*	*13.67*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	**4.95**	*4.99*	*4.95*	*4.99*	*5.00*	*5.05*	**4.89**	*4.94*	*5.00*
Other Non-OECD	**14.08**	**14.84**	**15.26**	**15.00**	**14.60**	**14.34**	**14.99**	*14.83*	*14.65*	*15.21*	*15.50*	*15.22*	**14.80**	*14.69*	*15.15*
Total World Supply	**100.28**	**100.42**	**100.10**	**101.63**	**100.68**	**92.45**	**91.04**	*93.57*	*96.27*	*98.00*	*99.37*	*99.86*	**100.61**	*94.42*	*98.39*
Non-OPEC Supply	**64.89**	**65.51**	**66.21**	**67.30**	**67.20**	**61.86**	**62.60**	*63.31*	*63.87*	*64.57*	*65.30*	*65.77*	**65.98**	*63.74*	*64.88*
Consumption (million barrels per day) (c)															
OECD	**47.57**	**46.99**	**48.12**	**47.75**	**45.30**	**37.45**	**42.43**	*43.93*	*44.53*	*44.32*	*45.46*	*45.95*	**47.61**	*42.28*	*45.07*
U.S. (50 States)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.21**	*19.03*	*19.42*	*19.67*	*19.99*	*20.31*	**20.54**	*18.16*	*19.85*
U.S. Territories	**0.22**	**0.19**	**0.20**	**0.21**	**0.20**	**0.17**	**0.18**	*0.19*	*0.20*	*0.18*	*0.18*	*0.19*	**0.20**	*0.18*	*0.19*
Canada	**2.30**	**2.31**	**2.57**	**2.49**	**2.33**	**1.88**	**2.18**	*2.26*	*2.27*	*2.23*	*2.37*	*2.35*	**2.42**	*2.16*	*2.31*
Europe	**14.03**	**14.18**	**14.66**	**14.06**	**13.34**	**11.01**	**13.07**	*12.89*	*12.84*	*13.20*	*13.73*	*13.44*	**14.24**	*12.58*	*13.30*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.89**	**3.03**	*3.36*	*3.63*	*2.98*	*3.06*	*3.37*	**3.65**	*3.24*	*3.26*
Other OECD	**6.61**	**6.46**	**6.54**	**6.62**	**6.42**	**5.43**	**5.75**	*6.20*	*6.16*	*6.07*	*6.13*	*6.28*	**6.56**	*5.95*	*6.16*
Non-OECD	**53.00**	**54.13**	**54.28**	**54.23**	**50.09**	**47.90**	**51.65**	*52.82*	*52.52*	*53.92*	*54.20*	*54.25*	**53.91**	*50.62*	*53.73*
Eurasia	**5.27**	**5.32**	**5.72**	**5.57**	**5.07**	**4.69**	**5.50**	*5.40*	*5.10*	*5.22*	*5.63*	*5.49*	**5.47**	*5.17*	*5.36*
Europe	**0.77**	**0.76**	**0.78**	**0.78**	**0.72**	**0.71**	**0.73**	*0.74*	*0.74*	*0.74*	*0.75*	*0.76*	**0.77**	*0.72*	*0.75*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.52**	**13.74**	**14.33**	*14.90*	*15.00*	*15.22*	*14.95*	*15.19*	**14.51**	*14.13*	*15.09*
Other Asia	**13.92**	**14.09**	**13.71**	**14.05**	**13.25**	**11.72**	**12.71**	*13.51*	*13.87*	*14.15*	*13.80*	*14.15*	**13.94**	*12.80*	*14.00*
Other Non-OECD	**18.59**	**19.31**	**19.70**	**19.24**	**17.52**	**17.04**	**18.38**	*18.27*	*17.81*	*18.58*	*19.06*	*18.67*	**19.21**	*17.81*	*18.53*
Total World Consumption	**100.57**	**101.12**	**102.39**	**101.98**	**95.40**	**85.34**	**94.08**	*96.75*	*97.05*	*98.24*	*99.65*	*100.20*	**101.52**	*92.91*	*98.80*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.15**	**-0.60**	**0.06**	**0.29**	**-0.43**	**-1.68**	**0.52**	*0.97*	*0.29*	*-0.24*	*-0.05*	*0.44*	**-0.02**	*-0.15*	*0.11*
Other OECD	**-0.20**	**0.01**	**-0.16**	**0.39**	**-0.54**	**-1.14**	**0.42**	*0.71*	*0.16*	*0.15*	*0.11*	*-0.03*	**0.01**	*-0.14*	*0.10*
Other Stock Draws and Balance	**0.35**	**1.29**	**2.39**	**-0.32**	**-4.32**	**-4.28**	**2.10**	*1.50*	*0.33*	*0.32*	*0.23*	*-0.07*	**0.93**	*-1.23*	*0.20*
Total Stock Draw	**0.30**	**0.70**	**2.29**	**0.35**	**-5.29**	**-7.11**	**3.04**	*3.18*	*0.78*	*0.24*	*0.28*	*0.34*	**0.91**	*-1.52*	*0.41*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	**1,419**	*1,336*	*1,317*	*1,346*	*1,353*	*1,315*	**1,282**	*1,336*	*1,315*
OECD Commercial Inventory	**2,864**	**2,922**	**2,931**	**2,879**	**2,967**	**3,203**	**3,131**	*2,982*	*2,949*	*2,965*	*2,962*	*2,927*	**2,879**	*2,982*	*2,927*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.21**	**26.73**	**26.85**	**27.77**	**27.87**	**24.46**	**25.19**	*25.56*	*25.75*	*25.99*	*26.17*	*26.55*	**26.89**	*25.77*	*26.12*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.94**	**4.89**	*5.39*	*5.53*	*5.55*	*5.59*	*5.71*	**5.50**	*5.21*	*5.60*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	**1.91**	*1.82*	*1.82*	*1.82*	*1.78*	*1.77*	**1.92**	*1.92*	*1.80*
United States	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.58**	**18.39**	*18.35*	*18.40*	*18.61*	*18.80*	*19.07*	**19.47**	*18.64*	*18.72*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**6.05**	**6.09**	**6.65**	*6.47*	*6.15*	*6.76*	*7.05*	*6.78*	**6.23**	*6.32*	*6.69*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.69**	**0.58**	**0.58**	*0.63*	*0.66*	*0.63*	*0.62*	*0.67*	**0.69**	*0.62*	*0.65*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.44**	**3.89**	**4.31**	*3.94*	*3.57*	*4.34*	*4.67*	*4.29*	**3.67**	*3.89*	*4.22*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	**0.78**	**0.78**	*0.84*	*0.87*	*0.78*	*0.76*	*0.82*	**0.92**	*0.83*	*0.81*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	**0.35**	**0.52**	*0.53*	*0.52*	*0.51*	*0.49*	*0.48*	**0.53**	*0.49*	*0.50*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.48**	**0.48**	**0.46**	*0.53*	*0.52*	*0.51*	*0.51*	*0.52*	**0.42**	*0.49*	*0.52*
Europe	**4.26**	**3.97**	**3.96**	**4.29**	**4.39**	**4.31**	**4.20**	*4.34*	*4.45*	*4.27*	*4.37*	*4.60*	**4.12**	*4.31*	*4.43*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.05**	**2.01**	**1.96**	*2.04*	*2.15*	*2.09*	*2.14*	*2.27*	**1.75**	*2.02*	*2.16*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.17**	**1.16**	**1.08**	*1.13*	*1.14*	*1.03*	*1.08*	*1.17*	**1.17**	*1.13*	*1.11*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	**12.75**	*13.07*	*13.54*	*13.59*	*13.74*	*13.83*	**14.63**	*13.44*	*13.67*
Azerbaijan	**0.81**	**0.78**	**0.77**	**0.76**	**0.77**	**0.70**	**0.67**	*0.69*	*0.71*	*0.73*	*0.74*	*0.74*	**0.78**	*0.71*	*0.73*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	**1.86**	**1.71**	*1.76*	*1.83*	*1.77*	*1.82*	*1.85*	**1.97**	*1.85*	*1.81*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.55**	**10.25**	**9.97**	*10.24*	*10.63*	*10.72*	*10.81*	*10.88*	**11.49**	*10.50*	*10.76*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.24**	**0.24**	**0.25**	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.24*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.14**	**3.14**	**3.14**	**3.14**	**3.24**	**3.18**	**3.15**	*3.14*	*3.27*	*3.27*	*3.29*	*3.29*	**3.14**	*3.18*	*3.28*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	**1.01**	**0.96**	**0.91**	*0.91*	*1.00*	*1.00*	*1.02*	*1.02*	**0.98**	*0.95*	*1.01*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	**2.06**	**2.06**	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.50**	**9.53**	**9.38**	**9.49**	**9.43**	**9.18**	**9.22**	*9.30*	*9.30*	*9.29*	*9.28*	*9.31*	**9.48**	*9.28*	*9.30*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.49**	**0.49**	**0.49**	*0.49*	*0.49*	*0.48*	*0.47*	*0.47*	**0.49**	*0.49*	*0.48*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	**4.95**	*4.99*	*4.95*	*4.99*	*5.00*	*5.05*	**4.89**	*4.94*	*5.00*
India	**1.01**	**0.99**	**0.97**	**0.98**	**0.96**	**0.90**	**0.90**	*0.91*	*0.91*	*0.89*	*0.89*	*0.89*	**0.99**	*0.92*	*0.89*
Indonesia	**0.93**	**0.93**	**0.91**	**0.91**	**0.91**	**0.89**	**0.87**	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	**0.92**	*0.89*	*0.85*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.72**	**0.61**	**0.61**	*0.62*	*0.65*	*0.65*	*0.65*	*0.64*	**0.71**	*0.64*	*0.65*
Vietnam	**0.27**	**0.27**	**0.25**	**0.24**	**0.24**	**0.23**	**0.22**	*0.22*	*0.21*	*0.22*	*0.22*	*0.21*	**0.26**	*0.23*	*0.21*
Africa	**1.48**	**1.50**	**1.50**	**1.49**	**1.46**	**1.45**	**1.45**	*1.43*	*1.41*	*1.40*	*1.40*	*1.40*	**1.49**	*1.45*	*1.40*
Egypt	**0.65**	**0.64**	**0.64**	**0.63**	**0.62**	**0.61**	**0.60**	*0.60*	*0.57*	*0.57*	*0.57*	*0.57*	**0.64**	*0.61*	*0.57*
South Sudan	**0.15**	**0.16**	**0.16**	**0.16**	**0.15**	**0.15**	**0.17**	*0.16*	*0.17*	*0.17*	*0.18*	*0.18*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**64.89**	**65.51**	**66.21**	**67.30**	**67.20**	**61.86**	**62.60**	*63.31*	*63.87*	*64.57*	*65.30*	*65.77*	**65.98**	*63.74*	*64.88*
OPEC non-crude liquids	**5.44**	**5.44**	**5.24**	**5.31**	**5.21**	**4.95**	**4.83**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.36**	*4.97*	*4.98*
Non-OPEC + OPEC non-crude	**70.33**	**70.95**	**71.45**	**72.61**	**72.40**	**66.82**	**67.43**	*68.21*	*68.91*	*69.54*	*70.26*	*70.73*	**71.34**	*68.71*	*69.87*
Unplanned non-OPEC Production Outages	**0.38**	**0.28**	**0.41**	**0.33**	**0.18**	**0.90**	**0.62**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.35**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.02**	**0.90**	**0.84**	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	**1.26**	**1.17**	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	**0.29**	**0.28**	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	**0.12**	**0.11**	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.19**	**0.18**	**0.15**	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	**1.97**	**1.90**	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	**4.16**	**3.70**	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	**2.48**	**2.25**	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	**0.08**	**0.11**	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.72**	**1.55**	**1.44**	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	**9.28**	**8.77**	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	**2.88**	**2.55**	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	**0.50**	**0.35**	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	**23.61**	*25.36*	*27.36*	*28.46*	*29.11*	*29.13*	**29.27**	*25.71*	*28.52*
Other Liquids (a)	**5.44**	**5.44**	**5.24**	**5.31**	**5.21**	**4.95**	**4.83**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.36**	*4.97*	*4.98*
Total OPEC Supply	**35.38**	**34.91**	**33.89**	**34.33**	**33.49**	**30.59**	**28.43**	*30.26*	*32.40*	*33.43*	*34.07*	*34.09*	**34.63**	*30.69*	*33.50*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	**26.02**	**26.06**	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.97*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.82**	**5.60**	**5.48**	*6.11*	*5.98*	*5.96*	*6.00*	*6.02*	**6.66**	*5.75*	*5.99*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.43**	**31.63**	**31.54**	*32.28*	*32.24*	*32.25*	*32.28*	*32.30*	**31.78**	*31.72*	*32.27*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.27**	**6.90**	*6.16*	*4.77*	*3.69*	*3.08*	*3.08*	**2.52**	*5.37*	*3.65*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	**1.04**	*0.76*	*0.12*	*0.10*	*0.09*	*0.09*	**0.00**	*0.63*	*0.10*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.99**	**7.94**	*6.92*	*4.88*	*3.79*	*3.17*	*3.17*	**2.52**	*6.01*	*3.75*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	**4.13**	**4.30**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.74**	**24.85**	**25.36**	**25.13**	**23.65**	**19.46**	**22.09**	*23.15*	*23.54*	*23.78*	*24.23*	*24.55*	**25.02**	*22.09*	*24.03*
Canada	**2.30**	**2.31**	**2.57**	**2.49**	**2.33**	**1.88**	**2.18**	*2.26*	*2.27*	*2.23*	*2.37*	*2.35*	**2.42**	*2.16*	*2.31*
Mexico	**2.07**	**2.07**	**2.06**	**2.00**	**1.98**	**1.50**	**1.70**	*1.84*	*1.83*	*1.87*	*1.87*	*1.88*	**2.05**	*1.75*	*1.86*
United States	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.21**	*19.03*	*19.42*	*19.67*	*19.99*	*20.31*	**20.54**	*18.16*	*19.85*
Central and South America	**6.70**	**6.82**	**6.92**	**6.92**	**6.25**	**5.82**	**6.31**	*6.51*	*6.43*	*6.62*	*6.76*	*6.77*	**6.84**	*6.23*	*6.65*
Brazil	**3.03**	**3.10**	**3.19**	**3.18**	**2.83**	**2.59**	**2.91**	*3.01*	*2.92*	*3.02*	*3.13*	*3.13*	**3.13**	*2.84*	*3.05*
Europe	**14.80**	**14.94**	**15.44**	**14.84**	**14.07**	**11.71**	**13.80**	*13.63*	*13.58*	*13.93*	*14.48*	*14.20*	**15.01**	*13.31*	*14.05*
Eurasia	**5.27**	**5.32**	**5.72**	**5.57**	**5.07**	**4.69**	**5.50**	*5.40*	*5.10*	*5.22*	*5.63*	*5.49*	**5.47**	*5.17*	*5.36*
Russia	**3.64**	**3.74**	**4.04**	**3.89**	**3.54**	**3.22**	**3.92**	*3.81*	*3.57*	*3.72*	*4.05*	*3.90*	**3.83**	*3.62*	*3.81*
Middle East	**8.09**	**8.65**	**9.02**	**8.37**	**7.60**	**7.53**	**8.43**	*7.91*	*7.59*	*8.16*	*8.59*	*7.98*	**8.53**	*7.87*	*8.08*
Asia and Oceania	**36.47**	**36.01**	**35.49**	**36.51**	**34.41**	**31.91**	**33.69**	*35.68*	*36.37*	*36.08*	*35.59*	*36.65*	**36.12**	*33.93*	*36.17*
China	**14.45**	**14.65**	**14.37**	**14.58**	**13.52**	**13.74**	**14.33**	*14.90*	*15.00*	*15.22*	*14.95*	*15.19*	**14.51**	*14.13*	*15.09*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.89**	**3.03**	*3.36*	*3.63*	*2.98*	*3.06*	*3.37*	**3.65**	*3.24*	*3.26*
India	**4.89**	**4.95**	**4.66**	**4.94**	**4.63**	**3.77**	**4.17**	*4.68*	*4.84*	*4.89*	*4.57*	*4.84*	**4.86**	*4.31*	*4.79*
Africa	**4.50**	**4.52**	**4.44**	**4.63**	**4.34**	**4.22**	**4.25**	*4.47*	*4.43*	*4.45*	*4.37*	*4.56*	**4.52**	*4.32*	*4.45*
Total OECD Liquid Fuels Consumption	**47.57**	**46.99**	**48.12**	**47.75**	**45.30**	**37.45**	**42.43**	*43.93*	*44.53*	*44.32*	*45.46*	*45.95*	**47.61**	*42.28*	*45.07*
Total non-OECD Liquid Fuels Consumption	**53.00**	**54.13**	**54.28**	**54.23**	**50.09**	**47.90**	**51.65**	*52.82*	*52.52*	*53.92*	*54.20*	*54.25*	**53.91**	*50.62*	*53.73*
Total World Liquid Fuels Consumption	**100.57**	**101.12**	**102.39**	**101.98**	**95.40**	**85.34**	**94.08**	*96.75*	*97.05*	*98.24*	*99.65*	*100.20*	**101.52**	*92.91*	*98.80*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.0**	**112.9**	**112.8**	**112.5**	**109.0**	**102.2**	**107.6**	*108.7*	*110.7*	*112.0*	*112.9*	*113.7*	**112.5**	*106.9*	*112.3*
Percent change from prior year	**2.3**	**2.2**	**1.9**	**1.5**	**-2.7**	**-9.5**	**-4.6**	*-3.4*	*1.5*	*9.6*	*4.9*	*4.6*	**2.0**	*-5.0*	*5.1*
OECD Index, 2015 Q1 = 100	**108.9**	**109.8**	**110.0**	**109.4**	**108.1**	**97.6**	**104.8**	*105.4*	*106.8*	*108.3*	*109.1*	*109.4*	**109.6**	*104.0*	*108.4*
Percent change from prior year	**1.7**	**1.7**	**1.8**	**1.5**	**-0.8**	**-11.1**	**-4.7**	*-3.7*	*-1.2*	*10.9*	*4.0*	*3.8*	**1.7**	*-5.1*	*4.2*
Non-OECD Index, 2015 Q1 = 100	**115.0**	**115.8**	**115.5**	**115.4**	**109.9**	**106.6**	**110.3**	*111.8*	*114.4*	*115.5*	*116.6*	*117.9*	**115.4**	*109.7*	*116.1*
Percent change from prior year	**2.9**	**2.7**	**2.1**	**1.5**	**-4.4**	**-7.9**	**-4.5**	*-3.1*	*4.1*	*8.3*	*5.7*	*5.4*	**2.3**	*-5.0*	*5.9*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.49**	**106.09**	**106.55**	**106.31**	**106.63**	**108.40**	**107.04**	*106.60*	*106.19*	*106.00*	*105.64*	*105.34*	**106.11**	*107.16*	*105.79*
Percent change from prior year	**4.6**	**3.1**	**0.8**	**-0.1**	**1.1**	**2.2**	**0.5**	*0.3*	*-0.4*	*-2.2*	*-1.3*	*-1.2*	**2.1**	*1.0*	*-1.3*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.81**	**10.93**	*11.07*	*11.06*	*10.97*	*11.08*	*11.28*	**12.25**	*11.39*	*11.10*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.48**	**0.41**	**0.46**	*0.49*	*0.50*	*0.48*	*0.47*	*0.49*	**0.47**	*0.46*	*0.49*
Federal Gulf of Mexico (b)	**1.86**	**1.93**	**1.83**	**1.96**	**1.96**	**1.69**	**1.52**	*1.68*	*1.91*	*1.87*	*1.79*	*1.81*	**1.90**	*1.71*	*1.84*
Lower 48 States (excl GOM)	**9.48**	**9.73**	**9.99**	**10.33**	**10.31**	**8.71**	**8.95**	*8.90*	*8.66*	*8.62*	*8.82*	*8.98*	**9.89**	*9.22*	*8.77*
Crude Oil Net Imports (c)	**4.28**	**4.11**	**3.94**	**2.96**	**2.90**	**3.08**	**2.36**	*2.95*	*3.96*	*4.40*	*4.98*	*4.23*	**3.82**	*2.82*	*4.39*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	**-0.23**	**0.15**	*0.07*	*0.08*	*0.08*	*0.03*	*0.03*	**0.04**	*0.00*	*0.05*
Commercial Inventory Net Withdrawals	**-0.18**	**-0.05**	**0.41**	**-0.08**	**-0.55**	**-0.54**	**0.42**	*0.22*	*-0.28*	*0.14*	*0.22*	*-0.02*	**0.03**	*-0.11*	*0.02*
Crude Oil Adjustment (d)	**0.27**	**0.53**	**0.37**	**0.55**	**0.67**	**0.03**	**0.14**	*0.01*	*0.22*	*0.22*	*0.23*	*0.16*	**0.43**	*0.21*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	**14.00**	*14.31*	*15.05*	*15.81*	*16.53*	*15.68*	**16.56**	*14.31*	*15.77*
Other Supply															
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	**0.95**	*1.03*	*1.06*	*1.10*	*1.11*	*1.07*	**1.07**	*0.95*	*1.09*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.82**	**5.00**	**5.12**	**4.96**	**5.29**	*5.01*	*5.01*	*5.27*	*5.33*	*5.42*	**4.82**	*5.10*	*5.26*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.11**	**0.80**	**1.02**	*1.04*	*1.06*	*1.06*	*1.07*	*1.09*	**1.12**	*0.99*	*1.07*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	**0.70**	**0.92**	*0.94*	*0.97*	*0.96*	*0.96*	*0.99*	**1.03**	*0.90*	*0.97*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	**0.19**	**0.20**	*0.21*	*0.20*	*0.21*	*0.21*	*0.21*	**0.21**	*0.20*	*0.21*
Product Net Imports (c)	**-3.19**	**-2.93**	**-3.10**	**-3.37**	**-4.03**	**-2.94**	**-3.20**	*-3.25*	*-3.45*	*-3.32*	*-3.96*	*-3.60*	**-3.15**	*-3.36*	*-3.58*
Hydrocarbon Gas Liquids	**-1.31**	**-1.67**	**-1.69**	**-1.81**	**-1.99**	**-1.86**	**-1.85**	*-1.93*	*-1.85*	*-1.99*	*-2.03*	*-1.97*	**-1.62**	*-1.91*	*-1.96*
Unfinished Oils	**0.25**	**0.47**	**0.47**	**0.52**	**0.31**	**0.25**	**0.34**	*0.47*	*0.39*	*0.45*	*0.44*	*0.30*	**0.43**	*0.34*	*0.40*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.10**	**-0.05**	**-0.05**	*-0.06*	*-0.09*	*-0.08*	*-0.07*	*-0.08*	**-0.06**	*-0.06*	*-0.08*
Motor Gasoline Blend Comp.	**0.46**	**0.81**	**0.71**	**0.47**	**0.39**	**0.36**	**0.44**	*0.13*	*0.40*	*0.69*	*0.51*	*0.16*	**0.61**	*0.33*	*0.44*
Finished Motor Gasoline	**-0.80**	**-0.61**	**-0.60**	**-0.87**	**-0.72**	**-0.40**	**-0.51**	*-0.48*	*-0.69*	*-0.82*	*-0.93*	*-0.70*	**-0.72**	*-0.53*	*-0.78*
Jet Fuel	**-0.08**	**-0.01**	**-0.04**	**-0.08**	**-0.07**	**0.09**	**0.11**	*-0.09*	*-0.14*	*-0.03*	*0.01*	*0.00*	**-0.06**	*0.01*	*-0.04*
Distillate Fuel Oil	**-0.93**	**-1.22**	**-1.30**	**-0.97**	**-1.19**	**-0.86**	**-1.18**	*-0.76*	*-0.80*	*-0.89*	*-1.12*	*-0.69*	**-1.10**	*-1.00*	*-0.88*
Residual Fuel Oil	**-0.07**	**-0.15**	**-0.07**	**-0.02**	**-0.02**	**0.02**	**0.02**	*0.05*	*-0.04*	*-0.10*	*-0.09*	*0.01*	**-0.08**	*0.02*	*-0.06*
Other Oils (g)	**-0.63**	**-0.49**	**-0.52**	**-0.54**	**-0.65**	**-0.49**	**-0.52**	*-0.59*	*-0.64*	*-0.55*	*-0.68*	*-0.63*	**-0.55**	*-0.56*	*-0.63*
Product Inventory Net Withdrawals	**0.33**	**-0.60**	**-0.35**	**0.26**	**0.12**	**-0.91**	**-0.06**	*0.69*	*0.48*	*-0.46*	*-0.30*	*0.43*	**-0.09**	*-0.04*	*0.04*
Total Supply	**20.38**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.21**	*19.03*	*19.42*	*19.67*	*19.99*	*20.31*	**20.55**	*18.16*	*19.85*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.48**	**2.79**	**2.94**	**3.35**	**3.31**	**2.83**	**2.88**	*3.44*	*3.59*	*3.14*	*3.17*	*3.61*	**3.14**	*3.11*	*3.38*
Unfinished Oils	**0.00**	**0.09**	**0.05**	**0.11**	**0.14**	**0.11**	**0.04**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.06**	*0.07*	*0.00*
Motor Gasoline	**9.01**	**9.54**	**9.52**	**9.16**	**8.49**	**7.11**	**8.49**	*8.45*	*8.50*	*8.84*	*8.90*	*8.82*	**9.31**	*8.14*	*8.77*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.97**	**0.85**	**0.72**	**0.87**	*0.87*	*0.86*	*0.89*	*0.90*	*0.90*	**0.95**	*0.83*	*0.89*
Jet Fuel	**1.65**	**1.78**	**1.80**	**1.75**	**1.56**	**0.69**	**0.95**	*1.09*	*1.39*	*1.56*	*1.66*	*1.62*	**1.74**	*1.07*	*1.56*
Distillate Fuel Oil	**4.27**	**4.07**	**3.95**	**4.12**	**3.97**	**3.51**	**3.62**	*3.94*	*4.01*	*3.96*	*3.91*	*4.09*	**4.10**	*3.76*	*4.00*
Residual Fuel Oil	**0.27**	**0.23**	**0.33**	**0.27**	**0.17**	**0.15**	**0.30**	*0.27*	*0.25*	*0.21*	*0.26*	*0.26*	**0.28**	*0.22*	*0.25*
Other Oils (g)	**1.68**	**1.95**	**2.13**	**1.87**	**1.68**	**1.68**	**1.94**	*1.86*	*1.68*	*1.95*	*2.09*	*1.90*	**1.91**	*1.79*	*1.91*
Total Consumption	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.21**	*19.03*	*19.42*	*19.67*	*19.99*	*20.31*	**20.54**	*18.16*	*19.85*
Total Petroleum and Other Liquids Net Imports	**1.09**	**1.18**	**0.84**	**-0.41**	**-1.13**	**0.14**	**-0.84**	*-0.30*	*0.51*	*1.08*	*1.01*	*0.63*	**0.67**	*-0.53*	*0.81*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**458.9**	**463.4**	**425.6**	**432.8**	**482.5**	**531.9**	**492.9**	*472.8*	*497.8*	*485.2*	*464.8*	*466.4*	**432.8**	*472.8*	*466.4*
Hydrocarbon Gas Liquids	**160.3**	**224.5**	**262.8**	**211.7**	**180.8**	**233.9**	**302.7**	*244.5*	*201.7*	*247.0*	*281.9*	*237.6*	**211.7**	*244.5*	*237.6*
Unfinished Oils	**92.2**	**95.9**	**92.3**	**89.8**	**100.1**	**91.9**	**79.7**	*78.7*	*92.4*	*91.0*	*90.2*	*83.1*	**89.8**	*78.7*	*83.1*
Other HC/Oxygenates	**30.9**	**29.1**	**28.3**	**27.8**	**33.6**	**26.2**	**24.7**	*25.2*	*26.5*	*25.5*	*24.8*	*25.5*	**27.8**	*25.2*	*25.5*
Total Motor Gasoline	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	**226.7**	*238.6*	*233.5*	*232.1*	*228.3*	*234.9*	**254.1**	*238.6*	*234.9*
Finished Motor Gasoline	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	**23.4**	*24.1*	*22.8*	*21.4*	*22.4*	*22.5*	**26.1**	*24.1*	*22.5*
Motor Gasoline Blend Comp.	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	**203.4**	*214.5*	*210.7*	*210.7*	*205.9*	*212.3*	**228.0**	*214.5*	*212.3*
Jet Fuel	**41.6**	**40.5**	**44.3**	**40.5**	**39.9**	**41.5**	**39.6**	*37.6*	*37.8*	*39.2*	*41.7*	*38.9*	**40.5**	*37.6*	*38.9*
Distillate Fuel Oil	**132.2**	**131.1**	**131.8**	**140.1**	**126.7**	**175.4**	**171.8**	*158.5*	*140.1*	*138.2*	*140.8*	*144.4*	**140.1**	*158.5*	*144.4*
Residual Fuel Oil	**29.2**	**30.5**	**30.0**	**30.5**	**34.4**	**39.6**	**32.3**	*29.5*	*31.0*	*32.7*	*31.0*	*32.4*	**30.5**	*29.5*	*32.4*
Other Oils (g)	**63.3**	**59.2**	**51.2**	**54.6**	**62.0**	**59.2**	**48.6**	*50.6*	*56.5*	*55.5*	*50.0*	*52.3*	**54.6**	*50.6*	*52.3*
Total Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	**1,419**	*1,336*	*1,317*	*1,346*	*1,353*	*1,315*	**1,282**	*1,336*	*1,315*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	**656**	**642**	*635*	*628*	*620*	*618*	*616*	**635**	*635*	*616*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**1.87**	**1.72**	**1.85**	**1.93**	**1.92**	**2.12**	*2.00*	*2.15*	*2.25*	*2.25*	*2.36*	**1.83**	*1.99*	*2.25*
Propane	**1.50**	**1.56**	**1.61**	**1.68**	**1.72**	**1.61**	**1.67**	*1.62*	*1.56*	*1.60*	*1.62*	*1.63*	**1.59**	*1.66*	*1.60*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.91**	**0.86**	**0.89**	*0.84*	*0.79*	*0.86*	*0.87*	*0.87*	**0.85**	*0.87*	*0.85*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.61**	**0.58**	**0.56**	**0.57**	**0.61**	*0.55*	*0.52*	*0.56*	*0.59*	*0.56*	**0.56**	*0.57*	*0.56*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	**0.24**	**0.27**	*0.28*	*0.27*	*0.29*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.25**	**0.26**	**0.25**	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.28**	*0.26*	*0.28*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	**0.18**	**0.14**	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.01*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.01**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.26**	**-0.27**	**-0.28**	**-0.30**	**-0.30**	**-0.28**	**-0.28**	*-0.27*	*-0.38*	*-0.40*	*-0.41*	*-0.45*	**-0.28**	*-0.28*	*-0.41*
Propane/Propylene	**-0.75**	**-1.00**	**-0.99**	**-1.05**	**-1.12**	**-1.08**	**-1.03**	*-1.08*	*-0.88*	*-0.97*	*-0.99*	*-0.97*	**-0.95**	*-1.08*	*-0.95*
Butanes/Butylenes	**-0.14**	**-0.25**	**-0.26**	**-0.25**	**-0.30**	**-0.31**	**-0.35**	*-0.29*	*-0.26*	*-0.34*	*-0.33*	*-0.28*	**-0.23**	*-0.31*	*-0.31*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.15**	**-0.16**	**-0.21**	**-0.27**	**-0.19**	**-0.18**	*-0.29*	*-0.33*	*-0.29*	*-0.29*	*-0.26*	**-0.17**	*-0.23*	*-0.29*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.46**	**0.25**	**0.32**	*0.48*	*0.38*	*0.28*	*0.32*	*0.49*	**0.40**	*0.38*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.15**	**0.10**	**0.14**	*0.14*	*0.12*	*0.17*	*0.19*	*0.19*	**0.17**	*0.13*	*0.17*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.50**	**1.48**	**1.56**	**1.70**	**1.65**	**1.64**	*1.74*	*1.81*	*1.84*	*1.87*	*1.92*	**1.54**	*1.68*	*1.86*
Propane	**1.19**	**0.58**	**0.63**	**1.08**	**1.09**	**0.59**	**0.62**	*1.10*	*1.22*	*0.68*	*0.69*	*1.08*	**0.87**	*0.85*	*0.92*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.26**	**0.27**	**0.26**	*0.29*	*0.30*	*0.30*	*0.30*	*0.29*	**0.30**	*0.27*	*0.30*
Butanes/Butylenes	**0.19**	**0.22**	**0.30**	**0.24**	**0.17**	**0.20**	**0.16**	*0.19*	*0.17*	*0.23*	*0.21*	*0.21*	**0.24**	*0.18*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.19**	**0.20**	**0.23**	**0.17**	**0.09**	**0.13**	**0.19**	*0.13*	*0.10*	*0.08*	*0.10*	*0.11*	**0.20**	*0.13*	*0.10*
HGL Inventories (million barrels)															
Ethane	**49.14**	**56.54**	**56.84**	**58.84**	**52.57**	**49.54**	**62.03**	*73.06*	*67.71*	*69.06*	*66.40*	*66.92*	**55.37**	*59.35*	*67.52*
Propane	**48.94**	**71.71**	**95.61**	**79.67**	**60.28**	**75.31**	**100.06**	*72.97*	*47.56*	*67.26*	*87.37*	*74.63*	**79.67**	*72.97*	*74.63*
Propylene (at refineries only)	**1.68**	**1.76**	**2.65**	**1.66**	**1.41**	**1.50**	**1.78**	*2.21*	*2.10*	*2.47*	*2.84*	*3.24*	**1.66**	*2.21*	*3.24*
Butanes/Butylenes	**39.84**	**70.72**	**85.87**	**52.18**	**43.58**	**69.33**	**86.79**	*57.26*	*47.08*	*71.20*	*88.66*	*59.03*	**52.18**	*57.26*	*59.03*
Natural Gasoline (Pentanes Plus)	**18.43**	**19.72**	**21.26**	**20.90**	**23.99**	**35.67**	**43.23**	*41.15*	*37.29*	*37.19*	*36.83*	*34.88*	**20.90**	*41.15*	*34.88*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	**14.00**	*14.31*	*15.05*	*15.81*	*16.53*	*15.68*	**16.56**	*14.31*	*15.77*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	**0.35**	**0.46**	*0.62*	*0.51*	*0.45*	*0.51*	*0.68*	**0.57**	*0.51*	*0.54*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	**0.95**	**1.10**	*1.09*	*1.10*	*1.13*	*1.13*	*1.13*	**1.19**	*1.07*	*1.12*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.05**	**0.23**	**0.44**	*0.48*	*0.24*	*0.47*	*0.45*	*0.38*	**0.35**	*0.30*	*0.38*
Motor Gasoline Blend Components	**0.64**	**0.94**	**0.77**	**0.40**	**0.41**	**0.48**	**0.80**	*0.13*	*0.57*	*0.84*	*0.66*	*0.26*	**0.69**	*0.46*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.77**	**19.71**	**19.93**	**19.06**	**17.97**	**15.17**	**16.81**	*16.63*	*17.47*	*18.69*	*19.28*	*18.13*	**19.37**	*16.64*	*18.40*
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	**0.95**	*1.03*	*1.06*	*1.10*	*1.11*	*1.07*	**1.07**	*0.95*	*1.09*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.47**	**0.69**	**0.67**	*0.36*	*0.47*	*0.84*	*0.77*	*0.38*	**0.61**	*0.54*	*0.61*
Finished Motor Gasoline	**9.85**	**10.16**	**10.20**	**10.16**	**9.30**	**7.52**	**9.05**	*9.03*	*9.27*	*9.75*	*9.91*	*9.66*	**10.10**	*8.73*	*9.65*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	**0.62**	**0.82**	*1.15*	*1.53*	*1.60*	*1.68*	*1.58*	**1.80**	*1.05*	*1.60*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.95**	**4.83**	**4.68**	*4.47*	*4.57*	*4.77*	*4.98*	*4.75*	**5.14**	*4.73*	*4.77*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.30**	**0.23**	**0.18**	**0.19**	*0.19*	*0.31*	*0.33*	*0.33*	*0.27*	**0.36**	*0.20*	*0.31*
Other Oils (a)	**2.36**	**2.40**	**2.57**	**2.45**	**2.41**	**2.14**	**2.34**	*2.46*	*2.39*	*2.49*	*2.71*	*2.56*	**2.44**	*2.34*	*2.54*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**20.99**	**20.15**	**18.99**	**15.99**	**17.76**	*17.66*	*18.53*	*19.79*	*20.39*	*19.20*	**20.44**	*17.60*	*19.48*
Refinery Distillation Inputs	**16.54**	**17.14**	**17.42**	**16.85**	**16.36**	**13.65**	**14.52**	*14.80*	*15.43*	*16.11*	*16.82*	*16.02*	**16.99**	*14.83*	*16.10*
Refinery Operable Distillation Capacity	**18.81**	**18.81**	**18.81**	**18.81**	**18.98**	**18.75**	**18.55**	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	**18.81**	*18.66*	*18.39*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	**0.73**	**0.78**	*0.80*	*0.84*	*0.88*	*0.92*	*0.87*	**0.90**	*0.79*	*0.88*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**153**	**104**	**135**	*121*	*126*	*156*	*156*	*145*	**186**	*129*	*146*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	**191**	**211**	*195*	*193*	*225*	*230*	*219*	**251**	*209*	*217*
PADD 2	**223**	**269**	**257**	**244**	**226**	**179**	**207**	*191*	*183*	*225*	*222*	*208*	**249**	*202*	*210*
PADD 3	**205**	**245**	**234**	**224**	**210**	**162**	**186**	*172*	*174*	*204*	*205*	*193*	**228**	*184*	*194*
PADD 4	**226**	**285**	**270**	**276**	**247**	**201**	**233**	*210*	*191*	*223*	*230*	*215*	**265**	*223*	*215*
PADD 5	**297**	**356**	**331**	**350**	**311**	**258**	**283**	*267*	*250*	*289*	*290*	*279*	**334**	*281*	*277*
U.S. Average	**236**	**279**	**265**	**259**	**241**	**194**	**218**	*203*	*197*	*233*	*234*	*221*	**260**	*215*	*222*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**251**	**203**	**227**	*213*	*209*	*245*	*247*	*235*	**269**	*224*	*235*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.5**	**59.8**	**65.0**	**65.6**	**71.0**	**73.0**	**61.5**	*60.8*	*59.0*	*60.8*	*58.0*	*58.8*	**65.6**	*60.8*	*58.8*
PADD 2	**54.5**	**49.6**	**51.0**	**55.0**	**60.2**	**52.6**	**46.2**	*51.7*	*54.4*	*53.9*	*52.8*	*50.4*	**55.0**	*51.7*	*50.4*
PADD 3	**82.3**	**82.6**	**81.6**	**92.0**	**84.8**	**90.5**	**80.4**	*86.9*	*82.1*	*80.4*	*80.6*	*85.6*	**92.0**	*86.9*	*85.6*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.2**	**7.7**	**7.5**	*7.5*	*7.7*	*7.8*	*7.5*	*8.0*	**8.3**	*7.5*	*8.0*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**35.6**	**29.4**	**31.2**	*31.7*	*30.3*	*29.2*	*29.4*	*32.1*	**33.2**	*31.7*	*32.1*
U.S. Total	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	**226.7**	*238.6*	*233.5*	*232.1*	*228.3*	*234.9*	**254.1**	*238.6*	*234.9*
Finished Gasoline Inventories															
U.S. Total	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	**23.4**	*24.1*	*22.8*	*21.4*	*22.4*	*22.5*	**26.1**	*24.1*	*22.5*
Gasoline Blending Components Inventories															
U.S. Total	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	**203.4**	*214.5*	*210.7*	*210.7*	*205.9*	*212.3*	**228.0**	*214.5*	*212.3*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.76**	**98.44**	**101.05**	**103.83**	**102.32**	**96.89**	**97.87**	*96.99*	*95.10*	*94.72*	*95.93*	*96.74*	**100.04**	*98.51*	*95.63*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.96**	**0.88**	**0.88**	*0.94*	*0.99*	*0.85*	*0.80*	*0.95*	**0.90**	*0.92*	*0.90*
Federal GOM (a)	**2.88**	**2.82**	**2.63**	**2.80**	**2.72**	**2.22**	**1.95**	*2.29*	*2.44*	*2.37*	*2.25*	*2.23*	**2.78**	*2.29*	*2.32*
Lower 48 States (excl GOM)	**92.92**	**94.69**	**97.63**	**100.10**	**98.64**	**93.79**	**95.04**	*93.76*	*91.67*	*91.50*	*92.88*	*93.57*	**96.36**	*95.30*	*92.41*
Total Dry Gas Production	**90.01**	**91.57**	**94.00**	**96.58**	**94.85**	**89.73**	**90.14**	*89.29*	*87.50*	*87.10*	*88.16*	*88.86*	**93.06**	*90.99*	*87.91*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	**0.12**	**0.10**	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.17*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	**5.51**	**3.88**	*8.30*	*9.15*	*7.59*	*7.66*	*9.26*	**4.98**	*6.40*	*8.41*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.64**	**6.17**	**6.64**	*7.00*	*7.79*	*6.52*	*6.85*	*7.13*	**7.37**	*6.86*	*7.07*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.15**	**7.17**	**8.05**	*8.30*	*8.45*	*7.89*	*8.77*	*8.92*	**7.77**	*7.92*	*8.51*
Supplemental Gaseous Fuels	**0.16**	**0.17**	**0.17**	**0.18**	**0.19**	**0.17**	**0.16**	*0.17*	*0.16*	*0.16*	*0.17*	*0.17*	**0.17**	*0.17*	*0.17*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.45**	**12.74**	**-12.24**	**-7.59**	*8.11*	*17.34*	*-11.47*	*-8.00*	*7.30*	**-1.37**	*0.25*	*1.24*
Total Supply	**103.87**	**72.60**	**78.18**	**92.05**	**99.59**	**71.27**	**77.51**	*88.16*	*95.51*	*67.02*	*70.93*	*85.47*	**86.62**	*84.13*	*79.68*
Balancing Item (b)	**0.05**	**-1.65**	**-1.83**	**-2.43**	**-0.28**	**-0.38**	**-0.56**	*-0.57*	*0.03*	*-0.75*	*-0.02*	*-0.50*	**-1.47**	*-0.45*	*-0.31*
Total Primary Supply	**103.92**	**70.95**	**76.35**	**89.62**	**99.31**	**70.89**	**76.96**	*87.59*	*95.54*	*66.27*	*70.91*	*84.97*	**85.15**	*83.68*	*79.37*
Consumption (billion cubic feet per day)															
Residential	**27.22**	**7.36**	**3.51**	**17.09**	**22.83**	**8.20**	**3.78**	*17.94*	*25.75*	*7.17*	*3.62*	*16.99*	**13.74**	*13.17*	*13.33*
Commercial	**16.11**	**6.33**	**4.62**	**11.53**	**13.93**	**5.82**	**4.37**	*10.93*	*15.18*	*6.65*	*4.72*	*10.60*	**9.62**	*8.76*	*9.26*
Industrial	**25.24**	**21.82**	**21.38**	**23.89**	**24.65**	**20.62**	**20.95**	*23.84*	*24.33*	*21.73*	*20.99*	*23.73*	**23.07**	*22.51*	*22.69*
Electric Power (c)	**27.12**	**28.20**	**39.27**	**28.99**	**29.55**	**29.04**	**40.34**	*26.51*	*21.66*	*23.09*	*33.77*	*25.20*	**30.92**	*31.37*	*25.96*
Lease and Plant Fuel	**4.89**	**4.98**	**5.11**	**5.25**	**5.17**	**4.90**	**4.95**	*4.90*	*4.81*	*4.79*	*4.85*	*4.89*	**5.06**	*4.98*	*4.84*
Pipeline and Distribution Use	**3.19**	**2.13**	**2.31**	**2.73**	**3.02**	**2.15**	**2.41**	*3.29*	*3.62*	*2.65*	*2.78*	*3.37*	**2.59**	*2.72*	*3.10*
Vehicle Use	**0.14**	**0.14**	**0.14**	**0.14**	**0.16**	**0.16**	**0.16**	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	**0.14**	*0.17*	*0.18*
Total Consumption	**103.92**	**70.95**	**76.35**	**89.62**	**99.31**	**70.89**	**76.96**	*87.59*	*95.54*	*66.27*	*70.91*	*84.97*	**85.15**	*83.68*	*79.37*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,188**	**2,030**	**3,133**	**3,840**	*3,094*	*1,533*	*2,576*	*3,313*	*2,641*	**3,188**	*3,094*	*2,641*
East Region (d)	**216**	**537**	**845**	**764**	**385**	**655**	**887**	*660*	*178*	*463*	*718*	*467*	**764**	*660*	*467*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	**747**	**1,054**	*834*	*291*	*583*	*919*	*707*	**885**	*834*	*707*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**857**	**1,221**	**1,317**	*1,121*	*736*	*1,061*	*1,131*	*1,000*	**1,095**	*1,121*	*1,000*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	**177**	**235**	*180*	*117*	*156*	*199*	*163*	**167**	*180*	*163*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	**308**	**317**	*268*	*180*	*283*	*317*	*273*	**245**	*268*	*273*
Alaska	**30**	**33**	**37**	**33**	**23**	**25**	**30**	*30*	*30*	*30*	*30*	*30*	**33**	*30*	*30*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	**2.07**	*3.05*	*3.47*	*3.15*	*3.18*	*3.24*	**2.67**	*2.22*	*3.26*
Residential Retail															
New England	**14.42**	**15.46**	**19.05**	**14.02**	**13.77**	**14.50**	**18.31**	*13.74*	*13.27*	*14.18*	*17.11*	*13.21*	**14.72**	*14.21*	*13.64*
Middle Atlantic	**10.70**	**12.97**	**18.34**	**11.29**	**10.77**	**11.85**	**17.73**	*10.89*	*9.93*	*12.26*	*17.00*	*11.22*	**11.64**	*11.49*	*11.10*
E. N. Central	**7.26**	**10.47**	**19.05**	**7.67**	**6.99**	**9.50**	**18.83**	*7.57*	*7.74*	*11.09*	*16.76*	*8.45*	**8.39**	*8.25*	*8.95*
W. N. Central	**7.88**	**10.61**	**18.10**	**8.06**	**6.85**	**9.89**	**17.74**	*7.88*	*7.66*	*10.98*	*17.16*	*9.12*	**8.75**	*8.22*	*9.04*
S. Atlantic	**11.42**	**17.86**	**25.10**	**12.62**	**12.12**	**15.52**	**24.16**	*12.95*	*11.44*	*16.60*	*22.70*	*12.64*	**13.52**	*13.80*	*13.30*
E. S. Central	**9.68**	**14.93**	**21.63**	**10.45**	**9.69**	**13.34**	**21.18**	*10.48*	*9.94*	*15.26*	*22.32*	*13.61*	**11.09**	*11.11*	*12.29*
W. S. Central	**8.24**	**13.34**	**21.45**	**10.46**	**8.52**	**14.22**	**20.39**	*9.63*	*8.88*	*14.98*	*20.83*	*11.99*	**10.46**	*10.68*	*11.48*
Mountain	**7.64**	**9.36**	**13.16**	**7.66**	**7.55**	**9.37**	**12.79**	*7.78*	*7.74*	*9.80*	*13.67*	*8.51*	**8.25**	*8.34*	*8.74*
Pacific	**12.17**	**12.47**	**13.20**	**11.81**	**13.41**	**14.47**	**14.32**	*12.91*	*13.28*	*14.10*	*14.83*	*13.75*	**12.23**	*13.58*	*13.75*
U.S. Average	**9.39**	**12.36**	**17.90**	**9.78**	**9.46**	**11.89**	**17.74**	*9.93*	*9.53*	*12.74*	*17.38*	*10.78*	**10.46**	*10.59*	*10.90*
Commercial Retail															
New England	**10.81**	**11.05**	**11.37**	**9.85**	**9.93**	**10.40**	**10.60**	*9.75*	*9.94*	*10.37*	*10.86*	*10.32*	**10.60**	*10.02*	*10.23*
Middle Atlantic	**8.31**	**7.66**	**6.81**	**7.43**	**7.91**	**7.00**	**6.63**	*7.03*	*7.50*	*7.45*	*7.00*	*7.56*	**7.71**	*7.33*	*7.45*
E. N. Central	**6.23**	**7.14**	**8.79**	**6.00**	**5.75**	**6.73**	**8.82**	*6.70*	*6.87*	*8.13*	*9.51*	*7.17*	**6.46**	*6.44*	*7.34*
W. N. Central	**6.75**	**7.07**	**8.17**	**6.05**	**5.43**	**6.53**	**8.00**	*6.64*	*7.29*	*7.97*	*9.12*	*7.38*	**6.66**	*6.16*	*7.54*
S. Atlantic	**8.80**	**9.50**	**9.73**	**8.72**	**8.51**	**9.21**	**9.44**	*8.44*	*8.57*	*9.60*	*9.92*	*8.83*	**9.00**	*8.71*	*8.97*
E. S. Central	**8.63**	**9.82**	**10.13**	**8.47**	**8.38**	**9.20**	**10.07**	*8.65*	*8.44*	*9.68*	*10.43*	*9.22*	**8.90**	*8.77*	*9.08*
W. S. Central	**6.30**	**6.93**	**7.85**	**6.66**	**5.99**	**7.18**	**7.89**	*7.37*	*7.35*	*8.10*	*8.87*	*8.13*	**6.71**	*6.85*	*7.92*
Mountain	**6.40**	**6.73**	**7.33**	**6.15**	**6.09**	**6.85**	**7.60**	*6.53*	*6.84*	*7.32*	*8.30*	*7.25*	**6.46**	*6.50*	*7.20*
Pacific	**9.07**	**8.82**	**9.14**	**9.01**	**9.58**	**9.30**	**9.49**	*8.84*	*9.09*	*9.30*	*9.79*	*9.29*	**9.01**	*9.29*	*9.30*
U.S. Average	**7.55**	**7.95**	**8.41**	**7.20**	**7.13**	**7.63**	**8.39**	*7.43*	*7.67*	*8.36*	*8.93*	*8.00*	**7.59**	*7.44*	*8.02*
Industrial Retail															
New England	**9.24**	**8.32**	**6.96**	**7.34**	**8.15**	**7.41**	**5.88**	*7.08*	*8.33*	*7.59*	*6.77*	*7.69*	**8.14**	*7.29*	*7.72*
Middle Atlantic	**8.80**	**7.49**	**6.72**	**7.04**	**7.43**	**6.76**	**6.77**	*6.84*	*7.79*	*7.53*	*7.59*	*7.80*	**7.83**	*7.05*	*7.72*
E. N. Central	**5.66**	**5.31**	**5.56**	**5.05**	**4.84**	**5.10**	**4.21**	*5.09*	*6.10*	*5.90*	*5.83*	*5.69*	**5.41**	*4.88*	*5.91*
W. N. Central	**5.24**	**4.01**	**3.48**	**4.32**	**3.97**	**3.30**	**3.09**	*4.29*	*5.31*	*4.65*	*4.62*	*5.10*	**4.34**	*3.72*	*4.96*
S. Atlantic	**5.43**	**4.54**	**4.35**	**4.45**	**4.15**	**3.70**	**3.66**	*4.73*	*5.73*	*5.03*	*4.97*	*5.21*	**4.73**	*4.09*	*5.27*
E. S. Central	**4.99**	**4.09**	**3.62**	**4.12**	**3.92**	**3.24**	**3.29**	*4.48*	*5.32*	*4.71*	*4.64*	*5.01*	**4.25**	*3.78*	*4.95*
W. S. Central	**3.49**	**2.89**	**2.54**	**2.65**	**2.19**	**1.92**	**2.18**	*3.03*	*3.64*	*3.36*	*3.43*	*3.46*	**2.91**	*2.38*	*3.47*
Mountain	**5.23**	**4.71**	**4.88**	**4.64**	**4.40**	**4.59**	**4.67**	*4.91*	*5.48*	*5.66*	*6.08*	*6.02*	**4.88**	*4.63*	*5.79*
Pacific	**7.61**	**6.58**	**6.37**	**6.88**	**7.46**	**6.28**	**6.17**	*6.29*	*7.17*	*6.69*	*7.03*	*7.12*	**6.91**	*6.58*	*7.02*
U.S. Average	**4.66**	**3.73**	**3.29**	**3.74**	**3.52**	**2.85**	**2.85**	*3.85*	*4.72*	*4.13*	*4.08*	*4.38*	**3.90**	*3.31*	*4.34*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**179.5**	**179.2**	**181.4**	**165.2**	**149.1**	**113.1**	**135.5**	*122.9*	*161.6*	*148.4*	*163.3*	*153.6*	**705.3**	*520.6*	*626.9*
Appalachia	**49.6**	**52.5**	**46.6**	**44.3**	**39.7**	**32.0**	**36.0**	*31.8*	*44.1*	*45.5*	*42.8*	*39.7*	**193.0**	*139.5*	*172.2*
Interior	**35.4**	**32.3**	**32.4**	**30.6**	**25.8**	**20.2**	**22.6**	*24.2*	*24.0*	*20.3*	*26.1*	*29.1*	**130.7**	*92.8*	*99.5*
Western	**94.5**	**94.4**	**102.4**	**90.3**	**83.6**	**60.9**	**76.8**	*67.0*	*93.5*	*82.6*	*94.3*	*84.9*	**381.7**	*288.4*	*355.3*
Primary Inventory Withdrawals	**-2.5**	**-0.4**	**-3.2**	**-3.6**	**0.5**	**1.3**	**2.0**	*-1.0*	*0.4*	*2.0*	*2.6*	*-0.7*	**-9.6**	*2.8*	*4.3*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	**1.1**	**1.1**	*1.1*	*1.0*	*1.0*	*1.3*	*1.3*	**6.7**	*4.8*	*4.5*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	**14.8**	**14.8**	*14.1*	*20.1*	*17.1*	*14.3*	*13.2*	**92.9**	*63.6*	*64.7*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	**9.0**	**9.8**	*10.3*	*12.2*	*11.0*	*9.4*	*8.9*	**55.1**	*40.8*	*41.5*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	**5.8**	**4.9**	*3.8*	*8.0*	*6.0*	*4.9*	*4.3*	**37.7**	*22.8*	*23.2*
Total Primary Supply	**153.5**	**155.1**	**157.9**	**142.9**	**130.9**	**100.8**	**123.8**	*109.0*	*142.8*	*134.4*	*152.9*	*141.0*	**609.5**	*464.6*	*571.1*
Secondary Inventory Withdrawals	**6.1**	**-20.4**	**5.9**	**-17.5**	**-16.6**	**-5.0**	**24.3**	*3.0*	*-0.3*	*-5.1*	*9.9*	*5.9*	**-25.9**	*5.6*	*10.5*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**162.0**	**137.1**	**166.1**	**127.7**	**116.6**	**98.1**	**150.4**	*114.3*	*144.5*	*131.3*	*164.8*	*148.9*	**592.9**	*479.4*	*589.6*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.4**	**4.3**	**3.5**	**3.9**	*3.9*	*4.1*	*4.0*	*4.2*	*4.2*	**18.0**	*15.5*	*16.5*
Electric Power Sector (b)	**145.2**	**117.8**	**155.6**	**120.0**	**97.8**	**87.2**	**141.0**	*116.5*	*131.8*	*130.2*	*157.9*	*126.0*	**538.6**	*442.5*	*545.9*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.4**	**5.7**	**6.3**	*6.7*	*6.8*	*6.5*	*6.4*	*6.6*	**30.0**	*26.1*	*26.4*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.3**	**0.1**	**0.2**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.9*	*0.8*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.1**	**5.6**	**6.1**	*6.4*	*6.6*	*6.4*	*6.2*	*6.4*	**29.1**	*25.2*	*25.6*
Total Consumption	**157.7**	**129.6**	**167.2**	**132.0**	**109.5**	**96.4**	**151.2**	*127.1*	*142.7*	*140.8*	*168.5*	*136.9*	**586.5**	*484.1*	*588.9*
Discrepancy (c)	**4.2**	**7.5**	**-1.1**	**-4.2**	**7.1**	**1.7**	**-0.8**	*-12.7*	*1.8*	*-9.4*	*-3.7*	*12.0*	**6.4**	*-4.7*	*0.7*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**24.2**	**24.5**	**27.7**	**31.3**	**30.8**	**29.5**	**27.5**	*28.5*	*28.1*	*26.1*	*23.5*	*24.2*	**31.3**	*28.5*	*24.2*
Secondary Inventories	**102.0**	**122.4**	**116.5**	**134.0**	**150.6**	**155.7**	**131.4**	*128.4*	*128.7*	*133.7*	*123.8*	*117.9*	**134.0**	*128.4*	*117.9*
Electric Power Sector	**96.9**	**116.9**	**110.6**	**128.2**	**145.2**	**150.4**	**125.3**	*122.6*	*123.1*	*127.9*	*117.8*	*112.2*	**128.2**	*122.6*	*112.2*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.0**	**3.0**	**3.7**	*3.5*	*3.8*	*3.7*	*3.8*	*3.6*	**3.3**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**2.1**	**2.0**	**2.2**	*2.1*	*1.6*	*2.0*	*2.1*	*2.0*	**2.3**	*2.1*	*2.0*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	**0.196**	*0.216*	*0.262*	*0.229*	*0.228*	*0.268*	**0.268**	*0.213*	*0.246*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.93**	*2.00*	*2.04*	*2.06*	*2.03*	*2.04*	**2.01**	*1.94*	*2.04*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**1,001**	**980**	**1,172**	**974**	**965**	**933**	**1,157**	*956*	*952*	*966*	*1,138*	*966*	**4,127**	*4,012*	*4,022*
Electric Power Sector (a)	**961**	**941**	**1,129**	**933**	**924**	**896**	**1,118**	*921*	*916*	*931*	*1,101*	*929*	**3,965**	*3,859*	*3,876*
Industrial Sector (b)	**36**	**35**	**39**	**38**	**38**	**34**	**36**	*32*	*33*	*32*	*34*	*34*	**149**	*140*	*132*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**4**	*3*	*3*	*3*	*4*	*3*	**14**	*13*	*13*
Net Imports	**11**	**12**	**15**	**11**	**13**	**13**	**15**	*11*	*12*	*13*	*15*	*11*	**49**	*53*	*50*
Total Supply	**1,012**	**992**	**1,186**	**985**	**978**	**946**	**1,173**	*968*	*964*	*979*	*1,153*	*977*	**4,176**	*4,065*	*4,072*
Losses and Unaccounted for (c)	**50**	**65**	**59**	**45**	**55**	**69**	**74**	*54*	*44*	*67*	*58*	*54*	**219**	*251*	*223*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**926**	**892**	**1089**	**904**	**887**	**844**	**1060**	*880*	*888*	*880*	*1061*	*889*	**3811**	*3671*	*3718*
Residential Sector	**363**	**311**	**435**	**332**	**340**	**334**	**458**	*344*	*360*	*342*	*450*	*346*	**1440**	*1476*	*1497*
Commercial Sector	**322**	**329**	**384**	**326**	**314**	**293**	**358**	*309*	*305*	*309*	*363*	*313*	**1361**	*1274*	*1290*
Industrial Sector	**240**	**250**	**268**	**244**	**231**	**216**	**242**	*225*	*221*	*227*	*246*	*228*	**1002**	*914*	*923*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**1**	**2**	*2*	*2*	*2*	*2*	*2*	**8**	*7*	*8*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	**33**	**35**	*32*	*32*	*32*	*34*	*33*	**146**	*138*	*131*
Total Consumption	**962**	**927**	**1128**	**941**	**924**	**878**	**1099**	*913*	*920*	*912*	*1094*	*922*	**3957**	*3813*	*3849*
Average residential electricity usage per customer (kWh)	**2,680**	**2,298**	**3,219**	**2,451**	**2,518**	**2,472**	**3,399**	*2,551*	*2,628*	*2,499*	*3,283*	*2,526*	**10,649**	*10,940*	*10,935*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.93**	*2.00*	*2.04*	*2.06*	*2.03*	*2.04*	**2.01**	*1.94*	*2.04*
Natural Gas	**3.72**	**2.73**	**2.51**	**2.79**	**2.41**	**2.10**	**2.18**	*3.29*	*4.01*	*3.35*	*3.32*	*3.52*	**2.89**	*2.45*	*3.52*
Residual Fuel Oil	**12.22**	**13.39**	**12.80**	**12.52**	**12.15**	**6.65**	**7.21**	*7.44*	*7.94*	*9.31*	*9.20*	*9.18*	**12.73**	*8.33*	*8.78*
Distillate Fuel Oil	**14.83**	**15.77**	**15.01**	**15.08**	**13.29**	**8.43**	**10.08**	*9.92*	*10.62*	*11.84*	*12.24*	*12.57*	**15.16**	*10.50*	*11.83*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.67**	**13.30**	**13.24**	**12.83**	**12.90**	**13.24**	**13.34**	*12.83*	*12.81*	*13.33*	*13.53*	*13.14*	**13.01**	*13.10*	*13.22*
Commercial Sector	**10.43**	**10.66**	**11.00**	**10.55**	**10.33**	**10.63**	**10.95**	*10.48*	*10.29*	*10.78*	*11.20*	*10.68*	**10.67**	*10.61*	*10.76*
Industrial Sector	**6.67**	**6.69**	**7.20**	**6.65**	**6.37**	**6.63**	**7.03**	*6.60*	*6.42*	*6.72*	*7.03*	*6.61*	**6.81**	*6.66*	*6.70*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	**24.03**	**34.12**	*29.47*	*30.76*	*32.58*	*33.62*	*30.75*	**56.24**	*27.76*	*31.93*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	**19.21**	**61.94**	*44.73*	*44.36*	*42.41*	*43.81*	*44.59*	**38.15**	*38.63*	*43.79*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	**20.25**	**27.20**	*36.13*	*51.28*	*29.84*	*31.32*	*34.21*	**34.89**	*27.05*	*36.66*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	**18.13**	**24.38**	*23.27*	*26.86*	*25.65*	*27.55*	*25.70*	**30.56**	*21.90*	*26.44*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	**20.79**	**28.24**	*25.17*	*27.18*	*26.60*	*30.06*	*26.85*	**30.85**	*24.17*	*27.67*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	**23.00**	**29.35**	*26.77*	*27.13*	*26.76*	*30.19*	*28.63*	**29.51**	*25.89*	*28.18*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	**19.54**	**26.27**	*24.50*	*22.55*	*23.14*	*28.22*	*24.33*	**27.86**	*22.59*	*24.56*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	**18.23**	**23.47**	*23.25*	*23.89*	*24.25*	*26.60*	*24.53*	**30.25**	*22.13*	*24.82*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	**18.53**	**23.75**	*24.92*	*26.79*	*27.76*	*27.68*	*27.22*	**30.10**	*23.36*	*27.36*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	**14.49**	**33.56**	*32.82*	*33.03*	*31.09*	*32.98*	*33.89*	**36.12**	*25.91*	*32.75*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	**19.60**	**80.81**	*41.89*	*49.92*	*42.85*	*42.24*	*42.14*	**35.26**	*41.09*	*44.29*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.5**	**9.7**	**13.1**	**10.8**	**11.7**	**10.9**	**14.7**	*11.5*	*12.5*	*11.3*	*13.8*	*11.7*	**46.2**	*48.8*	*49.4*
Middle Atlantic	**35.3**	**27.7**	**40.4**	**29.8**	**32.2**	**30.6**	**43.9**	*30.7*	*34.3*	*30.8*	*40.8*	*31.0*	**133.1**	*137.3*	*136.9*
E. N. Central	**50.0**	**38.3**	**54.4**	**43.4**	**46.4**	**43.7**	**58.1**	*46.3*	*49.2*	*44.4*	*56.1*	*47.0*	**186.2**	*194.5*	*196.7*
W. N. Central	**30.3**	**21.9**	**29.3**	**25.1**	**27.6**	**23.7**	**29.9**	*25.3*	*28.4*	*25.7*	*31.6*	*27.3*	**106.6**	*106.6*	*113.0*
S. Atlantic	**88.7**	**84.9**	**112.0**	**84.7**	**84.3**	**86.3**	**115.6**	*85.8*	*92.2*	*88.6*	*114.4*	*85.9*	**370.4**	*372.1*	*381.2*
E. S. Central	**30.3**	**25.9**	**36.7**	**27.5**	**29.0**	**26.0**	**37.2**	*26.7*	*31.9*	*27.2*	*38.0*	*27.1*	**120.3**	*119.0*	*124.3*
W. S. Central	**52.1**	**49.4**	**76.5**	**51.0**	**48.8**	**52.9**	**76.7**	*51.8*	*49.8*	*54.3*	*77.4*	*51.3*	**229.0**	*230.1*	*232.8*
Mountain	**23.2**	**22.2**	**33.0**	**22.1**	**22.5**	**25.7**	**36.6**	*23.9*	*22.8*	*25.5*	*34.2*	*23.8*	**100.5**	*108.8*	*106.2*
Pacific contiguous	**39.1**	**29.7**	**38.7**	**35.8**	**36.7**	**33.2**	**43.7**	*40.8*	*37.4*	*33.3*	*42.0*	*39.4*	**143.3**	*154.4*	*152.1*
AK and HI	**1.2**	**1.1**	**1.2**	**1.2**	**1.3**	**1.1**	**1.2**	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.7**	*4.9*	*4.9*
Total	**362.5**	**310.8**	**435.4**	**331.5**	**340.4**	**334.1**	**457.8**	*344.1*	*359.8*	*342.2*	*449.6*	*345.8*	**1,440.3**	*1,476.4*	*1,497.5*
Commercial Sector															
New England	**12.8**	**12.1**	**14.0**	**12.6**	**12.3**	**10.6**	**13.0**	*11.9*	*12.0*	*10.8*	*12.7*	*11.9*	**51.5**	*47.8*	*47.4*
Middle Atlantic	**38.7**	**36.4**	**42.0**	**36.0**	**35.9**	**31.0**	**38.8**	*33.0*	*33.6*	*34.2*	*39.4*	*34.0*	**153.2**	*138.7*	*141.2*
E. N. Central	**44.2**	**42.8**	**50.0**	**43.2**	**43.1**	**38.3**	**47.2**	*41.4*	*42.1*	*41.5*	*48.4*	*42.3*	**180.2**	*170.0*	*174.3*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**24.7**	**21.6**	**26.5**	*24.1*	*24.2*	*22.1*	*27.2*	*24.4*	**102.6**	*96.9*	*97.9*
S. Atlantic	**72.3**	**79.7**	**90.4**	**75.8**	**72.0**	**70.0**	**84.2**	*70.2*	*69.9*	*73.8*	*85.6*	*71.3*	**318.1**	*296.4*	*300.5*
E. S. Central	**21.2**	**22.7**	**27.2**	**21.9**	**20.7**	**19.4**	**25.4**	*20.9*	*20.5*	*20.6*	*26.0*	*21.2*	**93.1**	*86.4*	*88.3*
W. S. Central	**44.0**	**47.8**	**58.9**	**47.6**	**44.3**	**44.6**	**55.5**	*46.9*	*43.9*	*46.8*	*57.0*	*47.8*	**198.3**	*191.2*	*195.5*
Mountain	**22.7**	**23.8**	**28.2**	**23.3**	**22.4**	**22.1**	**27.0**	*22.4*	*22.0*	*23.2*	*26.8*	*22.7*	**98.1**	*93.9*	*94.7*
Pacific contiguous	**38.4**	**38.4**	**43.6**	**39.5**	**37.0**	**33.9**	**39.1**	*37.1*	*35.1*	*34.5*	*38.8*	*36.2*	**160.0**	*147.2*	*144.6*
AK and HI	**1.4**	**1.4**	**1.5**	**1.5**	**1.4**	**1.2**	**1.3**	*1.3*	*1.4*	*1.4*	*1.5*	*1.5*	**5.7**	*5.1*	*5.7*
Total	**321.6**	**329.4**	**383.8**	**326.1**	**313.7**	**292.7**	**358.1**	*309.2*	*304.6*	*308.9*	*363.3*	*313.3*	**1,360.9**	*1,273.7*	*1,290.1*
Industrial Sector															
New England	**4.0**	**4.0**	**4.3**	**4.0**	**3.7**	**3.5**	**3.8**	*3.8*	*3.5*	*3.6*	*3.8*	*3.7*	**16.2**	*14.8*	*14.5*
Middle Atlantic	**18.1**	**17.9**	**20.3**	**18.6**	**18.0**	**16.2**	**18.9**	*18.3*	*17.4*	*17.0*	*19.1*	*18.5*	**75.0**	*71.3*	*72.0*
E. N. Central	**47.5**	**47.9**	**50.6**	**46.3**	**44.0**	**37.7**	**44.4**	*40.5*	*42.1*	*40.1*	*45.5*	*41.1*	**192.3**	*166.6*	*168.9*
W. N. Central	**22.4**	**23.3**	**24.8**	**23.0**	**21.7**	**20.3**	**23.7**	*22.3*	*20.9*	*22.0*	*24.3*	*22.8*	**93.6**	*88.0*	*90.1*
S. Atlantic	**33.9**	**35.7**	**37.2**	**34.4**	**32.8**	**31.0**	**34.6**	*32.9*	*31.8*	*32.7*	*35.2*	*33.1*	**141.2**	*131.3*	*132.8*
E. S. Central	**24.5**	**24.9**	**25.5**	**23.9**	**23.3**	**21.4**	**23.3**	*22.4*	*21.9*	*22.6*	*23.5*	*22.6*	**98.9**	*90.4*	*90.6*
W. S. Central	**49.1**	**52.4**	**55.5**	**50.9**	**46.7**	**44.9**	**48.1**	*45.7*	*45.5*	*47.6*	*49.1*	*46.8*	**207.8**	*185.4*	*188.9*
Mountain	**19.4**	**21.3**	**23.7**	**20.4**	**20.0**	**20.3**	**22.6**	*19.8*	*19.6*	*21.1*	*23.0*	*20.1*	**84.8**	*82.6*	*83.7*
Pacific contiguous	**20.2**	**21.5**	**24.7**	**21.3**	**19.2**	**19.7**	**21.8**	*18.4*	*17.6*	*19.4*	*21.5*	*18.1*	**87.6**	*79.1*	*76.6*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	**1.0**	**1.2**	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.9**	*4.6*	*4.6*
Total	**240.1**	**250.1**	**268.0**	**244.1**	**230.6**	**216.0**	**242.5**	*225.0*	*221.4*	*227.0*	*246.1*	*228.2*	**1,002.4**	*914.2*	*922.7*
Total All Sectors (a)															
New England	**29.5**	**26.0**	**31.5**	**27.5**	**27.8**	**25.1**	**31.7**	*27.3*	*28.1*	*25.8*	*30.5*	*27.5*	**114.5**	*111.9*	*111.9*
Middle Atlantic	**93.1**	**83.0**	**103.6**	**85.4**	**86.9**	**78.5**	**102.5**	*82.9*	*86.3*	*83.0*	*100.3*	*84.5*	**365.1**	*350.8*	*354.1*
E. N. Central	**141.9**	**129.1**	**155.2**	**133.0**	**133.7**	**119.7**	**149.9**	*128.3*	*133.6*	*126.2*	*150.2*	*130.6*	**559.4**	*531.6*	*540.5*
W. N. Central	**78.3**	**69.4**	**82.1**	**73.0**	**74.0**	**65.7**	**80.2**	*71.7*	*73.5*	*69.8*	*83.1*	*74.6*	**302.8**	*291.6*	*301.0*
S. Atlantic	**195.3**	**200.7**	**240.1**	**195.2**	**189.4**	**187.6**	**234.8**	*189.2*	*194.2*	*195.4*	*235.6*	*190.6*	**831.2**	*801.0*	*815.8*
E. S. Central	**76.0**	**73.5**	**89.4**	**73.3**	**73.0**	**66.8**	**85.9**	*70.0*	*74.4*	*70.4*	*87.5*	*70.9*	**312.2**	*295.8*	*303.1*
W. S. Central	**145.2**	**149.7**	**190.9**	**149.5**	**139.8**	**142.4**	**180.3**	*144.3*	*139.3*	*148.7*	*183.5*	*145.9*	**635.4**	*606.9*	*617.4*
Mountain	**65.4**	**67.3**	**85.0**	**65.8**	**64.9**	**68.2**	**86.2**	*66.1*	*64.4*	*69.8*	*84.0*	*66.6*	**283.5**	*285.4*	*284.8*
Pacific contiguous	**97.9**	**89.8**	**107.2**	**96.9**	**93.1**	**87.0**	**104.9**	*96.5*	*90.4*	*87.4*	*102.5*	*94.0*	**391.8**	*381.5*	*374.2*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.8**	**3.4**	**3.7**	*3.8*	*3.8*	*3.6*	*3.8*	*4.0*	**15.3**	*14.7*	*15.2*
Total	**926.3**	**892.2**	**1,089.1**	**903.6**	**886.6**	**844.3**	**1,060.0**	*880.3*	*887.9*	*880.0*	*1,060.9*	*889.2*	**3,811.2**	*3,671.1*	*3,718.0*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.34**	**21.52**	**20.70**	**20.93**	**21.76**	**21.33**	*20.91*	*20.83*	*21.77*	*21.81*	*21.97*	*22.33*	**21.10**	*21.19*	*21.97*
Middle Atlantic	**15.20**	**16.05**	**16.16**	**15.79**	**15.47**	**15.97**	*16.08*	*15.63*	*15.38*	*16.14*	*16.46*	*16.01*	**15.80**	*15.81*	*16.01*
E. N. Central	**13.00**	**13.93**	**13.37**	**13.38**	**13.13**	**13.75**	*13.24*	*13.33*	*13.11*	*13.90*	*13.51*	*13.56*	**13.39**	*13.35*	*13.51*
W. N. Central	**10.69**	**12.76**	**12.93**	**11.24**	**10.99**	**12.59**	*13.06*	*11.49*	*11.14*	*12.59*	*13.19*	*11.47*	**11.86**	*12.04*	*12.12*
S. Atlantic	**11.68**	**12.12**	**12.07**	**11.82**	**11.80**	**11.81**	*12.01*	*11.65*	*11.47*	*11.71*	*12.11*	*11.87*	**11.93**	*11.84*	*11.81*
E. S. Central	**11.14**	**11.70**	**11.38**	**11.28**	**11.25**	**11.56**	*11.26*	*11.29*	*11.07*	*11.59*	*11.44*	*11.54*	**11.36**	*11.33*	*11.40*
W. S. Central	**10.80**	**11.42**	**11.28**	**11.16**	**11.04**	**11.43**	*11.24*	*10.84*	*10.73*	*11.30*	*11.39*	*11.19*	**11.17**	*11.15*	*11.18*
Mountain	**11.44**	**12.06**	**12.11**	**11.51**	**11.42**	**12.08**	*12.12*	*11.51*	*11.43*	*12.19*	*12.33*	*11.74*	**11.81**	*11.83*	*11.97*
Pacific	**14.86**	**15.85**	**17.24**	**14.63**	**15.69**	**16.18**	*17.90*	*15.15*	*16.28*	*17.02*	*18.44*	*15.56*	**15.65**	*16.28*	*16.85*
U.S. Average	**12.67**	**13.30**	**13.24**	**12.83**	**12.90**	**13.24**	*13.34*	*12.83*	*12.81*	*13.33*	*13.53*	*13.14*	**13.01**	*13.10*	*13.22*
Commercial Sector															
New England	**16.91**	**16.37**	**16.10**	**15.97**	**16.24**	**15.66**	*16.05*	*15.92*	*16.28*	*15.95*	*16.74*	*16.73*	**16.33**	*15.98*	*16.44*
Middle Atlantic	**11.57**	**12.17**	**13.02**	**11.97**	**11.69**	**12.53**	*13.09*	*11.55*	*11.40*	*12.67*	*13.28*	*11.77*	**12.21**	*12.24*	*12.32*
E. N. Central	**10.19**	**10.33**	**10.16**	**10.11**	**9.95**	**10.37**	*10.05*	*10.08*	*10.02*	*10.53*	*10.25*	*10.28*	**10.20**	*10.10*	*10.27*
W. N. Central	**8.97**	**10.05**	**10.42**	**9.12**	**9.07**	**10.12**	*10.43*	*9.34*	*9.30*	*10.27*	*10.67*	*9.46*	**9.66**	*9.74*	*9.94*
S. Atlantic	**9.43**	**9.35**	**9.33**	**9.32**	**9.24**	**9.02**	*9.06*	*9.01*	*8.97*	*8.90*	*9.11*	*9.16*	**9.36**	*9.08*	*9.04*
E. S. Central	**10.78**	**10.77**	**10.72**	**10.70**	**10.75**	**10.83**	*10.57*	*10.61*	*10.68*	*10.79*	*10.72*	*10.85*	**10.74**	*10.68*	*10.76*
W. S. Central	**8.13**	**8.13**	**8.33**	**8.17**	**7.84**	**7.87**	*7.94*	*8.25*	*8.02*	*8.20*	*8.26*	*8.16*	**8.20**	*7.98*	*8.17*
Mountain	**9.18**	**9.74**	**10.01**	**9.20**	**9.01**	**9.82**	*10.05*	*9.27*	*9.11*	*10.04*	*10.38*	*9.47*	**9.56**	*9.56*	*9.78*
Pacific	**12.92**	**14.05**	**16.16**	**14.32**	**13.50**	**14.79**	*17.21*	*14.71*	*13.64*	*15.36*	*18.12*	*15.34*	**14.42**	*15.09*	*15.68*
U.S. Average	**10.43**	**10.66**	**11.00**	**10.55**	**10.33**	**10.63**	*10.95*	*10.48*	*10.29*	*10.78*	*11.20*	*10.68*	**10.67**	*10.61*	*10.76*
Industrial Sector															
New England	**13.63**	**12.97**	**12.80**	**12.91**	**12.29**	**12.23**	*12.59*	*12.81*	*12.31*	*12.43*	*12.87*	*13.13*	**13.07**	*12.49*	*12.70*
Middle Atlantic	**6.75**	**6.54**	**6.57**	**6.43**	**6.36**	**6.36**	*6.35*	*6.20*	*6.33*	*6.36*	*6.25*	*6.09*	**6.57**	*6.32*	*6.25*
E. N. Central	**7.10**	**6.92**	**6.85**	**6.78**	**6.51**	**6.78**	*6.71*	*6.75*	*6.61*	*6.90*	*6.78*	*6.83*	**6.91**	*6.68*	*6.78*
W. N. Central	**7.05**	**7.23**	**7.96**	**6.78**	**6.94**	**7.32**	*7.97*	*6.95*	*7.14*	*7.40*	*8.11*	*7.06*	**7.27**	*7.31*	*7.45*
S. Atlantic	**6.37**	**6.40**	**6.86**	**6.32**	**5.99**	**6.10**	*6.48*	*6.20*	*5.99*	*6.31*	*6.57*	*6.25*	**6.50**	*6.20*	*6.29*
E. S. Central	**5.71**	**5.77**	**5.95**	**5.61**	**5.45**	**5.51**	*5.74*	*5.49*	*5.44*	*5.59*	*5.77*	*5.49*	**5.76**	*5.55*	*5.58*
W. S. Central	**5.23**	**5.21**	**5.92**	**5.30**	**5.04**	**4.98**	*5.04*	*5.12*	*4.95*	*4.84*	*4.92*	*4.99*	**5.43**	*5.05*	*4.93*
Mountain	**6.17**	**6.30**	**6.82**	**5.95**	**5.73**	**6.16**	*6.87*	*5.94*	*5.85*	*6.33*	*6.83*	*5.98*	**6.33**	*6.20*	*6.27*
Pacific	**8.42**	**9.21**	**10.91**	**9.87**	**8.97**	**10.34**	*12.08*	*10.26*	*9.44*	*10.91*	*12.33*	*10.58*	**9.67**	*10.47*	*10.89*
U.S. Average	**6.67**	**6.69**	**7.20**	**6.65**	**6.37**	**6.63**	*7.03*	*6.60*	*6.42*	*6.72*	*7.03*	*6.61*	**6.81**	*6.66*	*6.70*
All Sectors (a)															
New England	**18.32**	**17.74**	**17.53**	**17.44**	**18.01**	**17.61**	*17.86*	*17.51*	*18.20*	*17.98*	*18.59*	*18.59*	**17.76**	*17.76*	*18.35*
Middle Atlantic	**12.00**	**12.24**	**12.97**	**12.09**	**11.97**	**12.58**	*13.11*	*11.87*	*11.95*	*12.65*	*13.22*	*12.08*	**12.35**	*12.42*	*12.51*
E. N. Central	**10.14**	**10.13**	**10.20**	**10.01**	**9.92**	**10.47**	*10.29*	*10.20*	*10.08*	*10.56*	*10.41*	*10.37*	**10.13**	*10.22*	*10.35*
W. N. Central	**9.09**	**9.96**	**10.58**	**9.11**	**9.16**	**10.15**	*10.68*	*9.36*	*9.40*	*10.22*	*10.88*	*9.46*	**9.70**	*9.85*	*10.01*
S. Atlantic	**9.92**	**9.99**	**10.23**	**9.88**	**9.81**	**9.82**	*10.13*	*9.72*	*9.67*	*9.74*	*10.19*	*9.88*	**10.02**	*9.89*	*9.89*
E. S. Central	**9.29**	**9.40**	**9.63**	**9.25**	**9.26**	**9.41**	*9.56*	*9.23*	*9.30*	*9.43*	*9.70*	*9.41*	**9.40**	*9.37*	*9.47*
W. S. Central	**8.11**	**8.19**	**8.81**	**8.21**	**8.02**	**8.28**	*8.57*	*8.19*	*7.99*	*8.26*	*8.69*	*8.21*	**8.36**	*8.28*	*8.31*
Mountain	**9.09**	**9.42**	**9.93**	**8.97**	**8.84**	**9.58**	*10.10*	*9.08*	*8.94*	*9.71*	*10.20*	*9.22*	**9.39**	*9.45*	*9.57*
Pacific	**12.75**	**13.47**	**15.33**	**13.45**	**13.41**	**14.30**	*16.42*	*14.04*	*13.91*	*14.99*	*17.01*	*14.50*	**13.79**	*14.60*	*15.16*
U.S. Average	**10.32**	**10.47**	**10.96**	**10.33**	**10.29**	**10.64**	*11.09*	*10.41*	*10.34*	*10.72*	*11.22*	*10.59*	**10.54**	*10.63*	*10.74*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**323.2**	**333.2**	**467.8**	**352.8**	**354.7**	**342.5**	**476.9**	*326.2*	*267.2*	*283.2*	*410.3*	*313.3*	**1,477.0**	*1,500.3*	*1,273.9*
Coal	**257.5**	**208.9**	**279.0**	**213.4**	**170.3**	**151.1**	**252.4**	*206.7*	*230.4*	*226.4*	*283.6*	*222.3*	**958.7**	*780.4*	*962.7*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.1**	**190.7**	**204.1**	*195.4*	*197.9*	*188.7*	*205.2*	*188.0*	**809.4**	*794.4*	*779.7*
Renewable Energy Sources:	**170.3**	**196.6**	**166.2**	**162.6**	**189.1**	**206.5**	**179.8**	*187.6*	*213.8*	*227.7*	*197.0*	*201.0*	**695.7**	*762.9*	*839.5*
Conventional Hydropower	**73.6**	**87.5**	**65.8**	**59.7**	**74.9**	**81.3**	**70.0**	*63.1*	*74.1*	*77.1*	*64.9*	*60.7*	**286.7**	*289.3*	*276.7*
Wind	**72.4**	**76.9**	**66.4**	**79.0**	**86.4**	**87.2**	**70.3**	*95.5*	*105.8*	*103.6*	*83.5*	*105.9*	**294.6**	*339.4*	*398.8*
Solar (a)	**13.2**	**21.7**	**22.6**	**13.8**	**16.7**	**27.1**	**28.3**	*18.2*	*21.8*	*35.2*	*36.5*	*23.4*	**71.3**	*90.2*	*116.9*
Biomass	**7.1**	**6.7**	**7.4**	**6.9**	**7.2**	**6.7**	**7.1**	*7.3*	*8.4*	*7.6*	*7.8*	*7.6*	**28.1**	*28.2*	*31.4*
Geothermal	**4.0**	**3.8**	**4.0**	**3.2**	**3.9**	**4.2**	**4.2**	*3.4*	*3.7*	*4.2*	*4.3*	*3.4*	**15.0**	*15.7*	*15.6*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	**-1.2**	**-2.1**	*-1.4*	*-1.0*	*-1.2*	*-2.2*	*-1.4*	**-5.3**	*-5.6*	*-5.9*
Petroleum (b)	**4.9**	**4.1**	**4.7**	**3.6**	**4.0**	**4.0**	**4.7**	*3.5*	*5.4*	*3.8*	*4.6*	*2.9*	**17.3**	*16.2*	*16.7*
Other Gases	**1.1**	**1.0**	**1.1**	**0.9**	**1.0**	**0.4**	**0.6**	*0.8*	*0.9*	*0.4*	*0.7*	*0.7*	**4.0**	*2.9*	*2.6*
Other Nonrenewable Fuels (c)	**1.8**	**1.9**	**2.0**	**1.9**	**1.9**	**1.8**	**2.0**	*1.9*	*1.7*	*1.8*	*1.7*	*1.9*	**7.7**	*7.6*	*7.2*
Total Generation	**961.3**	**941.4**	**1,129.3**	**933.1**	**924.1**	**895.8**	**1,118.4**	*920.7*	*916.3*	*930.7*	*1,100.8*	*928.6*	**3,965.1**	*3,859.0*	*3,876.4*
New England (ISO-NE)															
Natural Gas	**10.3**	**9.8**	**15.3**	**11.3**	**10.8**	**10.0**	**16.4**	*12.9*	*8.1*	*9.0*	*16.2*	*14.5*	**46.7**	*50.1*	*47.8*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	*0.0*	*0.3*	*0.0*	*0.0*	*0.0*	**0.5**	*0.1*	*0.4*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.3**	**4.9**	**7.3**	*6.4*	*7.0*	*7.1*	*7.2*	*5.6*	**29.8**	*25.9*	*27.0*
Conventional hydropower	**2.5**	**2.5**	**0.9**	**1.7**	**2.2**	**2.1**	**1.6**	*1.6*	*2.1*	*2.1*	*1.5*	*1.6*	**7.6**	*7.5*	*7.2*
Nonhydro renewables (d)	**2.7**	**2.3**	**2.2**	**2.5**	**2.6**	**2.7**	**2.5**	*2.9*	*3.5*	*3.0*	*2.6*	*3.0*	**9.8**	*10.7*	*12.0*
Other energy sources (e)	**0.3**	**0.3**	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	*0.4*	*1.1*	*0.4*	*0.3*	*0.4*	**1.4**	*1.5*	*2.2*
Total generation	**24.7**	**21.8**	**26.1**	**23.2**	**23.3**	**20.1**	**28.2**	*24.3*	*22.1*	*21.6*	*27.9*	*25.1*	**95.7**	*95.8*	*96.7*
Net energy for load (f)	**29.7**	**25.9**	**31.6**	**28.1**	**27.8**	**25.3**	**32.6**	*28.4*	*29.0*	*26.9*	*31.9*	*28.5*	**115.2**	*114.1*	*116.4*
New York (NYISO)															
Natural Gas	**11.9**	**10.7**	**17.8**	**12.0**	**12.4**	**11.4**	**21.4**	*14.7*	*13.1*	*14.2*	*22.3*	*17.5*	**52.4**	*59.8*	*67.0*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.7**	**9.2**	**9.1**	*9.4*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*38.3*	*30.2*
Conventional hydropower	**7.4**	**7.4**	**7.9**	**7.8**	**8.0**	**8.0**	**7.9**	*7.3*	*7.9*	*7.9*	*7.4*	*7.0*	**30.5**	*31.1*	*30.2*
Nonhydro renewables (d)	**1.8**	**1.6**	**1.4**	**1.8**	**2.0**	**2.0**	**1.6**	*1.9*	*2.2*	*2.2*	*2.0*	*2.7*	**6.5**	*7.5*	*9.0*
Other energy sources (e)	**0.5**	**0.1**	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	**0.9**	*0.6*	*0.7*
Total generation	**32.5**	**30.6**	**39.1**	**33.5**	**33.4**	**30.7**	**40.1**	*33.3*	*32.2*	*31.9*	*38.9*	*34.1*	**135.6**	*137.5*	*137.1*
Net energy for load (f)	**37.7**	**34.4**	**42.8**	**35.8**	**35.2**	**32.6**	**43.4**	*36.2*	*36.5*	*36.0*	*43.3*	*36.6*	**150.6**	*147.4*	*152.4*
Mid-Atlantic (PJM)															
Natural Gas	**70.1**	**65.0**	**90.6**	**70.9**	**78.4**	**69.9**	**97.8**	*65.3*	*66.0*	*64.6*	*89.2*	*65.2*	**296.6**	*311.3*	*285.0*
Coal	**53.3**	**39.7**	**51.6**	**38.6**	**33.7**	**29.6**	**46.6**	*38.2*	*52.7*	*47.7*	*48.6*	*40.4*	**183.3**	*148.1*	*189.3*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.9**	**67.1**	**70.7**	*69.3*	*67.5*	*65.7*	*72.3*	*62.3*	**277.9**	*276.0*	*267.8*
Conventional hydropower	**3.2**	**2.9**	**2.0**	**2.1**	**3.1**	**2.9**	**2.0**	*2.2*	*3.2*	*3.1*	*1.8*	*2.1*	**10.2**	*10.1*	*10.3*
Nonhydro renewables (d)	**9.6**	**9.2**	**6.6**	**9.3**	**10.3**	**10.2**	**7.7**	*11.0*	*11.8*	*11.9*	*9.0*	*12.0*	**34.7**	*39.3*	*44.7*
Other energy sources (e)	**0.7**	**0.6**	**0.5**	**0.4**	**0.6**	**0.5**	**0.3**	*0.5*	*0.8*	*0.5*	*0.2*	*0.4*	**2.3**	*2.0*	*1.9*
Total generation	**206.5**	**186.0**	**223.0**	**189.5**	**195.0**	**180.2**	**225.1**	*186.5*	*202.1*	*193.4*	*221.2*	*182.4*	**805.0**	*786.8*	*799.1*
Net energy for load (f)	**196.6**	**173.4**	**210.0**	**181.0**	**182.2**	**164.2**	**211.7**	*178.7*	*189.5*	*175.1*	*207.8*	*181.5*	**760.9**	*736.9*	*753.9*
Southeast (SERC)															
Natural Gas	**57.5**	**59.1**	**75.9**	**59.8**	**61.9**	**59.1**	**75.1**	*56.6*	*52.7*	*53.3*	*68.7*	*57.4*	**252.4**	*252.7*	*232.2*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**23.8**	**22.1**	**43.8**	*32.7*	*33.3*	*33.1*	*51.0*	*34.7*	**159.8**	*122.4*	*152.2*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.0**	**50.5**	**54.2**	*52.0*	*52.0*	*52.1*	*55.2*	*53.4*	**211.0**	*209.7*	*212.7*
Conventional hydropower	**10.8**	**10.8**	**7.5**	**7.9**	**11.1**	**10.2**	**8.0**	*8.0*	*11.2*	*10.4*	*7.1*	*7.7*	**37.0**	*37.3*	*36.4*
Nonhydro renewables (d)	**2.7**	**3.8**	**3.9**	**3.0**	**3.5**	**5.0**	**4.9**	*3.5*	*4.0*	*5.9*	*6.0*	*4.1*	**13.4**	*16.8*	*20.0*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	**-0.3**	**-0.6**	*-0.4*	*-0.1*	*-0.4*	*-0.8*	*-0.4*	**-1.3**	*-1.4*	*-1.6*
Total generation	**158.4**	**164.3**	**193.6**	**155.9**	**153.2**	**146.7**	**185.4**	*152.4*	*153.1*	*154.6*	*187.3*	*156.8*	**672.3**	*637.6*	*651.8*
Net energy for load (f)	**159.7**	**163.2**	**194.2**	**157.8**	**158.4**	**149.1**	**185.2**	*153.0*	*159.1*	*158.0*	*188.4*	*155.8*	**674.9**	*645.6*	*661.3*
Florida (FRCC)															
Natural Gas	**35.7**	**46.7**	**52.6**	**40.0**	**40.0**	**45.7**	**53.3**	*37.1*	*31.6*	*36.2*	*44.7*	*36.1*	**174.9**	*176.1*	*148.5*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.1**	**3.5**	**5.8**	*7.2*	*8.1*	*10.4*	*10.0*	*7.1*	**18.6**	*18.6*	*35.6*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	**7.6**	**7.6**	*7.4*	*7.8*	*6.9*	*7.8*	*6.7*	**29.1**	*29.8*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	**0.0**	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.8**	**2.4**	**2.4**	*2.0*	*2.8*	*3.5*	*3.2*	*2.7*	**6.1**	*8.6*	*12.2*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	**0.8**	**0.9**	*0.7*	*0.9*	*0.7*	*0.9*	*0.7*	**3.1**	*3.3*	*3.1*
Total generation	**49.4**	**60.5**	**68.1**	**54.2**	**52.1**	**60.0**	**70.1**	*54.5*	*51.2*	*57.7*	*66.6*	*53.3*	**232.1**	*236.7*	*228.8*
Net energy for load (f)	**46.8**	**60.1**	**68.1**	**53.3**	**47.9**	**59.9**	**70.6**	*53.6*	*47.4*	*57.9*	*67.2*	*52.3*	**228.4**	*232.1*	*224.9*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**37.2**	**42.2**	**54.7**	**42.7**	**43.9**	**43.2**	**53.4**	*38.1*	*31.2*	*33.2*	*48.0*	*35.4*	**176.8**	*178.6*	*147.7*
Coal	**77.3**	**61.2**	**76.1**	**61.3**	**51.0**	**41.1**	**71.5**	*60.2*	*61.1*	*56.7*	*76.0*	*69.0*	**275.9**	*223.9*	*262.9*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	**22.9**	**24.4**	*23.3*	*24.8*	*23.3*	*24.9*	*24.3*	**102.3**	*97.1*	*97.3*
Conventional hydropower	**2.9**	**3.1**	**2.5**	**2.4**	**3.1**	**3.2**	**2.5**	*1.8*	*2.4*	*2.6*	*2.1*	*1.7*	**10.9**	*10.5*	*8.9*
Nonhydro renewables (d)	**16.4**	**15.9**	**12.5**	**18.7**	**20.3**	**20.1**	**15.5**	*24.1*	*25.1*	*24.6*	*18.8*	*26.1*	**63.5**	*80.0*	*94.6*
Other energy sources (e)	**2.0**	**1.5**	**1.7**	**1.0**	**1.5**	**1.3**	**1.4**	*1.1*	*1.8*	*1.1*	*1.4*	*0.3*	**6.2**	*5.2*	*4.6*
Total generation	**161.0**	**147.0**	**174.7**	**152.8**	**146.4**	**131.7**	**168.7**	*148.6*	*146.4*	*141.5*	*171.3*	*156.9*	**635.5**	*595.3*	*616.1*
Net energy for load (f)	**160.8**	**151.8**	**178.7**	**154.3**	**152.8**	**140.4**	**176.4**	*149.9*	*150.3*	*150.7*	*176.4*	*154.1*	**645.6**	*619.5*	*631.5*
Central (Southwest Power Pool)															
Natural Gas	**14.4**	**16.0**	**24.3**	**14.7**	**17.5**	**16.3**	**24.1**	*12.6*	*10.4*	*11.4*	*20.5*	*12.5*	**69.4**	*70.4*	*54.8*
Coal	**24.7**	**17.2**	**24.9**	**17.2**	**17.0**	**15.7**	**26.2**	*13.6*	*18.0*	*19.0*	*26.1*	*13.5*	**83.9**	*72.5*	*76.6*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	**4.4**	**4.2**	*3.9*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.9*	*16.0*
Conventional hydropower	**5.8**	**6.7**	**4.2**	**3.8**	**5.9**	**6.0**	**4.5**	*3.1*	*4.2*	*4.5*	*3.6*	*3.0*	**20.5**	*19.4*	*15.3*
Nonhydro renewables (d)	**18.3**	**18.8**	**18.2**	**22.0**	**20.3**	**21.4**	**17.5**	*24.9*	*26.0*	*26.3*	*21.9*	*28.2*	**77.2**	*84.0*	*102.5*
Other energy sources (e)	**0.4**	**0.4**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**1.3**	*0.6*	*0.5*
Total generation	**68.0**	**63.6**	**75.8**	**61.2**	**65.1**	**63.8**	**76.7**	*58.2*	*62.6*	*64.6*	*76.7*	*61.8*	**268.6**	*263.9*	*265.6*
Net energy for load (f)	**63.2**	**59.1**	**76.6**	**61.5**	**60.9**	**59.6**	**74.2**	*59.1*	*57.9*	*60.6*	*74.8*	*61.6*	**260.5**	*253.8*	*254.9*
Texas (ERCOT)															
Natural Gas	**35.0**	**43.4**	**63.8**	**39.7**	**37.2**	**42.1**	**57.8**	*30.3*	*20.6*	*27.0*	*40.4*	*23.6*	**181.7**	*167.4*	*111.6*
Coal	**17.6**	**17.8**	**20.9**	**16.6**	**13.1**	**15.8**	**21.9**	*19.4*	*18.3*	*23.0*	*28.6*	*21.2*	**72.8**	*70.3*	*91.2*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	**9.7**	**11.0**	*10.1*	*10.7*	*9.9*	*10.3*	*9.6*	**41.3**	*41.2*	*40.5*
Conventional hydropower	**0.3**	**0.3**	**0.2**	**0.1**	**0.3**	**0.3**	**0.2**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.9**	*0.9*	*0.6*
Nonhydro renewables (d)	**18.9**	**21.0**	**18.9**	**20.1**	**22.5**	**24.8**	**21.9**	*25.0*	*28.1*	*31.4*	*28.2*	*29.1*	**78.9**	*94.2*	*116.9*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.6**	*1.5*	*1.5*
Total generation	**82.5**	**92.6**	**115.2**	**87.1**	**84.1**	**93.0**	**113.2**	*85.2*	*78.3*	*91.8*	*108.0*	*84.0*	**377.2**	*375.5*	*362.2*
Net energy for load (f)	**82.5**	**92.6**	**115.2**	**87.1**	**84.1**	**93.0**	**113.2**	*85.2*	*78.3*	*91.8*	*108.0*	*84.0*	**377.2**	*375.5*	*362.2*
Northwest															
Natural Gas	**21.9**	**16.8**	**30.2**	**23.9**	**23.7**	**17.1**	**26.6**	*20.4*	*12.3*	*8.6*	*17.5*	*17.8*	**92.9**	*87.8*	*56.1*
Coal	**32.3**	**20.1**	**31.9**	**30.6**	**22.2**	**16.1**	**25.6**	*26.2*	*30.5*	*27.1*	*30.6*	*27.9*	**114.9**	*90.1*	*116.0*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.4**	**2.0**	**2.5**	*2.5*	*2.4*	*1.2*	*2.4*	*2.4*	**8.9**	*9.4*	*8.4*
Conventional hydropower	**30.5**	**37.1**	**27.1**	**26.2**	**35.0**	**38.7**	**32.3**	*30.9*	*36.8*	*36.4*	*30.8*	*29.6*	**120.8**	*136.9*	*133.6*
Nonhydro renewables (d)	**9.7**	**13.1**	**13.1**	**10.1**	**13.7**	**14.4**	**13.7**	*13.4*	*17.9*	*17.6*	*16.6*	*15.6*	**46.1**	*55.2*	*67.7*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.1**	*0.1*	*0.2*	*0.2*	*0.1*	*0.0*	**0.6**	*0.5*	*0.4*
Total generation	**97.1**	**88.6**	**104.9**	**93.5**	**97.2**	**88.5**	**100.8**	*93.5*	*99.9*	*91.0*	*98.0*	*93.4*	**384.1**	*379.9*	*382.3*
Net energy for load (f)	**95.6**	**84.5**	**95.6**	**87.8**	**88.2**	**79.0**	**89.7**	*86.0*	*85.3*	*80.6*	*89.4*	*85.5*	**363.5**	*342.8*	*340.9*
Southwest															
Natural Gas	**10.4**	**12.7**	**18.9**	**14.1**	**11.8**	**14.7**	**20.6**	*12.5*	*7.4*	*12.8*	*16.9*	*12.0*	**56.1**	*59.6*	*49.0*
Coal	**10.2**	**8.5**	**12.4**	**8.0**	**5.3**	**5.3**	**8.4**	*6.4*	*5.5*	*6.4*	*9.9*	*5.5*	**39.1**	*25.5*	*27.2*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	**7.6**	**8.7**	*7.7*	*8.4*	*7.6*	*8.6*	*7.7*	**31.9**	*32.3*	*32.3*
Conventional hydropower	**3.0**	**4.3**	**4.1**	**2.6**	**2.7**	**4.0**	**3.7**	*2.7*	*2.5*	*3.8*	*3.5*	*2.6*	**14.0**	*13.0*	*12.3*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.5**	**2.5**	**3.1**	**2.7**	*2.9*	*3.6*	*3.9*	*3.3*	*3.5*	**10.1**	*11.2*	*14.2*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**34.4**	**35.9**	**46.7**	**34.4**	**30.5**	**34.8**	**44.2**	*32.3*	*27.4*	*34.5*	*42.2*	*31.2*	**151.4**	*141.7*	*135.4*
Net energy for load (f)	**18.4**	**23.4**	**35.1**	**22.3**	**21.9**	**26.5**	**35.9**	*23.5*	*21.9*	*27.0*	*34.2*	*23.3*	**99.3**	*107.8*	*106.3*
California															
Natural Gas	**18.0**	**10.2**	**23.1**	**22.8**	**16.7**	**12.6**	**26.4**	*23.8*	*13.1*	*12.1*	*25.3*	*20.6*	**74.1**	*79.5*	*71.0*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	**1.2**	**2.0**	*2.4*	*2.3*	*2.6*	*2.3*	*2.4*	**7.5**	*7.0*	*9.6*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.8**	**4.9**	**4.5**	*3.5*	*4.4*	*4.1*	*4.9*	*4.9*	**16.2**	*17.7*	*18.3*
Conventional hydropower	**6.8**	**11.7**	**9.1**	**4.8**	**3.1**	**5.6**	**6.8**	*5.1*	*3.1*	*5.7*	*6.5*	*4.9*	**32.4**	*20.6*	*20.2*
Nonhydro renewables (d)	**12.6**	**18.7**	**19.2**	**11.3**	**14.3**	**18.9**	**18.9**	*12.3*	*14.4*	*19.9*	*19.9*	*12.9*	**61.7**	*64.4*	*67.1*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*-0.1*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.1*
Total generation	**43.2**	**46.9**	**58.2**	**43.9**	**40.3**	**43.2**	**58.8**	*47.1*	*37.1*	*44.5*	*59.0*	*45.6*	**192.2**	*189.4*	*186.3*
Net energy for load (f)	**60.6**	**63.5**	**79.1**	**61.7**	**57.9**	**61.0**	**78.2**	*63.4*	*57.4*	*62.4*	*75.6*	*61.4*	**265.0**	*260.5*	*256.8*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.035**	**0.034**	**0.036**	**0.028**	**0.036**	**0.038**	**0.038**	*0.031*	*0.034*	*0.038*	*0.039*	*0.031*	**0.134**	*0.143*	*0.141*
Hydroelectric Power (a)	**0.649**	**0.743**	**0.553**	**0.534**	**0.649**	**0.715**	**0.618**	*0.569*	*0.681*	*0.708*	*0.591*	*0.549*	**2.480**	*2.551*	*2.529*
Solar (b)	**0.120**	**0.197**	**0.206**	**0.126**	**0.152**	**0.246**	**0.257**	*0.166*	*0.198*	*0.320*	*0.333*	*0.213*	**0.649**	*0.821*	*1.065*
Waste Biomass (c)	**0.062**	**0.061**	**0.062**	**0.062**	**0.062**	**0.058**	**0.060**	*0.061*	*0.065*	*0.064*	*0.061*	*0.062*	**0.248**	*0.241*	*0.253*
Wood Biomass	**0.052**	**0.046**	**0.055**	**0.048**	**0.049**	**0.043**	**0.049**	*0.052*	*0.066*	*0.053*	*0.059*	*0.054*	**0.201**	*0.193*	*0.232*
Wind	**0.659**	**0.700**	**0.604**	**0.719**	**0.786**	**0.794**	**0.640**	*0.870*	*0.963*	*0.943*	*0.760*	*0.964*	**2.682**	*3.090*	*3.631*
Subtotal	**1.577**	**1.782**	**1.516**	**1.518**	**1.734**	**1.894**	**1.663**	*1.748*	*2.007*	*2.127*	*1.843*	*1.874*	**6.393**	*7.039*	*7.851*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	**0.178**	*0.182*	*0.185*	*0.185*	*0.188*	*0.192*	**0.800**	*0.692*	*0.750*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.003**	**0.003**	**0.003**	**0.002**	*0.002*	*0.003*	*0.003*	*0.002*	*0.002*	**0.010**	*0.010*	*0.011*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.007**	**0.010**	**0.010**	*0.007*	*0.008*	*0.011*	*0.011*	*0.008*	**0.028**	*0.033*	*0.037*
Waste Biomass (c)	**0.042**	**0.038**	**0.037**	**0.043**	**0.043**	**0.040**	**0.037**	*0.042*	*0.041*	*0.040*	*0.038*	*0.042*	**0.160**	*0.162*	*0.161*
Wood Biomass	**0.373**	**0.363**	**0.369**	**0.368**	**0.343**	**0.337**	**0.343**	*0.357*	*0.331*	*0.332*	*0.356*	*0.363*	**1.473**	*1.380*	*1.382*
Subtotal	**0.617**	**0.613**	**0.614**	**0.622**	**0.591**	**0.519**	**0.566**	*0.590*	*0.566*	*0.565*	*0.590*	*0.605*	**2.467**	*2.266*	*2.326*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.021**	**0.031**	**0.032**	**0.021**	**0.025**	**0.037**	**0.037**	*0.026*	*0.030*	*0.043*	*0.043*	*0.030*	**0.106**	*0.126*	*0.145*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	**0.009**	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.021*	*0.021*	*0.020*	*0.022*	*0.021*	**0.084**	*0.083*	*0.083*
Subtotal	**0.065**	**0.073**	**0.074**	**0.065**	**0.068**	**0.077**	**0.080**	*0.068*	*0.071*	*0.084*	*0.086*	*0.072*	**0.277**	*0.292*	*0.312*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.050**	**0.076**	**0.078**	**0.052**	**0.058**	**0.088**	**0.088**	*0.060*	*0.065*	*0.099*	*0.100*	*0.068*	**0.257**	*0.294*	*0.332*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.124**	**0.124**	**0.131**	*0.133*	*0.124*	*0.124*	*0.131*	*0.133*	**0.529**	*0.511*	*0.511*
Subtotal	**0.190**	**0.218**	**0.221**	**0.195**	**0.192**	**0.221**	**0.229**	*0.203*	*0.198*	*0.232*	*0.241*	*0.212*	**0.825**	*0.845*	*0.883*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	**0.068**	*0.070*	*0.074*	*0.074*	*0.070*	*0.073*	**0.265**	*0.263*	*0.292*
Ethanol (f)	**0.273**	**0.295**	**0.291**	**0.297**	**0.257**	**0.220**	**0.266**	*0.266*	*0.258*	*0.272*	*0.276*	*0.275*	**1.155**	*1.008*	*1.081*
Subtotal	**0.331**	**0.365**	**0.362**	**0.362**	**0.318**	**0.284**	**0.333**	*0.336*	*0.333*	*0.345*	*0.346*	*0.349*	**1.421**	*1.271*	*1.373*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	**0.068**	*0.070*	*0.074*	*0.074*	*0.070*	*0.073*	**0.265**	*0.263*	*0.292*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	**0.178**	*0.182*	*0.185*	*0.185*	*0.188*	*0.192*	**0.800**	*0.692*	*0.750*
Ethanol (f)	**0.284**	**0.306**	**0.302**	**0.308**	**0.267**	**0.228**	**0.276**	*0.276*	*0.268*	*0.282*	*0.286*	*0.286*	**1.200**	*1.047*	*1.122*
Geothermal	**0.054**	**0.052**	**0.054**	**0.050**	**0.051**	**0.053**	**0.055**	*0.048*	*0.050*	*0.055*	*0.056*	*0.048*	**0.209**	*0.208*	*0.209*
Hydroelectric Power (a)	**0.652**	**0.747**	**0.556**	**0.537**	**0.652**	**0.718**	**0.621**	*0.572*	*0.684*	*0.712*	*0.594*	*0.552*	**2.492**	*2.563*	*2.542*
Solar (b)(e)	**0.198**	**0.315**	**0.324**	**0.206**	**0.239**	**0.380**	**0.392**	*0.259*	*0.300*	*0.473*	*0.487*	*0.319*	**1.043**	*1.269*	*1.580*
Waste Biomass (c)	**0.111**	**0.105**	**0.105**	**0.112**	**0.112**	**0.104**	**0.105**	*0.112*	*0.115*	*0.112*	*0.108*	*0.113*	**0.433**	*0.433*	*0.448*
Wood Biomass	**0.578**	**0.568**	**0.582**	**0.570**	**0.538**	**0.526**	**0.544**	*0.563*	*0.541*	*0.529*	*0.567*	*0.571*	**2.297**	*2.171*	*2.208*
Wind	**0.659**	**0.700**	**0.604**	**0.719**	**0.786**	**0.794**	**0.640**	*0.870*	*0.963*	*0.943*	*0.760*	*0.964*	**2.682**	*3.090*	*3.631*
Total Consumption	**2.781**	**3.052**	**2.788**	**2.762**	**2.903**	**2.996**	**2.871**	*2.945*	*3.174*	*3.354*	*3.105*	*3.111*	**11.382**	*11.715*	*12.745*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,805**	**6,758**	**6,659**	**6,669**	**6,670**	**6,588**	**6,591**	*6,627*	*6,627*	*6,629*	*6,554*	*6,637*	**6,669**	*6,627*	*6,637*
Waste	**4,002**	**3,970**	**3,960**	**3,942**	**3,943**	**3,861**	**3,865**	*3,901*	*3,901*	*3,903*	*3,828*	*3,911*	**3,942**	*3,901*	*3,911*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,611**	**79,590**	**79,485**	**79,470**	**79,483**	**79,470**	**79,643**	*79,596*	*79,733*	*79,682*	*79,758*	*79,800*	**79,470**	*79,596*	*79,800*
Geothermal	**2,486**	**2,486**	**2,486**	**2,506**	**2,506**	**2,506**	**2,506**	*2,506*	*2,506*	*2,506*	*2,506*	*2,548*	**2,506**	*2,506*	*2,548*
Large-Scale Solar (b)	**32,712**	**33,161**	**33,894**	**36,950**	**38,774**	**40,993**	**42,703**	*49,781*	*50,612*	*53,225*	*55,973*	*62,762*	**36,950**	*49,781*	*62,762*
Wind	**96,514**	**97,989**	**99,570**	**103,651**	**105,999**	**107,453**	**112,283**	*126,846*	*127,930*	*128,631*	*129,080*	*134,702*	**103,651**	*126,846*	*134,702*
Other Sectors (c)															
Biomass	**6,552**	**6,501**	**6,501**	**6,434**	**6,443**	**6,443**	**6,457**	*6,439*	*6,439*	*6,439*	*6,439*	*6,439*	**6,434**	*6,439*	*6,439*
Waste	**785**	**786**	**786**	**786**	**786**	**786**	**800**	*802*	*802*	*802*	*802*	*802*	**786**	*802*	*802*
Wood	**5,767**	**5,715**	**5,715**	**5,648**	**5,656**	**5,656**	**5,656**	*5,636*	*5,636*	*5,636*	*5,636*	*5,636*	**5,648**	*5,636*	*5,636*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*292*	*290*	*290*	**289**	*289*	*290*
Large-Scale Solar (b)	**414**	**421**	**432**	**439**	**439**	**451**	**451**	*453*	*453*	*453*	*453*	*454*	**439**	*453*	*454*
Small-Scale Solar (d)	**20,254**	**21,073**	**22,031**	**23,214**	**24,434**	**25,370**	**26,494**	*27,234*	*28,124*	*29,108*	*30,206*	*31,307*	**23,214**	*27,234*	*31,307*
Residential Sector	**12,281**	**12,847**	**13,534**	**14,249**	**15,072**	**15,700**	**16,338**	*16,749*	*17,292*	*17,886*	*18,537*	*19,213*	**14,249**	*16,749*	*19,213*
Commercial Sector	**6,362**	**6,538**	**6,761**	**7,168**	**7,486**	**7,730**	**8,147**	*8,417*	*8,705*	*9,031*	*9,408*	*9,766*	**7,168**	*8,417*	*9,766*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,797**	**1,875**	**1,939**	**2,008**	*2,067*	*2,128*	*2,192*	*2,260*	*2,327*	**1,797**	*2,067*	*2,327*
Wind	**118**	**118**	**118**	**118**	**118**	**344**	**353**	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.4**	**6.9**	**7.2**	**6.7**	**7.1**	*7.3*	*8.4*	*7.6*	*7.8*	*7.6*	**28.1**	*28.2*	*31.4*
Waste	**4.0**	**4.0**	**4.1**	**4.0**	**4.1**	**4.0**	**4.0**	*4.1*	*4.4*	*4.3*	*4.1*	*4.2*	**16.1**	*16.2*	*17.0*
Wood	**3.0**	**2.7**	**3.4**	**2.9**	**3.0**	**2.7**	**3.1**	*3.2*	*4.1*	*3.3*	*3.7*	*3.4*	**12.0**	*12.0*	*14.4*
Conventional Hydroelectric	**73.6**	**87.5**	**65.8**	**59.7**	**74.9**	**81.3**	**70.0**	*63.1*	*74.1*	*77.1*	*64.9*	*60.7*	**286.7**	*289.3*	*276.7*
Geothermal	**4.0**	**3.8**	**4.0**	**3.2**	**3.9**	**4.2**	**4.2**	*3.4*	*3.7*	*4.2*	*4.3*	*3.4*	**15.0**	*15.7*	*15.6*
Large-Scale Solar (b)	**13.2**	**21.7**	**22.6**	**13.8**	**16.7**	**27.1**	**28.3**	*18.2*	*21.8*	*35.2*	*36.5*	*23.4*	**71.3**	*90.2*	*116.9*
Wind	**72.4**	**76.9**	**66.4**	**79.0**	**86.4**	**87.2**	**70.3**	*95.5*	*105.8*	*103.6*	*83.5*	*105.9*	**294.6**	*339.4*	*398.8*
Other Sectors (c)															
Biomass	**7.5**	**7.0**	**7.6**	**7.4**	**7.4**	**7.1**	**7.1**	*7.4*	*7.3*	*7.1*	*7.1*	*7.4*	**29.4**	*28.9*	*28.8*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.9**	*2.8*	*2.8*
Wood	**6.7**	**6.3**	**6.9**	**6.6**	**6.7**	**6.4**	**6.4**	*6.6*	*6.6*	*6.4*	*6.4*	*6.6*	**26.5**	*26.1*	*26.0*
Conventional Hydroelectric	**0.4**	**0.4**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.8*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.4**	**12.4**	**12.5**	*8.5*	*9.6*	*14.3*	*14.5*	*10.0*	**35.0**	*41.8*	*48.3*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	**7.5**	**7.5**	*5.1*	*5.7*	*8.6*	*8.7*	*6.0*	**20.9**	*25.1*	*29.0*
Commercial Sector	**2.2**	**3.3**	**3.3**	**2.2**	**2.7**	**3.8**	**3.9**	*2.7*	*3.1*	*4.5*	*4.5*	*3.1*	**11.0**	*13.1*	*15.3*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	**1.0**	**1.1**	*0.7*	*0.8*	*1.2*	*1.2*	*0.8*	**3.0**	*3.5*	*4.0*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.7*	*0.9*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,303**	**18,583**	*18,748*	*18,904*	*19,029*	*19,158*	*19,302*	**19,092**	*18,411*	*19,098*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,093**	**13,213**	**13,301**	**13,354**	**13,118**	**11,860**	**12,898**	*12,970*	*13,038*	*13,173*	*13,258*	*13,371*	**13,240**	*12,712*	*13,210*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,362**	**3,359**	**3,379**	**3,387**	**3,375**	**3,096**	**3,315**	*3,350*	*3,361*	*3,356*	*3,359*	*3,375*	**3,372**	*3,284*	*3,363*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**99**	**53**	**41**	**3**	**-52**	**-298**	**-29**	*32*	*65*	*82*	*100*	*100*	**49**	*-87*	*87*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,260**	**3,300**	**3,318**	**3,337**	**3,348**	**3,369**	**3,356**	*3,328*	*3,328*	*3,330*	*3,334*	*3,334*	**3,304**	*3,350*	*3,332*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,560**	**2,531**	**2,537**	**2,558**	**2,495**	**1,927**	**2,211**	*2,297*	*2,399*	*2,416*	*2,481*	*2,551*	**2,547**	*2,232*	*2,462*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,468**	**3,483**	**3,487**	**3,419**	**3,283**	**2,702**	**3,175**	*3,266*	*3,312*	*3,354*	*3,394*	*3,441*	**3,464**	*3,107*	*3,375*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,061**	**16,576**	**15,754**	*16,443*	*15,020*	*15,062*	*15,127*	*15,182*	**14,883**	*15,958*	*15,098*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**151.9**	**133.7**	**140.8**	*144.1*	*146.0*	*147.0*	*147.8*	*148.7*	**150.9**	*142.6*	*147.4*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	**13.0**	**8.8**	*7.3*	*6.7*	*6.5*	*6.3*	*6.0*	**3.7**	*8.2*	*6.4*
Housing Starts															
(millions - SAAR)	**1.20**	**1.26**	**1.29**	**1.43**	**1.48**	**1.08**	**1.47**	*1.41*	*1.36*	*1.34*	*1.32*	*1.32*	**1.30**	*1.36*	*1.33*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.7**	**93.6**	**101.8**	*102.3*	*103.5*	*104.1*	*104.7*	*105.5*	**109.5**	*101.3*	*104.5*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.2**	**99.5**	*100.5*	*101.5*	*101.6*	*101.7*	*102.3*	**106.0**	*98.4*	*101.8*
Food	**115.1**	**115.3**	**114.6**	**116.1**	**116.5**	**108.0**	**113.2**	*115.8*	*117.7*	*119.3*	*120.4*	*121.1*	**115.3**	*113.4*	*119.6*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.7**	**87.2**	**88.0**	*88.2*	*88.4*	*88.8*	*89.2*	*89.7*	**93.0**	*89.5*	*89.0*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.9**	**105.0**	**82.5**	**89.7**	*91.7*	*93.3*	*94.6*	*95.6*	*96.4*	**105.7**	*92.2*	*95.0*
Chemicals	**101.4**	**99.9**	**100.6**	**100.3**	**99.8**	**94.0**	**96.9**	*98.5*	*100.2*	*102.5*	*104.5*	*106.2*	**100.5**	*97.3*	*103.3*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.3**	**122.2**	**106.1**	**113.3**	*114.8*	*114.7*	*114.6*	*114.6*	*114.9*	**119.4**	*114.1*	*114.7*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.4**	**69.5**	**77.5**	*77.6*	*77.3*	*77.2*	*77.8*	*78.8*	**96.9**	*79.7*	*77.8*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.4**	**106.5**	**94.3**	**101.0**	*102.2*	*102.9*	*103.5*	*104.0*	*104.7*	**106.2**	*101.0*	*103.8*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.6**	**98.8**	**85.5**	**92.2**	*93.8*	*94.6*	*95.2*	*95.7*	*96.2*	**98.3**	*92.6*	*95.4*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**105.1**	**89.5**	**98.3**	*99.2*	*99.9*	*100.8*	*101.6*	*102.6*	**105.8**	*98.0*	*101.2*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**107.8**	**94.3**	**100.9**	*102.0*	*102.8*	*103.9*	*105.0*	*106.0*	**108.1**	*101.2*	*104.4*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	**2.56**	**2.60**	*2.61*	*2.63*	*2.65*	*2.66*	*2.68*	**2.56**	*2.59*	*2.65*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	**1.88**	**1.94**	*1.97*	*2.00*	*2.03*	*2.03*	*2.04*	**2.00**	*1.94*	*2.02*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.95**	**1.93**	**1.74**	**1.09**	**1.45**	*1.43*	*1.39*	*1.58*	*1.60*	*1.56*	**1.94**	*1.43*	*1.53*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.9**	**113.8**	*114.2*	*114.5*	*114.9*	*115.3*	*115.7*	**112.3**	*113.6*	*115.1*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,293**	**9,323**	**9,281**	**8,897**	**7,754**	**6,870**	**8,328**	*8,246*	*7,900*	*8,747*	*8,839*	*8,686*	**8,951**	*7,802*	*8,546*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**712**	**688**	**628**	**362**	**517**	*524*	*562*	*554*	*571*	*641*	**682**	*508*	*582*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**328**	**152**	**235**	*284*	*312*	*311*	*352*	*377*	**410**	*250*	*338*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	**203.7**	**198.4**	*182.9*	*179.1*	*187.6*	*182.3*	*189.0*	**265.4**	*209.0*	*184.5*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	**0.196**	*0.216*	*0.262*	*0.229*	*0.228*	*0.268*	**0.268**	*0.213*	*0.246*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**578**	**592**	**599**	**597**	**552**	**442**	**514**	*538*	*538*	*552*	*565*	*578*	**2,365**	*2,046*	*2,233*
Natural Gas	**509**	**351**	**385**	**450**	**493**	**351**	**386**	*440*	*469*	*328*	*356*	*426*	**1,695**	*1,670*	*1,580*
Coal	**289**	**239**	**307**	**242**	**201**	**177**	**277**	*232*	*263*	*259*	*305*	*251*	**1,077**	*888*	*1,078*
Total Energy (c)	**1,379**	**1,184**	**1,293**	**1,292**	**1,249**	**973**	**1,180**	*1,213*	*1,273*	*1,142*	*1,229*	*1,258*	**5,149**	*4,616*	*4,903*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**999**	**999**	**1,003**	**1,005**	**993**	**901**	**972**	*981*	*990*	*997*	*1,004*	*1,011*	**1,001**	*962*	*1,000*
Middle Atlantic	**2,786**	**2,799**	**2,804**	**2,813**	**2,774**	**2,486**	**2,684**	*2,712*	*2,736*	*2,762*	*2,787*	*2,814*	**2,801**	*2,664*	*2,775*
E. N. Central	**2,524**	**2,522**	**2,538**	**2,545**	**2,502**	**2,266**	**2,465**	*2,480*	*2,493*	*2,510*	*2,525*	*2,542*	**2,532**	*2,428*	*2,517*
W. N. Central	**1,187**	**1,189**	**1,196**	**1,201**	**1,188**	**1,084**	**1,160**	*1,168*	*1,174*	*1,181*	*1,189*	*1,197*	**1,193**	*1,150*	*1,185*
S. Atlantic	**3,372**	**3,382**	**3,405**	**3,426**	**3,388**	**3,114**	**3,336**	*3,364*	*3,384*	*3,401*	*3,418*	*3,442*	**3,396**	*3,300*	*3,411*
E. S. Central	**826**	**829**	**834**	**836**	**828**	**742**	**803**	*810*	*814*	*820*	*825*	*831*	**831**	*796*	*823*
W. S. Central	**2,330**	**2,331**	**2,355**	**2,358**	**2,317**	**2,125**	**2,256**	*2,271*	*2,282*	*2,296*	*2,307*	*2,323*	**2,344**	*2,242*	*2,302*
Mountain	**1,259**	**1,267**	**1,283**	**1,294**	**1,283**	**1,177**	**1,258**	*1,270*	*1,280*	*1,287*	*1,294*	*1,303*	**1,276**	*1,247*	*1,291*
Pacific	**3,698**	**3,735**	**3,755**	**3,808**	**3,769**	**3,436**	**3,680**	*3,722*	*3,782*	*3,806*	*3,840*	*3,872*	**3,749**	*3,652*	*3,825*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.5**	**98.6**	**98.8**	**98.8**	**97.6**	**83.4**	**92.1**	*93.7*	*95.0*	*95.3*	*95.4*	*96.1*	**98.9**	*91.7*	*95.4*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**97.1**	**80.2**	**90.8**	*91.6*	*92.2*	*92.3*	*93.0*	*93.7*	**98.4**	*89.9*	*92.8*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**105.1**	**85.9**	**98.9**	*100.2*	*101.1*	*101.3*	*101.1*	*102.2*	**107.3**	*97.5*	*101.4*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.7**	**90.1**	**100.0**	*100.8*	*102.1*	*102.4*	*102.6*	*103.1*	**105.4**	*98.7*	*102.5*
S. Atlantic	**111.0**	**110.4**	**110.8**	**111.1**	**109.2**	**94.2**	**104.6**	*106.0*	*106.9*	*106.9*	*107.0*	*107.6*	**110.8**	*103.5*	*107.1*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**109.0**	**90.0**	**103.6**	*105.0*	*105.9*	*105.9*	*105.6*	*106.0*	**110.2**	*101.9*	*105.9*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**99.8**	**87.7**	**95.2**	*95.6*	*96.1*	*96.0*	*96.3*	*96.9*	**101.4**	*94.6*	*96.3*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.7**	**102.6**	**113.4**	*114.5*	*115.7*	*115.6*	*115.6*	*116.1*	**116.3**	*111.3*	*115.7*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.4**	**86.6**	**95.2**	*96.1*	*96.9*	*96.9*	*97.2*	*97.6*	**104.4**	*95.1*	*97.1*
Real Personal Income (Billion $2009)															
New England	**889**	**885**	**883**	**885**	**892**	**992**	**936**	*964*	*887*	*889*	*894*	*897*	**886**	*946*	*892*
Middle Atlantic	**2,280**	**2,284**	**2,286**	**2,294**	**2,308**	**2,507**	**2,373**	*2,471*	*2,278*	*2,287*	*2,298*	*2,308*	**2,286**	*2,415*	*2,293*
E. N. Central	**2,432**	**2,426**	**2,433**	**2,441**	**2,449**	**2,683**	**2,557**	*2,681*	*2,449*	*2,457*	*2,467*	*2,476*	**2,433**	*2,593*	*2,462*
W. N. Central	**1,145**	**1,139**	**1,150**	**1,152**	**1,160**	**1,252**	**1,205**	*1,249*	*1,150*	*1,153*	*1,157*	*1,162*	**1,146**	*1,217*	*1,155*
S. Atlantic	**3,212**	**3,213**	**3,220**	**3,237**	**3,269**	**3,477**	**3,395**	*3,520*	*3,271*	*3,282*	*3,295*	*3,308*	**3,220**	*3,415*	*3,289*
E. S. Central	**891**	**890**	**893**	**896**	**904**	**968**	**941**	*981*	*898*	*901*	*904*	*906*	**893**	*949*	*902*
W. S. Central	**2,006**	**2,005**	**2,014**	**2,022**	**2,027**	**2,194**	**2,104**	*2,175*	*2,004*	*2,005*	*2,013*	*2,022*	**2,012**	*2,125*	*2,011*
Mountain	**1,183**	**1,184**	**1,192**	**1,199**	**1,211**	**1,312**	**1,261**	*1,316*	*1,213*	*1,216*	*1,222*	*1,226*	**1,190**	*1,275*	*1,219*
Pacific	**2,788**	**2,798**	**2,801**	**2,830**	**2,852**	**3,065**	**2,917**	*3,040*	*2,843*	*2,854*	*2,872*	*2,884*	**2,804**	*2,968*	*2,863*
Households (Thousands)															
New England	**5,940**	**5,947**	**5,963**	**5,958**	**5,899**	**5,921**	**5,922**	*5,927*	*5,944*	*5,956*	*5,967*	*5,980*	**5,958**	*5,927*	*5,980*
Middle Atlantic	**16,253**	**16,279**	**16,322**	**16,305**	**16,144**	**16,208**	**16,227**	*16,255*	*16,311*	*16,346*	*16,381*	*16,418*	**16,305**	*16,255*	*16,418*
E. N. Central	**19,099**	**19,132**	**19,186**	**19,171**	**18,987**	**19,076**	**19,102**	*19,141*	*19,204*	*19,247*	*19,291*	*19,340*	**19,171**	*19,141*	*19,340*
W. N. Central	**8,694**	**8,716**	**8,749**	**8,748**	**8,669**	**8,710**	**8,723**	*8,741*	*8,781*	*8,809*	*8,836*	*8,866*	**8,748**	*8,741*	*8,866*
S. Atlantic	**25,706**	**25,788**	**25,904**	**25,929**	**25,721**	**25,857**	**25,911**	*25,979*	*26,130*	*26,242*	*26,352*	*26,475*	**25,929**	*25,979*	*26,475*
E. S. Central	**7,656**	**7,671**	**7,697**	**7,695**	**7,625**	**7,660**	**7,671**	*7,686*	*7,722*	*7,745*	*7,769*	*7,795*	**7,695**	*7,686*	*7,795*
W. S. Central	**14,822**	**14,871**	**14,938**	**14,953**	**14,833**	**14,914**	**14,956**	*15,009*	*15,099*	*15,167*	*15,234*	*15,304*	**14,953**	*15,009*	*15,304*
Mountain	**9,411**	**9,458**	**9,515**	**9,538**	**9,473**	**9,533**	**9,564**	*9,602*	*9,668*	*9,720*	*9,771*	*9,825*	**9,538**	*9,602*	*9,825*
Pacific	**18,916**	**18,951**	**19,013**	**19,008**	**18,832**	**18,917**	**18,972**	*19,044*	*19,138*	*19,201*	*19,263*	*19,326*	**19,008**	*19,044*	*19,326*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.5**	**6.4**	**6.8**	*7.0*	*7.1*	*7.2*	*7.3*	*7.3*	**7.5**	*6.9*	*7.2*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.1**	**16.8**	**18.0**	*18.5*	*18.8*	*18.9*	*19.1*	*19.3*	**20.0**	*18.3*	*19.0*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	**19.3**	**20.6**	*21.2*	*21.4*	*21.6*	*21.7*	*21.8*	**22.3**	*20.9*	*21.6*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	**9.8**	**10.2**	*10.4*	*10.5*	*10.5*	*10.6*	*10.6*	**10.8**	*10.3*	*10.6*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	**26.4**	**27.6**	*28.2*	*28.6*	*28.7*	*28.8*	*29.0*	**29.1**	*27.9*	*28.8*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.3**	**7.5**	**7.9**	*8.1*	*8.1*	*8.2*	*8.2*	*8.2*	**8.3**	*8.0*	*8.2*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	**16.4**	**16.9**	*17.2*	*17.4*	*17.4*	*17.5*	*17.6*	**17.8**	*17.1*	*17.5*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	**10.2**	**10.6**	*10.9*	*11.0*	*11.1*	*11.1*	*11.2*	**11.1**	*10.7*	*11.1*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.0**	**20.9**	**21.8**	*22.5*	*22.9*	*23.1*	*23.3*	*23.4*	**23.8**	*22.3*	*23.2*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,227**	**893**	**135**	**2,278**	**2,731**	**970**	**111**	*2,128*	*3,169*	*871*	*125*	*2,092*	**6,534**	*5,940*	*6,257*
Middle Atlantic	**2,986**	**633**	**68**	**2,062**	**2,470**	**835**	**86**	*1,941*	*2,937*	*699*	*72*	*1,921*	**5,749**	*5,331*	*5,629*
E. N. Central	**3,326**	**761**	**64**	**2,279**	**2,788**	**847**	**126**	*2,309*	*3,160*	*733*	*117*	*2,225*	**6,430**	*6,071*	*6,235*
W. N. Central	**3,643**	**772**	**107**	**2,546**	**3,039**	**800**	**167**	*2,588*	*3,254*	*705*	*159*	*2,445*	**7,068**	*6,592*	*6,563*
South Atlantic	**1,334**	**128**	**2**	**919**	**1,108**	**253**	**17**	*929*	*1,405*	*190*	*10*	*914*	**2,384**	*2,307*	*2,520*
E. S. Central	**1,712**	**193**	**1**	**1,274**	**1,482**	**337**	**20**	*1,276*	*1,799*	*237*	*18*	*1,264*	**3,180**	*3,115*	*3,318*
W. S. Central	**1,206**	**90**	**0**	**848**	**972**	**103**	**8**	*805*	*1,072*	*70*	*4*	*772*	**2,145**	*1,888*	*1,918*
Mountain	**2,425**	**784**	**126**	**1,968**	**2,217**	**673**	**124**	*1,814*	*2,182*	*670*	*147*	*1,822*	**5,303**	*4,828*	*4,821*
Pacific	**1,686**	**573**	**96**	**1,184**	**1,535**	**523**	**63**	*1,156*	*1,538*	*577*	*86*	*1,190*	**3,539**	*3,278*	*3,392*
U.S. Average	**2,209**	**480**	**56**	**1,558**	**1,875**	**540**	**70**	*1,523*	*2,107*	*482*	*70*	*1,494*	**4,303**	*4,008*	*4,153*
Heating Degree Days, Prior 10-year Average															
New England	**3,165**	**820**	**111**	**2,122**	**3,152**	**822**	**105**	*2,127*	*3,133*	*855*	*107*	*2,112*	**6,218**	*6,207*	*6,207*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	**644**	**69**	*1,944*	*2,913*	*677*	*72*	*1,922*	**5,623**	*5,606*	*5,583*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	**698**	**102**	*2,197*	*3,157*	*731*	*104*	*2,191*	**6,203**	*6,195*	*6,183*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	**702**	**131**	*2,379*	*3,247*	*728*	*133*	*2,394*	**6,477**	*6,499*	*6,502*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	**169**	**10**	*952*	*1,393*	*180*	*11*	*920*	**2,631**	*2,589*	*2,504*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,850**	**214**	**15**	*1,277*	*1,772*	*231*	*16*	*1,254*	**3,392**	*3,356*	*3,273*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	**83**	**3**	*794*	*1,140*	*86*	*3*	*793*	**2,079**	*2,078*	*2,022*
Mountain	**2,164**	**714**	**139**	**1,855**	**2,192**	**718**	**135**	*1,844*	*2,182*	*701*	*133*	*1,848*	**4,873**	*4,889*	*4,864*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	**580**	**85**	*1,162*	*1,462*	*552*	*80*	*1,154*	**3,283**	*3,283*	*3,248*
U.S. Average	**2,150**	**475**	**68**	**1,518**	**2,149**	**472**	**64**	*1,509*	*2,108*	*481*	*64*	*1,495*	**4,212**	*4,194*	*4,148*
Cooling Degree Days															
New England	**0**	**67**	**468**	**0**	**0**	**104**	**547**	*7*	*0*	*84*	*419*	*2*	**535**	*657*	*505*
Middle Atlantic	**0**	**143**	**631**	**8**	**0**	**156**	**680**	*5*	*0*	*153*	*551*	*5*	**782**	*841*	*709*
E. N. Central	**0**	**175**	**649**	**7**	**2**	**217**	**606**	*4*	*0*	*217*	*546*	*7*	**831**	*829*	*771*
W. N. Central	**0**	**223**	**729**	**2**	**6**	**294**	**663**	*12*	*3*	*267*	*671*	*10*	**955**	*976*	*951*
South Atlantic	**152**	**753**	**1,295**	**306**	**195**	**617**	**1,231**	*271*	*123*	*658*	*1,187*	*249*	**2,507**	*2,314*	*2,217*
E. S. Central	**29**	**550**	**1,217**	**87**	**72**	**422**	**1,060**	*73*	*28*	*530*	*1,080*	*73*	**1,883**	*1,626*	*1,711*
W. S. Central	**72**	**820**	**1,694**	**168**	**173**	**838**	**1,502**	*231*	*101*	*917*	*1,529*	*212*	**2,754**	*2,744*	*2,760*
Mountain	**11**	**340**	**983**	**58**	**10**	**465**	**1,085**	*100*	*20*	*441*	*935*	*80*	**1,393**	*1,660*	*1,476*
Pacific	**22**	**166**	**589**	**67**	**24**	**197**	**732**	*126*	*27*	*169*	*586*	*59*	**845**	*1,079*	*842*
U.S. Average	**45**	**398**	**952**	**105**	**70**	**394**	**937**	*118*	*45*	*410*	*869*	*99*	**1,500**	*1,520*	*1,423*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	**83**	**471**	*1*	*0*	*81*	*474*	*2*	**536**	*554*	*557*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	**170**	**609**	*6*	*0*	*163*	*609*	*6*	**760**	*785*	*779*
E. N. Central	**3**	**242**	**548**	**7**	**3**	**240**	**578**	*8*	*3*	*234*	*572*	*7*	**799**	*829*	*816*
W. N. Central	**7**	**298**	**669**	**11**	**7**	**296**	**697**	*11*	*7*	*294*	*687*	*11*	**985**	*1,011*	*999*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	**696**	**1,201**	*247*	*143*	*680*	*1,195*	*257*	**2,224**	*2,271*	*2,275*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	**557**	**1,082**	*72*	*42*	*532*	*1,064*	*74*	**1,706**	*1,747*	*1,712*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	**892**	**1,575**	*207*	*114*	*880*	*1,567*	*212*	**2,757**	*2,774*	*2,773*
Mountain	**25**	**438**	**932**	**81**	**24**	**432**	**938**	*81*	*24*	*444*	*954*	*84*	**1,476**	*1,476*	*1,506*
Pacific	**31**	**185**	**631**	**76**	**31**	**185**	**624**	*78*	*31*	*193*	*649*	*86*	**923**	*918*	*958*
U.S. Average	**46**	**417**	**873**	**97**	**47**	**420**	**892**	*100*	*52*	*415*	*894*	*104*	**1,433**	*1,459*	*1,465*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

December 2020

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The December *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply patterns in 2020 and will continue to affect these patterns in the future. U.S. gross domestic product (GDP) declined by 4.4% in the first half of 2020 from the same period a year ago. GDP began rising in the third quarter of 2020, and this STEO assumes it will grow by 3.1% annually in 2021 from 2020. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit completed in early November.

- Brent crude oil spot prices averaged $43 per barrel (b) in November, up $3/b from the average in October. Brent prices increased in November in part because of news about the viability of multiple COVID-19 vaccines, along with market expectations that the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) would delay or limit production increases planned for January 2021.

- The U.S. Energy Information Administration (EIA) expects that Brent prices will average $49/b in 2021, up from an expected average of $43/b in the fourth quarter of 2020. The forecast for higher crude oil prices next year reflects EIA's expectation that while inventories will remain high, they will decline with rising global oil demand and restrained OPEC+ oil production. EIA forecasts Brent prices will average $47/b in the first quarter of 2021 and rise to an average of $50/b by the fourth quarter. The first quarter 2021 average is $5/b more than forecast in last month's STEO, and the fourth quarter average is $1/b more. The higher expected first quarter prices reflect steeper expected global oil inventory draws as a result of the December 3 OPEC+ decision to limit its previously planned production increases in January 2021. EIA expects high global oil inventory levels and surplus crude oil production capacity will limit upward pressure on oil prices through much of 2021.

- EIA forecasts OPEC crude oil production will average 27.5 million barrels per day (b/d) in 2021, up from an estimated 25.6 million b/d in 2020. The increase reflects OPEC's announced potential increases to production targets and production increases in Libya. At the December 3 meeting, OPEC and OPEC+ participants decided to limit oil production increases planned for January 2021. OPEC+ announced it will increase its

production target by 0.5 million b/d in January 2021. The group had initially planned to increase its target by 2.0 million b/d. The group will also assess the state of global oil markets and petroleum demand monthly, adjusting targets based on market conditions. EIA now forecasts OPEC crude oil production will average 25.7 million b/d in the first quarter of 2021, which is 1.7 million b/d lower than forecast in the November STEO and reflects the announced changes to OPEC+ targets and more effective assumed compliance with targets.

- EIA estimates that the world consumed 95.6 million b/d of petroleum and liquid fuels in November, which is down 6.3 million b/d from November 2019 but up from the third-quarter 2020 average of 93.5 million b/d. EIA forecasts that global consumption of petroleum and liquid fuels will average 92.4 million b/d for all of 2020, which is down by 8.8 million b/d from 2019, before increasing by 5.8 million b/d in 2021.

- EIA estimates that U.S. crude oil production was 11.2 million b/d in November, which is up from 10.9 million b/d in September (the most recent month for which historical data are available). The increase mostly reflects greater production in the U.S. Federal Gulf of Mexico after hurricane-related disruptions. EIA expects that U.S. crude oil production will decline to less than 11.0 million b/d in March 2021 mostly because of falling production in the Lower 48 states, where EIA expects declining production rates at existing wells will outpace production from newly drilled wells in the coming months. EIA expects crude oil production in the Lower 48 states will increase from 8.7 million b/d in February 2021 to 9.1 million b/d in December 2021, as drilling increases in response to rising oil prices. This increase contributes to total U.S. crude oil production reaching 11.4 million b/d in December 2021. On an annual average basis, EIA expects U.S. crude oil production to fall from 12.2 million b/d in 2019 to 11.3 million b/d in 2020 and 11.1 million b/d in 2021.

Natural Gas

- In November, the Henry Hub natural gas spot price averaged $2.61 per million British thermal units (MMBtu), up from the October average of $2.39/MMBtu. Price increases last month were moderated by significantly warmer-than-normal temperatures, which reduced residential space heating demand for natural gas despite many remaining at home in response to the pandemic. EIA expects Henry Hub spot prices to reach a monthly average of $3.10/MMBtu in January 2021, which is down from the forecast January average price of $3.42/MMBtu in last month's STEO. Although EIA still expects prices to increase in the coming months because of rising space heating demand and rising U.S. liquefied natural gas (LNG) exports amid declining U.S. natural gas production, the lower January price forecast reflects higher forecast storage levels this winter compared with last month's forecast. EIA expects that monthly average spot prices will average $3.01/MMBtu in 2021, which is up from the forecast average of $2.07/MMBtu for 2020.

- U.S. working natural gas in storage ended October at almost 4.0 trillion cubic feet (Tcf), 5% more than the five-year (2015–19) average and the second-highest end-of-October level on record. EIA estimates that inventories fell by 20 billion cubic feet (Bcf) in November, compared with a five-year average November withdrawal of 103 Bcf and a forecast withdrawal of 222 Bcf in last month's STEO. The lower-than-expected withdrawal is the result of warmer-than-normal November temperatures that reduced natural gas use for space heating. However, EIA forecasts that declines in U.S. natural gas production this winter compared with last winter will more than offset the declines in natural gas consumption, which will contribute to inventory withdrawals outpacing the five-year average during the remainder of the winter season that ends in March. Forecast natural gas inventories end March 2021 at 1.6 Tcf, 15% lower than the 2016–20 average.

- EIA expects that total U.S. consumption of natural gas will average 83.4 billion cubic feet per day (Bcf/d) in 2020, down 2.0% from 2019. The decline in total U.S. consumption reflects warmer temperatures in 2020 compared with 2019 that lowered residential space heating demand for natural gas despite many staying home in response to the pandemic. EIA expects residential demand in 2020 to average 12.9 Bcf/d (down 0.8 Bcf/d from 2019) and commercial demand in 2020 to average 8.6 Bcf/d (down 1.0 Bcf/d from 2019). EIA forecasts industrial consumption will average 22.5 Bcf/d in 2020 (down 0.5 Bcf/d from 2019) as a result of reduced manufacturing activity. EIA expects total U.S. natural gas consumption will average 79.4 Bcf/d in 2021, a 4.8% decline from 2020. The forecast decline in 2021 results from rising natural gas prices that lower forecast natural gas demand in the electric power sector.

- EIA forecasts U.S. dry natural gas production will average 90.9 Bcf/d in 2020, which is down from an average of 93.1 Bcf/d in 2019. In the forecast, monthly average production falls from a record 97.0 Bcf/d in December 2019 to 87.1 Bcf/d in April 2021 before increasing slightly. EIA forecasts dry natural gas production in the United States to average 87.9 Bcf/d in 2021. EIA expects production to begin rising in the second quarter of 2021 in response to higher natural gas and crude oil prices. The increase in crude oil prices is expected to raise associated gas production from oil-directed wells in late-2021, especially in the Permian region.

- EIA estimates that the United States exported 9.4 Bcf/d of LNG in November—the most for any month on record. International spot and forward LNG prices continued to increase in late November, supported by reduced global LNG supply because of outages at LNG export plants in several countries and reported congestion at the Panama Canal, which affected westbound U.S. LNG exports to Asia. EIA expects LNG demand to continue increasing. The primary drivers of this increase are forecasts of colder-than-normal winter weather in Northern Asia and Europe and coal plant closures in South Korea that could increase demand for natural gas for power generation. EIA forecasts that U.S. LNG exports will exceed 9.5 Bcf/d from December through February and will average 8.5 Bcf/d in 2021, a 30% increase from 2020.

Electricity, coal, renewables, and emissions

- EIA forecasts that consumption of electricity in the United States will decrease by 3.9% in 2020. EIA expects retail sales of electricity in the commercial sector to fall this year by 5.9% and by 8.8% in the industrial sector. EIA forecasts residential sector retail sales will rise by 1.5% in 2020. Milder winter temperatures in early 2020 led to less residential consumption for space heating, but this effect was offset by increased summer cooling demand and increased electricity use by more people staying home in response to the pandemic. EIA forecasts total U.S. electricity consumption will rise by 1.3% in 2021. The increase in electricity consumption next year is a result of forecast colder temperatures in the first quarter compared with the same period last year, in addition to continued higher consumption as many people will still be at home more because of the pandemic.

- EIA expects the share of U.S. electric power sector generation from natural gas will increase from 37% in 2019 to 39% this year. In 2021, the forecast natural gas share declines to 34% in response to a forecast increase in the price of natural gas delivered to electricity generators from an average of $2.44/MMBtu in 2020 to $3.38/MMBtu in 2021 (an increase of 39%). Coal's forecast share of electricity generation falls from 24% in 2019 to 20% in 2020 and then returns to 24% in 2021. Electricity generation from renewable energy sources rises from 18% in 2019 to 20% in 2020 and to 21% in 2021. The nuclear share of U.S. generation remains close to 20% through the forecast period.

- In 2020, EIA expects U.S. residential electricity prices to average 13.1 cents per kilowatthour, which is 0.8% higher than the average electricity price in 2019. Annual changes in regional residential electricity prices this year range from 0.4% lower in the South Atlantic region to 3.7% higher in the Pacific region.

- EIA forecasts that planned additions to wind and solar generating capacity in 2020 and 2021 will contribute to increasing electricity generation from those sources. EIA expects the U.S. electric power sector will add 23.0 gigawatts (GW) of new wind capacity in 2020 and 9.5 GW of new capacity in 2021. Expected utility-scale solar capacity rises by 12.8 GW in 2020 and by 14.0 GW in 2021.

- EIA forecasts U.S. coal production to total 521 million short tons (MMst) in 2020, a 26% decline from 2019. Forecast coal production rises to 624 MMst in 2021, a 20% increase from 2020 levels. EIA expects coal production to grow because of increased coal demand from the electric power sector amid higher natural gas prices in 2021.

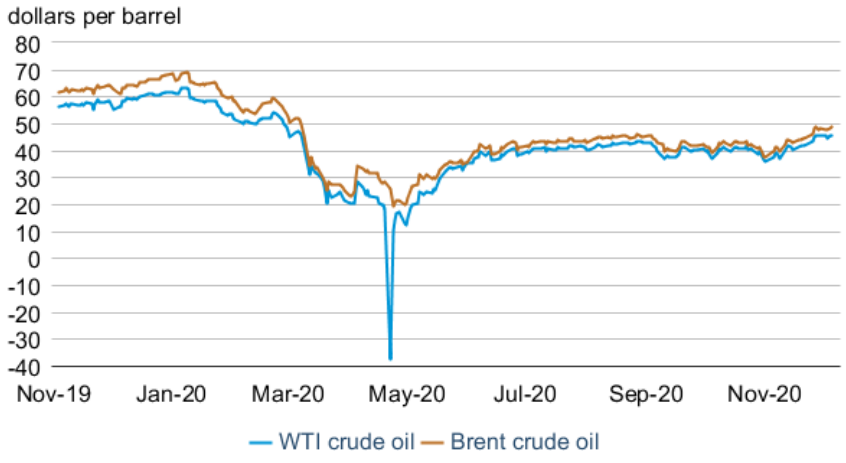
- EIA expects that U.S. energy-related carbon dioxide (CO2) emissions, after decreasing by almost 3% in 2019 from the previous year's level, will decrease by 11% in 2020. This decline in emissions is the result of less energy consumption related to slowing economic growth in response to the COVID-19 pandemic. EIA expects emissions from coal will be down 19% from 2019 and emissions from petroleum will be down 13% from 2019. In 2021, EIA forecasts that energy-related CO2 emissions will increase by 6% from the 2020 level as the economy recovers and energy use increases.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $48.71 per barrel (b) on December 3, 2020, an increase of $9.74/b from November 2, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $8.83/b during the same period, settling at $45.64/b on December 3 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Sources: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

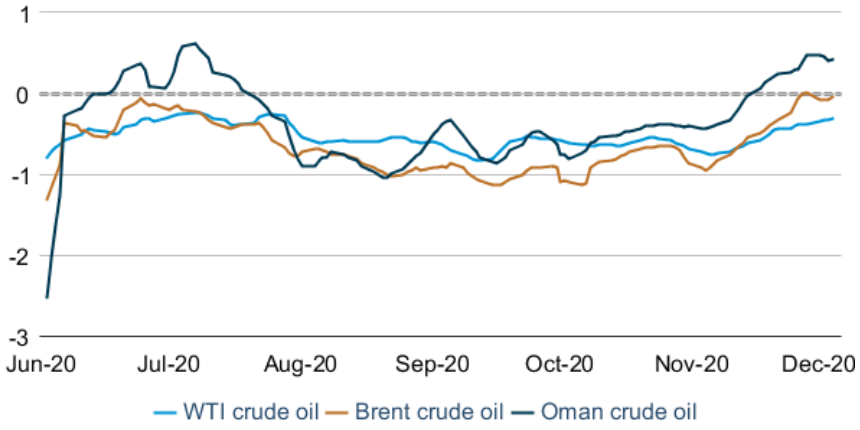
In late November, crude oil prices reached their highest levels since early March, before responses to COVID-19 affected worldwide economies. Prices for crude oil as well as other risk assets such as equities and industrial metals all increased in response to optimism following the announcement of the efficacy of several COVID-19 vaccine candidates, and the price increase likely reflects solidified market expectations for economic recovery during 2021. This optimism came despite record highs in daily cases of COVID-19 during November, which is slowing the recovery in transportation demand in the near term, particularly in Europe and regions of the United States.

The meeting on December 3 between members of the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) resulted in a change to their production cuts beginning in January 2021. The group had initially planned to raise production by 2.0 million barrels per day (b/d) in January 2021 but will instead raise production by 0.5 million b/d. In addition, the group will assess the state of global oil markets and petroleum demand monthly, adjusting production targets based on prevailing oil market conditions. The U.S. Energy Information Administration (EIA) assumes the OPEC+ group will be highly compliant with this agreement in early 2021. EIA forecasts crude oil production from OPEC to average 25.7 million b/d in the first quarter of 2021, a 1.7 million b/d reduction from the November STEO. Partly because of EIA's forecast of more restrained OPEC+ production in 2021, EIA forecasts tighter oil markets next year, particularly in the first quarter. EIA now forecasts first-quarter 2021 global oil

inventory draws to average 1.8 million b/d, which is 1.0 million b/d more than previously forecast.

The combined effect of lower supply expectations from OPEC+ countries as well as firmer market expectations for a recovery in global oil demand is contributing to higher prices for near-term oil deliveries relative to prices for delivery further in the future. The five-day moving averages for the Oman crude oil 1st–3rd spread approached 50 cents/b in late November, and Brent's spread settled at -4 cents/b on December 3. The WTI spread also increased, but by less than the other crude oils **(Figure 2)**.

Figure 2. Crude oil front-month to 3rd month futures price spread
dollars per barrel, five-day moving average

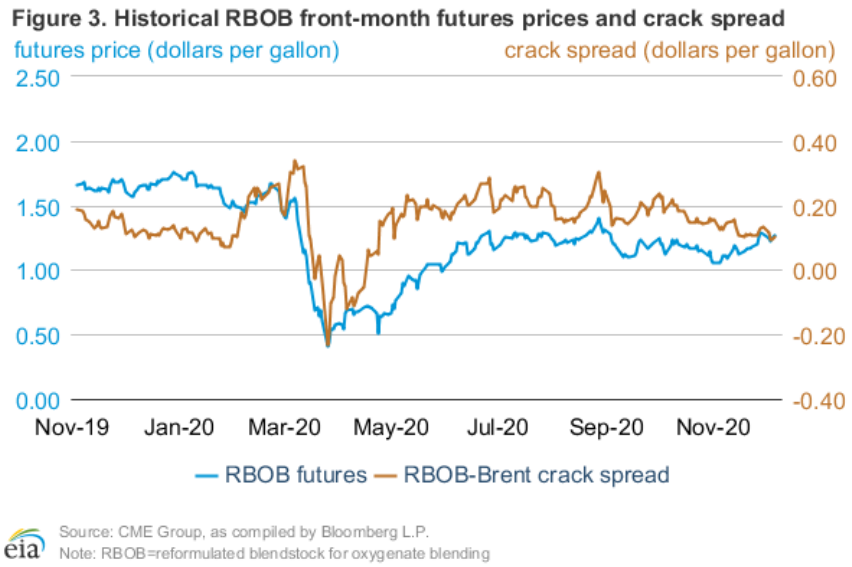


Sources: CME Group, Dubai Mercantile Exchange, and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

The increasing crude oil price spreads reflect both the global oil inventory drawdown since June 2020 as well as expectations for increasing demand and continued stock draws in the coming months. Higher Oman crude oil price spreads, which generally reflect Middle Eastern crude oil exported to Asia, could reflect increasing demand and refinery runs from China, India, or other Asian countries. China's National Bureau of Statistics reported that crude oil refinery runs in China reached an all-time high of 14.1 million b/d in October. Based on data from India's Ministry of Petroleum & Natural Gas, EIA estimates that India's total petroleum consumption was 4.6 million b/d in October 2020, the most of any month since February.

Petroleum products

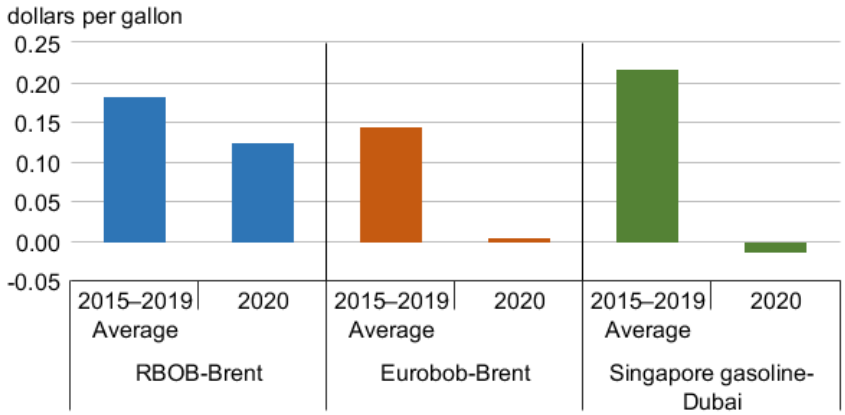
Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.26 per gallon (gal) on December 3, up 21 cents/gal from November 2, 2020 **(Figure 3)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 2 cents/gal to settle at 10 cents/gal during the same period.



The gasoline crack spread started November at a six-month low of 12 cents/gal and traded within a 5-cent range during the month, the narrowest range for any month in 2020. The month's average crack spread of 12 cents/gal was within the five-year (2015–2019) range and was down 5 cents/gal from October 2020. The crack spread decrease likely reflects higher inventories and lower consumption than in October. In this STEO, the U.S. Energy Information Administration (EIA) estimates gasoline inventories increased by 7.4 million barrels (3.3%) from October, which is slightly higher than the average five-year increase of 2.7% from October to November. EIA estimates November gasoline consumption averaged 8.2 million barrels per day (b/d), a decrease of 3.2% from October.

International gasoline crack spreads: Gasoline crack spreads in both Europe and Asia declined to historically low levels, based on the Eurobob–Brent crack spread for Europe and the Singapore gasoline–Dubai crack spread for Singapore. The European monthly average gasoline crack spread was less than 1 cent/gal, and Singapore's was -1 cent/gal in November. Meanwhile, the RBOB–Brent crack spread averaged 12 cents/gal for the month. Although the RBOB–Brent crack spread was 6 cents/gal less than the five-year average, it remained high relative to the crack spreads for Europe and Singapore, which were 14 cents/gal and 22 cents/gal less than their five-year averages, respectively **(Figure 4)**.

Figure 4. November gasoline crack spreads

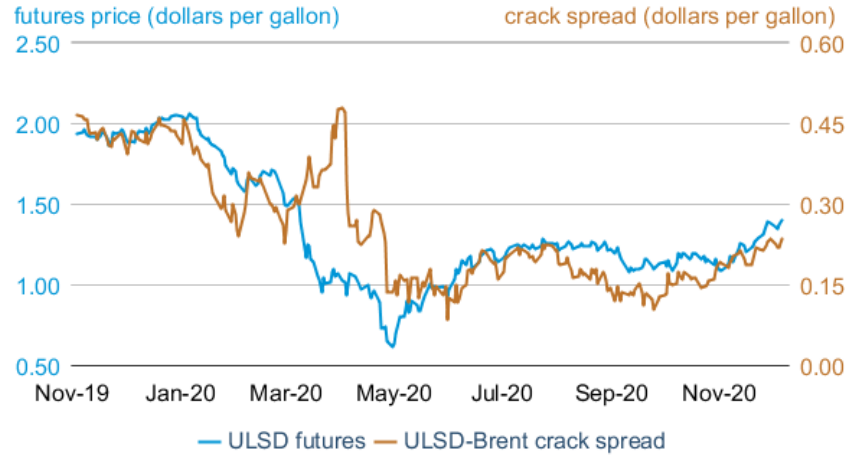


Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending

Although U.S. gasoline crack spreads are less than their five-year average, gasoline crack spreads in Europe and Singapore have decreased more relative to their five-year averages. In Europe, especially high gasoline inventories likely explain the greater decrease. Gasoline inventories at the Amsterdam-Rotterdam-Antwerp hub for the week ending November 19 were at their highest November level in more than 10 years and were 68% higher than the same week a year ago. In Asia, crack spreads have decreased more than U.S. crack spreads because China increased refinery runs to 14.1 million b/d in October, up 5% from a year ago. In contrast to China, U.S. refiners have maintained low refinery runs and gasoline production levels. Furthermore, according to trade press, China exported record levels of gasoline in October, increasing product supplies throughout Asian markets.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at $1.39/gal on December 3, 2020, up 28 cents/gal from November 2, 2020 **(Figure 5)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased by 5 cents/gal to settle at 23 cents/gal during the same period.

Figure 5. Historical ULSD front-month futures price and crack spread

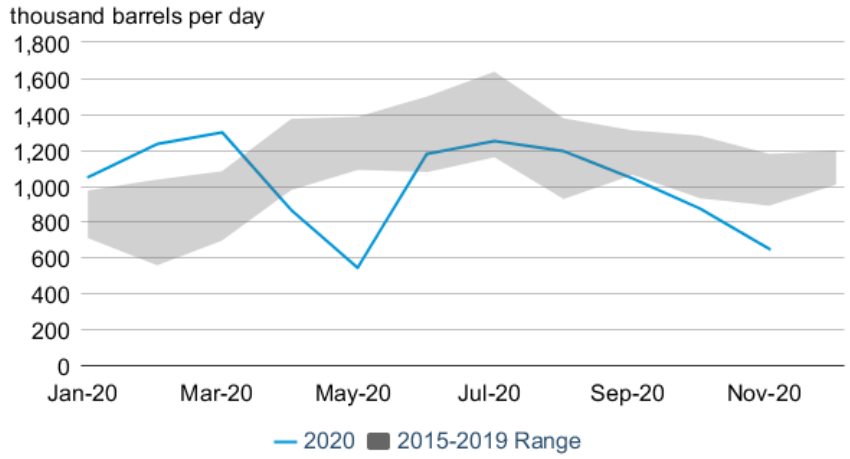


Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

The average ULSD–Brent crack spread in November increased to 21 cents/gal, up 4 cents/gal from October 2020 but down 23 cents/gal from last November. EIA estimates that distillate consumption increased from October to November by 0.1 million b/d (2.6%) to 4.0 million b/d. If confirmed by monthly data, it will mark the fifth consecutive month of distillate consumption increases. In addition, since August, distillate consumption has increased by 0.4 million b/d. As distillate production has decreased to their lowest levels since 2009 in October and November, according to EIA estimates, demand has been increasingly met by distillate inventories, which have fallen by 32.8 million barrels since August 2020, the largest three-month decrease since March 2003.

Reduced net exports of distillate have provided an additional supply source. EIA estimates net exports of distillate fuel were 0.6 million b/d in November, the lowest level for November since 2010 **(Figure 6)**. EIA data for the week ending November 27 show that four-week average distillate imports were 60% higher than the five-year average and four-week average exports were 20% lower than the five-year average. In addition to increased distillate consumption, the widening spread between the ULSD front-month futures price and European distillate spot price is likely contributing to the increase in net imports. The spread in November averaged 13 cents/gal, the highest monthly average since December 2017. The high spread has facilitated imports of distillate on the East Coast (Petroleum Administration for Defense District–PADD–1). Weekly EIA estimates the week ending November 27 showed East Coast distillate imports of 575,000 b/d, the highest for any week since the week ending February 5, 2010.

Figure 6. Monthly distillate net exports

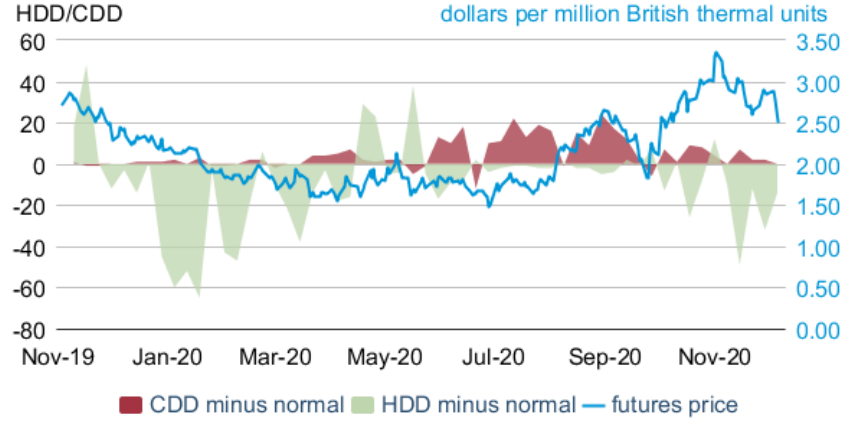


Source: U.S. Energy Information Administration

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.51 per million British thermal units (MMBtu) on December 3, which is down 74 cents/MMBtu from November 2 **(Figure 7)**. The warmest November since 2001 lessened concerns of a tight natural gas market this winter and helped lower prices.

Figure 7. Natural gas front-month futures prices and actual minus historical average HDD and CDD



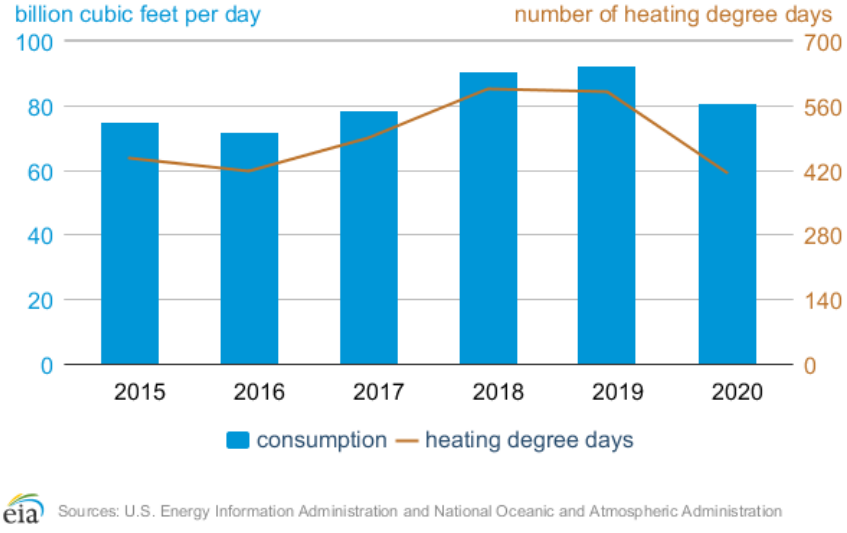
Sources: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

The U.S. Energy Information Administration (EIA) estimates that natural gas inventories declined by 20 billion cubic feet (Bcf) in November, the smallest November draw since 2015. Compared with November 2019, lower natural gas consumption because of warmer temperatures helped to moderate the seasonal decline in inventories in November, even with lower natural gas production and higher liquefied natural gas (LNG) exports. Natural gas production decreased 7.1 Bcf per day (Bcf/d) from November 2019, and U.S. LNG exports rose to a record high in

November, up 3.0 Bcf/d from November 2019. Despite lower production and higher LNG exports, natural gas inventories remain 281 Bcf (8%) higher than the five-year (2015–19) average.

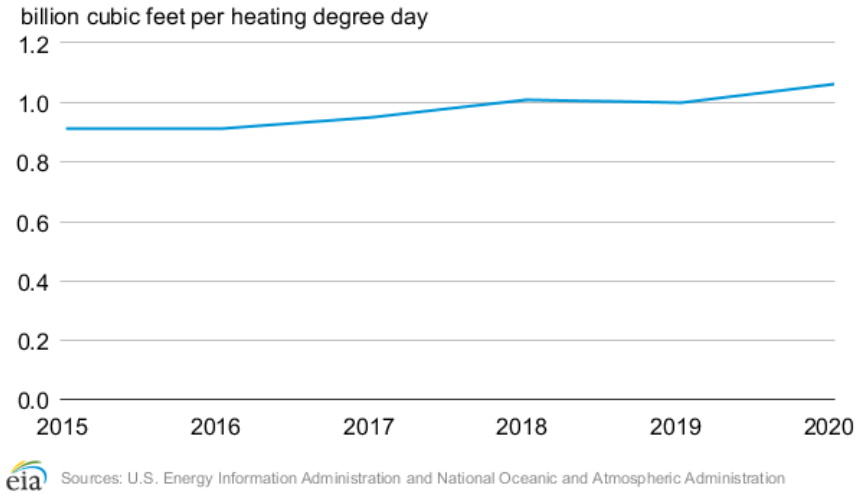
Natural gas consumption and heating degree days: U.S. heating degree days (HDD) in November were 21% less than the 2010–19 average (and 30% less than in November 2019), which contributed to an estimate of the lowest natural gas consumption in November since 2017 **(Figure 8)**. EIA forecasts that consumption in the commercial sector fell 29% from November 2019, in the residential sector by 25%, and in the power generation sector by 6%. Even though temperatures in November 2020 were the warmest since 2001, estimated consumption in 2020 still remained higher than in any previous November except 2018 and 2019 because the size of the overall natural gas market in the United States has increased. Much of this growth has been in the industrial and electric power sectors. Considering the longer-term trends, EIA estimates that U.S. natural gas consumption for the full year 2020 increased 56% compared with 2010 in the electric power sector and 21% in the industrial sector. In addition, responses to COVID-19 in 2020 that have resulted in more people working, attending school, and spending more time at home have likely contributed to greater residential consumption relative to the level of HDD. Compared with the five-year average, residential consumption per HDD increased 11% in November 2020 **(Figure 9)**.

Figure 8. November natural gas consumption and heating degree days



eia Sources: U.S. Energy Information Administration and National Oceanic and Atmospheric Administration

Figure 9. November residential natural gas consumption per heating degree day



Notable forecast changes

- The U.S. Energy Information Administration (EIA) updated its *International Energy Statistics* (IES) database during November to include 2018 data for petroleum consumption from countries outside of the Organization for Economic Cooperation and Development. The *Short-Term Energy Outlook* (STEO) uses IES for its historical global liquid fuels consumption and production data. Based on this IES update, EIA reports that global liquid fuels consumption averaged 100.4 million barrels per day (b/d) in 2018, 0.2 million b/d lower than estimated in the November STEO. This lower historical baseline for 2018 carries through to estimates and forecasts for 2019 through 2021. EIA now estimates global liquid fuels consumption averaged 101.2 million b/d in 2019, which is 0.3 million b/d less than estimated in the November STEO. EIA forecasts global liquid fuels consumption will average 92.4 million b/d in 2020 and 98.2 million b/d in 2021.

- EIA forecasts OPEC crude oil production will average 27.5 million b/d in 2021, which is 1.0 million b/d lower than previously forecast. The reduction in the forecast reflects EIA's updated assumptions about OPEC production and compliance following the group's December 3 meeting at which OPEC and partner countries announced they were limiting production increases planned for January 2021 to 0.5 million b/d from the previously announced 2.0 million b/d.

- EIA forecasts Henry Hub natural gas spot prices will average $3.01 per million British thermal units (MMBtu) in 2021, which is down from a forecast of $3.14/MMBtu in the November STEO. The lower forecast reflects EIA's expectation of higher inventory levels during 2021 compared with last month's forecast.

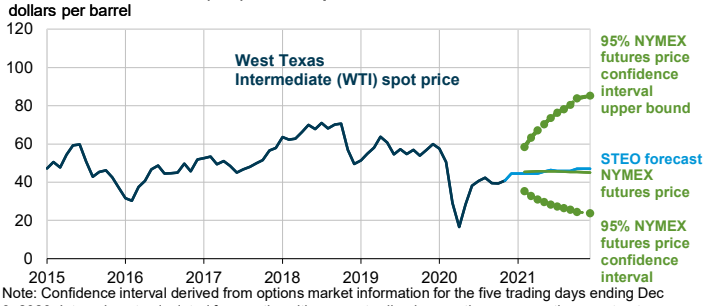
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

December 8, 2020

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

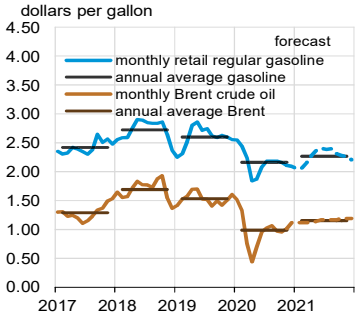


Note: Confidence interval derived from options market information for the five trading days ending Dec 3, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

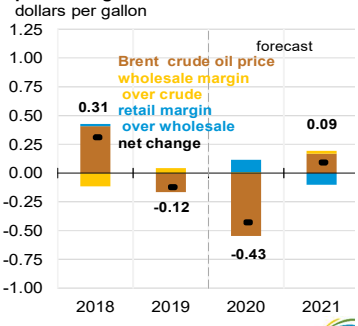
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020, CME Group, and Bloomberg, L.P.

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U.S. gasoline and crude oil prices
dollars per gallon



Components of annual gasoline price changes
dollars per gallon

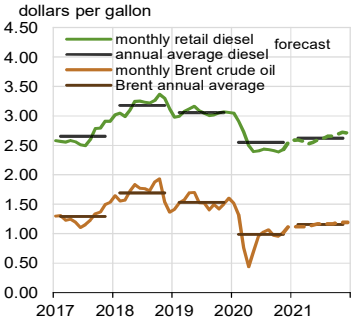


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

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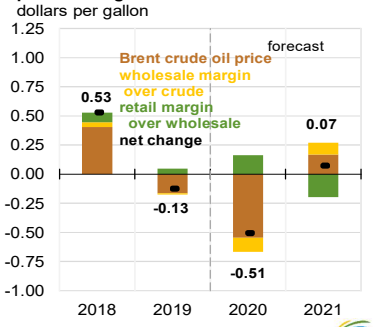
U.S. diesel and crude oil prices

dollars per gallon



Components of annual diesel prices changes

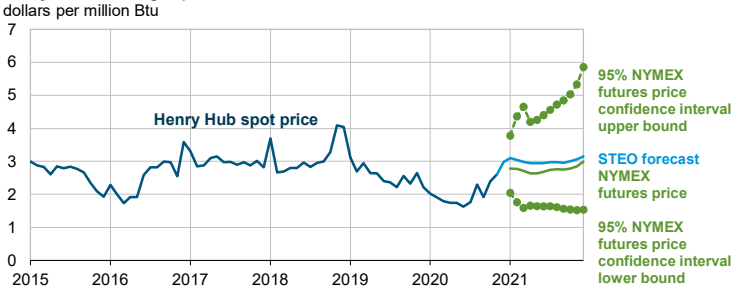
dollars per gallon



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

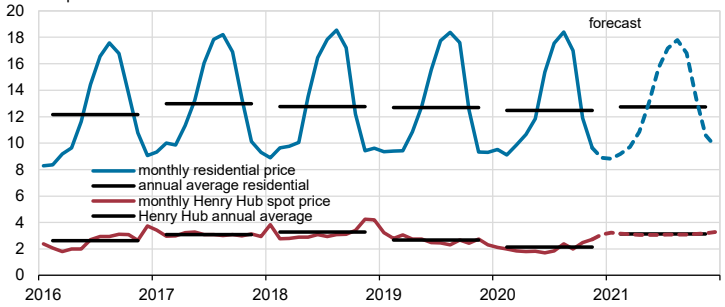


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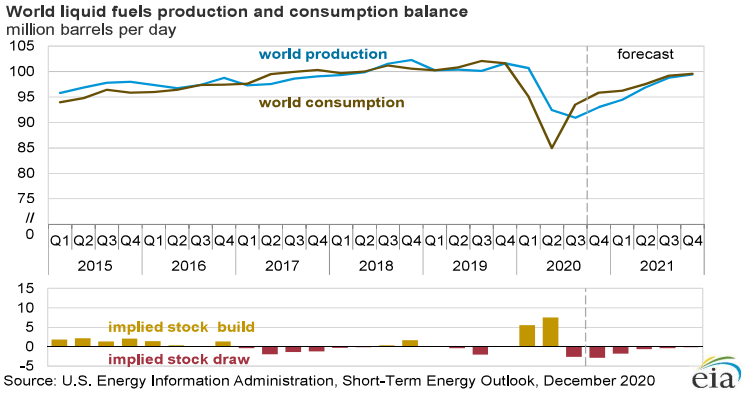
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020, and CME Group

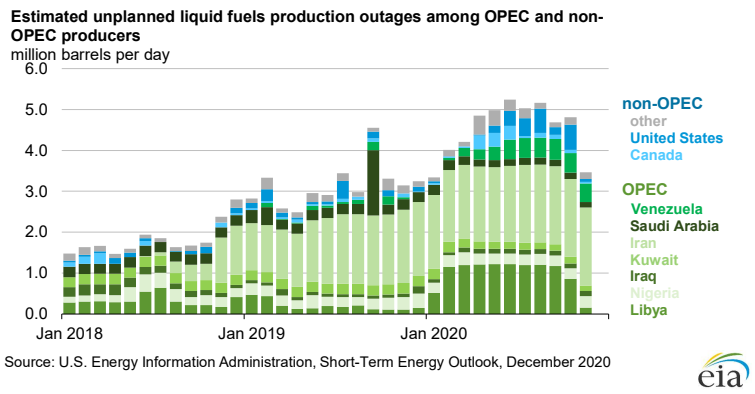
U.S. natural gas prices

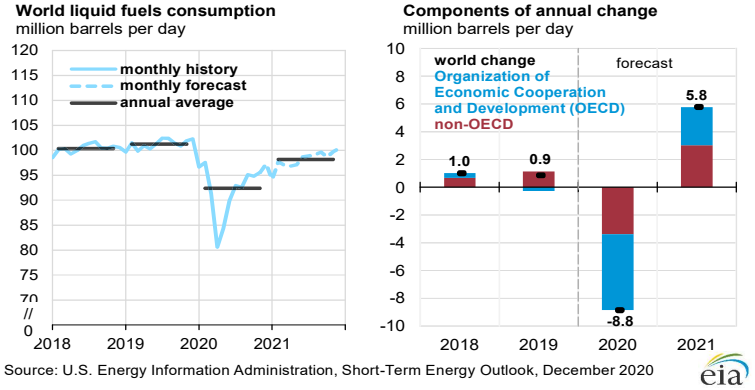
dollars per thousand cubic feet

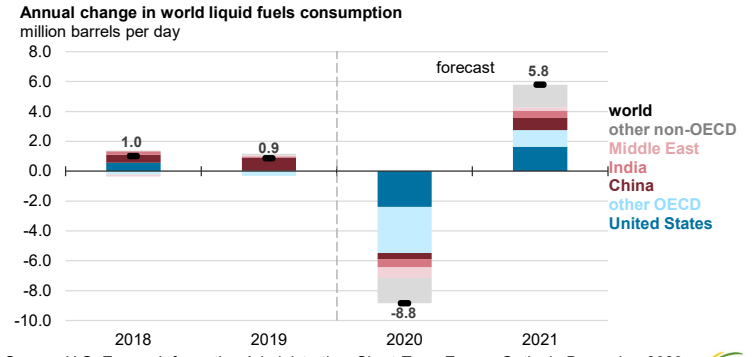


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020, and Refinitiv

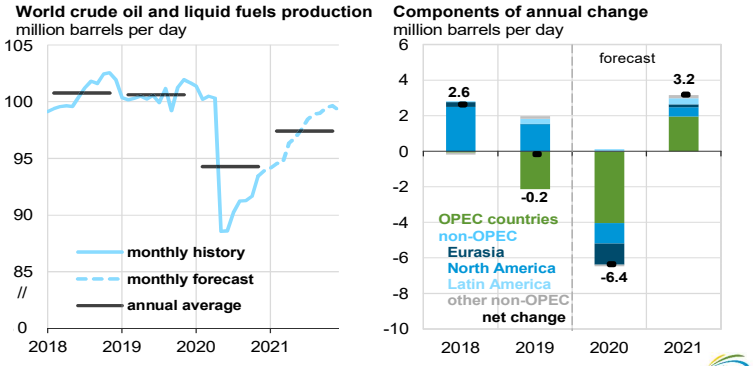

World liquid fuels production and consumption balance
million barrels per day
world production
world consumption
forecast
105
100
95
90
85
80
75
0
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2015
2016
2017
2018
2019
2020
2021
15
10
5
0
-5
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jan 2018
Jan 2019
Jan 2020
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020
eia

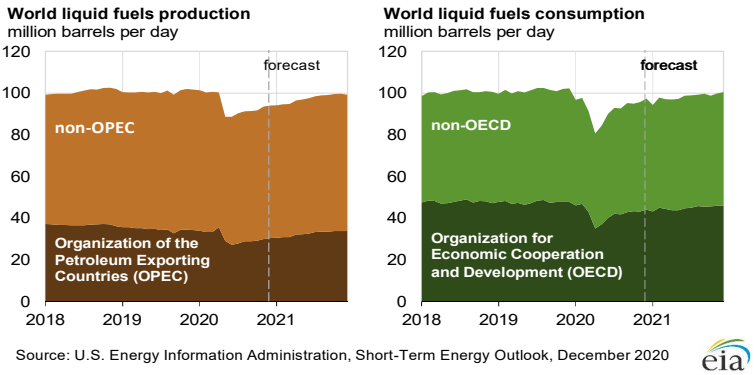

World liquid fuels consumption
million barrels per day
monthly history
monthly forecast
annual average
120
115
110
105
100
95
90
85
80
75
0
2018
2019
2020
2021
Components of annual change
million barrels per day
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
10
8
6
4
2
0
-2
-4
-6
-8
-10
1.0
0.9
-8.8
5.8
2018
2019
2020
2021
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

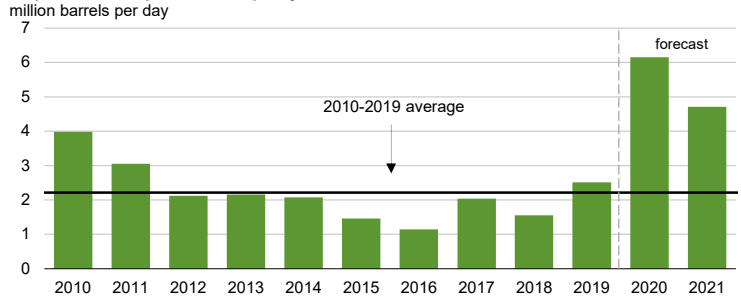


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020



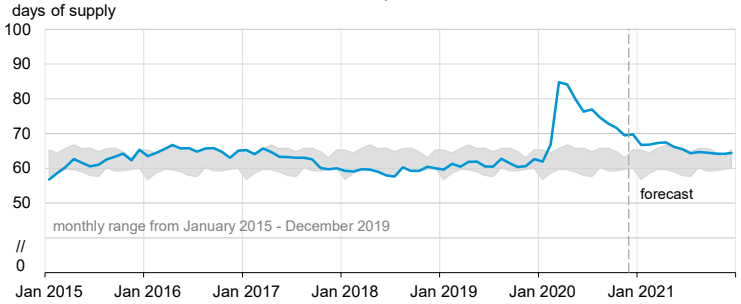
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



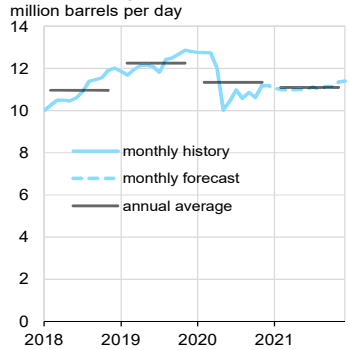
Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

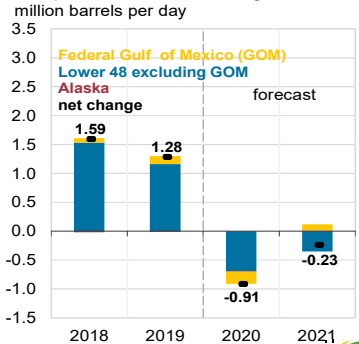


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. crude oil production
million barrels per day

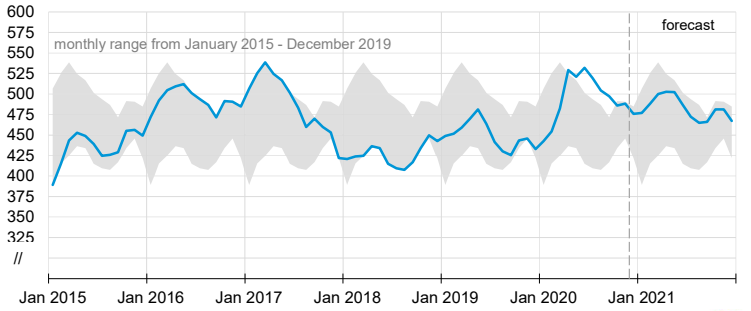


Components of annual change
million barrels per day



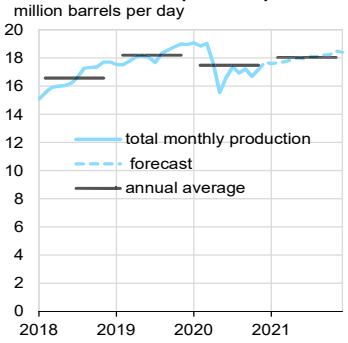
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. commercial crude oil inventories
million barrels

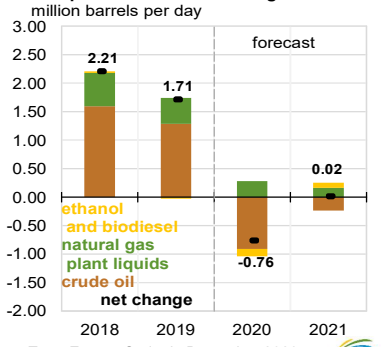


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. crude oil and liquid fuels production
million barrels per day

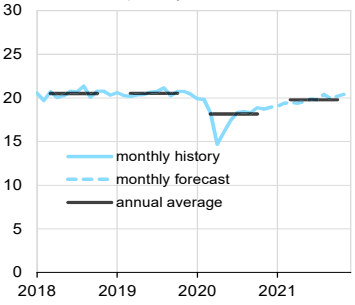


Components of annual change
million barrels per day

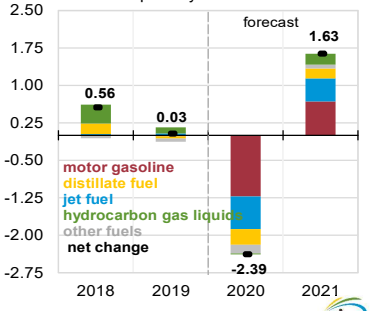


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. liquid fuels product supplied (consumption)
million barrels per day

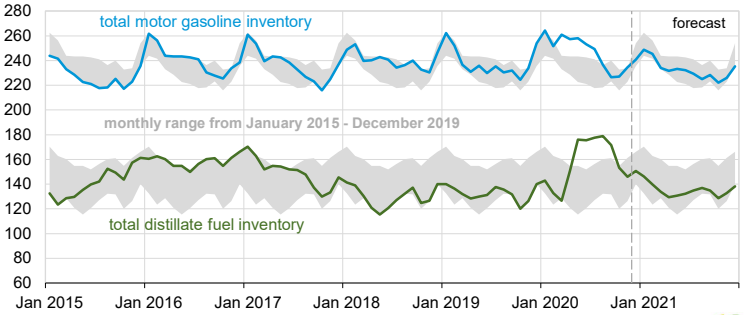


Components of annual change
million barrels per day



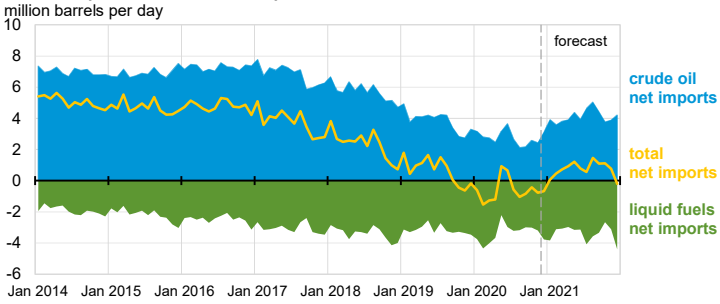
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. gasoline and distillate inventories
million barrels



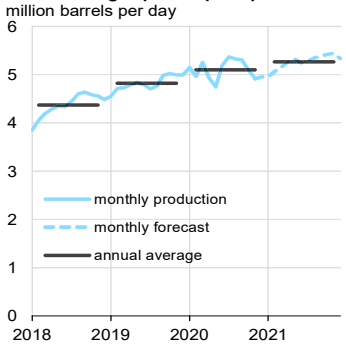
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. net imports of crude oil and liquid fuels
million barrels per day

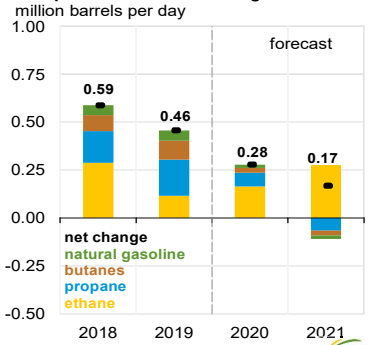


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

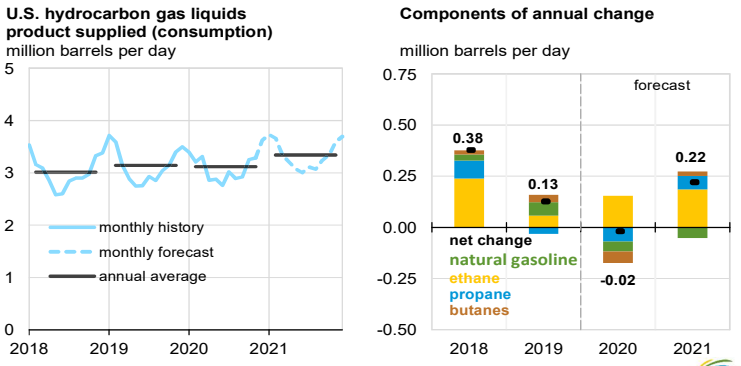
U.S. natural gas plant liquids production
million barrels per day



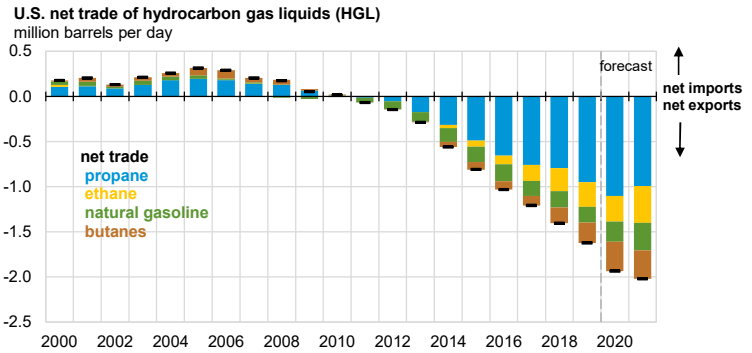
Components of annual change
million barrels per day



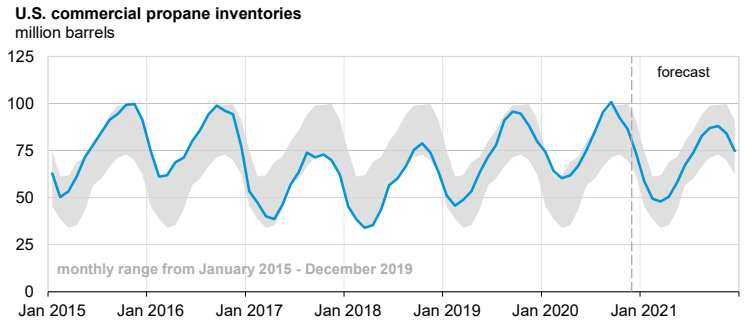
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020



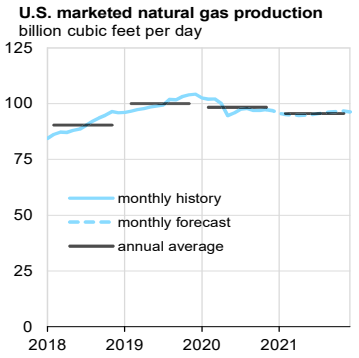
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

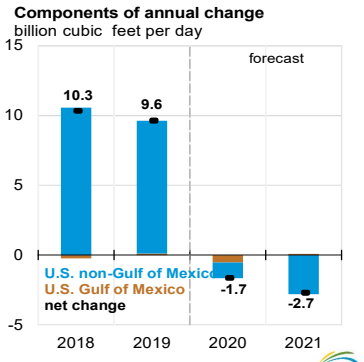


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

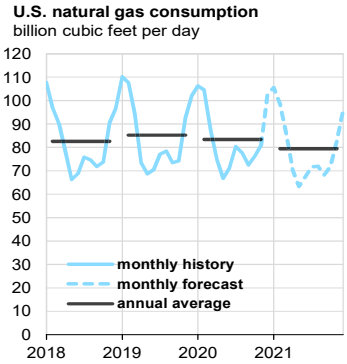


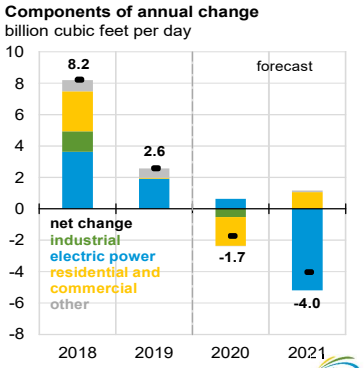
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020



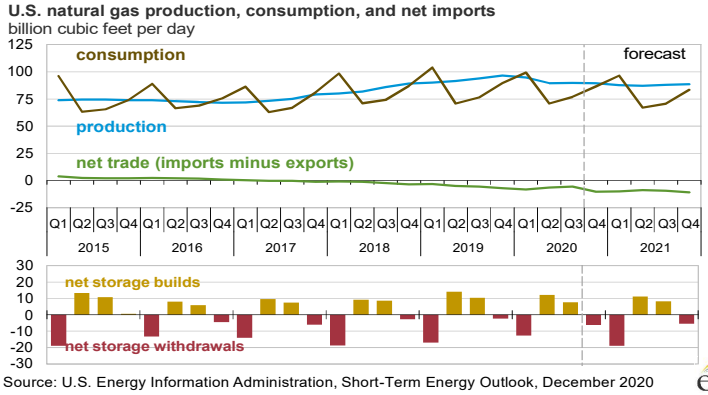


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020



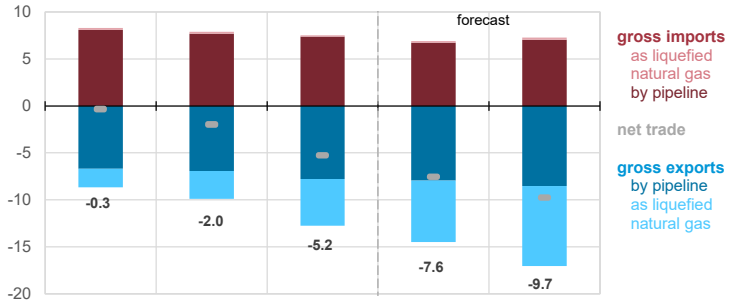


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020



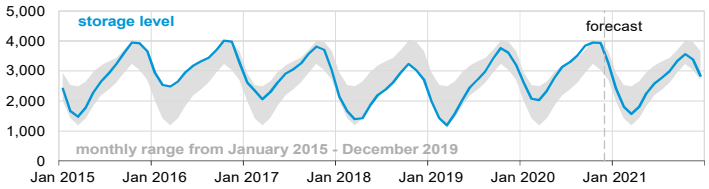
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. annual natural gas trade
billion cubic feet per day

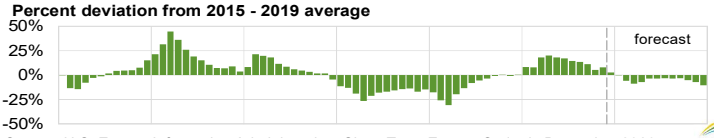


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. working natural gas in storage
billion cubic feet

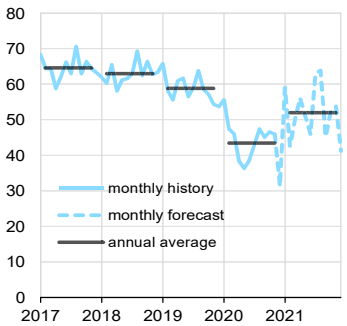


Percent deviation from 2015 - 2019 average

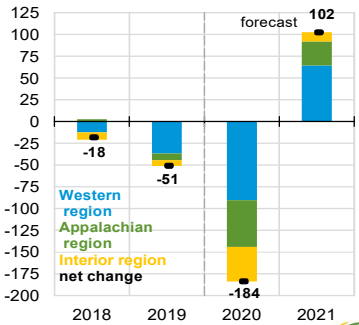


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

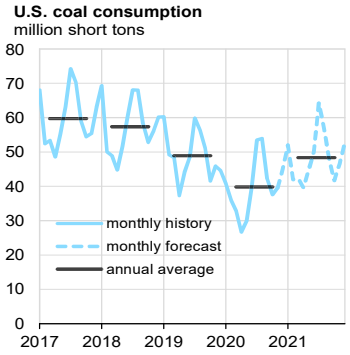
U.S. coal production
million short tons

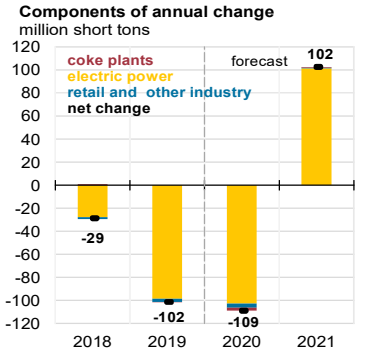


Components of annual change
million short tons

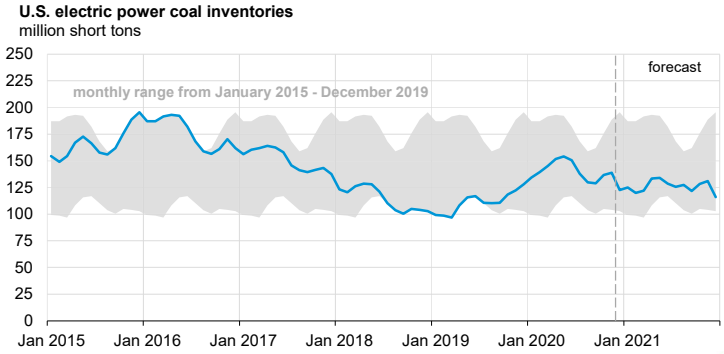


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

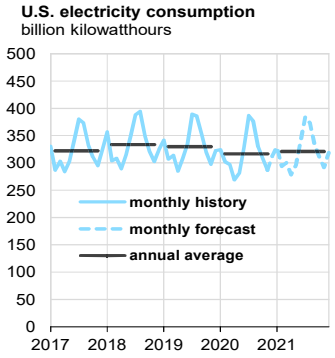


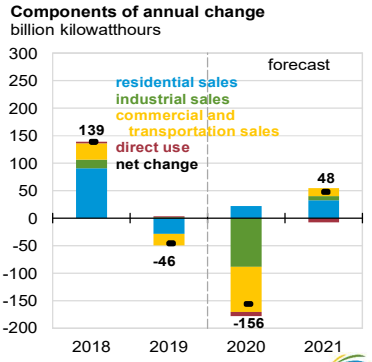


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020



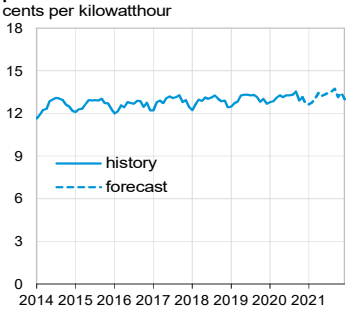
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020



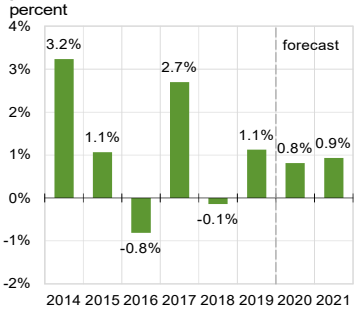


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. monthly residential electricity price
cents per kilowatthour

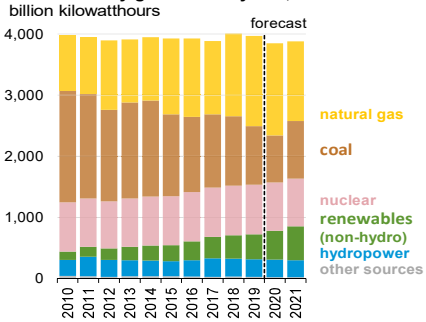


Annual growth in residential electricity prices
percent

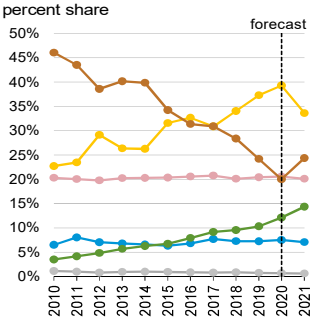


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. electricity generation by fuel, all sectors
billion kilowatthours

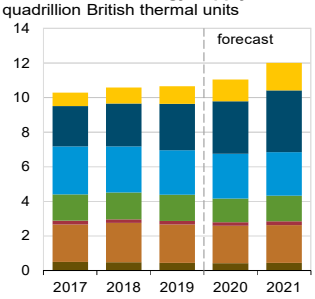


percent share

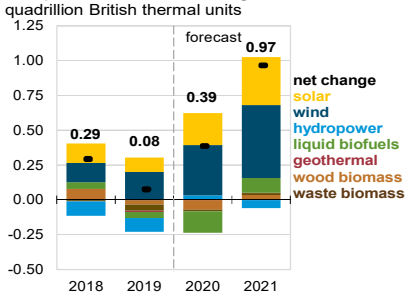


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. renewable energy supply
quadrillion British thermal units



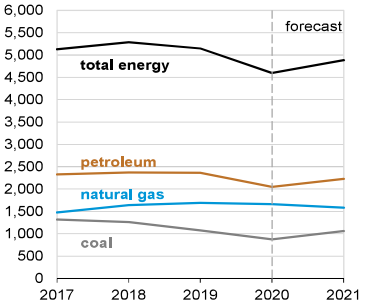
Components of annual change
quadrillion British thermal units



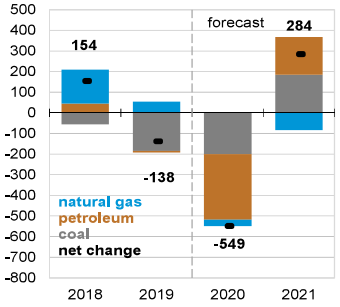
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. annual carbon emissions by source
million metric tons

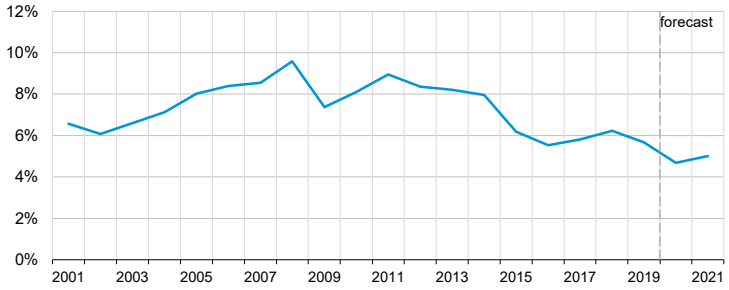


Components of annual change
million metric tons



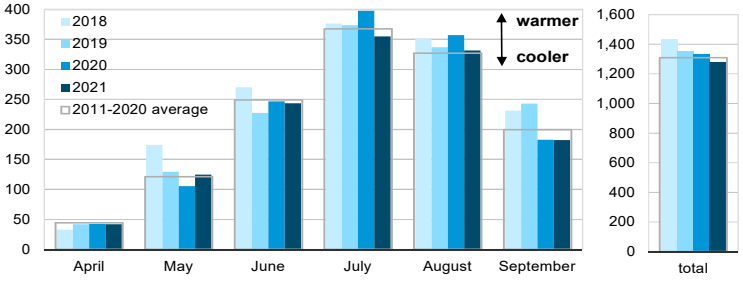
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

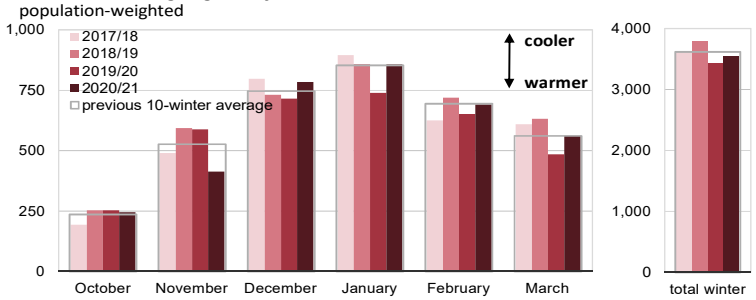
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

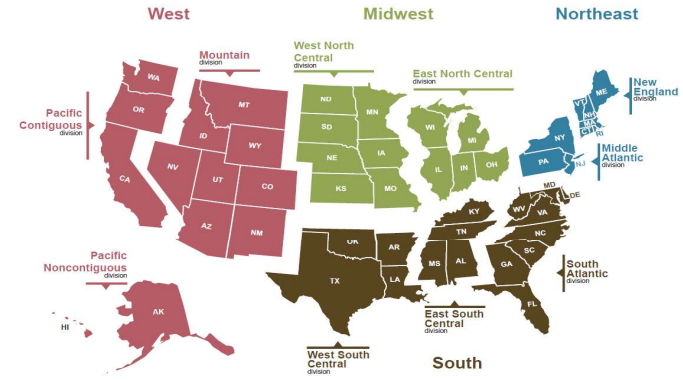
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2020

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.81**	**10.80**	*10.99*	*11.02*	*11.00*	*11.09*	*11.29*	**12.25**	*11.34*	*11.10*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.01**	**91.57**	**94.00**	**96.58**	**94.79**	**89.67**	**89.72**	*89.36*	*87.65*	*87.25*	*88.13*	*88.61*	**93.06**	*90.88*	*87.91*
Coal Production															
(million short tons)	**180**	**179**	**181**	**165**	**149**	**113**	**135**	*124*	*152*	*153*	*172*	*147*	**705**	*521*	*624*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.36**	*18.85*	*19.30*	*19.61*	*20.03*	*20.21*	**20.54**	*18.16*	*19.79*
Natural Gas															
(billion cubic feet per day)	**103.92**	**70.95**	**76.35**	**89.62**	**99.31**	**70.89**	**76.89**	*86.59*	*96.56*	*67.00*	*70.67*	*83.48*	**85.15**	*83.41*	*79.37*
Coal (b)															
(million short tons)	**158**	**130**	**167**	**132**	**109**	**96**	**149**	*122*	*136*	*134*	*168*	*141*	**587**	*478*	*580*
Electricity															
(billion kilowatt hours per day)	**10.69**	**10.19**	**12.26**	**10.22**	**10.15**	**9.64**	**11.87**	*9.87*	*10.26*	*10.03*	*11.86*	*10.02*	**10.84**	*10.39*	*10.54*
Renewables (c)															
(quadrillion Btu)	**2.77**	**3.07**	**2.81**	**2.75**	**2.93**	**3.01**	**2.85**	*2.88*	*3.15*	*3.34*	*3.07*	*3.10*	**11.39**	*11.67*	*12.66*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.60**	**23.50**	**24.95**	**25.23**	**25.12**	**20.66**	**23.37**	*23.58*	*24.89*	*22.61*	*23.87*	*24.41*	**100.27**	*92.72*	*95.78*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	**40.89**	*41.63*	*44.50*	*45.52*	*46.00*	*47.00*	**56.99**	*38.96*	*45.78*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	**2.00**	*2.66*	*3.05*	*2.95*	*2.97*	*3.07*	**2.57**	*2.07*	*3.01*
Coal															
(dollars per million Btu)	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.91**	*2.01*	*2.05*	*2.06*	*2.04*	*2.04*	**2.01**	*1.94*	*2.05*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,303**	**18,584**	*18,749*	*18,872*	*18,923*	*19,014*	*19,109*	**19,092**	*18,412*	*18,979*
Percent change from prior year	**2.3**	**2.0**	**2.1**	**2.3**	**0.3**	**-9.0**	**-2.9**	*-2.6*	*-0.7*	*9.4*	*2.3*	*1.9*	**2.2**	*-3.6*	*3.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.9**	**113.9**	*114.3*	*114.8*	*115.4*	*115.9*	*116.5*	**112.3**	*113.6*	*115.7*
Percent change from prior year	**2.0**	**1.8**	**1.7**	**1.6**	**1.7**	**0.6**	**1.1**	*1.2*	*1.2*	*2.3*	*1.8*	*1.9*	**1.8**	*1.1*	*1.8*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,061**	**16,576**	**15,852**	*15,283*	*15,079*	*15,054*	*15,071*	*15,074*	**14,883**	*15,693*	*15,070*
Percent change from prior year	**3.2**	**2.1**	**1.8**	**1.6**	**1.4**	**11.9**	**6.4**	*2.1*	*0.1*	*-9.2*	*-4.9*	*-1.4*	**2.2**	*5.4*	*-4.0*
Manufacturing Production Index															
(Index, 2012=100)	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.2**	**99.8**	*100.9*	*101.2*	*100.8*	*100.5*	*100.7*	**106.0**	*98.6*	*100.8*
Percent change from prior year	**1.6**	**0.1**	**-0.6**	**-1.1**	**-2.0**	**-15.5**	**-5.8**	*-4.6*	*-3.1*	*12.9*	*0.7*	*-0.2*	**0.0**	*-7.0*	*2.2*
Weather															
U.S. Heating Degree-Days	**2,209**	**480**	**56**	**1,557**	**1,875**	**541**	**70**	*1,443*	*2,109*	*483*	*70*	*1,494*	**4,302**	*3,929*	*4,157*
U.S. Cooling Degree-Days	**45**	**399**	**954**	**105**	**70**	**395**	**937**	*127*	*45*	*410*	*869*	*99*	**1,503**	*1,529*	*1,424*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**54.82**	**59.88**	**56.35**	**56.86**	**45.34**	**27.96**	**40.89**	*41.63*	*44.50*	*45.52*	*46.00*	*47.00*	**56.99**	*38.96*	*45.78*
Brent Spot Average	**63.14**	**69.04**	**61.90**	**63.30**	**49.97**	**29.52**	**42.97**	*43.31*	*47.00*	*48.02*	*49.00*	*50.00*	**64.34**	*41.43*	*48.53*
U.S. Imported Average	**55.39**	**62.93**	**57.31**	**55.60**	**43.76**	**26.33**	**39.58**	*39.66*	*42.05*	*42.90*	*43.25*	*44.00*	**57.95**	*37.01*	*43.07*
U.S. Refiner Average Acquisition Cost	**57.08**	**63.54**	**58.67**	**58.05**	**47.48**	**26.88**	**41.26**	*42.04*	*43.55*	*43.92*	*44.25*	*45.00*	**59.36**	*39.87*	*44.19*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**167**	**205**	**189**	**182**	**153**	**104**	**137**	*129*	*139*	*159*	*159*	*148*	**186**	*132*	*151*
Diesel Fuel	**192**	**203**	**192**	**197**	**160**	**97**	**124**	*133*	*148*	*154*	*159*	*162*	**196**	*129*	*156*
Fuel Oil	**189**	**195**	**184**	**191**	**160**	**87**	**113**	*126*	*143*	*145*	*152*	*158*	**190**	*126*	*150*
Refiner Prices to End Users															
Jet Fuel	**193**	**204**	**194**	**197**	**165**	**85**	**116**	*128*	*144*	*146*	*153*	*157*	**197**	*132*	*150*
No. 6 Residual Fuel Oil (a)	**153**	**163**	**155**	**163**	**176**	**93**	**116**	*133*	*109*	*106*	*105*	*107*	**158**	*129*	*106*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**236**	**279**	**265**	**259**	**241**	**194**	**218**	*212*	*209*	*235*	*236*	*225*	**260**	*217*	*227*
Gasoline All Grades (b)	**245**	**288**	**274**	**269**	**251**	**203**	**227**	*222*	*221*	*248*	*250*	*238*	**269**	*227*	*240*
On-highway Diesel Fuel	**302**	**312**	**302**	**306**	**289**	**243**	**243**	*245*	*258*	*256*	*264*	*271*	**306**	*255*	*262*
Heating Oil	**300**	**305**	**290**	**301**	**280**	**200**	**214**	*237*	*256*	*258*	*268*	*289*	**300**	*247*	*268*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	**2.07**	*2.76*	*3.17*	*3.07*	*3.08*	*3.19*	**2.67**	*2.15*	*3.13*
Henry Hub Spot (dollars per million Btu)	**2.92**	**2.56**	**2.38**	**2.40**	**1.91**	**1.71**	**2.00**	*2.66*	*3.05*	*2.95*	*2.97*	*3.07*	**2.57**	*2.07*	*3.01*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.66**	**3.73**	**3.29**	**3.74**	**3.52**	**2.85**	**2.88**	*3.68*	*4.43*	*3.99*	*3.98*	*4.30*	**3.90**	*3.27*	*4.19*
Commercial Sector	**7.55**	**7.95**	**8.41**	**7.20**	**7.13**	**7.63**	**8.48**	*7.51*	*7.52*	*8.19*	*8.81*	*7.91*	**7.59**	*7.47*	*7.89*
Residential Sector	**9.39**	**12.36**	**17.90**	**9.78**	**9.46**	**11.89**	**17.62**	*9.65*	*9.18*	*12.47*	*17.23*	*10.66*	**10.46**	*10.51*	*10.65*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.91**	*2.01*	*2.05*	*2.06*	*2.04*	*2.04*	**2.01**	*1.94*	*2.05*
Natural Gas	**3.72**	**2.73**	**2.51**	**2.79**	**2.41**	**2.10**	**2.27**	*3.08*	*3.69*	*3.24*	*3.22*	*3.48*	**2.89**	*2.44*	*3.38*
Residual Fuel Oil (c)	**12.22**	**13.39**	**12.80**	**12.53**	**12.15**	**6.65**	**8.51**	*7.87*	*8.90*	*9.81*	*9.44*	*9.37*	**12.73**	*8.81*	*9.37*
Distillate Fuel Oil	**14.85**	**15.76**	**14.99**	**15.11**	**13.27**	**8.39**	**10.31**	*10.59*	*11.70*	*12.17*	*12.48*	*12.80*	**15.16**	*10.73*	*12.31*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.67**	**6.69**	**7.20**	**6.65**	**6.37**	**6.63**	**7.09**	*6.71*	*6.44*	*6.72*	*7.10*	*6.74*	**6.81**	*6.71*	*6.76*
Commercial Sector	**10.43**	**10.66**	**11.00**	**10.55**	**10.33**	**10.63**	**10.97**	*10.47*	*10.27*	*10.76*	*11.20*	*10.64*	**10.67**	*10.61*	*10.74*
Residential Sector	**12.67**	**13.30**	**13.24**	**12.83**	**12.90**	**13.24**	**13.36**	*12.90*	*12.82*	*13.34*	*13.57*	*13.18*	**13.01**	*13.12*	*13.24*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	**31.06**	**31.32**	**31.48**	**32.76**	**32.90**	**29.42**	**29.87**	*30.33*	*30.90*	*30.95*	*31.21*	*31.69*	**31.66**	*30.63*	*31.19*
U.S. (50 States)	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.58**	**18.30**	*18.23*	*18.37*	*18.64*	*18.82*	*19.06*	**19.47**	*18.58*	*18.72*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.94**	**4.89**	*5.42*	*5.71*	*5.69*	*5.70*	*5.71*	**5.50**	*5.22*	*5.70*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	**1.91**	*1.87*	*1.84*	*1.85*	*1.82*	*1.82*	**1.92**	*1.93*	*1.83*
Other OECD	**4.85**	**4.59**	**4.63**	**4.99**	**5.03**	**4.96**	**4.77**	*4.82*	*4.97*	*4.78*	*4.88*	*5.10*	**4.77**	*4.89*	*4.93*
Non-OECD	**69.21**	**69.09**	**68.62**	**68.87**	**67.79**	**63.03**	**61.04**	*62.67*	*63.56*	*65.96*	*67.58*	*67.76*	**68.95**	*63.62*	*66.23*
OPEC	**35.38**	**34.91**	**33.89**	**34.33**	**33.49**	**30.59**	**28.45**	*29.85*	*30.72*	*32.24*	*33.41*	*33.69*	**34.63**	*30.58*	*32.53*
Crude Oil Portion	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	**23.61**	*24.95*	*25.68*	*27.27*	*28.45*	*28.73*	**29.27**	*25.61*	*27.54*
Other Liquids (b)	**5.44**	**5.44**	**5.24**	**5.31**	**5.21**	**4.95**	**4.84**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.36**	*4.97*	*4.98*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	**12.74**	*13.09*	*13.31*	*13.54*	*13.69*	*13.81*	**14.63**	*13.44*	*13.59*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	**4.95**	*4.96*	*4.95*	*4.99*	*5.00*	*5.05*	**4.89**	*4.94*	*5.00*
Other Non-OECD	**14.09**	**14.84**	**15.26**	**15.00**	**14.61**	**14.34**	**14.90**	*14.77*	*14.57*	*15.19*	*15.47*	*15.21*	**14.80**	*14.66*	*15.11*
Total World Supply	**100.28**	**100.42**	**100.10**	**101.63**	**100.69**	**92.45**	**90.91**	*93.00*	*94.46*	*96.91*	*98.79*	*99.45*	**100.61**	*94.25*	*97.42*
Non-OPEC Supply	**64.89**	**65.51**	**66.21**	**67.30**	**67.21**	**61.86**	**62.47**	*63.16*	*63.73*	*64.68*	*65.37*	*65.76*	**65.98**	*63.67*	*64.89*
Consumption (million barrels per day) (c)															
OECD	**47.51**	**46.94**	**48.07**	**47.69**	**45.24**	**37.37**	**42.20**	*43.51*	*44.13*	*44.04*	*45.39*	*45.75*	**47.55**	*42.08*	*44.83*
U.S. (50 States)	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.36**	*18.85*	*19.30*	*19.61*	*20.03*	*20.21*	**20.54**	*18.16*	*19.79*
U.S. Territories	**0.16**	**0.14**	**0.15**	**0.15**	**0.13**	**0.12**	**0.12**	*0.13*	*0.14*	*0.12*	*0.13*	*0.14*	**0.15**	*0.13*	*0.13*
Canada	**2.30**	**2.31**	**2.57**	**2.49**	**2.33**	**1.88**	**2.15**	*2.24*	*2.24*	*2.21*	*2.34*	*2.33*	**2.42**	*2.15*	*2.28*
Europe	**14.03**	**14.18**	**14.66**	**14.06**	**13.35**	**10.98**	**12.90**	*12.76*	*12.66*	*13.04*	*13.68*	*13.41*	**14.24**	*12.50*	*13.20*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.89**	**3.01**	*3.36*	*3.63*	*2.99*	*3.07*	*3.38*	**3.65**	*3.24*	*3.27*
Other OECD	**6.61**	**6.46**	**6.54**	**6.62**	**6.42**	**5.43**	**5.66**	*6.17*	*6.16*	*6.07*	*6.13*	*6.28*	**6.56**	*5.92*	*6.16*
Non-OECD	**52.76**	**53.90**	**54.04**	**53.98**	**49.87**	**47.58**	**51.33**	*52.38*	*52.13*	*53.51*	*53.80*	*53.85*	**53.67**	*50.30*	*53.33*
Eurasia	**5.01**	**5.08**	**5.47**	**5.31**	**4.87**	**4.50**	**5.30**	*5.18*	*4.90*	*5.00*	*5.44*	*5.31*	**5.22**	*4.96*	*5.17*
Europe	**0.75**	**0.75**	**0.76**	**0.77**	**0.71**	**0.69**	**0.72**	*0.72*	*0.72*	*0.72*	*0.73*	*0.74*	**0.76**	*0.71*	*0.73*
China	**14.70**	**14.90**	**14.61**	**14.83**	**13.76**	**13.97**	**14.56**	*15.03*	*15.06*	*15.29*	*15.00*	*15.22*	**14.76**	*14.33*	*15.14*
Other Asia	**13.97**	**14.15**	**13.76**	**14.11**	**13.25**	**11.72**	**12.71**	*13.54*	*13.90*	*14.18*	*13.82*	*14.18*	**14.00**	*12.81*	*14.02*
Other Non-OECD	**18.33**	**19.03**	**19.43**	**18.96**	**17.28**	**16.69**	**18.04**	*17.91*	*17.55*	*18.31*	*18.80*	*18.40*	**18.94**	*17.48*	*18.27*
Total World Consumption	**100.28**	**100.84**	**102.10**	**101.68**	**95.11**	**84.94**	**93.53**	*95.89*	*96.26*	*97.56*	*99.19*	*99.61*	**101.23**	*92.38*	*98.16*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.15**	**-0.60**	**0.06**	**0.29**	**-0.43**	**-1.68**	**0.49**	*1.16*	*0.29*	*-0.23*	*-0.05*	*0.44*	**-0.02**	*-0.11*	*0.11*
Other OECD	**-0.20**	**0.01**	**-0.16**	**0.39**	**-0.54**	**-1.15**	**0.18**	*0.55*	*0.49*	*0.27*	*0.14*	*-0.09*	**0.01**	*-0.24*	*0.20*
Other Stock Draws and Balance	**0.05**	**1.01**	**2.10**	**-0.63**	**-4.61**	**-4.67**	**1.95**	*1.17*	*1.02*	*0.60*	*0.31*	*-0.19*	**0.63**	*-1.52*	*0.43*
Total Stock Draw	**0.00**	**0.42**	**2.00**	**0.05**	**-5.58**	**-7.51**	**2.62**	*2.88*	*1.80*	*0.64*	*0.41*	*0.16*	**0.62**	*-1.87*	*0.75*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	**1,422**	*1,322*	*1,304*	*1,332*	*1,339*	*1,301*	**1,282**	*1,322*	*1,301*
OECD Commercial Inventory	**2,864**	**2,922**	**2,931**	**2,879**	**2,967**	**3,204**	**3,156**	*3,006*	*2,943*	*2,946*	*2,940*	*2,910*	**2,879**	*3,006*	*2,910*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**26.21**	**26.73**	**26.85**	**27.77**	**27.87**	**24.46**	**25.10**	*25.52*	*25.93*	*26.18*	*26.33*	*26.59*	**26.89**	*25.73*	*26.26*
Canada	**5.44**	**5.47**	**5.47**	**5.63**	**5.65**	**4.94**	**4.89**	*5.42*	*5.71*	*5.69*	*5.70*	*5.71*	**5.50**	*5.22*	*5.70*
Mexico	**1.91**	**1.91**	**1.93**	**1.93**	**2.00**	**1.94**	**1.91**	*1.87*	*1.84*	*1.85*	*1.82*	*1.82*	**1.92**	*1.93*	*1.83*
United States	**18.87**	**19.35**	**19.45**	**20.20**	**20.22**	**17.58**	**18.30**	*18.23*	*18.37*	*18.64*	*18.82*	*19.06*	**19.47**	*18.58*	*18.72*
Central and South America	**5.44**	**6.22**	**6.80**	**6.45**	**6.05**	**6.09**	**6.64**	*6.42*	*6.14*	*6.77*	*7.05*	*6.82*	**6.23**	*6.30*	*6.70*
Argentina	**0.66**	**0.70**	**0.70**	**0.70**	**0.69**	**0.58**	**0.57**	*0.63*	*0.66*	*0.63*	*0.62*	*0.67*	**0.69**	*0.62*	*0.65*
Brazil	**2.90**	**3.65**	**4.23**	**3.89**	**3.44**	**3.89**	**4.32**	*3.93*	*3.57*	*4.34*	*4.67*	*4.29*	**3.67**	*3.90*	*4.22*
Colombia	**0.92**	**0.92**	**0.91**	**0.91**	**0.90**	**0.78**	**0.77**	*0.84*	*0.87*	*0.78*	*0.75*	*0.82*	**0.92**	*0.82*	*0.80*
Ecuador	**0.53**	**0.53**	**0.55**	**0.52**	**0.54**	**0.35**	**0.52**	*0.52*	*0.53*	*0.53*	*0.52*	*0.53*	**0.53**	*0.48*	*0.53*
Other Central and S. America	**0.42**	**0.41**	**0.42**	**0.43**	**0.48**	**0.48**	**0.46**	*0.48*	*0.51*	*0.50*	*0.49*	*0.51*	**0.42**	*0.48*	*0.50*
Europe	**4.27**	**3.97**	**3.96**	**4.29**	**4.39**	**4.31**	**4.15**	*4.28*	*4.43*	*4.24*	*4.34*	*4.57*	**4.12**	*4.28*	*4.40*
Norway	**1.79**	**1.58**	**1.66**	**1.96**	**2.06**	**2.01**	**1.96**	*2.02*	*2.16*	*2.09*	*2.13*	*2.26*	**1.75**	*2.01*	*2.16*
United Kingdom	**1.25**	**1.17**	**1.11**	**1.15**	**1.17**	**1.16**	**1.03**	*1.10*	*1.11*	*1.00*	*1.05*	*1.14*	**1.17**	*1.11*	*1.08*
Eurasia	**14.85**	**14.42**	**14.58**	**14.66**	**14.76**	**13.20**	**12.74**	*13.09*	*13.31*	*13.54*	*13.69*	*13.81*	**14.63**	*13.44*	*13.59*
Azerbaijan	**0.81**	**0.78**	**0.77**	**0.76**	**0.77**	**0.70**	**0.67**	*0.68*	*0.69*	*0.72*	*0.73*	*0.74*	**0.78**	*0.70*	*0.72*
Kazakhstan	**2.03**	**1.85**	**1.96**	**2.02**	**2.06**	**1.86**	**1.71**	*1.79*	*1.83*	*1.81*	*1.86*	*1.89*	**1.97**	*1.85*	*1.85*
Russia	**11.58**	**11.41**	**11.48**	**11.50**	**11.55**	**10.25**	**9.98**	*10.23*	*10.42*	*10.65*	*10.74*	*10.82*	**11.49**	*10.50*	*10.66*
Turkmenistan	**0.29**	**0.23**	**0.22**	**0.23**	**0.24**	**0.24**	**0.24**	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.24*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.14**	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	**0.15**	*0.14*	*0.13*
Middle East	**3.14**	**3.14**	**3.14**	**3.14**	**3.24**	**3.18**	**3.15**	*3.16*	*3.23*	*3.27*	*3.29*	*3.29*	**3.14**	*3.18*	*3.27*
Oman	**0.98**	**0.98**	**0.98**	**0.99**	**1.01**	**0.95**	**0.92**	*0.92*	*0.96*	*1.00*	*1.02*	*1.02*	**0.98**	*0.95*	*1.00*
Qatar	**2.00**	**2.00**	**2.00**	**2.00**	**2.06**	**2.06**	**2.06**	*2.06*	*2.10*	*2.10*	*2.10*	*2.10*	**2.00**	*2.06*	*2.10*
Asia and Oceania	**9.50**	**9.53**	**9.38**	**9.49**	**9.44**	**9.17**	**9.26**	*9.26*	*9.28*	*9.27*	*9.27*	*9.28*	**9.48**	*9.28*	*9.28*
Australia	**0.42**	**0.47**	**0.51**	**0.54**	**0.49**	**0.50**	**0.50**	*0.50*	*0.50*	*0.49*	*0.49*	*0.48*	**0.49**	*0.49*	*0.49*
China	**4.89**	**4.92**	**4.89**	**4.88**	**4.94**	**4.90**	**4.95**	*4.96*	*4.95*	*4.99*	*5.00*	*5.05*	**4.89**	*4.94*	*5.00*
India	**1.01**	**0.99**	**0.97**	**0.98**	**0.96**	**0.90**	**0.92**	*0.90*	*0.91*	*0.89*	*0.89*	*0.88*	**0.99**	*0.92*	*0.89*
Indonesia	**0.93**	**0.93**	**0.91**	**0.91**	**0.91**	**0.89**	**0.88**	*0.88*	*0.87*	*0.86*	*0.85*	*0.84*	**0.92**	*0.89*	*0.85*
Malaysia	**0.75**	**0.73**	**0.65**	**0.72**	**0.72**	**0.61**	**0.63**	*0.61*	*0.63*	*0.62*	*0.62*	*0.61*	**0.71**	*0.64*	*0.62*
Vietnam	**0.27**	**0.27**	**0.25**	**0.24**	**0.24**	**0.23**	**0.22**	*0.22*	*0.22*	*0.22*	*0.22*	*0.21*	**0.26**	*0.23*	*0.22*
Africa	**1.48**	**1.50**	**1.50**	**1.49**	**1.46**	**1.45**	**1.43**	*1.43*	*1.40*	*1.40*	*1.40*	*1.40*	**1.49**	*1.44*	*1.40*
Egypt	**0.65**	**0.64**	**0.64**	**0.63**	**0.62**	**0.61**	**0.59**	*0.60*	*0.57*	*0.57*	*0.57*	*0.57*	**0.64**	*0.60*	*0.57*
South Sudan	**0.15**	**0.16**	**0.16**	**0.16**	**0.15**	**0.15**	**0.17**	*0.16*	*0.17*	*0.17*	*0.18*	*0.18*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**64.89**	**65.51**	**66.21**	**67.30**	**67.21**	**61.86**	**62.47**	*63.16*	*63.73*	*64.68*	*65.37*	*65.76*	**65.98**	*63.67*	*64.89*
OPEC non-crude liquids	**5.44**	**5.44**	**5.24**	**5.31**	**5.21**	**4.95**	**4.84**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.36**	*4.97*	*4.98*
Non-OPEC + OPEC non-crude	**70.33**	**70.95**	**71.45**	**72.61**	**72.41**	**66.81**	**67.30**	*68.06*	*68.77*	*69.64*	*70.34*	*70.72*	**71.34**	*68.64*	*69.87*
Unplanned non-OPEC Production Outages	**0.38**	**0.28**	**0.41**	**0.33**	**0.18**	**0.90**	**0.66**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.35**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	**1.01**	**1.02**	**1.02**	**1.02**	**1.02**	**0.90**	**0.84**	-	-	-	-	-	**1.02**	-	-
Angola	**1.50**	**1.43**	**1.40**	**1.36**	**1.36**	**1.26**	**1.17**	-	-	-	-	-	**1.42**	-	-
Congo (Brazzaville)	**0.33**	**0.33**	**0.33**	**0.32**	**0.29**	**0.29**	**0.28**	-	-	-	-	-	**0.32**	-	-
Equatorial Guinea	**0.11**	**0.11**	**0.13**	**0.13**	**0.13**	**0.12**	**0.11**	-	-	-	-	-	**0.12**	-	-
Gabon	**0.20**	**0.20**	**0.20**	**0.20**	**0.19**	**0.18**	**0.15**	-	-	-	-	-	**0.20**	-	-
Iran	**2.63**	**2.33**	**2.10**	**2.03**	**2.02**	**1.97**	**1.90**	-	-	-	-	-	**2.27**	-	-
Iraq	**4.75**	**4.70**	**4.70**	**4.65**	**4.56**	**4.16**	**3.70**	-	-	-	-	-	**4.70**	-	-
Kuwait	**2.74**	**2.72**	**2.70**	**2.70**	**2.77**	**2.48**	**2.25**	-	-	-	-	-	**2.72**	-	-
Libya	**0.93**	**1.14**	**1.13**	**1.17**	**0.35**	**0.08**	**0.11**	-	-	-	-	-	**1.09**	-	-
Nigeria	**1.58**	**1.65**	**1.71**	**1.67**	**1.72**	**1.55**	**1.44**	-	-	-	-	-	**1.65**	-	-
Saudi Arabia	**10.00**	**9.92**	**9.38**	**9.83**	**9.80**	**9.28**	**8.77**	-	-	-	-	-	**9.78**	-	-
United Arab Emirates	**3.12**	**3.12**	**3.13**	**3.20**	**3.30**	**2.88**	**2.55**	-	-	-	-	-	**3.14**	-	-
Venezuela	**1.05**	**0.79**	**0.73**	**0.73**	**0.77**	**0.50**	**0.35**	-	-	-	-	-	**0.83**	-	-
OPEC Total	**29.94**	**29.47**	**28.66**	**29.02**	**28.28**	**25.64**	**23.61**	*24.95*	*25.68*	*27.27*	*28.45*	*28.73*	**29.27**	*25.61*	*27.54*
Other Liquids (a)	**5.44**	**5.44**	**5.24**	**5.31**	**5.21**	**4.95**	**4.84**	*4.90*	*5.04*	*4.97*	*4.96*	*4.96*	**5.36**	*4.97*	*4.98*
Total OPEC Supply	**35.38**	**34.91**	**33.89**	**34.33**	**33.49**	**30.59**	**28.45**	*29.85*	*30.72*	*32.24*	*33.41*	*33.69*	**34.63**	*30.58*	*32.53*
Crude Oil Production Capacity															
Middle East	**25.66**	**25.53**	**24.58**	**24.74**	**25.61**	**26.02**	**26.06**	*26.17*	*26.27*	*26.29*	*26.28*	*26.28*	**25.12**	*25.97*	*26.28*
Other	**6.71**	**6.68**	**6.65**	**6.60**	**5.82**	**5.60**	**5.48**	*6.27*	*5.88*	*6.00*	*6.01*	*6.02*	**6.66**	*5.79*	*5.98*
OPEC Total	**32.37**	**32.22**	**31.22**	**31.34**	**31.43**	**31.63**	**31.54**	*32.44*	*32.14*	*32.29*	*32.29*	*32.30*	**31.78**	*31.76*	*32.25*
Surplus Crude Oil Production Capacity															
Middle East	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.27**	**6.90**	*6.56*	*6.33*	*4.92*	*3.75*	*3.48*	**2.52**	*5.48*	*4.61*
Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	**1.04**	*0.93*	*0.13*	*0.10*	*0.09*	*0.09*	**0.00**	*0.67*	*0.10*
OPEC Total	**2.43**	**2.75**	**2.57**	**2.32**	**3.15**	**5.99**	**7.94**	*7.49*	*6.46*	*5.02*	*3.84*	*3.57*	**2.52**	*6.15*	*4.71*
Unplanned OPEC Production Outages	**2.52**	**2.51**	**3.24**	**2.91**	**3.67**	**4.13**	**4.30**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**2.80**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2019				2020				2021						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	**24.74**	**24.85**	**25.36**	**25.13**	**23.65**	**19.46**	**22.18**	*22.95*	*23.37*	*23.70*	*24.25*	*24.42*	**25.02**	*22.06*	*23.94*
Canada	**2.30**	**2.31**	**2.57**	**2.49**	**2.33**	**1.88**	**2.15**	*2.24*	*2.24*	*2.21*	*2.34*	*2.33*	**2.42**	*2.15*	*2.28*
Mexico	**2.07**	**2.07**	**2.06**	**2.00**	**1.98**	**1.50**	**1.66**	*1.84*	*1.82*	*1.87*	*1.86*	*1.87*	**2.05**	*1.75*	*1.86*
United States	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.36**	*18.85*	*19.30*	*19.61*	*20.03*	*20.21*	**20.54**	*18.16*	*19.79*
Central and South America	**6.63**	**6.75**	**6.85**	**6.86**	**6.26**	**5.72**	**6.21**	*6.42*	*6.30*	*6.48*	*6.62*	*6.63*	**6.78**	*6.15*	*6.51*
Brazil	**3.09**	**3.16**	**3.25**	**3.24**	**2.88**	**2.65**	**2.97**	*3.07*	*2.94*	*3.05*	*3.15*	*3.16*	**3.18**	*2.89*	*3.08*
Europe	**14.78**	**14.93**	**15.43**	**14.83**	**14.05**	**11.67**	**13.62**	*13.48*	*13.38*	*13.76*	*14.42*	*14.15*	**14.99**	*13.21*	*13.93*
Eurasia	**5.01**	**5.08**	**5.47**	**5.31**	**4.87**	**4.50**	**5.30**	*5.18*	*4.90*	*5.00*	*5.44*	*5.31*	**5.22**	*4.96*	*5.17*
Russia	**3.77**	**3.86**	**4.18**	**4.02**	**3.66**	**3.34**	**4.06**	*3.93*	*3.67*	*3.80*	*4.17*	*4.04*	**3.96**	*3.75*	*3.92*
Middle East	**8.11**	**8.67**	**9.05**	**8.39**	**7.59**	**7.52**	**8.41**	*7.89*	*7.58*	*8.14*	*8.58*	*7.97*	**8.56**	*7.85*	*8.07*
Asia and Oceania	**36.69**	**36.24**	**35.72**	**36.74**	**34.57**	**32.08**	**33.78**	*35.73*	*36.38*	*36.12*	*35.60*	*36.66*	**36.35**	*34.04*	*36.19*
China	**14.70**	**14.90**	**14.61**	**14.83**	**13.76**	**13.97**	**14.56**	*15.03*	*15.06*	*15.29*	*15.00*	*15.22*	**14.76**	*14.33*	*15.14*
Japan	**4.05**	**3.39**	**3.43**	**3.74**	**3.69**	**2.89**	**3.01**	*3.36*	*3.63*	*2.99*	*3.07*	*3.38*	**3.65**	*3.24*	*3.27*
India	**4.89**	**4.95**	**4.66**	**4.94**	**4.63**	**3.77**	**4.17**	*4.70*	*4.86*	*4.91*	*4.59*	*4.86*	**4.86**	*4.32*	*4.81*
Africa	**4.30**	**4.31**	**4.23**	**4.41**	**4.13**	**3.99**	**4.03**	*4.24*	*4.34*	*4.35*	*4.28*	*4.46*	**4.31**	*4.10*	*4.36*
Total OECD Liquid Fuels Consumption	**47.51**	**46.94**	**48.07**	**47.69**	**45.24**	**37.37**	**42.20**	*43.51*	*44.13*	*44.04*	*45.39*	*45.75*	**47.55**	*42.08*	*44.83*
Total non-OECD Liquid Fuels Consumption	**52.76**	**53.90**	**54.04**	**53.98**	**49.87**	**47.58**	**51.33**	*52.38*	*52.13*	*53.51*	*53.80*	*53.85*	**53.67**	*50.30*	*53.33*
Total World Liquid Fuels Consumption	**100.28**	**100.84**	**102.10**	**101.68**	**95.11**	**84.94**	**93.53**	*95.89*	*96.26*	*97.56*	*99.19*	*99.61*	**101.23**	*92.38*	*98.16*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.0**	**112.9**	**112.8**	**112.4**	**109.0**	**102.2**	**107.9**	*108.4*	*110.3*	*111.6*	*112.7*	*113.7*	**112.5**	*106.9*	*112.1*
Percent change from prior year	**2.3**	**2.2**	**1.9**	**1.5**	**-2.7**	**-9.5**	**-4.3**	*-3.6*	*1.2*	*9.1*	*4.4*	*4.9*	**2.0**	*-5.0*	*4.8*
OECD Index, 2015 Q1 = 100	**108.9**	**109.8**	**110.0**	**109.5**	**108.1**	**97.6**	**105.3**	*104.8*	*106.2*	*107.6*	*108.6*	*109.2*	**109.6**	*103.9*	*107.9*
Percent change from prior year	**1.8**	**1.7**	**1.7**	**1.5**	**-0.8**	**-11.1**	**-4.3**	*-4.3*	*-1.7*	*10.2*	*3.2*	*4.3*	**1.7**	*-5.1*	*3.8*
Non-OECD Index, 2015 Q1 = 100	**115.0**	**115.9**	**115.5**	**115.3**	**109.9**	**106.7**	**110.5**	*111.9*	*114.3*	*115.4*	*116.6*	*118.0*	**115.4**	*109.7*	*116.1*
Percent change from prior year	**2.9**	**2.8**	**2.1**	**1.5**	**-4.4**	**-7.9**	**-4.4**	*-3.0*	*4.0*	*8.1*	*5.5*	*5.5*	**2.3**	*-4.9*	*5.8*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**105.52**	**106.10**	**106.55**	**106.28**	**106.53**	**108.29**	**106.91**	*106.76*	*106.01*	*105.72*	*105.30*	*104.94*	**106.11**	*107.12*	*105.49*
Percent change from prior year	**4.7**	**3.1**	**0.8**	**-0.1**	**1.0**	**2.1**	**0.3**	*0.4*	*-0.5*	*-2.4*	*-1.5*	*-1.7*	**2.1**	*1.0*	*-1.5*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.83**	**12.13**	**12.24**	**12.78**	**12.75**	**10.81**	**10.80**	*10.99*	*11.02*	*11.00*	*11.09*	*11.29*	**12.25**	*11.34*	*11.10*
Alaska	**0.49**	**0.47**	**0.43**	**0.48**	**0.48**	**0.41**	**0.44**	*0.48*	*0.49*	*0.44*	*0.44*	*0.48*	**0.47**	*0.45*	*0.46*
Federal Gulf of Mexico (b)	**1.86**	**1.93**	**1.83**	**1.96**	**1.96**	**1.69**	**1.45**	*1.64*	*1.86*	*1.82*	*1.74*	*1.76*	**1.90**	*1.69*	*1.79*
Lower 48 States (excl GOM)	**9.48**	**9.73**	**9.99**	**10.33**	**10.31**	**8.71**	**8.91**	*8.88*	*8.67*	*8.74*	*8.91*	*9.05*	**9.89**	*9.20*	*8.84*
Crude Oil Net Imports (c)	**4.28**	**4.11**	**3.94**	**2.96**	**2.90**	**3.08**	**2.31**	*2.70*	*3.77*	*4.07*	*4.70*	*3.95*	**3.82**	*2.75*	*4.12*
SPR Net Withdrawals	**0.00**	**0.05**	**0.00**	**0.11**	**0.00**	**-0.23**	**0.15**	*0.07*	*0.08*	*0.08*	*0.03*	*0.03*	**0.04**	*0.00*	*0.05*
Commercial Inventory Net Withdrawals	**-0.18**	**-0.05**	**0.41**	**-0.08**	**-0.55**	**-0.54**	**0.38**	*0.23*	*-0.27*	*0.15*	*0.23*	*-0.02*	**0.03**	*-0.12*	*0.02*
Crude Oil Adjustment (d)	**0.27**	**0.53**	**0.37**	**0.55**	**0.67**	**0.03**	**0.38**	*0.09*	*0.22*	*0.22*	*0.23*	*0.16*	**0.43**	*0.29*	*0.21*
Total Crude Oil Input to Refineries	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	**14.03**	*14.10*	*14.82*	*15.52*	*16.27*	*15.41*	**16.56**	*14.26*	*15.51*
Other Supply															
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	**0.94**	*1.02*	*1.05*	*1.08*	*1.09*	*1.06*	**1.07**	*0.95*	*1.07*
Natural Gas Plant Liquids Production	**4.66**	**4.81**	**4.82**	**5.00**	**5.12**	**4.96**	**5.33**	*4.99*	*5.06*	*5.28*	*5.33*	*5.40*	**4.82**	*5.10*	*5.27*
Renewables and Oxygenate Production (e)	**1.10**	**1.14**	**1.12**	**1.12**	**1.11**	**0.80**	**1.03**	*1.02*	*1.06*	*1.06*	*1.10*	*1.10*	**1.12**	*0.99*	*1.08*
Fuel Ethanol Production	**1.01**	**1.05**	**1.02**	**1.04**	**1.02**	**0.70**	**0.92**	*0.94*	*0.96*	*0.96*	*0.99*	*0.99*	**1.03**	*0.90*	*0.98*
Petroleum Products Adjustment (f)	**0.22**	**0.20**	**0.21**	**0.21**	**0.22**	**0.19**	**0.20**	*0.21*	*0.20*	*0.21*	*0.21*	*0.21*	**0.21**	*0.20*	*0.21*
Product Net Imports (c)	**-3.19**	**-2.93**	**-3.10**	**-3.37**	**-4.03**	**-2.94**	**-3.12**	*-3.33*	*-3.35*	*-3.08*	*-3.67*	*-3.39*	**-3.15**	*-3.36*	*-3.37*
Hydrocarbon Gas Liquids	**-1.31**	**-1.67**	**-1.69**	**-1.81**	**-1.99**	**-1.86**	**-1.86**	*-2.03*	*-1.89*	*-2.07*	*-2.08*	*-2.04*	**-1.62**	*-1.94*	*-2.02*
Unfinished Oils	**0.25**	**0.47**	**0.47**	**0.52**	**0.31**	**0.25**	**0.34**	*0.41*	*0.40*	*0.46*	*0.44*	*0.30*	**0.43**	*0.33*	*0.40*
Other HC/Oxygenates	**-0.08**	**-0.07**	**-0.05**	**-0.05**	**-0.10**	**-0.05**	**-0.04**	*-0.05*	*-0.10*	*-0.08*	*-0.08*	*-0.09*	**-0.06**	*-0.06*	*-0.09*
Motor Gasoline Blend Comp.	**0.46**	**0.81**	**0.71**	**0.47**	**0.39**	**0.36**	**0.48**	*0.19*	*0.38*	*0.69*	*0.51*	*0.16*	**0.61**	*0.36*	*0.44*
Finished Motor Gasoline	**-0.80**	**-0.61**	**-0.60**	**-0.87**	**-0.72**	**-0.40**	**-0.58**	*-0.64*	*-0.69*	*-0.71*	*-0.78*	*-0.58*	**-0.72**	*-0.59*	*-0.69*
Jet Fuel	**-0.08**	**-0.01**	**-0.04**	**-0.08**	**-0.07**	**0.09**	**0.12**	*-0.01*	*-0.13*	*-0.03*	*0.00*	*0.00*	**-0.06**	*0.03*	*-0.04*
Distillate Fuel Oil	**-0.93**	**-1.22**	**-1.30**	**-0.97**	**-1.19**	**-0.86**	**-1.15**	*-0.70*	*-0.69*	*-0.78*	*-1.01*	*-0.56*	**-1.10**	*-0.97*	*-0.76*
Residual Fuel Oil	**-0.07**	**-0.15**	**-0.07**	**-0.02**	**-0.02**	**0.02**	**0.05**	*0.04*	*-0.05*	*-0.08*	*-0.06*	*0.00*	**-0.08**	*0.02*	*-0.05*
Other Oils (g)	**-0.63**	**-0.49**	**-0.52**	**-0.54**	**-0.65**	**-0.49**	**-0.49**	*-0.54*	*-0.60*	*-0.48*	*-0.61*	*-0.59*	**-0.55**	*-0.54*	*-0.57*
Product Inventory Net Withdrawals	**0.33**	**-0.60**	**-0.35**	**0.26**	**0.12**	**-0.91**	**-0.04**	*0.85*	*0.47*	*-0.46*	*-0.30*	*0.43*	**-0.09**	*0.01*	*0.03*
Total Supply	**20.38**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.36**	*18.86*	*19.30*	*19.61*	*20.03*	*20.21*	**20.55**	*18.16*	*19.79*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.48**	**2.79**	**2.94**	**3.35**	**3.31**	**2.83**	**2.95**	*3.39*	*3.57*	*3.10*	*3.14*	*3.54*	**3.14**	*3.12*	*3.34*
Unfinished Oils	**0.00**	**0.09**	**0.05**	**0.11**	**0.14**	**0.11**	**0.01**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	**0.06**	*0.07*	*0.00*
Motor Gasoline	**9.01**	**9.54**	**9.52**	**9.16**	**8.49**	**7.11**	**8.50**	*8.23*	*8.41*	*8.84*	*8.97*	*8.84*	**9.31**	*8.09*	*8.76*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.97**	**0.95**	**0.97**	**0.85**	**0.72**	**0.87**	*0.85*	*0.85*	*0.89*	*0.91*	*0.90*	**0.95**	*0.82*	*0.89*
Jet Fuel	**1.65**	**1.78**	**1.80**	**1.75**	**1.56**	**0.69**	**0.97**	*1.12*	*1.38*	*1.55*	*1.65*	*1.60*	**1.74**	*1.09*	*1.54*
Distillate Fuel Oil	**4.27**	**4.07**	**3.95**	**4.12**	**3.97**	**3.51**	**3.70**	*3.98*	*4.01*	*3.96*	*3.91*	*4.10*	**4.10**	*3.79*	*3.99*
Residual Fuel Oil	**0.27**	**0.23**	**0.33**	**0.27**	**0.17**	**0.15**	**0.32**	*0.26*	*0.24*	*0.23*	*0.28*	*0.25*	**0.28**	*0.23*	*0.25*
Other Oils (g)	**1.68**	**1.95**	**2.13**	**1.87**	**1.68**	**1.68**	**1.91**	*1.86*	*1.68*	*1.95*	*2.10*	*1.88*	**1.91**	*1.78*	*1.90*
Total Consumption	**20.36**	**20.46**	**20.72**	**20.63**	**19.33**	**16.08**	**18.36**	*18.85*	*19.30*	*19.61*	*20.03*	*20.21*	**20.54**	*18.16*	*19.79*
Total Petroleum and Other Liquids Net Imports	**1.09**	**1.18**	**0.84**	**-0.41**	**-1.13**	**0.14**	**-0.81**	*-0.63*	*0.41*	*0.99*	*1.03*	*0.55*	**0.67**	*-0.61*	*0.75*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**458.9**	**463.4**	**425.6**	**432.8**	**482.5**	**531.9**	**497.3**	*475.9*	*499.9*	*486.7*	*465.9*	*467.4*	**432.8**	*475.9*	*467.4*
Hydrocarbon Gas Liquids	**160.3**	**224.5**	**262.8**	**211.7**	**180.8**	**233.9**	**299.1**	*234.5*	*192.1*	*237.0*	*271.2*	*227.6*	**211.7**	*234.5*	*227.6*
Unfinished Oils	**92.2**	**95.9**	**92.3**	**89.8**	**100.1**	**91.9**	**81.4**	*77.3*	*92.1*	*90.9*	*90.1*	*82.9*	**89.8**	*77.3*	*82.9*
Other HC/Oxygenates	**30.9**	**29.1**	**28.3**	**27.8**	**33.6**	**26.2**	**25.2**	*26.4*	*27.3*	*26.2*	*26.0*	*26.2*	**27.8**	*26.4*	*26.2*
Total Motor Gasoline	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	**226.5**	*240.8*	*233.9*	*232.2*	*228.3*	*235.2*	**254.1**	*240.8*	*235.2*
Finished Motor Gasoline	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	**22.4**	*24.4*	*23.0*	*21.5*	*22.4*	*22.6*	**26.1**	*24.4*	*22.6*
Motor Gasoline Blend Comp.	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	**204.1**	*216.4*	*210.9*	*210.6*	*205.9*	*212.6*	**228.0**	*216.4*	*212.6*
Jet Fuel	**41.6**	**40.5**	**44.3**	**40.5**	**39.9**	**41.5**	**40.1**	*37.7*	*37.9*	*39.3*	*41.8*	*38.9*	**40.5**	*37.7*	*38.9*
Distillate Fuel Oil	**132.2**	**131.1**	**131.8**	**140.1**	**126.7**	**175.4**	**171.7**	*150.7*	*133.8*	*132.4*	*134.9*	*138.2*	**140.1**	*150.7*	*138.2*
Residual Fuel Oil	**29.2**	**30.5**	**30.0**	**30.5**	**34.4**	**39.6**	**32.1**	*28.4*	*30.4*	*32.3*	*30.8*	*32.2*	**30.5**	*28.4*	*32.2*
Other Oils (g)	**63.3**	**59.2**	**51.2**	**54.6**	**62.0**	**59.2**	**48.6**	*50.6*	*56.5*	*55.5*	*50.0*	*52.4*	**54.6**	*50.6*	*52.4*
Total Commercial Inventory	**1,245**	**1,304**	**1,298**	**1,282**	**1,321**	**1,453**	**1,422**	*1,322*	*1,304*	*1,332*	*1,339*	*1,301*	**1,282**	*1,322*	*1,301*
Crude Oil in SPR	**649**	**645**	**645**	**635**	**635**	**656**	**642**	*635*	*628*	*620*	*618*	*616*	**635**	*635*	*616*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**1.87**	**1.72**	**1.85**	**1.93**	**1.92**	**2.14**	*1.98*	*2.17*	*2.28*	*2.26*	*2.36*	**1.83**	*1.99*	*2.27*
Propane	**1.50**	**1.56**	**1.61**	**1.68**	**1.72**	**1.61**	**1.68**	*1.63*	*1.54*	*1.60*	*1.62*	*1.62*	**1.59**	*1.66*	*1.60*
Butanes	**0.79**	**0.84**	**0.87**	**0.89**	**0.91**	**0.86**	**0.90**	*0.83*	*0.82*	*0.84*	*0.87*	*0.86*	**0.85**	*0.87*	*0.85*
Natural Gasoline (Pentanes Plus)	**0.49**	**0.55**	**0.61**	**0.58**	**0.56**	**0.57**	**0.62**	*0.54*	*0.52*	*0.56*	*0.59*	*0.56*	**0.56**	*0.57*	*0.55*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	*0.00*	*0.00*	*0.00*	*0.01*	*0.01*	**0.01**	*0.01*	*0.00*
Propane	**0.28**	**0.30**	**0.29**	**0.29**	**0.29**	**0.24**	**0.27**	*0.27*	*0.26*	*0.29*	*0.30*	*0.30*	**0.29**	*0.27*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.28**	**0.28**	**0.25**	**0.26**	**0.26**	*0.27*	*0.28*	*0.29*	*0.28*	*0.28*	**0.28**	*0.26*	*0.28*
Butanes/Butylenes	**-0.09**	**0.26**	**0.18**	**-0.23**	**-0.08**	**0.18**	**0.13**	*-0.20*	*-0.09*	*0.26*	*0.18*	*-0.20*	**0.03**	*0.01*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.01**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.26**	**-0.27**	**-0.28**	**-0.30**	**-0.30**	**-0.28**	**-0.27**	*-0.28*	*-0.37*	*-0.41*	*-0.42*	*-0.44*	**-0.28**	*-0.28*	*-0.41*
Propane/Propylene	**-0.75**	**-1.00**	**-0.99**	**-1.05**	**-1.12**	**-1.08**	**-1.08**	*-1.14*	*-0.88*	*-1.04*	*-1.03*	*-1.02*	**-0.95**	*-1.10*	*-0.99*
Butanes/Butylenes	**-0.14**	**-0.25**	**-0.26**	**-0.25**	**-0.30**	**-0.31**	**-0.36**	*-0.33*	*-0.31*	*-0.33*	*-0.34*	*-0.29*	**-0.23**	*-0.32*	*-0.32*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.15**	**-0.16**	**-0.21**	**-0.27**	**-0.19**	**-0.16**	*-0.29*	*-0.33*	*-0.30*	*-0.30*	*-0.29*	**-0.17**	*-0.23*	*-0.30*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.29**	**0.33**	**0.54**	**0.46**	**0.25**	**0.32**	*0.46*	*0.38*	*0.27*	*0.31*	*0.49*	**0.40**	*0.37*	*0.36*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.17**	**0.18**	**0.18**	**0.15**	**0.10**	**0.15**	*0.14*	*0.12*	*0.16*	*0.17*	*0.16*	**0.17**	*0.14*	*0.15*
HGL Consumption															
Ethane/Ethylene	**1.61**	**1.50**	**1.48**	**1.56**	**1.70**	**1.65**	**1.66**	*1.76*	*1.84*	*1.85*	*1.88*	*1.93*	**1.54**	*1.69*	*1.88*
Propane	**1.19**	**0.58**	**0.63**	**1.08**	**1.09**	**0.59**	**0.58**	*1.04*	*1.20*	*0.62*	*0.65*	*1.01*	**0.87**	*0.82*	*0.87*
Propylene (refinery-grade)	**0.29**	**0.30**	**0.29**	**0.31**	**0.26**	**0.27**	**0.27**	*0.28*	*0.30*	*0.30*	*0.29*	*0.29*	**0.30**	*0.27*	*0.30*
Butanes/Butylenes	**0.19**	**0.22**	**0.30**	**0.24**	**0.17**	**0.20**	**0.17**	*0.18*	*0.16*	*0.23*	*0.21*	*0.21*	**0.24**	*0.18*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.19**	**0.20**	**0.23**	**0.17**	**0.09**	**0.13**	**0.26**	*0.12*	*0.08*	*0.09*	*0.11*	*0.10*	**0.20**	*0.15*	*0.10*
HGL Inventories (million barrels)															
Ethane	**49.14**	**56.54**	**56.84**	**58.84**	**52.57**	**49.54**	**62.45**	*71.44*	*64.93*	*66.93*	*64.61*	*65.43*	**55.37**	*59.05*	*65.48*
Propane	**48.94**	**71.71**	**95.61**	**79.67**	**60.28**	**75.31**	**100.71**	*73.82*	*47.90*	*67.41*	*87.09*	*74.68*	**79.67**	*73.82*	*74.68*
Propylene (at refineries only)	**1.68**	**1.76**	**2.65**	**1.66**	**1.41**	**1.50**	**1.51**	*1.97*	*1.88*	*2.26*	*2.64*	*3.06*	**1.66**	*1.97*	*3.06*
Butanes/Butylenes	**39.84**	**70.72**	**85.87**	**52.18**	**43.58**	**69.33**	**86.03**	*54.72*	*44.54*	*68.66*	*86.12*	*56.50*	**52.18**	*54.72*	*56.50*
Natural Gasoline (Pentanes Plus)	**18.43**	**19.72**	**21.26**	**20.90**	**23.99**	**35.67**	**38.63**	*36.27*	*32.76*	*31.81*	*30.85*	*29.02*	**20.90**	*36.27*	*29.02*
Refinery and Blender Net Inputs															
Crude Oil	**16.20**	**16.76**	**16.96**	**16.32**	**15.77**	**13.16**	**14.03**	*14.10*	*14.82*	*15.52*	*16.27*	*15.41*	**16.56**	*14.26*	*15.51*
Hydrocarbon Gas Liquids	**0.59**	**0.46**	**0.51**	**0.72**	**0.61**	**0.35**	**0.47**	*0.60*	*0.50*	*0.43*	*0.48*	*0.65*	**0.57**	*0.51*	*0.52*
Other Hydrocarbons/Oxygenates	**1.16**	**1.21**	**1.22**	**1.19**	**1.12**	**0.95**	**1.11**	*1.08*	*1.11*	*1.15*	*1.17*	*1.15*	**1.19**	*1.06*	*1.15*
Unfinished Oils	**0.18**	**0.34**	**0.46**	**0.43**	**0.05**	**0.23**	**0.44**	*0.45*	*0.24*	*0.47*	*0.45*	*0.38*	**0.35**	*0.29*	*0.38*
Motor Gasoline Blend Components	**0.64**	**0.94**	**0.77**	**0.40**	**0.41**	**0.48**	**0.85**	*0.15*	*0.57*	*0.84*	*0.66*	*0.26*	**0.69**	*0.47*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.77**	**19.71**	**19.93**	**19.06**	**17.97**	**15.17**	**16.90**	*16.37*	*17.24*	*18.40*	*19.03*	*17.85*	**19.37**	*16.60*	*18.14*
Refinery Processing Gain	**1.05**	**1.07**	**1.06**	**1.09**	**1.02**	**0.82**	**0.94**	*1.02*	*1.05*	*1.08*	*1.09*	*1.06*	**1.07**	*0.95*	*1.07*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.76**	**0.34**	**0.47**	**0.69**	**0.67**	*0.35*	*0.46*	*0.84*	*0.77*	*0.38*	**0.61**	*0.54*	*0.61*
Finished Motor Gasoline	**9.85**	**10.16**	**10.20**	**10.16**	**9.30**	**7.52**	**9.14**	*8.96*	*9.19*	*9.66*	*9.84*	*9.58*	**10.10**	*8.74*	*9.57*
Jet Fuel	**1.73**	**1.78**	**1.88**	**1.79**	**1.63**	**0.62**	**0.83**	*1.11*	*1.52*	*1.59*	*1.67*	*1.56*	**1.80**	*1.04*	*1.59*
Distillate Fuel	**5.05**	**5.21**	**5.18**	**5.11**	**4.95**	**4.83**	**4.72**	*4.38*	*4.47*	*4.65*	*4.87*	*4.63*	**5.14**	*4.72*	*4.66*
Residual Fuel	**0.36**	**0.39**	**0.39**	**0.30**	**0.23**	**0.18**	**0.19**	*0.18*	*0.30*	*0.33*	*0.32*	*0.26*	**0.36**	*0.20*	*0.30*
Other Oils (a)	**2.36**	**2.40**	**2.57**	**2.45**	**2.41**	**2.14**	**2.28**	*2.41*	*2.35*	*2.42*	*2.65*	*2.49*	**2.44**	*2.31*	*2.48*
Total Refinery and Blender Net Production	**19.82**	**20.78**	**20.99**	**20.15**	**18.99**	**15.99**	**17.84**	*17.39*	*18.29*	*19.49*	*20.12*	*18.91*	**20.44**	*17.55*	*19.21*
Refinery Distillation Inputs	**16.54**	**17.14**	**17.42**	**16.85**	**16.36**	**13.65**	**14.55**	*14.58*	*15.23*	*15.86*	*16.59*	*15.79*	**16.99**	*14.78*	*15.87*
Refinery Operable Distillation Capacity	**18.81**	**18.81**	**18.81**	**18.81**	**18.98**	**18.75**	**18.55**	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	**18.81**	*18.66*	*18.39*
Refinery Distillation Utilization Factor	**0.88**	**0.91**	**0.93**	**0.90**	**0.86**	**0.73**	**0.78**	*0.79*	*0.83*	*0.86*	*0.90*	*0.86*	**0.90**	*0.79*	*0.86*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	**167**	**205**	**189**	**182**	**153**	**104**	**137**	*129*	*139*	*159*	*159*	*148*	**186**	*132*	*151*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**233**	**268**	**256**	**247**	**236**	**191**	**211**	*204*	*195*	*216*	*222*	*211*	**251**	*212*	*211*
PADD 2	**223**	**269**	**257**	**244**	**226**	**179**	**207**	*198*	*189*	*222*	*218*	*205*	**249**	*203*	*209*
PADD 3	**205**	**245**	**234**	**224**	**210**	**162**	**186**	*179*	*182*	*203*	*203*	*192*	**228**	*186*	*195*
PADD 4	**226**	**285**	**270**	**276**	**247**	**201**	**233**	*221*	*214*	*241*	*245*	*230*	**265**	*226*	*233*
PADD 5	**297**	**356**	**331**	**350**	**311**	**258**	**283**	*284*	*296*	*327*	*326*	*318*	**334**	*285*	*317*
U.S. Average	**236**	**279**	**265**	**259**	**241**	**194**	**218**	*212*	*209*	*235*	*236*	*225*	**260**	*217*	*227*
Gasoline All Grades Including Taxes	**245**	**288**	**274**	**269**	**251**	**203**	**227**	*222*	*221*	*248*	*250*	*238*	**269**	*227*	*240*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**62.5**	**59.8**	**65.0**	**65.6**	**71.0**	**73.0**	**61.6**	*63.5*	*59.7*	*60.9*	*58.1*	*59.3*	**65.6**	*63.5*	*59.3*
PADD 2	**54.5**	**49.6**	**51.0**	**55.0**	**60.2**	**52.6**	**46.2**	*52.6*	*54.6*	*53.9*	*52.8*	*50.6*	**55.0**	*52.6*	*50.6*
PADD 3	**82.3**	**82.6**	**81.6**	**92.0**	**84.8**	**90.5**	**79.7**	*86.0*	*82.0*	*80.4*	*80.6*	*85.3*	**92.0**	*86.0*	*85.3*
PADD 4	**6.9**	**7.5**	**7.7**	**8.3**	**9.2**	**7.7**	**7.6**	*7.7*	*7.7*	*7.8*	*7.5*	*8.0*	**8.3**	*7.7*	*8.0*
PADD 5	**30.4**	**30.6**	**26.8**	**33.2**	**35.6**	**29.4**	**31.5**	*30.9*	*30.0*	*29.1*	*29.3*	*32.1*	**33.2**	*30.9*	*32.1*
U.S. Total	**236.6**	**229.9**	**232.0**	**254.1**	**260.8**	**253.3**	**226.5**	*240.8*	*233.9*	*232.2*	*228.3*	*235.2*	**254.1**	*240.8*	*235.2*
Finished Gasoline Inventories															
U.S. Total	**20.9**	**21.5**	**23.0**	**26.1**	**22.6**	**23.5**	**22.4**	*24.4*	*23.0*	*21.5*	*22.4*	*22.6*	**26.1**	*24.4*	*22.6*
Gasoline Blending Components Inventories															
U.S. Total	**215.7**	**208.4**	**209.0**	**228.0**	**238.3**	**229.8**	**204.1**	*216.4*	*210.9*	*210.6*	*205.9*	*212.6*	**228.0**	*216.4*	*212.6*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	**96.76**	**98.44**	**101.05**	**103.83**	**102.27**	**96.83**	**97.43**	*97.08*	*95.27*	*94.90*	*95.90*	*96.48*	**100.04**	*98.40*	*95.64*
Alaska	**0.96**	**0.93**	**0.79**	**0.93**	**0.96**	**0.88**	**0.88**	*0.93*	*0.98*	*0.81*	*0.77*	*0.93*	**0.90**	*0.91*	*0.87*
Federal GOM (a)	**2.88**	**2.82**	**2.63**	**2.80**	**2.72**	**2.22**	**1.71**	*2.29*	*2.44*	*2.37*	*2.25*	*2.23*	**2.78**	*2.23*	*2.32*
Lower 48 States (excl GOM)	**92.92**	**94.69**	**97.63**	**100.10**	**98.58**	**93.74**	**94.84**	*93.87*	*91.85*	*91.72*	*92.88*	*93.33*	**96.36**	*95.25*	*92.45*
Total Dry Gas Production	**90.01**	**91.57**	**94.00**	**96.58**	**94.79**	**89.67**	**89.72**	*89.36*	*87.65*	*87.25*	*88.13*	*88.61*	**93.06**	*90.88*	*87.91*
LNG Gross Imports	**0.28**	**0.03**	**0.06**	**0.20**	**0.24**	**0.12**	**0.09**	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.16*	*0.22*
LNG Gross Exports	**4.01**	**4.55**	**4.95**	**6.40**	**7.92**	**5.51**	**3.91**	*8.77*	*9.49*	*7.59*	*7.66*	*9.26*	**4.98**	*6.53*	*8.50*
Pipeline Gross Imports	**8.35**	**6.73**	**7.10**	**7.30**	**7.64**	**6.17**	**6.45**	*6.77*	*7.75*	*6.52*	*6.85*	*7.13*	**7.37**	*6.76*	*7.06*
Pipeline Gross Exports	**7.86**	**7.18**	**7.80**	**8.25**	**8.15**	**7.17**	**8.07**	*8.37*	*8.49*	*7.91*	*8.78*	*8.93*	**7.77**	*7.94*	*8.53*
Supplemental Gaseous Fuels	**0.16**	**0.17**	**0.17**	**0.18**	**0.19**	**0.17**	**0.15**	*0.17*	*0.16*	*0.16*	*0.16*	*0.17*	**0.17**	*0.17*	*0.16*
Net Inventory Withdrawals	**16.93**	**-14.18**	**-10.41**	**2.45**	**12.74**	**-12.24**	**-7.68**	*6.29*	*18.86*	*-11.19*	*-8.25*	*5.44*	**-1.37**	*-0.23*	*1.15*
Total Supply	**103.87**	**72.60**	**78.18**	**92.05**	**99.53**	**71.22**	**76.74**	*85.64*	*96.76*	*67.43*	*70.63*	*83.35*	**86.62**	*83.27*	*79.48*
Balancing Item (b)	**0.05**	**-1.65**	**-1.83**	**-2.43**	**-0.23**	**-0.33**	**0.15**	*0.95*	*-0.20*	*-0.43*	*0.03*	*0.13*	**-1.47**	*0.14*	*-0.11*
Total Primary Supply	**103.92**	**70.95**	**76.35**	**89.62**	**99.31**	**70.89**	**76.89**	*86.59*	*96.56*	*67.00*	*70.67*	*83.48*	**85.15**	*83.41*	*79.37*
Consumption (billion cubic feet per day)															
Residential	**27.22**	**7.36**	**3.51**	**17.09**	**22.83**	**8.20**	**3.84**	*16.92*	*25.81*	*7.13*	*3.63*	*16.93*	**13.74**	*12.93*	*13.32*
Commercial	**16.11**	**6.33**	**4.62**	**11.53**	**13.93**	**5.82**	**4.37**	*10.29*	*15.20*	*6.66*	*4.72*	*10.61*	**9.62**	*8.59*	*9.27*
Industrial	**25.24**	**21.82**	**21.38**	**23.89**	**24.65**	**20.62**	**21.15**	*23.76*	*24.27*	*21.61*	*20.77*	*23.47*	**23.07**	*22.54*	*22.52*
Electric Power (c)	**27.12**	**28.20**	**39.27**	**28.99**	**29.55**	**29.04**	**40.12**	*27.49*	*22.90*	*24.18*	*33.98*	*24.37*	**30.92**	*31.56*	*26.38*
Lease and Plant Fuel	**4.89**	**4.98**	**5.11**	**5.25**	**5.17**	**4.90**	**4.93**	*4.91*	*4.82*	*4.80*	*4.85*	*4.88*	**5.06**	*4.98*	*4.84*
Pipeline and Distribution Use	**3.19**	**2.13**	**2.31**	**2.73**	**3.02**	**2.15**	**2.33**	*3.05*	*3.38*	*2.46*	*2.55*	*3.06*	**2.59**	*2.64*	*2.86*
Vehicle Use	**0.14**	**0.14**	**0.14**	**0.14**	**0.16**	**0.16**	**0.16**	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	**0.14**	*0.16*	*0.17*
Total Consumption	**103.92**	**70.95**	**76.35**	**89.62**	**99.31**	**70.89**	**76.89**	*86.59*	*96.56*	*67.00*	*70.67*	*83.48*	**85.15**	*83.41*	*79.37*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,185**	**2,461**	**3,415**	**3,188**	**2,030**	**3,133**	**3,840**	*3,262*	*1,564*	*2,582*	*3,342*	*2,842*	**3,188**	*3,262*	*2,842*
East Region (d)	**216**	**537**	**845**	**764**	**385**	**655**	**890**	*712*	*190*	*478*	*742*	*542*	**764**	*712*	*542*
Midwest Region (d)	**242**	**579**	**990**	**885**	**472**	**747**	**1,053**	*894*	*290*	*575*	*918*	*772*	**885**	*894*	*772*
South Central Region (d)	**519**	**917**	**1,049**	**1,095**	**857**	**1,221**	**1,313**	*1,159*	*739*	*1,046*	*1,126*	*1,054*	**1,095**	*1,159*	*1,054*
Mountain Region (d)	**63**	**135**	**200**	**167**	**92**	**177**	**235**	*195*	*134*	*169*	*208*	*170*	**167**	*195*	*170*
Pacific Region (d)	**115**	**259**	**294**	**245**	**200**	**308**	**318**	*272*	*181*	*284*	*318*	*273*	**245**	*272*	*273*
Alaska	**30**	**33**	**37**	**33**	**23**	**25**	**31**	*30*	*30*	*30*	*30*	*30*	**33**	*30*	*30*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	**3.03**	**2.66**	**2.47**	**2.49**	**1.98**	**1.77**	**2.07**	*2.76*	*3.17*	*3.07*	*3.08*	*3.19*	**2.67**	*2.15*	*3.13*
Residential Retail															
New England	**14.42**	**15.46**	**19.05**	**14.02**	**13.77**	**14.50**	**18.28**	*13.75*	*13.13*	*14.01*	*16.98*	*13.12*	**14.72**	*14.22*	*13.50*
Middle Atlantic	**10.70**	**12.97**	**18.34**	**11.29**	**10.77**	**11.85**	**17.85**	*11.24*	*9.90*	*12.13*	*16.88*	*11.10*	**11.64**	*11.62*	*11.03*
E. N. Central	**7.26**	**10.47**	**19.05**	**7.67**	**6.99**	**9.50**	**18.15**	*6.68*	*7.00*	*10.60*	*16.48*	*8.27*	**8.39**	*7.96*	*8.41*
W. N. Central	**7.88**	**10.61**	**18.10**	**8.06**	**6.85**	**9.89**	**17.36**	*7.43*	*7.23*	*10.63*	*16.95*	*8.95*	**8.75**	*8.09*	*8.69*
S. Atlantic	**11.42**	**17.86**	**25.10**	**12.62**	**12.12**	**15.52**	**24.11**	*13.15*	*11.35*	*16.42*	*22.58*	*12.56*	**13.52**	*13.91*	*13.20*
E. S. Central	**9.68**	**14.93**	**21.63**	**10.45**	**9.69**	**13.34**	**20.92**	*10.42*	*9.68*	*14.97*	*22.19*	*13.52*	**11.09**	*11.10*	*12.04*
W. S. Central	**8.24**	**13.34**	**21.45**	**10.46**	**8.52**	**14.22**	**20.58**	*9.97*	*8.73*	*14.72*	*20.71*	*11.89*	**10.46**	*10.83*	*11.35*
Mountain	**7.64**	**9.36**	**13.16**	**7.66**	**7.55**	**9.37**	**12.56**	*7.51*	*7.45*	*9.56*	*13.57*	*8.43*	**8.25**	*8.26*	*8.54*
Pacific	**12.17**	**12.47**	**13.20**	**11.81**	**13.41**	**14.47**	**14.50**	*13.20*	*13.26*	*13.99*	*14.74*	*13.67*	**12.23**	*13.69*	*13.69*
U.S. Average	**9.39**	**12.36**	**17.90**	**9.78**	**9.46**	**11.89**	**17.62**	*9.65*	*9.18*	*12.47*	*17.23*	*10.66*	**10.46**	*10.51*	*10.65*
Commercial Retail															
New England	**10.81**	**11.05**	**11.37**	**9.85**	**9.93**	**10.40**	**10.99**	*10.38*	*10.08*	*10.33*	*10.79*	*10.23*	**10.60**	*10.25*	*10.24*
Middle Atlantic	**8.31**	**7.66**	**6.81**	**7.43**	**7.91**	**7.00**	**6.78**	*7.30*	*7.51*	*7.39*	*6.93*	*7.47*	**7.71**	*7.43*	*7.41*
E. N. Central	**6.23**	**7.14**	**8.79**	**6.00**	**5.75**	**6.73**	**8.79**	*6.55*	*6.60*	*7.89*	*9.37*	*7.07*	**6.46**	*6.39*	*7.14*
W. N. Central	**6.75**	**7.07**	**8.17**	**6.05**	**5.43**	**6.53**	**8.14**	*6.72*	*7.10*	*7.78*	*9.00*	*7.29*	**6.66**	*6.19*	*7.39*
S. Atlantic	**8.80**	**9.50**	**9.73**	**8.72**	**8.51**	**9.21**	**9.53**	*8.59*	*8.44*	*9.44*	*9.83*	*8.78*	**9.00**	*8.77*	*8.87*
E. S. Central	**8.63**	**9.82**	**10.13**	**8.47**	**8.38**	**9.20**	**10.10**	*8.71*	*8.31*	*9.50*	*10.30*	*9.13*	**8.90**	*8.79*	*8.96*
W. S. Central	**6.30**	**6.93**	**7.85**	**6.66**	**5.99**	**7.18**	**8.05**	*7.61*	*7.26*	*7.92*	*8.74*	*8.03*	**6.71**	*6.94*	*7.80*
Mountain	**6.40**	**6.73**	**7.33**	**6.15**	**6.09**	**6.85**	**7.41**	*6.15*	*6.47*	*7.00*	*8.07*	*7.08*	**6.46**	*6.36*	*6.91*
Pacific	**9.07**	**8.82**	**9.14**	**9.01**	**9.58**	**9.30**	**9.59**	*9.02*	*9.05*	*9.19*	*9.69*	*9.19*	**9.01**	*9.36*	*9.21*
U.S. Average	**7.55**	**7.95**	**8.41**	**7.20**	**7.13**	**7.63**	**8.48**	*7.51*	*7.52*	*8.19*	*8.81*	*7.91*	**7.59**	*7.47*	*7.89*
Industrial Retail															
New England	**9.24**	**8.32**	**6.96**	**7.34**	**8.15**	**7.41**	**6.16**	*7.41*	*8.25*	*7.44*	*6.68*	*7.63*	**8.14**	*7.47*	*7.64*
Middle Atlantic	**8.80**	**7.49**	**6.72**	**7.04**	**7.43**	**6.76**	**7.00**	*7.13*	*7.64*	*7.34*	*7.44*	*7.67*	**7.83**	*7.17*	*7.56*
E. N. Central	**5.66**	**5.31**	**5.56**	**5.05**	**4.84**	**5.10**	**4.15**	*4.91*	*5.82*	*5.72*	*5.74*	*5.62*	**5.41**	*4.81*	*5.73*
W. N. Central	**5.24**	**4.01**	**3.48**	**4.32**	**3.97**	**3.30**	**3.15**	*4.23*	*5.04*	*4.47*	*4.51*	*5.02*	**4.34**	*3.72*	*4.80*
S. Atlantic	**5.43**	**4.54**	**4.35**	**4.45**	**4.15**	**3.70**	**3.72**	*4.58*	*5.42*	*4.89*	*4.89*	*5.15*	**4.73**	*4.06*	*5.11*
E. S. Central	**4.99**	**4.09**	**3.62**	**4.12**	**3.92**	**3.24**	**3.23**	*4.28*	*5.01*	*4.56*	*4.54*	*4.93*	**4.25**	*3.72*	*4.78*
W. S. Central	**3.49**	**2.89**	**2.54**	**2.65**	**2.19**	**1.92**	**2.19**	*2.80*	*3.33*	*3.25*	*3.34*	*3.39*	**2.91**	*2.31*	*3.33*
Mountain	**5.23**	**4.71**	**4.88**	**4.64**	**4.40**	**4.59**	**4.67**	*4.83*	*5.31*	*5.49*	*5.95*	*5.92*	**4.88**	*4.61*	*5.64*
Pacific	**7.61**	**6.58**	**6.37**	**6.88**	**7.46**	**6.28**	**6.18**	*6.28*	*6.97*	*6.48*	*6.89*	*7.02*	**6.91**	*6.58*	*6.85*
U.S. Average	**4.66**	**3.73**	**3.29**	**3.74**	**3.52**	**2.85**	**2.88**	*3.68*	*4.43*	*3.99*	*3.98*	*4.30*	**3.90**	*3.27*	*4.19*

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	**179.5**	**179.2**	**181.4**	**165.2**	**149.1**	**113.1**	**135.5**	*123.8*	*151.7*	*153.0*	*172.1*	*147.0*	**705.3**	*521.5*	*623.8*
Appalachia	**49.6**	**52.5**	**46.6**	**44.3**	**39.7**	**32.0**	**36.0**	*31.7*	*39.0*	*42.3*	*47.8*	*37.3*	**193.0**	*139.4*	*166.5*
Interior	**35.4**	**32.3**	**32.4**	**30.6**	**25.8**	**20.2**	**22.6**	*22.3*	*22.9*	*23.5*	*27.5*	*27.6*	**130.7**	*90.9*	*101.5*
Western	**94.5**	**94.4**	**102.4**	**90.3**	**83.6**	**60.9**	**76.8**	*69.8*	*89.7*	*87.2*	*96.8*	*82.1*	**381.7**	*291.2*	*355.8*
Primary Inventory Withdrawals	**-2.5**	**-0.4**	**-3.2**	**-3.6**	**0.5**	**1.3**	**2.0**	*-1.0*	*0.4*	*2.0*	*2.5*	*-0.7*	**-9.6**	*2.8*	*4.3*
Imports	**1.7**	**1.6**	**1.7**	**1.7**	**1.3**	**1.1**	**1.3**	*1.4*	*1.1*	*1.1*	*1.3*	*1.3*	**6.7**	*5.2*	*4.7*
Exports	**25.2**	**25.3**	**21.9**	**20.4**	**20.0**	**14.8**	**15.3**	*13.9*	*19.7*	*17.0*	*16.0*	*14.8*	**92.9**	*63.9*	*67.5*
Metallurgical Coal	**13.9**	**15.1**	**13.5**	**12.6**	**11.7**	**9.0**	**9.8**	*10.2*	*12.1*	*11.1*	*10.5*	*10.1*	**55.1**	*40.7*	*43.8*
Steam Coal	**11.3**	**10.2**	**8.4**	**7.8**	**8.3**	**5.8**	**4.9**	*3.6*	*7.6*	*5.9*	*5.5*	*4.6*	**37.7**	*22.7*	*23.6*
Total Primary Supply	**153.5**	**155.1**	**157.9**	**142.9**	**130.9**	**100.8**	**123.5**	*110.4*	*133.5*	*139.1*	*159.9*	*132.9*	**609.5**	*465.6*	*565.4*
Secondary Inventory Withdrawals	**6.1**	**-20.4**	**5.9**	**-17.5**	**-16.6**	**-5.0**	**20.5**	*6.8*	*0.7*	*-6.7*	*6.5*	*6.1*	**-25.9**	*5.6*	*6.7*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	*2.3*	*2.0*	*2.0*	*2.0*	*2.0*	**9.3**	*9.2*	*8.0*
Total Supply	**162.0**	**137.1**	**166.1**	**127.7**	**116.6**	**98.1**	**146.3**	*119.4*	*136.2*	*134.3*	*168.5*	*141.0*	**592.9**	*480.4*	*580.0*
Consumption (million short tons)															
Coke Plants	**4.5**	**4.7**	**4.5**	**4.4**	**4.3**	**3.5**	**3.9**	*3.8*	*4.0*	*3.9*	*4.1*	*4.0*	**18.0**	*15.4*	*16.0*
Electric Power Sector (b)	**145.2**	**117.8**	**155.6**	**120.0**	**97.8**	**87.2**	**139.2**	*111.5*	*125.2*	*123.7*	*157.9*	*130.3*	**538.6**	*435.6*	*537.0*
Retail and Other Industry	**8.1**	**7.2**	**7.2**	**7.5**	**7.4**	**5.7**	**6.4**	*7.0*	*7.0*	*6.7*	*6.5*	*6.8*	**30.0**	*26.5*	*27.0*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.3**	**0.1**	**0.2**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.9*	*0.8*
Other Industrial	**7.8**	**7.0**	**7.0**	**7.3**	**7.1**	**5.6**	**6.2**	*6.7*	*6.8*	*6.5*	*6.4*	*6.5*	**29.1**	*25.6*	*26.2*
Total Consumption	**157.7**	**129.6**	**167.2**	**132.0**	**109.5**	**96.4**	**149.5**	*122.3*	*136.2*	*134.3*	*168.5*	*141.0*	**586.5**	*477.6*	*580.0*
Discrepancy (c)	**4.2**	**7.5**	**-1.1**	**-4.2**	**7.1**	**1.7**	**-3.1**	*-2.8*	*0.0*	*0.0*	*0.0*	*0.0*	**6.4**	*2.8*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**24.2**	**24.5**	**27.7**	**31.3**	**30.8**	**29.5**	**27.5**	*28.5*	*28.1*	*26.1*	*23.5*	*24.2*	**31.3**	*28.5*	*24.2*
Secondary Inventories	**102.0**	**122.4**	**116.5**	**134.0**	**150.6**	**155.7**	**135.1**	*128.4*	*127.6*	*134.4*	*127.8*	*121.7*	**134.0**	*128.4*	*121.7*
Electric Power Sector	**96.9**	**116.9**	**110.6**	**128.2**	**145.2**	**150.4**	**129.1**	*122.6*	*122.1*	*128.5*	*121.8*	*116.0*	**128.2**	*122.6*	*116.0*
Retail and General Industry	**2.8**	**3.0**	**3.2**	**3.3**	**3.0**	**3.0**	**3.7**	*3.5*	*3.8*	*3.7*	*3.8*	*3.6*	**3.3**	*3.5*	*3.6*
Coke Plants	**2.0**	**2.3**	**2.5**	**2.3**	**2.1**	**2.0**	**2.2**	*2.1*	*1.6*	*2.0*	*2.1*	*2.0*	**2.3**	*2.1*	*2.0*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	**6.37**	*6.37*	*6.32*	*6.32*	*6.32*	*6.32*	**6.37**	*6.37*	*6.32*
Total Raw Steel Production (Million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	**0.196**	*0.219*	*0.270*	*0.240*	*0.241*	*0.282*	**0.268**	*0.214*	*0.258*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.91**	*2.01*	*2.05*	*2.06*	*2.04*	*2.04*	**2.01**	*1.94*	*2.05*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	**1,001**	**980**	**1,172**	**974**	**965**	**933**	**1,149**	*950*	*955*	*967*	*1,134*	*965*	**4,127**	*3,997*	*4,021*
Electric Power Sector (a)	**961**	**941**	**1,129**	**933**	**924**	**896**	**1,109**	*914*	*919*	*931*	*1,097*	*928*	**3,965**	*3,843*	*3,876*
Industrial Sector (b)	**36**	**35**	**39**	**38**	**38**	**34**	**36**	*33*	*33*	*32*	*33*	*34*	**149**	*141*	*132*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**4**	*3*	*3*	*3*	*4*	*3*	**14**	*13*	*13*
Net Imports	**11**	**12**	**15**	**11**	**13**	**13**	**15**	*12*	*12*	*13*	*15*	*11*	**49**	*53*	*51*
Total Supply	**1,012**	**992**	**1,186**	**985**	**978**	**946**	**1,164**	*962*	*967*	*980*	*1,149*	*976*	**4,176**	*4,050*	*4,072*
Losses and Unaccounted for (c)	**50**	**65**	**59**	**45**	**55**	**69**	**72**	*54*	*44*	*67*	*58*	*54*	**219**	*249*	*223*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**926**	**892**	**1089**	**904**	**887**	**844**	**1057**	*875*	*891*	*881*	*1058*	*889*	**3811**	*3663*	*3718*
Residential Sector	**363**	**311**	**435**	**332**	**340**	**334**	**453**	*335*	*365*	*344*	*446*	*340*	**1440**	*1462*	*1495*
Commercial Sector	**322**	**329**	**384**	**326**	**314**	**293**	**360**	*313*	*302*	*308*	*366*	*319*	**1361**	*1280*	*1295*
Industrial Sector	**240**	**250**	**268**	**244**	**231**	**216**	**241**	*226*	*222*	*227*	*245*	*228*	**1002**	*914*	*921*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**1**	**2**	*2*	*2*	*2*	*2*	*2*	**8**	*6*	*6*
Direct Use (d)	**36**	**35**	**38**	**37**	**37**	**33**	**35**	*33*	*32*	*32*	*33*	*33*	**146**	*139*	*131*
Total Consumption	**962**	**927**	**1128**	**941**	**924**	**878**	**1092**	*908*	*923*	*913*	*1091*	*922*	**3957**	*3801*	*3849*
Average residential electricity usage per customer (kWh)	**2,680**	**2,298**	**3,219**	**2,451**	**2,518**	**2,472**	**3,353**	*2,475*	*2,661*	*2,509*	*3,250*	*2,481*	**10,649**	*10,818*	*10,901*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.07**	**2.04**	**1.99**	**1.93**	**1.92**	**1.90**	**1.91**	*2.01*	*2.05*	*2.06*	*2.04*	*2.04*	**2.01**	*1.94*	*2.05*
Natural Gas	**3.72**	**2.73**	**2.51**	**2.79**	**2.41**	**2.10**	**2.27**	*3.08*	*3.69*	*3.24*	*3.22*	*3.48*	**2.89**	*2.44*	*3.38*
Residual Fuel Oil	**12.22**	**13.39**	**12.80**	**12.53**	**12.15**	**6.65**	**8.51**	*7.87*	*8.90*	*9.81*	*9.44*	*9.37*	**12.73**	*8.81*	*9.37*
Distillate Fuel Oil	**14.85**	**15.76**	**14.99**	**15.11**	**13.27**	**8.39**	**10.31**	*10.59*	*11.70*	*12.17*	*12.48*	*12.80*	**15.16**	*10.73*	*12.31*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.67**	**13.30**	**13.24**	**12.83**	**12.90**	**13.24**	**13.36**	*12.90*	*12.82*	*13.34*	*13.57*	*13.18*	**13.01**	*13.12*	*13.24*
Commercial Sector	**10.43**	**10.66**	**11.00**	**10.55**	**10.33**	**10.63**	**10.97**	*10.47*	*10.27*	*10.76*	*11.20*	*10.64*	**10.67**	*10.61*	*10.74*
Industrial Sector	**6.67**	**6.69**	**7.20**	**6.65**	**6.37**	**6.63**	**7.09**	*6.71*	*6.44*	*6.72*	*7.10*	*6.74*	**6.81**	*6.71*	*6.76*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**28.41**	**28.34**	**139.81**	**28.40**	**23.41**	**24.03**	**34.12**	*27.61*	*28.95*	*31.83*	*33.95*	*30.01*	**56.24**	*27.29*	*31.18*
CAISO SP15 zone	**50.42**	**23.30**	**37.32**	**41.57**	**28.64**	**19.21**	**61.94**	*40.99*	*32.75*	*33.18*	*36.89*	*33.98*	**38.15**	*37.70*	*34.20*
ISO-NE Internal hub	**47.40**	**27.15**	**29.52**	**35.48**	**24.61**	**20.25**	**27.20**	*35.67*	*50.52*	*31.73*	*33.19*	*35.95*	**34.89**	*26.93*	*37.85*
NYISO Hudson Valley zone	**41.77**	**25.68**	**27.76**	**27.04**	**21.82**	**18.13**	**24.38**	*23.53*	*25.95*	*26.44*	*27.63*	*25.94*	**30.56**	*21.97*	*26.49*
PJM Western hub	**33.79**	**28.54**	**31.17**	**29.89**	**22.47**	**20.79**	**28.24**	*25.31*	*27.30*	*27.30*	*30.47*	*27.34*	**30.85**	*24.20*	*28.10*
Midcontinent ISO Illinois hub	**31.44**	**27.81**	**30.71**	**28.09**	**24.43**	**23.00**	**29.35**	*24.97*	*27.21*	*26.86*	*30.22*	*28.87*	**29.51**	*25.44*	*28.29*
SPP ISO South hub	**29.15**	**27.14**	**31.51**	**23.64**	**20.06**	**19.54**	**26.27**	*24.27*	*23.27*	*23.94*	*28.72*	*24.61*	**27.86**	*22.54*	*25.14*
SERC index, Into Southern	**30.74**	**29.87**	**31.08**	**29.31**	**23.58**	**18.23**	**23.47**	*24.49*	*24.24*	*24.43*	*26.93*	*25.71*	**30.25**	*22.44*	*25.33*
FRCC index, Florida Reliability	**30.71**	**29.57**	**30.64**	**29.47**	**26.24**	**18.53**	**23.75**	*25.01*	*26.01*	*27.02*	*27.89*	*26.95*	**30.10**	*23.38*	*26.97*
Northwest index, Mid-Columbia	**55.74**	**18.55**	**32.74**	**37.47**	**22.77**	**14.49**	**33.56**	*29.28*	*24.53*	*24.33*	*24.72*	*25.76*	**36.12**	*25.03*	*24.84*
Southwest index, Palo Verde	**44.23**	**18.45**	**42.00**	**36.37**	**22.07**	**19.60**	**80.81**	*35.53*	*27.93*	*28.26*	*28.28*	*29.07*	**35.26**	*39.50*	*28.39*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**12.5**	**9.7**	**13.1**	**10.8**	**11.7**	**10.9**	**14.6**	*11.4*	*12.9*	*11.4*	*13.8*	*11.6*	**46.2**	*48.6*	*49.7*
Middle Atlantic	**35.3**	**27.7**	**40.4**	**29.8**	**32.2**	**30.6**	**43.5**	*30.1*	*34.8*	*31.0*	*40.5*	*30.8*	**133.1**	*136.3*	*137.2*
E. N. Central	**50.0**	**38.3**	**54.4**	**43.4**	**46.4**	**43.7**	**56.5**	*43.9*	*49.5*	*44.6*	*54.6*	*44.9*	**186.2**	*190.4*	*193.8*
W. N. Central	**30.3**	**21.9**	**29.3**	**25.1**	**27.6**	**23.7**	**30.0**	*25.2*	*29.1*	*25.7*	*31.7*	*26.9*	**106.6**	*106.5*	*113.3*
S. Atlantic	**88.7**	**84.9**	**112.0**	**84.7**	**84.3**	**86.3**	**114.7**	*82.6*	*92.5*	*89.0*	*113.5*	*83.1*	**370.4**	*367.9*	*378.1*
E. S. Central	**30.3**	**25.9**	**36.7**	**27.5**	**29.0**	**26.0**	**37.2**	*26.3*	*32.5*	*27.3*	*38.0*	*27.2*	**120.3**	*118.6*	*125.1*
W. S. Central	**52.1**	**49.4**	**76.5**	**51.0**	**48.8**	**52.9**	**76.3**	*52.3*	*51.4*	*54.7*	*77.2*	*54.1*	**229.0**	*230.2*	*237.5*
Mountain	**23.2**	**22.2**	**33.0**	**22.1**	**22.5**	**25.7**	**36.2**	*23.0*	*22.9*	*25.6*	*33.9*	*22.7*	**100.5**	*107.4*	*105.1*
Pacific contiguous	**39.1**	**29.7**	**38.7**	**35.8**	**36.7**	**33.2**	**43.0**	*38.8*	*37.9*	*33.5*	*41.3*	*37.6*	**143.3**	*151.7*	*150.4*
AK and HI	**1.2**	**1.1**	**1.2**	**1.2**	**1.3**	**1.1**	**1.2**	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.7**	*4.9*	*4.8*
Total	**362.5**	**310.8**	**435.4**	**331.5**	**340.4**	**334.1**	**453.3**	*334.7*	*364.8*	*344.1*	*445.7*	*340.2*	**1,440.3**	*1,462.5*	*1,494.9*
Commercial Sector															
New England	**12.8**	**12.1**	**14.0**	**12.6**	**12.3**	**10.6**	**13.2**	*11.7*	*11.7*	*10.8*	*12.9*	*11.8*	**51.5**	*47.7*	*47.1*
Middle Atlantic	**38.7**	**36.4**	**42.0**	**36.0**	**35.9**	**31.0**	**38.9**	*33.3*	*33.5*	*34.2*	*39.5*	*34.6*	**153.2**	*139.0*	*141.8*
E. N. Central	**44.2**	**42.8**	**50.0**	**43.2**	**43.1**	**38.3**	**47.3**	*42.4*	*42.0*	*41.3*	*48.5*	*43.8*	**180.2**	*171.1*	*175.5*
W. N. Central	**25.6**	**24.2**	**27.9**	**24.8**	**24.7**	**21.6**	**26.3**	*23.8*	*24.1*	*22.1*	*26.9*	*24.3*	**102.6**	*96.5*	*97.3*
S. Atlantic	**72.3**	**79.7**	**90.4**	**75.8**	**72.0**	**70.0**	**85.7**	*72.3*	*69.5*	*73.6*	*87.3*	*73.3*	**318.1**	*300.0*	*303.6*
E. S. Central	**21.2**	**22.7**	**27.2**	**21.9**	**20.7**	**19.4**	**25.3**	*20.7*	*20.3*	*20.5*	*25.9*	*21.1*	**93.1**	*86.1*	*87.8*
W. S. Central	**44.0**	**47.8**	**58.9**	**47.6**	**44.3**	**44.6**	**55.0**	*47.4*	*43.6*	*46.6*	*56.6*	*49.1*	**198.3**	*191.4*	*195.9*
Mountain	**22.7**	**23.8**	**28.2**	**23.3**	**22.4**	**22.1**	**27.4**	*23.1*	*22.0*	*23.2*	*27.3*	*23.5*	**98.1**	*95.1*	*96.0*
Pacific contiguous	**38.4**	**38.4**	**43.6**	**39.5**	**37.0**	**33.9**	**39.8**	*37.1*	*34.4*	*34.3*	*39.4*	*36.3*	**160.0**	*147.8*	*144.4*
AK and HI	**1.4**	**1.4**	**1.5**	**1.5**	**1.4**	**1.2**	**1.3**	*1.3*	*1.3*	*1.4*	*1.5*	*1.5*	**5.7**	*5.1*	*5.6*
Total	**321.6**	**329.4**	**383.8**	**326.1**	**313.7**	**292.7**	**360.2**	*313.3*	*302.4*	*307.9*	*365.6*	*319.2*	**1,360.9**	*1,279.9*	*1,295.2*
Industrial Sector															
New England	**4.0**	**4.0**	**4.3**	**4.0**	**3.7**	**3.5**	**3.9**	*3.8*	*3.5*	*3.6*	*3.9*	*3.7*	**16.2**	*14.9*	*14.6*
Middle Atlantic	**18.1**	**17.9**	**20.3**	**18.6**	**18.0**	**16.2**	**18.6**	*17.7*	*17.3*	*17.0*	*18.8*	*17.8*	**75.0**	*70.5*	*70.8*
E. N. Central	**47.5**	**47.9**	**50.6**	**46.3**	**44.0**	**37.7**	**44.5**	*40.4*	*42.1*	*40.1*	*45.4*	*40.7*	**192.3**	*166.5*	*168.3*
W. N. Central	**22.4**	**23.3**	**24.8**	**23.0**	**21.7**	**20.3**	**23.2**	*22.0*	*20.9*	*22.0*	*23.7*	*22.4*	**93.6**	*87.3*	*88.9*
S. Atlantic	**33.9**	**35.7**	**37.2**	**34.4**	**32.8**	**31.0**	**34.2**	*33.1*	*31.7*	*32.7*	*34.6*	*33.2*	**141.2**	*131.2*	*132.2*
E. S. Central	**24.5**	**24.9**	**25.5**	**23.9**	**23.3**	**21.4**	**23.4**	*22.5*	*21.9*	*22.6*	*23.5*	*22.5*	**98.9**	*90.6*	*90.4*
W. S. Central	**49.1**	**52.4**	**55.5**	**50.9**	**46.7**	**44.9**	**47.7**	*45.5*	*45.6*	*47.6*	*48.6*	*46.3*	**207.8**	*184.9*	*188.2*
Mountain	**19.4**	**21.3**	**23.7**	**20.4**	**20.0**	**20.3**	**22.6**	*19.9*	*19.6*	*21.1*	*23.0*	*20.2*	**84.8**	*82.8*	*83.8*
Pacific contiguous	**20.2**	**21.5**	**24.7**	**21.3**	**19.2**	**19.7**	**22.1**	*19.8*	*18.2*	*19.7*	*22.0*	*19.6*	**87.6**	*80.8*	*79.4*
AK and HI	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	**1.0**	**1.2**	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.9**	*4.6*	*4.6*
Total	**240.1**	**250.1**	**268.0**	**244.1**	**230.6**	**216.0**	**241.4**	*225.9*	*221.8*	*227.3*	*244.6*	*227.5*	**1,002.4**	*913.9*	*921.3*
Total All Sectors (a)															
New England	**29.5**	**26.0**	**31.5**	**27.5**	**27.8**	**25.1**	**31.8**	*27.0*	*28.2*	*25.8*	*30.6*	*27.2*	**114.5**	*111.6*	*111.9*
Middle Atlantic	**93.1**	**83.0**	**103.6**	**85.4**	**86.9**	**78.5**	**101.8**	*81.9*	*86.5*	*82.9*	*99.5*	*84.0*	**365.1**	*349.0*	*352.9*
E. N. Central	**141.9**	**129.1**	**155.2**	**133.0**	**133.7**	**119.7**	**148.4**	*126.8*	*133.7*	*126.2*	*148.6*	*129.5*	**559.4**	*528.6*	*538.1*
W. N. Central	**78.3**	**69.4**	**82.1**	**73.0**	**74.0**	**65.7**	**79.5**	*71.1*	*74.0*	*69.7*	*82.3*	*73.6*	**302.8**	*290.3*	*299.6*
S. Atlantic	**195.3**	**200.7**	**240.1**	**195.2**	**189.4**	**187.6**	**235.0**	*188.3*	*194.0*	*195.5*	*235.7*	*189.9*	**831.2**	*800.3*	*815.1*
E. S. Central	**76.0**	**73.5**	**89.4**	**73.3**	**73.0**	**66.8**	**85.9**	*69.5*	*74.7*	*70.5*	*87.4*	*70.7*	**312.2**	*295.3*	*303.3*
W. S. Central	**145.2**	**149.7**	**190.9**	**149.5**	**139.8**	**142.4**	**179.1**	*145.3*	*140.7*	*149.0*	*182.4*	*149.6*	**635.4**	*606.6*	*621.7*
Mountain	**65.4**	**67.3**	**85.0**	**65.8**	**64.9**	**68.2**	**86.3**	*66.0*	*64.4*	*69.9*	*84.3*	*66.4*	**283.5**	*285.4*	*285.0*
Pacific contiguous	**97.9**	**89.8**	**107.2**	**96.9**	**93.1**	**87.0**	**105.1**	*95.9*	*90.8*	*87.7*	*102.9*	*93.7*	**391.8**	*381.1*	*375.0*
AK and HI	**3.7**	**3.6**	**4.0**	**4.0**	**3.8**	**3.4**	**3.6**	*3.7*	*3.7*	*3.6*	*3.8*	*3.9*	**15.3**	*14.5*	*15.0*
Total	**926.3**	**892.2**	**1,089.1**	**903.6**	**886.6**	**844.3**	**1,056.5**	*875.4*	*890.7*	*880.8*	*1,057.6*	*888.5*	**3,811.2**	*3,662.7*	*3,717.7*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	**21.34**	**21.52**	**20.70**	**20.93**	**21.76**	**21.33**	*20.96*	*20.91*	*21.79*	*21.82*	*22.04*	*22.48*	**21.10**	*21.22*	*22.03*
Middle Atlantic	**15.20**	**16.05**	**16.16**	**15.79**	**15.47**	**15.97**	*16.18*	*15.79*	*15.41*	*16.15*	*16.59*	*16.18*	**15.80**	*15.88*	*16.10*
E. N. Central	**13.00**	**13.93**	**13.37**	**13.38**	**13.13**	**13.75**	*13.33*	*13.47*	*13.10*	*13.89*	*13.60*	*13.68*	**13.39**	*13.41*	*13.56*
W. N. Central	**10.69**	**12.76**	**12.93**	**11.24**	**10.99**	**12.59**	*12.89*	*11.43*	*11.09*	*12.62*	*13.09*	*11.52*	**11.86**	*11.98*	*12.10*
S. Atlantic	**11.68**	**12.12**	**12.07**	**11.82**	**11.80**	**11.81**	*12.06*	*11.77*	*11.48*	*11.72*	*12.17*	*12.00*	**11.93**	*11.88*	*11.86*
E. S. Central	**11.14**	**11.70**	**11.38**	**11.28**	**11.25**	**11.56**	*11.29*	*11.36*	*11.06*	*11.59*	*11.48*	*11.58*	**11.36**	*11.36*	*11.42*
W. S. Central	**10.80**	**11.42**	**11.28**	**11.16**	**11.04**	**11.43**	*11.30*	*10.87*	*10.67*	*11.26*	*11.42*	*11.13*	**11.17**	*11.18*	*11.15*
Mountain	**11.44**	**12.06**	**12.11**	**11.51**	**11.42**	**12.08**	*12.19*	*11.69*	*11.54*	*12.22*	*12.37*	*11.83*	**11.81**	*11.89*	*12.04*
Pacific	**14.86**	**15.85**	**17.24**	**14.63**	**15.69**	**16.18**	*17.79*	*15.07*	*16.32*	*17.05*	*18.35*	*15.48*	**15.65**	*16.23*	*16.83*
U.S. Average	**12.67**	**13.30**	**13.24**	**12.83**	**12.90**	**13.24**	*13.36*	*12.90*	*12.82*	*13.34*	*13.57*	*13.18*	**13.01**	*13.12*	*13.24*
Commercial Sector															
New England	**16.91**	**16.37**	**16.10**	**15.97**	**16.24**	**15.66**	*15.96*	*15.79*	*16.24*	*15.92*	*16.64*	*16.62*	**16.33**	*15.92*	*16.37*
Middle Atlantic	**11.57**	**12.17**	**13.02**	**11.97**	**11.69**	**12.53**	*13.22*	*11.74*	*11.43*	*12.68*	*13.43*	*11.98*	**12.21**	*12.32*	*12.42*
E. N. Central	**10.19**	**10.33**	**10.16**	**10.11**	**9.95**	**10.37**	*10.19*	*10.14*	*10.00*	*10.51*	*10.38*	*10.35*	**10.20**	*10.16*	*10.31*
W. N. Central	**8.97**	**10.05**	**10.42**	**9.12**	**9.07**	**10.12**	*10.33*	*9.32*	*9.31*	*10.32*	*10.67*	*9.52*	**9.66**	*9.71*	*9.96*
S. Atlantic	**9.43**	**9.35**	**9.33**	**9.32**	**9.24**	**9.02**	*9.09*	*9.02*	*8.98*	*8.91*	*9.16*	*9.20*	**9.36**	*9.09*	*9.07*
E. S. Central	**10.78**	**10.77**	**10.72**	**10.70**	**10.75**	**10.83**	*10.60*	*10.68*	*10.73*	*10.81*	*10.76*	*10.90*	**10.74**	*10.70*	*10.80*
W. S. Central	**8.13**	**8.13**	**8.33**	**8.17**	**7.84**	**7.87**	*7.90*	*8.26*	*8.03*	*8.22*	*8.26*	*8.24*	**8.20**	*7.97*	*8.19*
Mountain	**9.18**	**9.74**	**10.01**	**9.20**	**9.01**	**9.82**	*10.09*	*9.33*	*9.11*	*9.96*	*10.26*	*9.35*	**9.56**	*9.59*	*9.70*
Pacific	**12.92**	**14.05**	**16.16**	**14.32**	**13.50**	**14.79**	*17.20*	*14.54*	*13.50*	*15.15*	*17.74*	*14.76*	**14.42**	*15.05*	*15.37*
U.S. Average	**10.43**	**10.66**	**11.00**	**10.55**	**10.33**	**10.63**	*10.97*	*10.47*	*10.27*	*10.76*	*11.20*	*10.64*	**10.67**	*10.61*	*10.74*
Industrial Sector															
New England	**13.63**	**12.97**	**12.80**	**12.91**	**12.29**	**12.23**	*12.51*	*12.65*	*12.25*	*12.40*	*12.79*	*12.98*	**13.07**	*12.43*	*12.62*
Middle Atlantic	**6.75**	**6.54**	**6.57**	**6.43**	**6.36**	**6.36**	*6.42*	*6.24*	*6.33*	*6.37*	*6.32*	*6.14*	**6.57**	*6.34*	*6.29*
E. N. Central	**7.10**	**6.92**	**6.85**	**6.78**	**6.51**	**6.78**	*6.75*	*6.78*	*6.62*	*6.91*	*6.82*	*6.88*	**6.91**	*6.70*	*6.81*
W. N. Central	**7.05**	**7.23**	**7.96**	**6.78**	**6.94**	**7.32**	*7.89*	*6.94*	*7.15*	*7.41*	*8.03*	*7.09*	**7.27**	*7.28*	*7.43*
S. Atlantic	**6.37**	**6.40**	**6.86**	**6.32**	**5.99**	**6.10**	*6.50*	*6.21*	*5.98*	*6.30*	*6.59*	*6.25*	**6.50**	*6.20*	*6.29*
E. S. Central	**5.71**	**5.77**	**5.95**	**5.61**	**5.45**	**5.51**	*5.70*	*5.46*	*5.43*	*5.59*	*5.73*	*5.46*	**5.76**	*5.53*	*5.56*
W. S. Central	**5.23**	**5.21**	**5.92**	**5.30**	**5.04**	**4.98**	*5.23*	*5.43*	*5.06*	*4.89*	*5.13*	*5.33*	**5.43**	*5.17*	*5.10*
Mountain	**6.17**	**6.30**	**6.82**	**5.95**	**5.73**	**6.16**	*6.91*	*5.98*	*5.79*	*6.28*	*6.80*	*5.99*	**6.33**	*6.22*	*6.24*
Pacific	**8.42**	**9.21**	**10.91**	**9.87**	**8.97**	**10.34**	*12.37*	*10.57*	*9.37*	*10.82*	*12.51*	*10.85*	**9.67**	*10.63*	*10.96*
U.S. Average	**6.67**	**6.69**	**7.20**	**6.65**	**6.37**	**6.63**	*7.09*	*6.71*	*6.44*	*6.72*	*7.10*	*6.74*	**6.81**	*6.71*	*6.76*
All Sectors (a)															
New England	**18.32**	**17.74**	**17.53**	**17.44**	**18.01**	**17.61**	*17.80*	*17.48*	*18.26*	*18.01*	*18.55*	*18.59*	**17.76**	*17.73*	*18.36*
Middle Atlantic	**12.00**	**12.24**	**12.97**	**12.09**	**11.97**	**12.58**	*13.23*	*12.03*	*12.01*	*12.69*	*13.37*	*12.29*	**12.35**	*12.49*	*12.62*
E. N. Central	**10.14**	**10.13**	**10.20**	**10.01**	**9.92**	**10.47**	*10.35*	*10.22*	*10.08*	*10.56*	*10.47*	*10.41*	**10.13**	*10.24*	*10.38*
W. N. Central	**9.09**	**9.96**	**10.58**	**9.11**	**9.16**	**10.15**	*10.58*	*9.33*	*9.40*	*10.25*	*10.84*	*9.51*	**9.70**	*9.81*	*10.02*
S. Atlantic	**9.92**	**9.99**	**10.23**	**9.88**	**9.81**	**9.82**	*10.16*	*9.73*	*9.68*	*9.75*	*10.23*	*9.91*	**10.02**	*9.90*	*9.91*
E. S. Central	**9.29**	**9.40**	**9.63**	**9.25**	**9.26**	**9.41**	*9.56*	*9.25*	*9.32*	*9.44*	*9.72*	*9.44*	**9.40**	*9.38*	*9.49*
W. S. Central	**8.11**	**8.19**	**8.81**	**8.21**	**8.02**	**8.28**	*8.63*	*8.31*	*8.03*	*8.27*	*8.76*	*8.38*	**8.36**	*8.33*	*8.39*
Mountain	**9.09**	**9.42**	**9.93**	**8.97**	**8.84**	**9.58**	*10.14*	*9.14*	*8.96*	*9.68*	*10.17*	*9.18*	**9.39**	*9.48*	*9.54*
Pacific	**12.75**	**13.47**	**15.33**	**13.45**	**13.41**	**14.30**	*16.42*	*13.93*	*13.84*	*14.89*	*16.86*	*14.22*	**13.79**	*14.57*	*15.01*
U.S. Average	**10.32**	**10.47**	**10.96**	**10.33**	**10.29**	**10.64**	*11.11*	*10.43*	*10.36*	*10.72*	*11.25*	*10.61*	**10.54**	*10.64*	*10.76*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	**323.2**	**333.2**	**467.8**	**352.8**	**354.7**	**342.5**	**474.4**	*337.9*	*283.8*	*298.2*	*415.3*	*305.3*	**1,477.0**	*1,509.5*	*1,302.5*
Coal	**257.5**	**208.9**	**279.0**	**213.4**	**170.3**	**151.1**	**248.0**	*198.3*	*219.1*	*213.2*	*280.4*	*230.6*	**958.7**	*767.7*	*943.2*
Nuclear	**203.5**	**196.5**	**210.2**	**199.2**	**204.1**	**190.7**	**204.1**	*191.9*	*197.9*	*188.6*	*205.1*	*187.9*	**809.4**	*790.8*	*779.5*
Renewable Energy Sources:	**170.3**	**196.6**	**166.2**	**162.6**	**189.1**	**206.5**	**177.4**	*181.5*	*212.4*	*226.7*	*191.9*	*200.0*	**695.7**	*754.4*	*831.0*
Conventional Hydropower	**73.6**	**87.5**	**65.8**	**59.7**	**74.9**	**81.3**	**70.9**	*60.6*	*74.1*	*75.4*	*63.0*	*61.8*	**286.7**	*287.7*	*274.2*
Wind	**72.4**	**76.9**	**66.4**	**79.0**	**86.4**	**87.2**	**68.1**	*92.7*	*103.6*	*103.8*	*80.7*	*103.9*	**294.6**	*334.4*	*392.0*
Solar (a)	**13.2**	**21.7**	**22.6**	**13.8**	**16.7**	**27.1**	**27.3**	*18.0*	*22.4*	*35.6*	*36.1*	*23.7*	**71.3**	*89.0*	*117.8*
Biomass	**7.1**	**6.7**	**7.4**	**6.9**	**7.2**	**6.7**	**7.0**	*6.9*	*8.4*	*7.7*	*7.8*	*7.4*	**28.1**	*27.7*	*31.3*
Geothermal	**4.0**	**3.8**	**4.0**	**3.2**	**3.9**	**4.2**	**4.2**	*3.3*	*3.9*	*4.3*	*4.2*	*3.2*	**15.0**	*15.6*	*15.6*
Pumped Storage Hydropower	**-1.1**	**-0.9**	**-1.9**	**-1.4**	**-1.0**	**-1.2**	**-2.0**	*-1.3*	*-1.0*	*-1.2*	*-2.1*	*-1.3*	**-5.3**	*-5.5*	*-5.6*
Petroleum (b)	**4.9**	**4.1**	**4.7**	**3.6**	**4.0**	**4.0**	**4.6**	*3.0*	*4.0*	*3.9*	*4.5*	*2.8*	**17.3**	*15.6*	*15.2*
Other Gases	**1.1**	**1.0**	**1.1**	**0.9**	**1.0**	**0.4**	**0.8**	*0.8*	*1.0*	*0.3*	*0.6*	*0.8*	**4.0**	*3.0*	*2.7*
Other Nonrenewable Fuels (c)	**1.8**	**1.9**	**2.0**	**1.9**	**1.9**	**1.8**	**1.9**	*1.8*	*1.7*	*1.8*	*1.7*	*1.8*	**7.7**	*7.4*	*7.0*
Total Generation	**961.3**	**941.4**	**1,129.3**	**933.1**	**924.1**	**895.8**	**1,109.2**	*913.8*	*918.8*	*931.5*	*1,097.3*	*928.0*	**3,965.1**	*3,842.9*	*3,875.6*
New England (ISO-NE)															
Natural Gas	**10.3**	**9.8**	**15.3**	**11.3**	**10.8**	**10.0**	**16.1**	*12.0*	*9.1*	*9.2*	*16.1*	*12.5*	**46.7**	*48.9*	*47.0*
Coal	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	**0.5**	*0.1*	*0.1*
Nuclear	**8.6**	**6.8**	**7.3**	**7.1**	**7.3**	**4.9**	**7.3**	*6.1*	*7.0*	*7.1*	*7.2*	*5.6*	**29.8**	*25.6*	*27.0*
Conventional hydropower	**2.5**	**2.5**	**0.9**	**1.7**	**2.2**	**2.1**	**1.8**	*1.5*	*2.1*	*2.1*	*1.5*	*1.4*	**7.6**	*7.5*	*7.2*
Nonhydro renewables (d)	**2.7**	**2.3**	**2.2**	**2.5**	**2.6**	**2.7**	**2.4**	*2.6*	*3.4*	*3.0*	*2.6*	*2.8*	**9.8**	*10.4*	*11.8*
Other energy sources (e)	**0.3**	**0.3**	**0.3**	**0.4**	**0.3**	**0.3**	**0.4**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	**1.4**	*1.4*	*1.5*
Total generation	**24.7**	**21.8**	**26.1**	**23.2**	**23.3**	**20.1**	**28.0**	*22.6*	*22.2*	*21.8*	*27.8*	*22.8*	**95.7**	*94.0*	*94.6*
Net energy for load (f)	**29.7**	**25.9**	**31.6**	**28.1**	**27.8**	**25.3**	**32.3**	*27.6*	*28.9*	*26.8*	*31.8*	*28.3*	**115.2**	*113.0*	*115.9*
New York (NYISO)															
Natural Gas	**11.9**	**10.7**	**17.8**	**12.0**	**12.4**	**11.4**	**20.6**	*14.1*	*14.1*	*14.8*	*21.7*	*17.2*	**52.4**	*58.5*	*67.8*
Coal	**0.3**	**0.0**	**0.1**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.4**	*0.1*	*0.0*
Nuclear	**10.4**	**10.8**	**11.8**	**11.8**	**10.7**	**9.2**	**9.0**	*9.6*	*8.8*	*7.5*	*7.1*	*6.8*	**44.9**	*38.5*	*30.2*
Conventional hydropower	**7.4**	**7.4**	**7.9**	**7.8**	**8.0**	**8.0**	**7.8**	*7.3*	*7.9*	*7.9*	*7.3*	*7.0*	**30.5**	*31.1*	*30.2*
Nonhydro renewables (d)	**1.8**	**1.6**	**1.4**	**1.8**	**2.0**	**2.0**	**1.7**	*1.8*	*2.1*	*2.2*	*2.0*	*2.4*	**6.5**	*7.5*	*8.7*
Other energy sources (e)	**0.5**	**0.1**	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	**0.9**	*0.6*	*0.6*
Total generation	**32.5**	**30.6**	**39.1**	**33.5**	**33.4**	**30.7**	**39.2**	*33.0*	*33.1*	*32.6*	*38.3*	*33.5*	**135.6**	*136.3*	*137.6*
Net energy for load (f)	**37.7**	**34.4**	**42.8**	**35.8**	**35.2**	**32.6**	**43.0**	*35.2*	*36.4*	*35.9*	*43.0*	*36.4*	**150.6**	*146.0*	*151.7*
Mid-Atlantic (PJM)															
Natural Gas	**70.1**	**65.0**	**90.6**	**70.9**	**78.4**	**69.9**	**97.6**	*65.8*	*70.6*	*69.8*	*90.0*	*61.5*	**296.6**	*311.7*	*291.9*
Coal	**53.3**	**39.7**	**51.6**	**38.6**	**33.7**	**29.6**	**46.6**	*36.6*	*50.0*	*41.4*	*49.7*	*46.4*	**183.3**	*146.6*	*187.5*
Nuclear	**69.6**	**68.5**	**71.7**	**68.1**	**68.9**	**67.1**	**70.9**	*68.4*	*67.5*	*65.7*	*72.3*	*62.3*	**277.9**	*275.2*	*267.9*
Conventional hydropower	**3.2**	**2.9**	**2.0**	**2.1**	**3.1**	**2.9**	**2.1**	*2.2*	*3.2*	*3.1*	*1.8*	*2.1*	**10.2**	*10.2*	*10.2*
Nonhydro renewables (d)	**9.6**	**9.2**	**6.6**	**9.3**	**10.3**	**10.2**	**7.8**	*10.8*	*11.8*	*11.9*	*9.0*	*11.7*	**34.7**	*39.2*	*44.4*
Other energy sources (e)	**0.7**	**0.6**	**0.5**	**0.4**	**0.6**	**0.5**	**0.4**	*0.5*	*0.7*	*0.5*	*0.3*	*0.4*	**2.3**	*2.0*	*2.0*
Total generation	**206.5**	**186.0**	**223.0**	**189.5**	**195.0**	**180.2**	**225.4**	*184.3*	*203.9*	*192.4*	*223.2*	*184.4*	**805.0**	*784.9*	*803.9*
Net energy for load (f)	**196.6**	**173.4**	**210.0**	**181.0**	**182.2**	**164.2**	**209.6**	*174.5*	*188.7*	*174.4*	*206.1*	*180.4*	**760.9**	*730.6*	*749.5*
Southeast (SERC)															
Natural Gas	**57.5**	**59.1**	**75.9**	**59.8**	**61.9**	**59.1**	**74.7**	*59.1*	*56.6*	*55.5*	*69.6*	*55.9*	**252.4**	*254.8*	*237.6*
Coal	**35.1**	**38.0**	**53.3**	**33.5**	**23.8**	**22.1**	**44.4**	*32.0*	*30.9*	*32.5*	*50.4*	*36.1*	**159.8**	*122.3*	*149.8*
Nuclear	**52.3**	**52.8**	**53.7**	**52.2**	**53.0**	**50.5**	**54.1**	*52.4*	*52.0*	*52.1*	*55.2*	*53.4*	**211.0**	*210.0*	*212.7*
Conventional hydropower	**10.8**	**10.8**	**7.5**	**7.9**	**11.1**	**10.2**	**8.8**	*8.0*	*11.2*	*10.5*	*7.1*	*7.6*	**37.0**	*38.1*	*36.5*
Nonhydro renewables (d)	**2.7**	**3.8**	**3.9**	**3.0**	**3.5**	**5.0**	**5.0**	*3.5*	*4.0*	*6.0*	*6.1*	*4.1*	**13.4**	*16.9*	*20.1*
Other energy sources (e)	**0.0**	**-0.2**	**-0.6**	**-0.4**	**-0.1**	**-0.3**	**-0.6**	*-0.4*	*-0.1*	*-0.4*	*-0.7*	*-0.4*	**-1.3**	*-1.4*	*-1.5*
Total generation	**158.4**	**164.3**	**193.6**	**155.9**	**153.2**	**146.7**	**186.4**	*154.6*	*154.7*	*156.1*	*187.8*	*156.6*	**672.3**	*640.9*	*655.2*
Net energy for load (f)	**163.2**	**166.6**	**193.3**	**157.0**	**160.3**	**150.1**	**185.9**	*155.4*	*161.5*	*159.5*	*189.0*	*155.8*	**680.1**	*651.7*	*665.9*
Florida (FRCC)															
Natural Gas	**35.7**	**46.7**	**52.6**	**40.0**	**40.0**	**45.7**	**52.8**	*40.3*	*31.7*	*36.5*	*45.0*	*37.1*	**174.9**	*178.7*	*150.4*
Coal	**3.7**	**4.8**	**5.3**	**4.8**	**2.1**	**3.5**	**5.7**	*5.0*	*7.6*	*9.6*	*8.4*	*5.8*	**18.6**	*16.2*	*31.5*
Nuclear	**7.6**	**6.4**	**7.7**	**7.3**	**7.3**	**7.6**	**7.6**	*7.0*	*7.8*	*6.9*	*7.8*	*6.7*	**29.1**	*29.5*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	**0.0**	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.5**	**1.7**	**1.6**	**1.4**	**1.8**	**2.4**	**2.3**	*2.0*	*2.6*	*3.5*	*3.0*	*2.7*	**6.1**	*8.5*	*11.8*
Other energy sources (e)	**0.8**	**0.9**	**0.8**	**0.7**	**0.9**	**0.8**	**0.9**	*0.7*	*0.9*	*0.7*	*0.8*	*0.7*	**3.1**	*3.3*	*3.0*
Total generation	**49.4**	**60.5**	**68.1**	**54.2**	**52.1**	**60.0**	**69.3**	*54.9*	*50.6*	*57.3*	*65.2*	*53.1*	**232.1**	*236.4*	*226.1*
Net energy for load (f)	**47.8**	**61.3**	**67.8**	**53.0**	**48.5**	**60.4**	**70.8**	*53.9*	*47.1*	*57.8*	*67.0*	*52.1*	**230.0**	*233.6*	*224.0*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	**37.2**	**42.2**	**54.7**	**42.7**	**43.9**	**43.2**	**53.4**	*37.9*	*33.9*	*33.3*	*44.6*	*32.0*	**176.8**	*178.4*	*143.7*
Coal	**77.3**	**61.2**	**76.1**	**61.3**	**51.0**	**41.1**	**68.5**	*60.9*	*57.8*	*56.8*	*76.5*	*72.3*	**275.9**	*221.7*	*263.4*
Nuclear	**25.3**	**23.2**	**27.1**	**26.7**	**26.6**	**22.9**	**24.4**	*21.9*	*24.8*	*23.3*	*24.9*	*24.3*	**102.3**	*95.8*	*97.3*
Conventional hydropower	**2.9**	**3.1**	**2.5**	**2.4**	**3.1**	**3.2**	**2.9**	*1.8*	*2.4*	*2.6*	*2.2*	*1.7*	**10.9**	*10.8*	*8.9*
Nonhydro renewables (d)	**16.4**	**15.9**	**12.5**	**18.7**	**20.3**	**20.1**	**16.3**	*23.4*	*24.7*	*24.7*	*19.4*	*25.5*	**63.5**	*80.1*	*94.4*
Other energy sources (e)	**2.0**	**1.5**	**1.7**	**1.0**	**1.5**	**1.3**	**1.4**	*0.4*	*1.4*	*1.1*	*1.3*	*0.3*	**6.2**	*4.6*	*4.1*
Total generation	**161.0**	**147.0**	**174.7**	**152.8**	**146.4**	**131.7**	**166.8**	*146.3*	*145.0*	*141.8*	*168.9*	*156.1*	**635.5**	*591.2*	*611.8*
Net energy for load (f)	**160.8**	**151.8**	**178.7**	**154.3**	**152.8**	**140.4**	**174.7**	*147.9*	*150.9*	*151.3*	*175.8*	*154.4*	**645.6**	*615.8*	*632.4*
Central (Southwest Power Pool)															
Natural Gas	**14.4**	**16.0**	**24.3**	**14.7**	**17.5**	**16.3**	**24.2**	*15.0*	*11.4*	*11.0*	*20.7*	*13.8*	**69.4**	*72.9*	*57.0*
Coal	**24.7**	**17.2**	**24.9**	**17.2**	**17.0**	**15.7**	**26.7**	*11.0*	*16.4*	*18.1*	*25.8*	*10.8*	**83.9**	*70.4*	*71.1*
Nuclear	**4.4**	**4.4**	**4.1**	**3.4**	**4.4**	**4.4**	**4.2**	*3.8*	*3.9*	*3.3*	*4.4*	*4.4*	**16.2**	*16.8*	*16.0*
Conventional hydropower	**5.8**	**6.7**	**4.2**	**3.8**	**5.9**	**6.0**	**5.2**	*3.1*	*4.3*	*4.5*	*3.6*	*3.0*	**20.5**	*20.1*	*15.3*
Nonhydro renewables (d)	**18.3**	**18.8**	**18.2**	**22.0**	**20.3**	**21.4**	**16.6**	*25.2*	*26.0*	*26.9*	*21.0*	*29.3*	**77.2**	*83.4*	*103.2*
Other energy sources (e)	**0.4**	**0.4**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**1.3**	*0.5*	*0.5*
Total generation	**68.0**	**63.6**	**75.8**	**61.2**	**65.1**	**63.8**	**77.0**	*58.3*	*62.2*	*63.9*	*75.6*	*61.5*	**268.6**	*264.2*	*263.1*
Net energy for load (f)	**64.6**	**60.3**	**76.2**	**61.3**	**61.6**	**60.0**	**74.5**	*59.1*	*58.1*	*60.3*	*73.9*	*60.6*	**262.4**	*255.2*	*252.9*
Texas (ERCOT)															
Natural Gas	**35.0**	**43.4**	**63.8**	**39.7**	**37.2**	**42.1**	**59.3**	*34.2*	*21.5*	*27.1*	*40.6*	*26.1*	**181.7**	*172.8*	*115.3*
Coal	**17.6**	**17.8**	**20.9**	**16.6**	**13.1**	**15.8**	**20.3**	*16.3*	*18.4*	*23.2*	*28.2*	*20.8*	**72.8**	*65.6*	*90.6*
Nuclear	**10.4**	**9.8**	**11.0**	**10.2**	**10.4**	**9.7**	**11.0**	*10.2*	*10.7*	*9.9*	*10.3*	*9.6*	**41.3**	*41.3*	*40.5*
Conventional hydropower	**0.3**	**0.3**	**0.2**	**0.1**	**0.3**	**0.3**	**0.3**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**0.9**	*1.0*	*0.7*
Nonhydro renewables (d)	**18.9**	**21.0**	**18.9**	**20.1**	**22.5**	**24.8**	**20.8**	*24.4*	*27.5*	*31.3*	*27.7*	*29.2*	**78.9**	*92.5*	*115.7*
Other energy sources (e)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.6**	*1.5*	*1.5*
Total generation	**82.5**	**92.6**	**115.2**	**87.1**	**84.1**	**93.0**	**112.1**	*85.6*	*78.8*	*91.9*	*107.4*	*86.1*	**377.2**	*374.8*	*364.2*
Net energy for load (f)	**82.5**	**92.6**	**115.2**	**87.1**	**84.1**	**93.0**	**112.1**	*85.6*	*78.8*	*91.9*	*107.4*	*86.1*	**377.2**	*374.8*	*364.2*
Northwest															
Natural Gas	**21.9**	**16.8**	**30.2**	**23.9**	**23.7**	**17.1**	**27.5**	*23.3*	*12.3*	*16.1*	*24.7*	*16.6*	**92.9**	*91.6*	*69.6*
Coal	**32.3**	**20.1**	**31.9**	**30.6**	**22.2**	**16.1**	**24.5**	*27.0*	*29.6*	*23.1*	*28.8*	*29.5*	**114.9**	*89.9*	*111.1*
Nuclear	**2.5**	**1.3**	**2.5**	**2.6**	**2.4**	**2.0**	**2.4**	*2.5*	*2.4*	*1.2*	*2.4*	*2.4*	**8.9**	*9.4*	*8.4*
Conventional hydropower	**30.5**	**37.1**	**27.1**	**26.2**	**35.0**	**38.7**	**32.6**	*28.6*	*36.5*	*34.7*	*30.2*	*31.0*	**120.8**	*134.9*	*132.4*
Nonhydro renewables (d)	**9.7**	**13.1**	**13.1**	**10.1**	**13.7**	**14.4**	**12.7**	*12.1*	*17.3*	*17.3*	*15.0*	*13.7*	**46.1**	*52.8*	*63.3*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.1**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Total generation	**97.1**	**88.6**	**104.9**	**93.5**	**97.2**	**88.5**	**99.9**	*93.6*	*98.3*	*92.6*	*101.3*	*93.3*	**384.1**	*379.2*	*385.5*
Net energy for load (f)	**95.6**	**84.5**	**95.5**	**87.8**	**88.2**	**78.9**	**88.5**	*85.2*	*86.0*	*81.1*	*89.9*	*85.6*	**363.4**	*340.8*	*342.7*
Southwest															
Natural Gas	**10.4**	**12.7**	**18.9**	**14.1**	**11.8**	**14.7**	**20.4**	*13.4*	*6.8*	*12.2*	*17.5*	*11.2*	**56.1**	*60.2*	*47.7*
Coal	**10.2**	**8.5**	**12.4**	**8.0**	**5.3**	**5.3**	**8.8**	*6.6*	*5.3*	*5.9*	*9.8*	*6.3*	**39.1**	*26.0*	*27.3*
Nuclear	**8.6**	**7.6**	**8.6**	**7.2**	**8.3**	**7.6**	**8.7**	*7.1*	*8.4*	*7.6*	*8.6*	*7.7*	**31.9**	*31.7*	*32.3*
Conventional hydropower	**3.0**	**4.3**	**4.1**	**2.6**	**2.7**	**4.0**	**3.7**	*2.8*	*2.4*	*3.7*	*3.5*	*2.6*	**14.0**	*13.1*	*12.2*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.7**	**2.5**	**2.5**	**3.1**	**2.5**	*2.9*	*3.1*	*3.9*	*3.2*	*3.8*	**10.1**	*11.0*	*13.9*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**34.4**	**35.9**	**46.7**	**34.4**	**30.5**	**34.8**	**44.2**	*32.8*	*26.1*	*33.4*	*42.6*	*31.6*	**151.4**	*142.3*	*133.7*
Net energy for load (f)	**18.4**	**23.5**	**35.2**	**22.3**	**21.9**	**26.5**	**35.5**	*23.6*	*22.0*	*27.1*	*34.3*	*23.3*	**99.4**	*107.5*	*106.7*
California															
Natural Gas	**18.0**	**10.2**	**23.1**	**22.8**	**16.7**	**12.6**	**27.0**	*22.6*	*14.9*	*12.0*	*24.2*	*20.5*	**74.1**	*78.9*	*71.5*
Coal	**2.2**	**1.2**	**1.9**	**2.2**	**1.4**	**1.2**	**2.1**	*2.3*	*2.5*	*2.2*	*2.2*	*2.2*	**7.5**	*7.0*	*9.1*
Nuclear	**3.8**	**4.9**	**4.7**	**2.8**	**4.8**	**4.9**	**4.5**	*2.8*	*4.4*	*4.0*	*4.8*	*4.8*	**16.2**	*17.0*	*18.0*
Conventional hydropower	**6.8**	**11.7**	**9.1**	**4.8**	**3.1**	**5.6**	**5.4**	*4.8*	*3.3*	*5.7*	*5.2*	*4.7*	**32.4**	*18.9*	*18.8*
Nonhydro renewables (d)	**12.6**	**18.7**	**19.2**	**11.3**	**14.3**	**18.9**	**18.0**	*11.9*	*15.4*	*20.2*	*19.3*	*12.7*	**61.7**	*63.1*	*67.7*
Other energy sources (e)	**-0.2**	**0.2**	**0.2**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*-0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.2*
Total generation	**43.2**	**46.9**	**58.2**	**43.9**	**40.3**	**43.2**	**57.1**	*44.5*	*40.3*	*44.2*	*55.8*	*45.1*	**192.2**	*185.1*	*185.3*
Net energy for load (f)	**60.6**	**63.5**	**79.1**	**61.7**	**57.9**	**61.0**	**77.2**	*62.2*	*56.7*	*61.9*	*75.4*	*61.0*	**265.0**	*258.2*	*255.0*

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	**0.035**	**0.034**	**0.036**	**0.028**	**0.036**	**0.038**	**0.038**	*0.030*	*0.036*	*0.039*	*0.038*	*0.029*	**0.134**	*0.141*	*0.142*
Hydroelectric Power (a)	**0.656**	**0.779**	**0.585**	**0.532**	**0.667**	**0.724**	**0.635**	*0.554*	*0.675*	*0.691*	*0.592*	*0.562*	**2.552**	*2.580*	*2.520*
Solar (b)	**0.120**	**0.197**	**0.206**	**0.126**	**0.152**	**0.246**	**0.248**	*0.164*	*0.204*	*0.324*	*0.329*	*0.215*	**0.649**	*0.810*	*1.072*
Waste Biomass (c)	**0.062**	**0.061**	**0.062**	**0.062**	**0.062**	**0.058**	**0.059**	*0.059*	*0.066*	*0.065*	*0.062*	*0.061*	**0.248**	*0.238*	*0.254*
Wood Biomass	**0.052**	**0.046**	**0.055**	**0.048**	**0.049**	**0.043**	**0.048**	*0.048*	*0.063*	*0.053*	*0.058*	*0.054*	**0.201**	*0.187*	*0.228*
Wind	**0.659**	**0.700**	**0.604**	**0.719**	**0.786**	**0.794**	**0.620**	*0.844*	*0.943*	*0.945*	*0.735*	*0.946*	**2.682**	*3.045*	*3.569*
Subtotal	**1.584**	**1.817**	**1.548**	**1.515**	**1.752**	**1.904**	**1.647**	*1.698*	*1.987*	*2.117*	*1.814*	*1.867*	**6.465**	*7.001*	*7.784*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	**0.179**	*0.183*	*0.184*	*0.184*	*0.192*	*0.193*	**0.800**	*0.694*	*0.753*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.002**	**0.002**	**0.003**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.006**	**0.008**	**0.009**	**0.006**	**0.007**	**0.010**	**0.010**	*0.007*	*0.007*	*0.011*	*0.011*	*0.008*	**0.028**	*0.033*	*0.037*
Waste Biomass (c)	**0.041**	**0.038**	**0.037**	**0.041**	**0.041**	**0.039**	**0.036**	*0.040*	*0.039*	*0.038*	*0.037*	*0.040*	**0.156**	*0.156*	*0.155*
Wood Biomass	**0.357**	**0.345**	**0.356**	**0.356**	**0.350**	**0.341**	**0.337**	*0.350*	*0.339*	*0.336*	*0.348*	*0.351*	**1.413**	*1.378*	*1.373*
Subtotal	**0.599**	**0.594**	**0.600**	**0.608**	**0.596**	**0.522**	**0.560**	*0.580*	*0.570*	*0.566*	*0.585*	*0.591*	**2.401**	*2.258*	*2.312*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.021**	**0.031**	**0.032**	**0.021**	**0.025**	**0.037**	**0.037**	*0.026*	*0.029*	*0.042*	*0.042*	*0.030*	**0.106**	*0.125*	*0.143*
Waste Biomass (c)	**0.010**	**0.009**	**0.010**	**0.010**	**0.010**	**0.008**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.039**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.084**	*0.083*	*0.082*
Subtotal	**0.065**	**0.074**	**0.075**	**0.065**	**0.068**	**0.077**	**0.079**	*0.068*	*0.071*	*0.083*	*0.085*	*0.072*	**0.280**	*0.292*	*0.311*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.049**	**0.075**	**0.077**	**0.051**	**0.058**	**0.087**	**0.087**	*0.060*	*0.065*	*0.100*	*0.101*	*0.069*	**0.252**	*0.292*	*0.336*
Wood Biomass	**0.130**	**0.132**	**0.133**	**0.133**	**0.124**	**0.124**	**0.128**	*0.133*	*0.124*	*0.124*	*0.128*	*0.133*	**0.529**	*0.509*	*0.509*
Subtotal	**0.189**	**0.217**	**0.220**	**0.195**	**0.191**	**0.220**	**0.225**	*0.203*	*0.199*	*0.234*	*0.239*	*0.212*	**0.821**	*0.840*	*0.884*
Transportation Sector															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	**0.073**	*0.071*	*0.071*	*0.072*	*0.072*	*0.078*	**0.265**	*0.269*	*0.292*
Ethanol (f)	**0.273**	**0.295**	**0.291**	**0.297**	**0.257**	**0.220**	**0.267**	*0.262*	*0.255*	*0.269*	*0.280*	*0.275*	**1.155**	*1.006*	*1.079*
Subtotal	**0.331**	**0.365**	**0.362**	**0.362**	**0.318**	**0.284**	**0.340**	*0.333*	*0.326*	*0.342*	*0.351*	*0.353*	**1.421**	*1.275*	*1.372*
All Sectors Total															
Biomass-based Diesel (f)	**0.058**	**0.071**	**0.071**	**0.066**	**0.061**	**0.064**	**0.073**	*0.071*	*0.071*	*0.072*	*0.072*	*0.078*	**0.265**	*0.269*	*0.292*
Biofuel Losses and Co-products (d)	**0.194**	**0.203**	**0.199**	**0.203**	**0.197**	**0.135**	**0.179**	*0.183*	*0.184*	*0.184*	*0.192*	*0.193*	**0.800**	*0.694*	*0.753*
Ethanol (f)	**0.284**	**0.306**	**0.302**	**0.308**	**0.267**	**0.228**	**0.278**	*0.272*	*0.265*	*0.280*	*0.290*	*0.286*	**1.200**	*1.045*	*1.121*
Geothermal	**0.052**	**0.051**	**0.053**	**0.045**	**0.052**	**0.054**	**0.054**	*0.047*	*0.053*	*0.056*	*0.055*	*0.046*	**0.201**	*0.207*	*0.209*
Hydroelectric Power (a)	**0.659**	**0.782**	**0.587**	**0.534**	**0.670**	**0.727**	**0.637**	*0.556*	*0.678*	*0.694*	*0.595*	*0.564*	**2.563**	*2.590*	*2.531*
Solar (b)(e)	**0.193**	**0.307**	**0.317**	**0.201**	**0.238**	**0.373**	**0.378**	*0.256*	*0.306*	*0.477*	*0.483*	*0.322*	**1.018**	*1.245*	*1.588*
Waste Biomass (c)	**0.113**	**0.108**	**0.108**	**0.113**	**0.113**	**0.105**	**0.104**	*0.108*	*0.115*	*0.111*	*0.108*	*0.110*	**0.442**	*0.430*	*0.444*
Wood Biomass	**0.560**	**0.543**	**0.565**	**0.558**	**0.544**	**0.529**	**0.533**	*0.551*	*0.546*	*0.533*	*0.555*	*0.558*	**2.227**	*2.157*	*2.192*
Wind	**0.659**	**0.700**	**0.604**	**0.719**	**0.786**	**0.794**	**0.620**	*0.844*	*0.943*	*0.945*	*0.735*	*0.946*	**2.682**	*3.045*	*3.569*
Total Consumption	**2.769**	**3.068**	**2.806**	**2.745**	**2.926**	**3.007**	**2.851**	*2.882*	*3.152*	*3.341*	*3.075*	*3.095*	**11.388**	*11.666*	*12.663*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,805**	**6,758**	**6,659**	**6,669**	**6,670**	**6,588**	**6,589**	*6,625*	*6,627*	*6,629*	*6,554*	*6,640*	**6,669**	*6,625*	*6,640*
Waste	**4,002**	**3,970**	**3,960**	**3,942**	**3,943**	**3,861**	**3,863**	*3,899*	*3,901*	*3,903*	*3,828*	*3,913*	**3,942**	*3,899*	*3,913*
Wood	**2,803**	**2,788**	**2,699**	**2,727**	**2,727**	**2,727**	**2,727**	*2,727*	*2,727*	*2,727*	*2,727*	*2,727*	**2,727**	*2,727*	*2,727*
Conventional Hydroelectric	**79,611**	**79,590**	**79,485**	**79,470**	**79,483**	**79,470**	**79,640**	*79,596*	*79,733*	*79,682*	*79,758*	*79,800*	**79,470**	*79,596*	*79,800*
Geothermal	**2,486**	**2,486**	**2,486**	**2,506**	**2,506**	**2,506**	**2,506**	*2,506*	*2,506*	*2,506*	*2,506*	*2,548*	**2,506**	*2,506*	*2,548*
Large-Scale Solar (b)	**32,763**	**33,213**	**33,952**	**37,045**	**38,876**	**41,100**	**42,694**	*49,796*	*51,036*	*53,767*	*56,433*	*63,760*	**37,045**	*49,796*	*63,760*
Wind	**96,514**	**97,989**	**99,570**	**103,651**	**105,999**	**107,453**	**109,049**	*126,685*	*127,934*	*129,073*	*129,261*	*136,187*	**103,651**	*126,685*	*136,187*
Other Sectors (c)															
Biomass	**6,552**	**6,501**	**6,501**	**6,434**	**6,443**	**6,443**	**6,443**	*6,440*	*6,440*	*6,440*	*6,440*	*6,440*	**6,434**	*6,440*	*6,440*
Waste	**785**	**786**	**786**	**786**	**786**	**786**	**786**	*804*	*804*	*804*	*804*	*804*	**786**	*804*	*804*
Wood	**5,767**	**5,715**	**5,715**	**5,648**	**5,656**	**5,656**	**5,656**	*5,636*	*5,636*	*5,636*	*5,636*	*5,636*	**5,648**	*5,636*	*5,636*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	**289**	*289*	*289*	*292*	*290*	*290*	**289**	*289*	*290*
Large-Scale Solar (b)	**414**	**421**	**432**	**439**	**441**	**453**	**458**	*461*	*461*	*461*	*461*	*476*	**439**	*461*	*476*
Small-Scale Solar (d)	**20,254**	**21,073**	**22,031**	**23,214**	**24,434**	**25,370**	**26,506**	*27,379*	*28,292*	*29,284*	*30,391*	*31,498*	**23,214**	*27,379*	*31,498*
Residential Sector	**12,281**	**12,847**	**13,534**	**14,249**	**15,072**	**15,700**	**16,428**	*17,027*	*17,595*	*18,200*	*18,863*	*19,550*	**14,249**	*17,027*	*19,550*
Commercial Sector	**6,362**	**6,538**	**6,761**	**7,168**	**7,486**	**7,730**	**8,079**	*8,300*	*8,586*	*8,912*	*9,290*	*9,646*	**7,168**	*8,300*	*9,646*
Industrial Sector	**1,611**	**1,688**	**1,736**	**1,797**	**1,875**	**1,939**	**1,998**	*2,052*	*2,110*	*2,172*	*2,238*	*2,302*	**1,797**	*2,052*	*2,302*
Wind	**118**	**118**	**118**	**118**	**118**	**344**	**353**	*353*	*353*	*353*	*353*	*353*	**118**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.4**	**6.9**	**7.2**	**6.7**	**7.0**	*6.9*	*8.4*	*7.7*	*7.8*	*7.4*	**28.1**	*27.7*	*31.3*
Waste	**4.0**	**4.0**	**4.1**	**4.0**	**4.1**	**4.0**	**4.0**	*3.9*	*4.5*	*4.4*	*4.2*	*4.1*	**16.1**	*16.1*	*17.1*
Wood	**3.0**	**2.7**	**3.4**	**2.9**	**3.0**	**2.7**	**3.0**	*3.0*	*3.9*	*3.3*	*3.6*	*3.3*	**12.0**	*11.7*	*14.2*
Conventional Hydroelectric	**73.6**	**87.5**	**65.8**	**59.7**	**74.9**	**81.3**	**70.9**	*60.6*	*74.1*	*75.4*	*63.0*	*61.8*	**286.7**	*287.7*	*274.2*
Geothermal	**4.0**	**3.8**	**4.0**	**3.2**	**3.9**	**4.2**	**4.2**	*3.3*	*3.9*	*4.3*	*4.2*	*3.2*	**15.0**	*15.6*	*15.6*
Large-Scale Solar (b)	**13.2**	**21.7**	**22.6**	**13.8**	**16.7**	**27.1**	**27.3**	*18.0*	*22.4*	*35.6*	*36.1*	*23.7*	**71.3**	*89.0*	*117.8*
Wind	**72.4**	**76.9**	**66.4**	**79.0**	**86.4**	**87.2**	**68.1**	*92.7*	*103.6*	*103.8*	*80.7*	*103.9*	**294.6**	*334.4*	*392.0*
Other Sectors (c)															
Biomass	**7.5**	**7.0**	**7.6**	**7.4**	**7.4**	**7.1**	**7.0**	*7.4*	*7.3*	*7.1*	*7.0*	*7.4*	**29.4**	*28.8*	*28.7*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.9**	*2.8*	*2.8*
Wood	**6.7**	**6.3**	**6.9**	**6.6**	**6.7**	**6.4**	**6.3**	*6.6*	*6.6*	*6.4*	*6.3*	*6.6*	**26.5**	*26.0*	*26.0*
Conventional Hydroelectric	**0.4**	**0.4**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.8*
Small-Scale Solar (d)	**6.9**	**10.4**	**10.6**	**7.1**	**8.4**	**12.4**	**12.4**	*8.5*	*9.6*	*14.4*	*14.5*	*10.0*	**35.0**	*41.7*	*48.4*
Residential Sector	**4.0**	**6.2**	**6.4**	**4.3**	**5.0**	**7.5**	**7.5**	*5.1*	*5.7*	*8.8*	*8.8*	*6.1*	**20.9**	*25.1*	*29.4*
Commercial Sector	**2.2**	**3.3**	**3.3**	**2.2**	**2.7**	**3.8**	**3.9**	*2.7*	*3.1*	*4.4*	*4.5*	*3.1*	**11.0**	*13.0*	*15.1*
Industrial Sector	**0.6**	**0.9**	**0.9**	**0.6**	**0.7**	**1.0**	**1.1**	*0.7*	*0.8*	*1.2*	*1.2*	*0.8*	**3.0**	*3.5*	*4.0*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.7*	*0.9*

-- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,950**	**19,021**	**19,142**	**19,254**	**19,011**	**17,303**	**18,584**	*18,749*	*18,872*	*18,923*	*19,014*	*19,109*	**19,092**	*18,412*	*18,979*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,093**	**13,213**	**13,301**	**13,354**	**13,118**	**11,860**	**12,917**	*13,022*	*13,072*	*13,134*	*13,199*	*13,274*	**13,240**	*12,729*	*13,170*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,362**	**3,359**	**3,379**	**3,387**	**3,375**	**3,096**	**3,297**	*3,353*	*3,364*	*3,350*	*3,345*	*3,350*	**3,372**	*3,280*	*3,352*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**99**	**53**	**41**	**3**	**-52**	**-298**	**0**	*38*	*68*	*80*	*76*	*66*	**49**	*-78*	*72*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,260**	**3,300**	**3,318**	**3,337**	**3,348**	**3,369**	**3,330**	*3,305*	*3,315*	*3,320*	*3,326*	*3,327*	**3,304**	*3,338*	*3,322*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,560**	**2,531**	**2,537**	**2,558**	**2,495**	**1,927**	**2,167**	*2,232*	*2,321*	*2,331*	*2,393*	*2,460*	**2,547**	*2,205*	*2,376*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,468**	**3,483**	**3,487**	**3,419**	**3,283**	**2,702**	**3,177**	*3,250*	*3,312*	*3,338*	*3,367*	*3,407*	**3,464**	*3,103*	*3,356*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,854**	**14,818**	**14,895**	**14,965**	**15,061**	**16,576**	**15,852**	*15,283*	*15,079*	*15,054*	*15,071*	*15,074*	**14,883**	*15,693*	*15,070*
Non-Farm Employment															
(millions)	**150.2**	**150.6**	**151.2**	**151.8**	**151.9**	**133.7**	**140.8**	*143.2*	*145.7*	*147.0*	*148.1*	*149.0*	**150.9**	*142.4*	*147.5*
Civilian Unemployment Rate															
(percent)	**3.9**	**3.6**	**3.6**	**3.5**	**3.8**	**13.0**	**8.8**	*6.7*	*6.0*	*5.8*	*5.6*	*5.4*	**3.7**	*8.1*	*5.7*
Housing Starts															
(millions - SAAR)	**1.20**	**1.26**	**1.29**	**1.43**	**1.48**	**1.08**	**1.44**	*1.48*	*1.39*	*1.38*	*1.35*	*1.34*	**1.30**	*1.37*	*1.37*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**109.8**	**109.2**	**109.5**	**109.6**	**107.7**	**93.6**	**102.1**	*103.1*	*103.4*	*103.6*	*103.8*	*104.3*	**109.5**	*101.6*	*103.8*
Manufacturing	**106.5**	**105.7**	**105.9**	**105.8**	**104.4**	**89.2**	**99.8**	*100.9*	*101.2*	*100.8*	*100.5*	*100.7*	**106.0**	*98.6*	*100.8*
Food	**115.1**	**115.3**	**114.6**	**116.1**	**116.5**	**107.9**	**113.3**	*114.7*	*115.9*	*117.1*	*118.2*	*118.9*	**115.3**	*113.1*	*117.5*
Paper	**94.2**	**91.8**	**92.6**	**93.6**	**94.7**	**87.2**	**88.0**	*89.1*	*88.0*	*88.5*	*88.9*	*89.5*	**93.0**	*89.7*	*88.7*
Petroleum and Coal Products	**106.3**	**104.9**	**106.7**	**104.9**	**105.0**	**82.7**	**89.3**	*90.8*	*92.7*	*93.9*	*94.7*	*95.4*	**105.7**	*91.9*	*94.2*
Chemicals	**101.4**	**99.9**	**100.6**	**100.3**	**99.8**	**93.7**	**96.5**	*99.0*	*101.1*	*103.5*	*105.4*	*106.8*	**100.5**	*97.2*	*104.2*
Nonmetallic Mineral Products	**119.7**	**119.0**	**119.7**	**119.3**	**122.2**	**106.3**	**112.8**	*112.9*	*111.5*	*111.2*	*111.1*	*111.3*	**119.4**	*113.5*	*111.3*
Primary Metals	**97.9**	**96.7**	**96.4**	**96.6**	**94.4**	**69.7**	**79.3**	*82.2*	*80.3*	*80.6*	*80.7*	*81.2*	**96.9**	*81.4*	*80.7*
Coal-weighted Manufacturing (a)	**106.9**	**105.6**	**106.0**	**106.4**	**106.5**	**94.1**	**100.7**	*102.0*	*101.7*	*102.0*	*102.3*	*102.8*	**106.2**	*100.8*	*102.2*
Distillate-weighted Manufacturing (a)	**98.5**	**97.9**	**98.3**	**98.6**	**98.8**	**85.5**	**92.2**	*93.5*	*93.8*	*94.2*	*94.4*	*94.7*	**98.3**	*92.5*	*94.3*
Electricity-weighted Manufacturing (a)	**106.5**	**105.3**	**105.6**	**105.9**	**105.1**	**89.3**	**98.3**	*100.0*	*100.0*	*100.8*	*101.3*	*102.1*	**105.8**	*98.2*	*101.0*
Natural Gas-weighted Manufacturing (a)	**108.7**	**107.7**	**108.0**	**108.2**	**107.8**	**94.0**	**100.5**	*102.2*	*102.2*	*103.3*	*104.1*	*104.9*	**108.1**	*101.1*	*103.6*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.53**	**2.55**	**2.56**	**2.58**	**2.59**	**2.56**	**2.60**	*2.61*	*2.62*	*2.64*	*2.66*	*2.67*	**2.56**	*2.59*	*2.65*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.01**	**2.00**	**1.99**	**2.00**	**1.97**	**1.87**	**1.94**	*1.99*	*2.02*	*2.05*	*2.05*	*2.06*	**2.00**	*1.94*	*2.05*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.81**	**2.08**	**1.95**	**1.93**	**1.74**	**1.09**	**1.45**	*1.49*	*1.51*	*1.61*	*1.63*	*1.59*	**1.94**	*1.44*	*1.58*
GDP Implicit Price Deflator															
(index, 2012=100)	**111.5**	**112.2**	**112.6**	**113.0**	**113.4**	**112.9**	**113.9**	*114.3*	*114.8*	*115.4*	*115.9*	*116.5*	**112.3**	*113.6*	*115.7*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,293**	**9,323**	**9,281**	**8,897**	**7,756**	**6,872**	**8,282**	*8,021*	*7,786*	*8,703*	*8,865*	*8,704*	**8,951**	*7,735*	*8,518*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**643**	**685**	**712**	**688**	**628**	**362**	**487**	*546*	*566*	*552*	*569*	*639*	**682**	*506*	*581*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**380**	**426**	**427**	**406**	**328**	**152**	**211**	*273*	*306*	*308*	*349*	*374*	**410**	*241*	*335*
Airline Ticket Price Index															
(index, 1982-1984=100)	**255.7**	**278.3**	**263.8**	**263.8**	**250.8**	**203.7**	**200.6**	*204.4*	*188.8*	*192.0*	*190.8*	*198.9*	**265.4**	*214.9*	*192.7*
Raw Steel Production															
(million short tons per day)	**0.273**	**0.271**	**0.264**	**0.265**	**0.268**	**0.174**	**0.196**	*0.219*	*0.270*	*0.240*	*0.241*	*0.282*	**0.268**	*0.214*	*0.258*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**578**	**592**	**599**	**597**	**552**	**442**	**518**	*534*	*534*	*552*	*567*	*575*	**2,365**	*2,046*	*2,229*
Natural Gas	**511**	**351**	**382**	**450**	**493**	**351**	**385**	*434*	*474*	*332*	*354*	*419*	**1,694**	*1,663*	*1,579*
Coal	**289**	**238**	**306**	**242**	**202**	**177**	**273**	*224*	*252*	*247*	*304*	*259*	**1,076**	*876*	*1,062*
Total Energy (c)	**1,380**	**1,184**	**1,290**	**1,292**	**1,250**	**973**	**1,179**	*1,195*	*1,263*	*1,134*	*1,228*	*1,256*	**5,146**	*4,597*	*4,881*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion $2009)															
New England	**999**	**999**	**1,003**	**1,005**	**993**	**901**	**972**	*980*	*986*	*989*	*993*	*997*	**1,001**	*962*	*991*
Middle Atlantic	**2,786**	**2,799**	**2,804**	**2,813**	**2,774**	**2,486**	**2,679**	*2,704*	*2,725*	*2,737*	*2,755*	*2,774*	**2,801**	*2,661*	*2,748*
E. N. Central	**2,524**	**2,522**	**2,538**	**2,545**	**2,502**	**2,266**	**2,465**	*2,482*	*2,491*	*2,497*	*2,505*	*2,515*	**2,532**	*2,429*	*2,502*
W. N. Central	**1,187**	**1,189**	**1,196**	**1,201**	**1,188**	**1,084**	**1,160**	*1,169*	*1,175*	*1,176*	*1,182*	*1,185*	**1,193**	*1,150*	*1,180*
S. Atlantic	**3,372**	**3,382**	**3,405**	**3,426**	**3,388**	**3,114**	**3,332**	*3,356*	*3,371*	*3,377*	*3,389*	*3,402*	**3,396**	*3,297*	*3,385*
E. S. Central	**826**	**829**	**834**	**836**	**828**	**742**	**804**	*811*	*815*	*817*	*821*	*824*	**831**	*796*	*819*
W. S. Central	**2,330**	**2,331**	**2,355**	**2,358**	**2,317**	**2,125**	**2,264**	*2,282*	*2,292*	*2,298*	*2,309*	*2,321*	**2,344**	*2,247*	*2,305*
Mountain	**1,259**	**1,267**	**1,283**	**1,294**	**1,283**	**1,177**	**1,257**	*1,269*	*1,277*	*1,280*	*1,285*	*1,289*	**1,276**	*1,247*	*1,283*
Pacific	**3,698**	**3,735**	**3,755**	**3,808**	**3,769**	**3,436**	**3,681**	*3,728*	*3,772*	*3,785*	*3,809*	*3,832*	**3,749**	*3,654*	*3,799*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**99.5**	**98.6**	**98.8**	**98.8**	**97.6**	**83.4**	**92.4**	*93.9*	*94.2*	*94.2*	*94.0*	*94.2*	**98.9**	*91.8*	*94.2*
Middle Atlantic	**99.1**	**98.2**	**98.1**	**98.1**	**97.1**	**80.3**	**90.9**	*91.9*	*91.8*	*91.5*	*91.7*	*92.1*	**98.4**	*90.1*	*91.8*
E. N. Central	**108.4**	**107.1**	**107.0**	**106.7**	**105.1**	**86.0**	**99.3**	*100.6*	*100.8*	*100.6*	*99.9*	*100.6*	**107.3**	*97.7*	*100.5*
W. N. Central	**106.0**	**105.2**	**105.3**	**105.2**	**103.7**	**90.2**	**100.3**	*101.6*	*102.0*	*101.6*	*101.3*	*101.4*	**105.4**	*99.0*	*101.6*
S. Atlantic	**111.0**	**110.4**	**110.8**	**111.1**	**109.2**	**94.3**	**104.9**	*106.4*	*106.7*	*106.2*	*105.8*	*106.0*	**110.8**	*103.7*	*106.2*
E. S. Central	**110.8**	**109.8**	**110.2**	**110.0**	**109.0**	**90.1**	**104.1**	*105.7*	*106.4*	*106.0*	*105.5*	*105.6*	**110.2**	*102.2*	*105.9*
W. S. Central	**101.7**	**101.1**	**101.4**	**101.5**	**99.8**	**87.7**	**95.3**	*96.0*	*95.8*	*95.2*	*95.0*	*95.3*	**101.4**	*94.7*	*95.3*
Mountain	**116.5**	**115.8**	**116.6**	**116.2**	**114.7**	**102.7**	**113.8**	*114.8*	*115.0*	*114.4*	*113.9*	*114.0*	**116.3**	*111.5*	*114.3*
Pacific	**105.1**	**104.2**	**104.1**	**104.3**	**102.4**	**86.7**	**95.4**	*96.3*	*96.4*	*95.9*	*95.8*	*96.0*	**104.4**	*95.2*	*96.0*
Real Personal Income (Billion $2009)															
New England	**889**	**885**	**883**	**885**	**892**	**992**	**938**	*903*	*890*	*889*	*890*	*891*	**886**	*931*	*890*
Middle Atlantic	**2,280**	**2,284**	**2,286**	**2,294**	**2,308**	**2,507**	**2,395**	*2,319*	*2,288*	*2,288*	*2,292*	*2,294*	**2,286**	*2,382*	*2,291*
E. N. Central	**2,432**	**2,426**	**2,433**	**2,441**	**2,449**	**2,683**	**2,572**	*2,491*	*2,453*	*2,452*	*2,454*	*2,454*	**2,433**	*2,549*	*2,453*
W. N. Central	**1,145**	**1,139**	**1,150**	**1,152**	**1,160**	**1,252**	**1,212**	*1,171*	*1,156*	*1,152*	*1,152*	*1,151*	**1,146**	*1,199*	*1,153*
S. Atlantic	**3,212**	**3,213**	**3,220**	**3,237**	**3,269**	**3,477**	**3,407**	*3,305*	*3,279*	*3,273*	*3,276*	*3,276*	**3,220**	*3,364*	*3,276*
E. S. Central	**891**	**890**	**893**	**896**	**904**	**968**	**947**	*913*	*904*	*902*	*903*	*901*	**893**	*933*	*902*
W. S. Central	**2,006**	**2,005**	**2,014**	**2,022**	**2,027**	**2,194**	**2,124**	*2,046*	*2,023*	*2,014*	*2,017*	*2,017*	**2,012**	*2,098*	*2,018*
Mountain	**1,183**	**1,184**	**1,192**	**1,199**	**1,211**	**1,312**	**1,269**	*1,231*	*1,216*	*1,213*	*1,215*	*1,215*	**1,190**	*1,256*	*1,215*
Pacific	**2,788**	**2,798**	**2,801**	**2,830**	**2,852**	**3,065**	**2,935**	*2,870*	*2,853*	*2,854*	*2,861*	*2,863*	**2,804**	*2,931*	*2,858*
Households (Thousands)															
New England	**5,948**	**5,958**	**5,973**	**5,968**	**5,909**	**5,931**	**5,934**	*5,942*	*5,964*	*5,976*	*5,988*	*6,000*	**5,968**	*5,942*	*6,000*
Middle Atlantic	**16,285**	**16,326**	**16,369**	**16,352**	**16,190**	**16,254**	**16,276**	*16,314*	*16,383*	*16,418*	*16,450*	*16,481*	**16,352**	*16,314*	*16,481*
E. N. Central	**19,041**	**19,058**	**19,112**	**19,097**	**18,913**	**19,002**	**19,032**	*19,081*	*19,162*	*19,209*	*19,252*	*19,297*	**19,097**	*19,081*	*19,297*
W. N. Central	**8,689**	**8,713**	**8,745**	**8,744**	**8,665**	**8,706**	**8,722**	*8,745*	*8,795*	*8,824*	*8,851*	*8,879*	**8,744**	*8,745*	*8,879*
S. Atlantic	**25,670**	**25,735**	**25,851**	**25,876**	**25,668**	**25,804**	**25,864**	*25,949*	*26,109*	*26,221*	*26,334*	*26,455*	**25,876**	*25,949*	*26,455*
E. S. Central	**7,689**	**7,714**	**7,740**	**7,738**	**7,668**	**7,703**	**7,715**	*7,735*	*7,776*	*7,800*	*7,822*	*7,845*	**7,738**	*7,735*	*7,845*
W. S. Central	**14,856**	**14,913**	**14,981**	**14,996**	**14,876**	**14,957**	**15,003**	*15,070*	*15,157*	*15,231*	*15,301*	*15,373*	**14,996**	*15,070*	*15,373*
Mountain	**9,399**	**9,443**	**9,500**	**9,523**	**9,458**	**9,518**	**9,550**	*9,595*	*9,670*	*9,725*	*9,777*	*9,830*	**9,523**	*9,595*	*9,830*
Pacific	**18,920**	**18,954**	**19,015**	**19,010**	**18,834**	**18,919**	**18,968**	*19,043*	*19,156*	*19,223*	*19,282*	*19,341*	**19,010**	*19,043*	*19,341*
Total Non-farm Employment (Millions)															
New England	**7.5**	**7.5**	**7.5**	**7.5**	**7.5**	**6.4**	**6.8**	*7.0*	*7.1*	*7.2*	*7.2*	*7.3*	**7.5**	*6.9*	*7.2*
Middle Atlantic	**20.0**	**20.0**	**20.1**	**20.1**	**20.1**	**16.8**	**18.0**	*18.4*	*18.7*	*19.0*	*19.2*	*19.4*	**20.0**	*18.3*	*19.1*
E. N. Central	**22.3**	**22.3**	**22.3**	**22.3**	**22.3**	**19.3**	**20.6**	*21.0*	*21.4*	*21.6*	*21.7*	*21.9*	**22.3**	*20.8*	*21.6*
W. N. Central	**10.8**	**10.8**	**10.8**	**10.8**	**10.8**	**9.8**	**10.2**	*10.4*	*10.5*	*10.5*	*10.6*	*10.6*	**10.8**	*10.3*	*10.6*
S. Atlantic	**29.0**	**29.1**	**29.2**	**29.3**	**29.4**	**26.4**	**27.6**	*28.0*	*28.5*	*28.7*	*28.9*	*29.0*	**29.1**	*27.8*	*28.8*
E. S. Central	**8.3**	**8.3**	**8.3**	**8.3**	**8.3**	**7.5**	**7.9**	*8.0*	*8.1*	*8.2*	*8.2*	*8.2*	**8.3**	*8.0*	*8.2*
W. S. Central	**17.6**	**17.7**	**17.8**	**17.9**	**18.0**	**16.4**	**16.9**	*17.1*	*17.3*	*17.5*	*17.6*	*17.6*	**17.8**	*17.1*	*17.5*
Mountain	**11.0**	**11.0**	**11.1**	**11.2**	**11.2**	**10.2**	**10.6**	*10.8*	*11.0*	*11.1*	*11.1*	*11.2*	**11.1**	*10.7*	*11.1*
Pacific	**23.6**	**23.7**	**23.9**	**24.0**	**24.0**	**20.9**	**21.8**	*22.3*	*22.9*	*23.1*	*23.4*	*23.5*	**23.8**	*22.3*	*23.2*

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	**3,227**	**895**	**135**	**2,278**	**2,730**	**971**	**111**	*2,038*	*3,173*	*869*	*125*	*2,096*	**6,535**	*5,851*	*6,263*
Middle Atlantic	**2,988**	**633**	**68**	**2,064**	**2,471**	**838**	**85**	*1,835*	*2,942*	*698*	*73*	*1,920*	**5,752**	*5,229*	*5,632*
E. N. Central	**3,326**	**760**	**64**	**2,278**	**2,789**	**848**	**126**	*2,190*	*3,162*	*733*	*117*	*2,225*	**6,428**	*5,953*	*6,237*
W. N. Central	**3,644**	**772**	**107**	**2,547**	**3,038**	**799**	**168**	*2,460*	*3,258*	*704*	*158*	*2,448*	**7,070**	*6,465*	*6,568*
South Atlantic	**1,335**	**128**	**2**	**919**	**1,109**	**253**	**17**	*844*	*1,401*	*190*	*10*	*910*	**2,384**	*2,223*	*2,512*
E. S. Central	**1,713**	**194**	**1**	**1,273**	**1,482**	**336**	**19**	*1,198*	*1,797*	*236*	*17*	*1,257*	**3,180**	*3,036*	*3,308*
W. S. Central	**1,207**	**90**	**0**	**847**	**973**	**102**	**8**	*727*	*1,071*	*69*	*4*	*775*	**2,144**	*1,809*	*1,920*
Mountain	**2,428**	**786**	**127**	**1,965**	**2,217**	**673**	**126**	*1,791*	*2,191*	*671*	*147*	*1,825*	**5,306**	*4,807*	*4,834*
Pacific	**1,684**	**573**	**94**	**1,178**	**1,534**	**521**	**64**	*1,131*	*1,547*	*584*	*86*	*1,193*	**3,530**	*3,249*	*3,411*
U.S. Average	**2,209**	**480**	**56**	**1,557**	**1,875**	**541**	**70**	*1,443*	*2,109*	*483*	*70*	*1,494*	**4,302**	*3,929*	*4,157*
Heating Degree Days, Prior 10-year Average															
New England	**3,165**	**820**	**111**	**2,122**	**3,152**	**822**	**105**	*2,127*	*3,133*	*855*	*107*	*2,103*	**6,218**	*6,207*	*6,198*
Middle Atlantic	**2,956**	**650**	**76**	**1,941**	**2,949**	**644**	**69**	*1,944*	*2,913*	*677*	*72*	*1,911*	**5,623**	*5,606*	*5,573*
E. N. Central	**3,196**	**697**	**112**	**2,198**	**3,198**	**698**	**102**	*2,197*	*3,157*	*731*	*105*	*2,179*	**6,203**	*6,195*	*6,171*
W. N. Central	**3,255**	**702**	**140**	**2,380**	**3,287**	**702**	**131**	*2,379*	*3,247*	*728*	*133*	*2,382*	**6,477**	*6,500*	*6,490*
South Atlantic	**1,480**	**176**	**11**	**964**	**1,459**	**169**	**10**	*952*	*1,393*	*181*	*11*	*911*	**2,631**	*2,589*	*2,496*
E. S. Central	**1,861**	**222**	**17**	**1,292**	**1,850**	**214**	**15**	*1,277*	*1,772*	*232*	*16*	*1,246*	**3,392**	*3,356*	*3,265*
W. S. Central	**1,183**	**85**	**4**	**808**	**1,199**	**83**	**3**	*794*	*1,140*	*86*	*3*	*785*	**2,079**	*2,078*	*2,014*
Mountain	**2,164**	**714**	**139**	**1,855**	**2,192**	**718**	**135**	*1,844*	*2,182*	*701*	*134*	*1,845*	**4,873**	*4,890*	*4,862*
Pacific	**1,444**	**582**	**83**	**1,175**	**1,456**	**580**	**85**	*1,161*	*1,461*	*552*	*80*	*1,151*	**3,283**	*3,282*	*3,244*
U.S. Average	**2,150**	**475**	**68**	**1,518**	**2,149**	**472**	**64**	*1,509*	*2,108*	*482*	*64*	*1,486*	**4,212**	*4,194*	*4,140*
Cooling Degree Days															
New England	**0**	**67**	**469**	**0**	**0**	**103**	**544**	*0*	*0*	*85*	*419*	*2*	**536**	*647*	*506*
Middle Atlantic	**0**	**144**	**631**	**8**	**0**	**155**	**677**	*5*	*0*	*153*	*551*	*5*	**783**	*837*	*708*
E. N. Central	**0**	**175**	**651**	**7**	**2**	**217**	**607**	*3*	*0*	*217*	*546*	*7*	**833**	*829*	*771*
W. N. Central	**0**	**222**	**729**	**2**	**6**	**295**	**662**	*3*	*3*	*268*	*670*	*10*	**954**	*966*	*951*
South Atlantic	**152**	**755**	**1,297**	**307**	**195**	**617**	**1,233**	*315*	*124*	*659*	*1,188*	*249*	**2,511**	*2,361*	*2,220*
E. S. Central	**29**	**550**	**1,217**	**87**	**72**	**422**	**1,062**	*79*	*28*	*530*	*1,080*	*73*	**1,882**	*1,637*	*1,711*
W. S. Central	**72**	**821**	**1,696**	**167**	**174**	**839**	**1,499**	*215*	*101*	*918*	*1,530*	*212*	**2,757**	*2,727*	*2,761*
Mountain	**10**	**341**	**987**	**60**	**9**	**463**	**1,081**	*125*	*20*	*440*	*935*	*80*	**1,399**	*1,678*	*1,475*
Pacific	**22**	**166**	**595**	**68**	**24**	**199**	**735**	*130*	*27*	*168*	*586*	*59*	**852**	*1,089*	*841*
U.S. Average	**45**	**399**	**954**	**105**	**70**	**395**	**937**	*127*	*45*	*410*	*869*	*99*	**1,503**	*1,529*	*1,424*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**79**	**455**	**1**	**0**	**83**	**471**	*1*	*0*	*81*	*474*	*1*	**536**	*554*	*556*
Middle Atlantic	**0**	**165**	**589**	**6**	**0**	**170**	**609**	*6*	*0*	*163*	*609*	*6*	**760**	*785*	*778*
E. N. Central	**3**	**242**	**548**	**7**	**3**	**240**	**579**	*8*	*3*	*234*	*572*	*7*	**799**	*829*	*816*
W. N. Central	**7**	**298**	**669**	**11**	**7**	**296**	**697**	*11*	*7*	*294*	*686*	*10*	**985**	*1,011*	*998*
South Atlantic	**120**	**684**	**1,180**	**239**	**127**	**696**	**1,202**	*247*	*143*	*680*	*1,196*	*262*	**2,224**	*2,272*	*2,280*
E. S. Central	**36**	**555**	**1,049**	**67**	**36**	**557**	**1,082**	*72*	*42*	*532*	*1,065*	*74*	**1,706**	*1,747*	*1,713*
W. S. Central	**103**	**897**	**1,552**	**205**	**100**	**892**	**1,576**	*207*	*114*	*880*	*1,567*	*210*	**2,757**	*2,774*	*2,772*
Mountain	**25**	**438**	**932**	**81**	**24**	**432**	**939**	*81*	*24*	*444*	*954*	*87*	**1,476**	*1,476*	*1,509*
Pacific	**31**	**185**	**631**	**76**	**31**	**185**	**625**	*78*	*31*	*193*	*650*	*86*	**923**	*919*	*960*
U.S. Average	**46**	**417**	**873**	**97**	**47**	**420**	**892**	*100*	*52*	*415*	*894*	*105*	**1,433**	*1,459*	*1,466*

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the December 2020 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	October 2020	November 2020	October-November 2020 Average	October-November 2019 Average	2017–2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	91.7	93.4	92.5	101.6	99.8
Global Petroleum and Other Liquids Consumption (b)	94.8	95.6	95.2	101.4	100.3
Biofuels Production (c)	2.6	2.4	2.5	2.7	2.5
Biofuels Consumption (c)	2.3	2.3	2.3	2.4	2.3
Iran Liquid Fuels Production	2.6	2.7	2.7	3.0	4.1
Iran Liquid Fuels Consumption	1.7	1.7	1.7	1.8	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	86.4	88.4	87.4	96.0	93.2
Consumption (d)	90.8	91.6	91.2	97.2	96.2
Production minus Consumption	-4.5	-3.2	-3.8	-1.2	-2.9
World Inventory Net Withdrawals Including Iran	3.2	2.1	2.7	-0.2	0.5
Estimated OECD Inventory Level (e) (million barrels)	3,091	3,057	3,074	2,885	2,910
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	7.7	7.7	7.7	2.1	2.0

Note: The term “petroleum and other liquids” encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.
(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
(b) Consumption of petroleum by the OECD countries is synonymous with “products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	October 2020	November 2020	October-November 2020 Average	October-November 2019 Average	2017–2019 Average
Brent Front Month Futures Price ($ per barrel)	41.52	43.98	42.69	61.06	63.53
WTI Front Month Futures Price ($ per barrel)	39.55	41.35	40.41	55.43	57.60
Dubai Front Month Futures Price ($ per barrel)	41.13	44.22	42.60	61.56	62.36
Brent 1st - 13th Month Futures Spread ($ per barrel)	-3.06	-1.64	-2.39	3.70	2.02
WTI 1st - 13th Month Futures Spread ($ per barrel)	-2.56	-1.78	-2.19	2.98	1.39
RBOB Front Month Futures Price ($ per gallon)	1.16	1.17	1.16	1.63	1.76
Heating Oil Front Month Futures Price ($ per gallon)	1.15	1.25	1.20	1.93	1.90
RBOB - Brent Futures Crack Spread ($ per gallon)	0.17	0.12	0.15	0.18	0.24
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.16	0.20	0.18	0.47	0.39
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.16	0.20	0.18	0.47	0.39

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

January 2021

Short-Term Energy Outlook

Forecast highlights

- This edition of the *Short-Term Energy Outlook* (STEO) is the first to include forecasts for 2022.
- The January STEO remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. Reduced economic activity and changes to consumer behavior in response to the COVID-19 pandemic caused energy demand and supply to decline in 2020. The ongoing pandemic and the success of vaccination programs will continue to affect energy use in the future.
- Economic assumptions are among the most important drivers of the U.S. Energy Information Administration's (EIA) forecasts. EIA's U.S. macroeconomic assumptions are based on forecasts by IHS Markit and EIA's global economic assumptions are based on forecasts from Oxford Economics. After falling by 3.5% in 2020, IHS Markit forecasts that U.S. real gross domestic product (GDP) will increase by 4.2% in 2021 and 3.8% in 2022. Rising GDP contributes to EIA's forecast of rising total energy use in the United States during 2021 and 2022. After falling by 7.8% in 2020, EIA forecasts that total U.S. energy consumption will rise by 2.6% in 2021 and by 2.5% in 2022, reaching 97.3 quadrillion British thermal units (quads), 3.0 quads less than in 2019.
- EIA forecasts Brent crude oil spot prices to average $53 per barrel (b) in both 2021 and 2022 compared with an average of $42/b in 2020.
- EIA estimates that global consumption of petroleum and liquid fuels averaged 92.2 million barrels per day (b/d) for all of 2020, down by 9.0 million b/d from 2019. EIA expects global liquid fuels consumption will grow by 5.6 million b/d in 2021 and 3.3 million b/d in 2022.
- EIA forecasts crude oil production from the Organization of the Petroleum Exporting Countries (OPEC) will average 27.2 million b/d in 2021, up from an estimated 25.6 million b/d in 2020. Forecast growth in output reflects OPEC's announced increases to production targets and continuing rise in Libya's production. On January 5, 2021, OPEC and partner countries (OPEC+) announced that they will maintain the previously agreed-upon January 2021 production increase of 0.5 million b/d. The latest OPEC+ agreement also calls for production increases from Russia and Kazakhstan in February and March. However, additional voluntary cuts by Saudi Arabia for February and March result in

lower overall OPEC+ production in early 2021. EIA forecasts that OPEC crude oil production will rise by 1.1 million b/d in 2022.

- EIA estimates global liquid fuels inventories rose at a rate of 6.5 million b/d in the first half of 2020 before declining at a rate of 2.4 million b/d in the second half of 2020. EIA forecasts global inventories will continue to fall in the forecast, declining at a rate of 0.6 million b/d in 2021 and 0.5 million b/d in 2022.

- U.S. regular gasoline retail prices averaged $2.18 per gallon (gal) in 2020, compared with an average of $2.60/gal in 2019. EIA forecasts motor gasoline prices to average $2.40/gal in 2021 and $2.42/gal in 2022 U.S. diesel fuel prices averaged $2.55/gal in 2020, compared with $3.06/gal in 2019, and EIA forecasts them to average $2.71/gal in 2021 and $2.74/gal in 2022.

- EIA estimates that U.S. crude oil production fell from the 2019 record level of 12.2 million b/d to 11.3 million b/d in 2020. EIA expects that annual average production will fall to 11.1 million b/d in 2021 before rising to 11.5 million b/d in 2022.

- U.S. liquid fuels consumption in 2020 averaged 18.1 million b/d, down 2.5 million b/d (12%) from 2019 consumption. EIA forecasts U.S. liquid fuels consumption will rise to 19.5 million b/d in 2021 and then to 20.5 million b/d in 2022 (almost equal to the 2019 level).

- Henry Hub natural gas spot prices averaged $2.03 per million British thermal units (MMBtu) in 2020. EIA expects Henry Hub prices will rise to an annual average of $3.01/MMBtu in 2021, limiting natural gas use for power generation amid reduced natural gas production. EIA forecasts Henry Hub prices will rise to an average of $3.27/MMBtu in 2022.

- U.S. working natural gas in storage ended October at more than 3.9 trillion cubic feet (Tcf), 5% more than the five-year (2015–19) average and the fourth-highest end-of-October level on record. EIA forecasts that declines in U.S. natural gas production this winter compared with last winter will more than offset the declines in natural gas consumption, which will contribute to inventory withdrawals outpacing the five-year average during the remainder of the winter, which ends in March. Forecast natural gas inventories end March 2021 at 1.6 Tcf, 12% lower than the 2016–20 average.

- EIA estimates that U.S. natural gas consumption averaged 83.1 billion cubic feet per day (Bcf/d) in 2020, down 2.5% from 2019. EIA expects that natural gas consumption will decline by 2.8% in 2021 and by 2.1% in 2022. Most of the decline in natural gas consumption is the result of less natural gas use in the power sector, which EIA forecasts to decline because of rising natural gas prices. These declines are partly offset by rising natural gas use in other sectors.

- EIA estimates that 2020 dry natural gas production averaged 90.8 Bcf/d, down 2.5% from 2019. EIA expects U.S. dry natural gas production to average 88.2 Bcf/d in 2021, down by 2.8% from 2020, and then rise to 89.7 Bcf/d in 2022.

- EIA forecasts that total consumption of electricity in the United States will increase by 1.5% in 2021 after falling by 4.0% in 2020. The pandemic significantly affected electricity consumption in the commercial and industrial sectors in 2020. EIA estimates retail sales of electricity to the two sectors fell by 6.0% and 7.9%, respectively. EIA expects commercial electricity use in 2021 to rise by 0.9% and industrial electricity use to rise by 1.2%. Social distancing guidelines have caused people to spend more time at home, resulting in increased residential electricity use. In 2020, retail sales of electricity to the residential sector were 1.3% higher despite a mild winter earlier in the year. EIA expects residential electricity use will rise by 2.4% in 2021 as colder winter weather leads to more heating demand. Total forecast electricity consumption in 2022 will rise by 1.7%.

- EIA expects the share of U.S. electric power sector generation from natural gas will decline from 39% in 2020 to 36% in 2021 and 34% in 2022 in response to significantly higher natural gas fuel costs and increased generation from renewable energy sources. Coal's forecast share of electricity generation will rise from 20% in 2020 to 22% in 2021 and 24% in 2022, which is close to its share in 2019. Electricity generation from renewable energy sources will rise from 20% in 2020 to 21% in 2021 and 23% in 2022. The nuclear share of U.S. generation will decline from 21% in 2020 to 20% in 2021 and 19% in 2022.

- During the next two years, EIA expects electricity generation capacity from renewable energy sources to continue growing. Although EIA expects both wind and solar capacity growth, solar capacity grows at a faster rate in the forecast. Based on EIA survey data, large-scale solar capacity growth in gigawatts (GW) will exceed wind growth for the first time in 2021.

- EIA estimates that total U.S. coal production decreased by 24% to 537 million short tons (MMst) in 2020. This decline largely reflected lower demand for coal from the electric power sector and the coal export market. Lower natural gas prices made coal less competitive for power generation. In 2021, EIA expects coal production to increase by 12% to 603 MMst because of a forecast 41% increase in natural gas prices for electricity generators, making coal more competitive in the electric power sector. EIA forecasts coal production will rise to 628 MMst in 2022.

- After declining by 11.1% in 2020, EIA forecasts that total energy-related carbon dioxide (CO_2) emissions will increase by 4.7% in 2021 and by 3.2% in 2022. Even with growth over the next two years, forecast CO_2 emissions in 2022 remain 3.9% lower than 2019 levels. Energy-related CO_2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Global Liquid Fuels

Global liquid fuels supply and consumption patterns experienced two distinct periods in 2020 as a result of the COVID-19 global pandemic and its associated economic effects. From the beginning of 2020 through the end of May, declines in oil consumption outpaced declines in oil production and resulted in global oil inventories rising by 1.2 billion barrels. The sharp rise in inventories contributed to the monthly average Brent crude oil spot price falling to $18 per barrel (b) in April, the lowest price in real terms since February 1999. However, during much of the second half of the year, rising oil consumption, reduced crude oil production from members of the Organization of the Petroleum Exporting Countries (OPEC) and its partners (OPEC+), and lower U.S. crude oil production caused inventories to fall, pushing Brent prices to a monthly average of $50/b in December.

EIA forecasts that global oil consumption and production will rise during 2021 and 2022, and global oil inventories will continue to decline during much of that period. EIA expects that Brent prices will average $53/b over the next two years.

Global Petroleum and Other Liquid Fuels Consumption. Preliminary data and estimates indicate that global liquid fuels consumption declined by 9.0 million barrels per day (b/d) in 2020, the largest annual decline in EIA data going back to 1980. EIA forecasts that consumption will rise by 5.6 million b/d in 2021 and by 3.3 million b/d in 2022. The expected rise in the consumption of liquid fuels results from rising global gross domestic product (GDP) as well as a move toward pre-pandemic patterns of travel, particularly in late 2021 and in 2022. Based on data and forecasts from Oxford Economics, EIA assumes global GDP declined by 3.9% in 2020 and that it will grow by 5.4% in 2021 and by 4.3% in 2022. Despite EIA's forecast of growing consumption in 2021, global consumption of petroleum and other liquid fuels does not return to 2019 levels in the forecast until early 2022.

EIA's forecast assumes that business activity and travel will generally continue to increase throughout the year. EIA estimates that global liquid fuels consumption fell to 80.6 million b/d in April 2020, when responses to the COVID-19 pandemic were most severe across much of the world. EIA estimates that global oil consumption recovered to 95.5 million b/d by December, which was up from April but was still 6.8 million b/d lower than in December 2019. Rising COVID-19 infections during the fourth quarter of 2020 slowed the recovery in oil consumption. EIA estimates that fourth-quarter 2020 global liquid fuels consumption averaged 95.4 million b/d, up only 0.6 million b/d from the September level.

EIA expects the recent rise in COVID-19 infections, the re-imposition of some restrictions, and ongoing changes to consumer behaviors because of the pandemic will continue to affect global oil demand in the first half of 2021. Despite uncertainty, economic activity in the forecast returns to pre-pandemic levels in 2021 partly because of vaccine rollouts. As a result, the pace of oil consumption growth will, to a significant extent, rely on the manufacture and distribution of effective vaccines on a global scale.

The recovery in petroleum demand will also differ by petroleum product. Among petroleum products, jet fuel consumption fell particularly sharply in 2020, and EIA assumes that global jet fuel consumption will remain below its 2019 level through the end of 2022. EIA expects jet fuel consumption to return to pre-pandemic levels more quickly in China and the United States than in most other regions. EIA's forecast assumes consumption of hydrocarbon gas liquids (HGL) will be greater than 2020 levels in 2021 and 2022. EIA expects petrochemical manufacturing activity will contribute to growth in HGL consumption in the forecast. This growth is primarily associated with light-feed petrochemical cracking capacity coming online in China and forecast growth in U.S. HGL consumption.

On a percentage basis, EIA expects oil consumption growth to be fairly even between the countries in the Organization for Economic Cooperation and Development (OECD) and non-OECD countries. EIA forecasts oil demand will grow faster in 2021 as the economy and oil consumption are less affected by travel and other responses to COVID-19 than it was in 2020. Forecast oil demand continues to grow, but at a more moderate pace in 2022, as the effects of 2020's restrictions and behavioral changes fade and as oil demand is increasingly driven by economic growth. Forecast non-OECD liquid fuels consumption grows by 3.1 million b/d in 2021 (6%) and by 1.6 million b/d (3%) in 2022. China and India lead non-OECD liquid fuels consumption growth. EIA forecasts consumption in China will grow by 0.9 million b/d (6%) in 2021 and by 0.4 million b/d (3%) in 2022, and consumption in India is forecast to grow by 0.5 million b/d (12%) in 2021 and by 0.2 million b/d (4%) in 2022.

Forecast consumption of petroleum and other liquid fuels in the OECD grows by 2.5 million b/d (6%) in 2021 and by 1.7 million b/d (4%) in 2022. The United States leads OECD growth in both years, growing by 1.4 million b/d (8%) in 2021 and by 1.0 (5%) million b/d in 2022. EIA forecasts OECD Europe's consumption of petroleum and liquid fuels will grow by 0.6 million b/d (5%) in 2021 and by 0.5 million b/d (4%) in 2022.

Non-OPEC Production of Petroleum and Other Liquid Fuels. EIA estimates that for 2020 as a whole, non-OPEC production declined by 2.3 million b/d from 2019 levels. More than 90% of this decline came from the three largest non-OPEC producers: the United States, Russia, and Canada. Non-OPEC production was its lowest for the year during the second quarter, but production began rising in the third quarter as global oil demand increased. EIA expects production of non-OPEC petroleum and other liquid fuels to increase by 1.2 million b/d in 2021. In 2022, EIA expects non-OPEC production to rise by 2.3 million b/d, surpassing 2019 production levels. Canada and Brazil lead forecast non-OPEC production growth in 2021 and Russia and the United States will lead growth in 2022.

EIA expects that Canada's total liquid fuels production fell by 0.2 million b/d in 2020. This decrease is the result of both 2019 government-ordered production cuts in Alberta that continued into 2020 and economics-driven shut-ins because of the effect of low oil prices and falling demand for oil exports. In late October, the Alberta government announced it would stop setting monthly oil production limits. Although the government will extend its regulatory

authority to curtail oil production through December 2021, pausing production cuts will allow producers to use available export pipeline capacity. As of the end of 2020, EIA estimates that most shut-in production as a result of responses to COVID-19 has been restored, faster than previously estimated. In 2021, EIA expects Canada's production to increase by 0.4 million b/d and surpass first quarter of 2020 production, driven by the removal of government-ordered curtailments and expansions of previously deferred oil sands projects. EIA does not expect any new upstream projects to come online in Canada during the forecast period. Any additional crude oil production will come from expansions or debottlenecking of existing projects. Forecast production in Canada grows by 0.1 million b/d in 2022.

Brazil's production of petroleum and other liquid fuels grew by 0.2 million b/d in 2020, and it is expected to grow by 0.4 million b/d in 2021 and by 0.2 million b/d in 2022. In April 2020, Brazil's national oil company, Petroleo Brasileiro, S.A. (Petrobras), announced production cuts of 0.2 million b/d in response to the COVID-19 pandemic. However, weeks after this announcement, Petrobras reversed these cuts because demand for crude oil exports remained strong, especially for exports to Asia. Even as other Latin American oil producers saw declines in 2020, oil production continued to grow in Brazil, because of the continued ramping of production at floating, production, storage, and offloading vessels (FPSOs) brought online before 2020 and the record production in particular at the Buzios field. One FPSO, P-70, came online in the second half of 2020, bringing on additional volumes. New FPSO units are expected to ramp up through the forecast period, notably at the Sepia, Mero, and Buzios fields. Each of these FPSOs has a production capacity of 180,000 b/d.

After the United States, Russia is the second-largest producer of liquid fuels among non-OPEC countries. EIA expects production in Russia to grow in 2021 and 2022 after declining sharply in 2020 because the OPEC+ agreement, in which Russia participates, limited crude oil production. Russia experienced the largest liquid fuels production decline in 2020 among OPEC+ producers: a decline of 1.0 million b/d from 2019 production. EIA expects Russia's liquid fuels production to increase by 0.1 million b/d in 2021 and by 0.9 million b/d in 2022. After the OPEC+ agreement ends in early 2022, EIA expects Russia's production to return to 11.5 million b/d by April 2022, almost the same level as in the first quarter of 2020.

EIA also expects production growth in Norway during 2021 and 2022. Norway's Ministry of Petroleum and Energy enacted unilateral production limits on the Norwegian continental shelf from June to December 2020. The limits applied to production at existing fields and delayed the start of new fields and kept growth in total liquids production in 2020 to less than 0.3 million b/d. After production limits expire, EIA forecasts production growth of 0.2 million b/d in 2021 and 0.1 million b/d in 2022 as existing fields increase production and new fields come online, including the much-delayed Martin Linge field. The ramp up in new fields during 2021 will contribute to the year-over-year growth in both 2021 and 2022. The Johan Sverdrup field, which was the main driver of growth in Norway's production in 2020, will also contribute to growth in 2021, 2022, and beyond. EIA forecasts Phase 1 of the Johan Sverdrup field to return to its pre-

COVID-19 peak production of 470,000 b/d in early 2021 and surpass that before the end of 2021. In addition, Phase 2 of the Johan Sverdrup field is scheduled to come online in the fourth quarter of 2022 and add more than 0.2 million b/d production at full capacity.

EIA expects liquid fuels production in Mexico to decline the most among non-OPEC countries in 2021 and 2022. Mexico agreed to 100,000 b/d of oil production cuts under the April OPEC+ agreement. Mexico declined to extend cuts past June, and Mexico temporarily stabilized production in 2020 following previous years of declines as Petroleos Mexicanos's (PEMEX) targeted several priority fields for development. Mexico's liquid fuels production averaged 1.9 million b/d in 2020, almost unchanged from 2019. EIA expects oil production in 2021 to fall to 1.8 million b/d, even as PEMEX's priority fields continue to ramp up production and the Ixachi and the Ichalkil/Pokoch projects come online. This output is insufficient to offset declines from PEMEX's older fields, in particular the Maloob field. EIA expects Mexico's oil production to average 1.7 million b/d in 2022, reflecting PEMEX's financial constraints and continued large declines in mature fields.

EIA forecasts a number of other non-OPEC producers to experience production declines in 2021 and 2022, notably Indonesia, the United Kingdom, and Colombia.

OPEC Production of Petroleum and Other Liquid Fuels. The OPEC+ production cuts in April 2020 (extended in June), along with record oil supply disruption levels, reversed the inventory builds that resulted from the historic demand declines during the second quarter of 2020. After global oil inventories built at an estimated rate of 7.5 million b/d during the second quarter of 2020, inventories declined during the second half of 2020. OPEC members' high degree of compliance to the production cut agreement contributed to the falling inventories. EIA estimates that OPEC's crude oil production averaged 25.6 million b/d in 2020, down by 3.7 million b/d from 2019 and the lowest annual average for OPEC crude oil production since 2002.

OPEC crude oil production reached a low of 23.6 million b/d in the third quarter of 2020. However, the return of crude oil production in Libya and elsewhere during the fourth quarter of 2020, combined with a relaxation in OPEC's production cuts as global oil demand increased, contributed to production rising to 24.9 million b/d in the fourth quarter.

On January 5, 2021, OPEC+ announced modest production increases from Russia and Kazakhstan in February and March (totaling 75,000 b/d per month). Saudi Arabia announced that it would voluntarily cut production by an additional 1.0 million b/d during February and March, resulting in lower overall OPEC+ forecast production in the first quarter of 2021 than EIA had previously expected.

The revised OPEC+ agreement still allows for higher production targets in 2021. EIA expects that OPEC will continue to limit production but to a lesser degree as it relaxes its production cuts through 2021 as global oil demand rises. EIA forecasts that OPEC crude oil production will average 27.2 million b/d in 2021, up 1.6 million b/d from 2020. With the OPEC+ agreement

scheduled to expire in April 2022, EIA expects further increases in OPEC production in 2022. EIA forecasts OPEC crude oil production will average 28.2 million b/d in 2022, an increase of 1.1 million b/d.

Venezuela, Libya, and Iran are not subject to the OPEC+ agreement. EIA assumes that the current U.S. sanctions remain in place for Iran and Venezuela. Venezuela's production declines accelerated in 2020 after the United States government imposed new sanctions on Rosneft Trading in mid-February. In addition, the decline in global oil demand following the onset of the COVID-19 pandemic further reduced the demand for Venezuela's oil. EIA expects continued declines in Venezuela's crude oil production in the forecast.

Libya's crude oil production fell during the first five months of 2020 after the January closure of five export terminals in eastern Libya and the pipelines connecting the El Sharara and El Feel oilfields to those terminals. By May 2020, Libya's crude oil production averaged 80,000 b/d, down from 1.2 million b/d at the end of 2019. Libya's national oil company (NOC) lifted force majeure on all ports in September and October following a ceasefire agreement between the eastern and western security forces. Crude oil fields reopened and the national oil company quickly boosted oil production to near capacity in November 2020. However, EIA's Libya production forecast is subject to heightened risk as a result of the political and security situation in Libya, including a lack of agreement for revenue sharing between the eastern and western factions.

EIA estimates that OPEC production of other liquids declined to 5.0 million b/d on average in 2020, down from 5.4 million b/d in 2019. The 2020 production decrease was driven by less associated liquids output stemming from a reduction in crude oil production. EIA expects that this decline will reverse in tandem with OPEC+ production increases.

EIA estimates that OPEC surplus crude oil production capacity, which averaged 2.5 million b/d in 2019, averaged 6.2 million b/d in 2020 (4.0 million b/d more than the 2010–19 average) and peaked during the third quarter of 2020 at 7.9 million b/d. EIA forecasts annual average surplus capacity to decline to 5.1 million b/d in 2021 and 4.1 million b/d in 2022. The fluctuations in surplus capacity are a direct result of crude oil production changes in response to the OPEC+ agreement. These estimates do not include additional capacity that may be available in Iran that is offline because of U.S. sanctions on Iran's oil sales.

Global Petroleum Inventories. EIA estimates that global oil inventories increased by 1.2 billion barrels from the end of 2019 through May 2020. However, from June through December, estimated inventories fell by 0.5 billion barrels. EIA expects global oil inventories to generally draw in 2021 and 2022, as forecast global oil demand continues to gradually return to pre-pandemic levels, outpacing supply increases. EIA expects global oil supply to rise in the forecast, but voluntary production restraint from OPEC+ producers, along with the lingering effects of low oil prices on U.S. tight oil production, will limit global supply increases. As a result, EIA expects global oil inventories to decline at a rate of 0.6 million b/d in 2021 and 0.5 million b/d in 2022.

This rate of inventory withdraw would leave global oil inventories 0.3 billion barrels higher at the end of 2022 than they were at the end of 2019.

Crude Oil Prices. Brent crude oil prices traded within a wide range during 2020. After averaging $64/b in January 2020, Brent prices fell to an average of $18/b in April, the lowest monthly average price in real terms since February 1999. The low prices were the result of significant declines in oil consumption that caused a sharp rise in global oil inventories. However, Brent prices increased through much of the rest of 2020 because rising oil demand and reduced production caused global oil inventories to fall. Brent prices rose to a monthly average of $50/b in December in part because of expectations of future economic recovery based on continued news about the viability of multiple COVID-19 vaccines. Brent prices in early January reached their highest levels in 10 months after Saudi Arabia announced a one-month unilateral cut to its crude oil production for February that is in addition to its OPEC+ commitments.

EIA expects Brent crude oil prices to average $53/b in both 2021 and 2022. Saudi Arabia's unilateral cut means global oil market balances will be tighter in early 2021 than EIA had previously expected. EIA expects global oil inventories will fall by 2.3 million b/d in the first quarter of 2021, which EIA expects will contribute to Brent prices averaging $56/b.

Despite rising forecast oil prices in early 2021, EIA still expects upward price pressures to be limited through the forecast period because of high global oil inventory levels and surplus crude oil production capacity. EIA expects moderate downward oil price pressures to emerge beginning the second quarter of 2021, when global oil production is forecast to rise and cause inventories to draw at a slower pace. Brent spot prices are forecast to average $51/b during the second half of 2021. Upward price pressures reemerge in the forecast during 2022 as a result of global oil inventory draws accelerating compared with the second half of 2021.

Global economic developments and numerous uncertainties surrounding the ongoing COVID-19 pandemic in the coming months could push oil prices higher or lower than EIA's current price forecast. This price path reflects global oil consumption increasing by 6% from 2020 levels to reach an average of 97.8 million b/d in 2021 and by an additional 3% in 2022. But this forecast is dependent on the rate at which populations are vaccinated and the way in which oil consumption behavior changes once populations are widely vaccinated. The duration of, and adherence to, the latest targeted OPEC+ production cuts also remains uncertain. Lastly, the degree to which the U.S. shale industry responds to the recent relative strength in oil prices compared with their recent lows in April will affect the oil price path in the coming quarters.

EIA forecasts West Texas Intermediate (WTI) crude oil prices will average about $3/b less than Brent prices in 2021 and $4/b less than Brent prices in 2022. This price discount is based on EIA's assumption that the current reduced discount of WTI to Brent of $2/b on average in the second half of 2020 reflects significant declines in U.S. crude oil production and reduced available volumes of U.S. crude oil for export to distant markets relative to other global benchmarks. As the global market adjusts to reduced demand and production levels, EIA expects the spread to

return to $4/b by the second half of 2022 based on the relative cost of exporting U.S. crude oil from the Cushing distribution hub to Asia, compared with the cost of exporting Brent crude oil from the North Sea to Asia.

U.S. Liquid Fuels

Consumption. EIA estimates that in 2020, U.S. consumption of liquids fuels averaged 18.1 million b/d, down 2.5 million b/d (12%) from 2019 consumption levels. Reduced travel because of the COVID-19 pandemic drove consumption in the second quarter of 2020 down to 16.1 million b/d, the lowest level for any quarter since 1986. Total liquids consumption then increased, reaching approximately 18.5 million b/d in the fourth quarter of 2020, down from 20.6 million b/d in the fourth quarter of 2019.

As the vaccines for COVID-19 become more widely distributed, however, EIA expects the effects of the pandemic on liquids fuels consumption to moderate. EIA forecasts that total liquids consumption will average 19.5 million b/d in 2021 and 20.5 million b/d in 2022. Although EIA forecast liquids fuels consumption to increase from 2020, consumption in 2021 is forecast to remain lower than 2019 levels of 20.5 million b/d largely because consumption of transportation fuels including gasoline, distillate, and jet fuel is expected to remain lower than 2019 levels. EIA forecasts consumption in 2022 to almost return to 2019 levels; forecast gasoline and jet fuel demand that is less than 2019 levels is offset by distillate and hydrocarbon gas liquids (HGL) consumption that is forecast to be greater than 2019 levels.

In the second quarter of 2020, U.S. gasoline consumption fell to 7.1 million b/d, the lowest quarterly value in EIA data since 1993. Consumption increased to 8.5 million b/d in the third quarter before falling to 8.1 million b/d in the fourth quarter as seasonal declines and responses to increasing COVID-19 cases decreased demand. EIA expects continued responses to COVID-19 in the first half of 2021 to limit gasoline demand, which is forecast to average 8.5 million b/d, about 0.8 million b/d less than the first half of 2019 level. EIA expects consumption to increase to an average of 8.9 million b/d in the second half of 2021, but still almost 0.5 million b/d lower than consumption in the same period in 2019.

In 2022, EIA forecasts that vehicle miles traveled in the United States will be nearly equal to 2019 levels, but, because of increasing fuel efficiency, it expects gasoline consumption to average 0.3 million b/d (3.6%) less than in 2019. EIA assumes that work-from-home options in the future will remain more available than before the pandemic, limiting gasoline demand growth due to reduced commuting needs. EIA forecasts that gasoline consumption will average 8.7 million b/d in 2021 and 9.0 million b/d in 2022.

Distillate consumption in the United States in 2020 was less affected by responses to the COVID-19 pandemic than gasoline and jet fuel because it is driven more by economic activity and freight movement and is less affected by travel restrictions. In the second quarter of 2020, distillate consumption fell to 3.5 million b/d, and annual consumption averaged 3.8 million b/d

in 2020, down 8% from 2019 levels. EIA expects forecast U.S. GDP growth rates of 4.2% in 2021 and 3.8% in 2022 to support growth in distillate consumption. In 2021, EIA forecasts distillate fuel consumption will average 4.0 million b/d, which is about 97% of 2019 consumption. EIA forecasts distillate consumption in 2022 will average 4.1 million b/d, about even with 2019 consumption.

EIA forecasts that U.S. consumption of hydrocarbon gas liquids (HGL) will increase by 170,000 b/d in 2021 and 210,000 b/d in 2022, to reach annual averages of 3.3 million b/d and 3.5 million b/d, respectively. EIA expects that nearly all of the HGL growth in 2021 and 2022 to stem from increased ethane use as petrochemical feedstock. EIA also expects additional ethane cracking capacity to come online in the next two years. The increase in HGL consumption in 2021 also reflects EIA's forecast of increased propane demand as a result of a return to more normal winter weather after mild winter temperatures in the first quarter of 2020.

Crude Oil Supply. EIA estimates that annual U.S. crude oil production averaged 11.3 million b/d in 2020, down 1.0 million b/d from 2019 as a result of well curtailment and a drop in drilling activity related to low oil prices. EIA expects production to again decline in 2021, averaging 11.1 million b/d before increasing to an annual average of 11.5 million b/d in 2022, as prices and drilling conditions become more favorable.

Annual average production numbers can mask monthly trends in oil production. Most crude oil in the U.S. Lower 48 (L48) states excluding Gulf of Mexico (GOM) is tight oil production. L48 production fell from a record 10.4 million b/d in November 2019 to 8.0 million b/d in May 2020. The decline in production not only reflected a decline in drilling activity but also well curtailments because of very low oil prices. L48 production increased to 8.9 million b/d in August, largely because operators reduced curtailments. However, because much of the curtailed production is back online, EIA expects drilling activity and decline rate dynamics to again be the main drivers of production levels going forward. Because tight oil wells have steep decline curves in early years of production, continuous drilling of new wells is required to maintain average production in a region.

EIA expects L48 crude oil production to decline through February 2021 because declining legacy well production will offset production from new wells. For U.S. tight oil production, EIA analysis shows that changes in oil prices affect changes in crude oil production with about a six-month lag. EIA expects that recent increases in the oil price and in active drilling rigs will contribute to L48 production beginning to grow in the second quarter of 2021. Despite the steady increase in L48 crude oil production from the second quarter of 2021 forward, EIA expects that average 2021 L48 production will be 8.9 million b/d, or 3% lower than 2020 production levels.

EIA's forecast WTI prices remain close to $50/b through the forecast period, and with an uncertain capital environment, domestic oil production growth could be limited. As operators' financial conditions and drilling activity improve from the pressure they saw earlier in 2020, EIA expects L48 production in 2022 will rise by 0.4 million b/d on an annual average basis and reach

more than 9.5 million b/d by the end of 2022. Most of the L48 onshore growth will occur in the Permian region. A combination of relatively high average production per well combined with high rig counts make the Permian region's growth higher than the Eagle Ford or Bakken. In 2022, EIA expects almost two-thirds of L48 onshore growth to come from the Permian.

U.S. GOM production fell in 2020 because of an active hurricane season. EIA estimates that annual 2020 GOM production averaged 1.6 million b/d, down 0.3 million b/d from the 2019 average level. In 2020, according to daily estimates from the U.S. Bureau of Safety and Environmental Enforcement (BSEE), Hurricane Laura reduced GOM crude oil production an estimated 14.4 million barrels over a span of 15 days, the most of any hurricane since the combined effect of Hurricanes Gustav and Ike in 2008. GOM crude oil production fell below 1.1 million b/d in October 2020, the lowest monthly value since October 2008. EIA expects 2021 GOM production to average 1.8 million b/d in both 2021 and 2022.

EIA expects little change in Alaska's crude oil production, which will average more than 0.4 million b/d in both 2021 and 2022, down slightly from 2020 levels.

Hydrocarbon Gas Liquids Supply. EIA estimates that natural gas production of HGLs increased in 2020. The commissioning of new, efficient natural gas processing plants allowed HGL production to increase in 2020 even as natural gas production declined. EIA forecasts natural gas plant production of HGLs to increase by 130,000 b/d in 2021 to an average of 5.3 million b/d and increase to 5.6 million b/d in 2022. EIA forecasts ethane production at natural gas processing plants will rise to meet growing demand for ethane as a petrochemical feedstock, increasing by 260,000 b/d and 240,000 b/d in 2021 and 2022, respectively, to an average of 2.5 million b/d in 2022. Propane production at natural gas plants is expected to decline by 80,000 b/d from 2020 to 1.6 million b/d in 2021 and increase by 60,000 b/d in 2022.

Liquid Biofuels. COVID-19-related reductions in economic activity in general, and decreased demand for liquid fuels in particular, had a significant effect on U.S. biofuels markets in 2020, and EIA expects this trend to persist throughout the forecast period. The forecast reflects current targets in the Renewable Fuel Standard (RFS) program, and EIA assumes future RFS targets will primarily affect biomass-based diesel production and net imports, which help to meet multiple RFS targets for biomass-based diesel, advanced biofuel, and total renewable fuel.

EIA estimates that U.S. biodiesel production increased in 2020 and was less affected by COVID-19-related restrictions than many other fuels, despite production capacity that declined slightly. U.S. biodiesel production increased by an estimated 5% from 2019 to 2020, averaging an estimated 118,000 b/d last year. EIA expects biodiesel production will increase by nearly 4% to average 122,000 b/d in 2021 before increasing by an additional 6% to average 130,000 b/d in 2022, driven largely by increasing RFS targets and the existence of the biodiesel production tax credit through 2022.

U.S. net imports of biomass-based diesel increased by an estimated 10% to an average 23,000 b/d in 2020, and EIA expects net imports to increase to an average of 34,000 b/d in 2021 and 47,000 b/d in 2022. Increased net imports of biomass-based diesel are driven primarily by increased volumes of renewable diesel imported to meet both California Low Carbon Fuel Standard requirements and the rising RFS targets.

Because of sharp reductions in motor gasoline demand resulting from the COVID-19 pandemic, U.S. ethanol production was significantly lower in 2020. U.S. ethanol production fell for the second consecutive year in 2020, decreasing by an estimated 12% from 2019 to an average of 0.90 million b/d. As a result, EIA forecasts that persistent reductions in domestic gasoline demand and limited higher-blend ethanol growth potential will result in ethanol production remaining lower than 2019 levels throughout the STEO forecast. EIA expects ethanol production to average 0.98 million b/d in 2021, 9% more than in 2020, and to average 1.02 million b/d in 2022, 3% more than 2021, though still slightly below the 2019 level.

U.S. ethanol consumption averaged 949,000 b/d in 2019, and EIA estimates ethanol consumption fell by 13% to an average of 824,000 b/d in 2020. EIA forecasts that ethanol consumption will gradually rise during the forecast period, largely following the recovery in domestic motor gasoline consumption with limited growth in any higher blending levels. EIA forecasts ethanol consumption will average 887,000 b/d in 2021 and 917,000 b/d in 2022. This level of consumption results in the ethanol share of total gasoline, which was an estimated 10.2% in both 2019 and 2020, remaining near this level during 2021 and 2022. This stable ethanol share assumes that growth in higher-level ethanol blends is limited by a combination of lower gasoline prices reducing incentives for increased ethanol blending and limited consumer demand for higher levels of ethanol blending beyond 10% of gasoline (E10).

Product Prices. Changes in travel patterns because of COVID-19- resulted in significant reductions in crude oil prices and demand for liquid fuels in the United States during 2020, which significantly reduced prices for gasoline and diesel fuel during the same period. U.S. retail prices for regular-grade gasoline averaged $2.18 per gallon (gal) during 2020, and retail diesel prices averaged $2.55/gal, down about 42 cents/gal and 50 cents/gal from their respective 2019 averages.

The U.S. gasoline and diesel price declines largely reflect a drop in crude oil prices. Refinery margins, which fell significantly as gasoline and diesel demand fell quickly in March and April, returned to levels within their normal seasonal ranges in the fourth quarter of 2020. During the same quarter, refiners reduced runs and inventory levels for gasoline and diesel fuel largely returned within their previous five-year ranges. EIA expects that any changes in petroleum product prices will largely follow movements in crude oil prices over the STEO forecast period as overall inventory levels remain above the five-year average and upward price pressures related to demand remain limited.

The U.S. refinery wholesale gasoline margin (the difference between the wholesale price of gasoline and the price of Brent crude oil) averaged 21 cents/gal in April 2020, increased to an average of 35 cents/gal in the third quarter of 2020, and fell back to 28 cents/gal in the fourth quarter. Third and fourth quarter margins both fell within normal recent five-year seasonal ranges. EIA expects the U.S. refinery wholesale gasoline margin will average 36 cents/gal in 2021 and 35 cents/gal in 2021, compared with a five-year (2016–20) average of 35 cents/gal.

EIA expects the retail price of regular gasoline in the United States will average $2.33/gal during the first quarter of 2021, 9 cents/gal lower than at the same time last year. EIA expects the U.S. monthly regular retail gasoline price will increase from an average of $2.28/gal in January 2021 to an annual peak of $2.53/gal in May before falling to $2.29/gal in December 2021. The U.S. regular gasoline retail price, which averaged $2.18/gal in 2020, is forecast to average $2.40/gal in 2021 and $2.42/gal in 2022.

Regional annual average forecast prices for 2021 range from a low of $2.10/gal in the Gulf Coast region—Petroleum Administration for Defense District (PADD) 3—to a high of $3.10/gal in the West Coast region (PADD 5).

The retail price of diesel fuel in the United States averaged $2.55/gal in 2020, which was 50 cents/gal lower than in 2019. EIA forecasts that the diesel price will average $2.71/gal in 2021 and $2.74/gal in 2022. EIA expects that global economic activity returning to pre-pandemic levels will help drive diesel refinery margins higher than their multiyear lows in 2020 during the forecast period. Diesel refinery margins based on Brent crude oil averaged 30 cents/gal in 2020, which was 11 cents/gal lower than the 2015–19 average and the lowest annual average since 2009. EIA expects diesel refinery margins will average 39 cents/gal in 2021 and 42 cents/gal in 2022.

Natural Gas

Natural Gas Consumption. EIA estimates consumption of natural gas in the United States averaged 83.1 billion cubic feet per day (Bcf/d) in 2020, down 2.5% from 2019, and EIA expects U.S. consumption will decrease by 2.3 Bcf/d (2.8%) in 2021 and then decrease by 1.7 Bcf/d (2.1%) in 2022.

The largest natural gas-consuming sector in the United States is the electric power sector. EIA estimates that the power sector will consume an average 28.1 Bcf/d in 2021, which is 11.0% less than in 2020. EIA forecasts that higher prices for natural gas (compared with coal prices) for power generation and rising electricity generation capacity from renewable energy in 2021 will likely cause power sector natural gas consumption to decline in 2021. EIA forecasts power sector consumption of natural gas will fall by an additional 6.2% in 2022, reflecting further growth in renewables and increases in natural gas prices.

EIA expects combined U.S. residential and commercial natural gas consumption will average 22.4 Bcf/d in 2021, up 5.8% from 2020. Compared with the first quarter of 2020, expectations of

cooler temperatures and people spending more time at home because of the COVID-19 pandemic will likely lead to slight increases in heating demand in the first quarter of 2021. Based on NOAA forecasts, EIA assumes colder temperatures with 6.4% more heating degree days (HDDs) across the United States in 2021 compared with 2020. EIA expects natural gas consumption in the U.S. residential and commercial sectors to decline by 1.0% in 2022, as the COVID-19 pandemic subsides, reducing heating demand in the residential sector.

EIA forecasts U.S. consumption of natural gas in the industrial sector will be mostly unchanged in 2021 before increasing by 0.4% in 2022. EIA's natural gas-weighted manufacturing index, based on forecasts from IHS Markit, has steadily increased after falling in the second quarter of 2020; however, EIA's forecast assumes that the natural gas-weighted manufacturing index will not reach 2019 levels until late 2022.

Natural Gas Production. EIA estimates that U.S. production of dry natural gas averaged 90.8 Bcf/d in 2020, down 2.3 Bcf/d (2.5%) from 2019. Natural gas production fell in 2020 as a result of low natural gas and oil prices that reduced drilling activity. EIA expects that natural gas production will decline again in 2021 to an annual average of 88.2 Bcf/d. However, on a monthly basis, EIA expects dry natural gas production will fall down to an average of 87.3 Bcf/d in March 2021, and then rise through the rest of the forecast period. EIA expects that recent increases in oil prices and a forecast of rising natural gas prices will contribute to an overall increase in drilling activity in the coming months that will contribute to production growth after the first quarter.

In 2022, EIA expects dry natural gas production to increase by 1.5 Bcf/d (1.7%) from 2021 to reach 89.7 Bcf/d. EIA forecasts continued increases in natural gas and crude oil prices to drive more drilling activity.

Natural Gas Trade. EIA forecasts net natural gas exports will rise from an average of 6.5 Bcf/d in 2020 to 9.8 Bcf/d in 2021 and 10.7 Bcf/d in 2022. The United States has been exported more natural gas than it imports since the second quarter of 2017 because of both rising liquefied natural gas (LNG) and pipeline exports.

EIA estimates that the United States exported 9.8 Bcf/d of LNG in December 2020, an increase of 0.4 Bcf/d over the previous record set in November. The increase in U.S. LNG exports was driven by rising international natural gas and LNG prices in Europe and Asia, reduction in global supply because of several unplanned outages at LNG export facilities worldwide, and cold weather in key LNG consumption markets, particularly in Asia. Prices at JKM, representing trades in Japan, South Korea, China, and Taiwan, averaged $10.82 per million British thermal units (MMBtu) in December, which was the highest monthly average since 2018.

All six U.S. LNG export facilities operated near full capacity in December exporting a record 89 cargoes (91% utilization of peak LNG export capacity). The third and final train at Corpus Christi LNG facility in Texas was commissioned 6 months ahead of schedule and sent its first cargo in

the middle of December. EIA estimates that the nominal liquefaction capacity of LNG in operation in the United States is 9.5 Bcf/d as a baseload and 10.8 Bcf/d at peak across six facilities that include 15 standard-size liquefaction units and 10 small modular liquefaction units.

EIA forecasts U.S. LNG exports to average 8.5 Bcf/d in 2021 and 9.2 Bcf/d in 2022. Forecast growth in U.S. LNG exports is supported by several factors, including a gradual post-COVID-19 recovery in global LNG demand in established markets, high winter LNG demand in Asia, and expansions in global LNG import infrastructure in existing markets with several new countries expected to become LNG importers in the next two years

Pipeline exports of U.S. natural gas have also increased as more infrastructure has been built to transport natural gas both to and within Mexico. U.S. pipeline exports averaged 8.0 Bcf/d in 2020, an increase of 2.5% compared with 2019. Pipeline exports are expected to increase as more natural gas-fired power plants come online in Mexico and more pipeline infrastructure within Mexico is built. EIA expects gross U.S. pipeline exports to Mexico and Canada to average 8.6 Bcf/d in 2021 and 8.7 Bcf/d in 2022.

U.S. net natural gas pipeline imports (almost all of which come from Canada) decreased from 2019 to 2020, continuing a trend that began in 2008. EIA forecasts natural gas pipeline imports to increase 3.8% in 2021 because the United States will import more natural gas amid a decline in U.S. natural gas production. However, pipeline imports will likely decline in 2022 in response to an increase in U.S. natural gas production in 2022.

Natural Gas Inventories. EIA estimates that end-of-December U.S. working natural gas inventories were 3,375 Bcf, 6% more than both the year-ago level and 6% more than the five-year (2015–19) average. EIA forecasts above-average storage withdrawals in the first quarter of 2021 based on an assumption of cooler-than-normal weather in the January–March time period and because of forecast declines in natural gas production. EIA expects total inventories will be 1,620 Bcf at the end of March, which would be 12% lower than the five-year average for that time of year. For the 2021 April–October storage injection season, EIA expects injections will slightly exceed the five-year average rate, as forecast production begins growing in April and as higher natural gas prices in 2021 will limit the consumption of natural gas in electric power plants during the summer. EIA expects that inventories will reach 3,575 Bcf at the end of October 2021, which would be 5% lower than the previous five-year average for the end of October and 9% lower than at the end of October 2020.

Natural Gas Prices. Henry Hub spot prices averaged $2.03/MMBtu in 2020. Natural gas prices fell through much of 2020 because of sharp declines in LNG exports and industrial-sector natural gas consumption outpaced declines in production and contributed to inventories building at a faster rate than the five-year average.

Although Henry Hub spot prices rose late in 2020 to average $2.59/MMBtu in December, a warm early winter moderated price increases. EIA expects the average spot price of natural gas

to increase to $3.01/MMBtu in the first quarter of 2021. The price forecast is based on expectations of slightly cooler-than-normal weather in the first quarter. However, the fourth quarter of 2020 was warmer than average. If warmer-than-average weather persists in the second half of winter, it could contribute to downward pressure on natural gas spot prices in the January–March period. In 2021, EIA expects general upward price pressures amid relatively low natural gas production, meaning higher prices will be needed in order to increase production and balance the supply and demand of natural gas. EIA forecasts the spot prices to average $3.01/MMBtu in 2021, up 98 cents/MMBtu from 2020, and increase further to an average of $3.27/MMBtu in 2022.

Coal

Coal Supply. EIA estimates U.S. coal production fell by 168 million short tons (MMst) (24%) in 2020 to total 537 MMst for the year. The decline in production was primarily caused by less power sector demand for coal amid low natural gas prices. Coal production declined by an estimated 40 MMst (30%) in the Interior region, 79 MMst (21%) in the Western region, and 50 MMst (26%) in the Appalachian region. EIA expects U.S. coal production to rise as natural gas prices increase in 2021, increasing demand for coal in the electric power sector. EIA expects coal production in 2021 to be 603 MMst, a 12% increase from 2020 levels.

EIA expects increases in coal production to moderate in 2022, rising by 25 MMst (4%), as forecast coal consumption growth slows.

Coal Consumption. EIA estimates that coal consumption for all sectors totaled 476 MMst in 2020, a 110 MMst (19%) decline from the previous year. U.S. coal consumption in the electric power sector for 2020 declined by 104 MMst (19%), driving the decrease in overall coal consumption. Coal consumption at coke plants decreased from 18 MMst in 2019 to an estimated 15 MMst in 2020. EIA expects a 61 MMst rise in coal consumption from all sectors in 2021, largely driven by an increase in demand from the electric power sector, which is expected to consume 494 MMst of coal in 2021. In 2022, EIA forecasts total U.S. coal consumption to increase by 44 MMst to 581 MMst.

Coal Trade. Because of reduced demand from major international consumers, EIA estimates total U.S. coal exports declined by 26 MMst (28%) in 2020 to 66 MMst. This total is the second-lowest annual amount exported over the past 10 years. EIA estimates metallurgical coal exports were 42 MMst in 2020, 24% lower than the previous year, and steam coal exports were 24 MMst, a decrease of 35% from 2019 levels.

U.S. exports of both metallurgical and steam coal to India, a major consumer of U.S. coal, were down by 15% in 2020 through October compared with the same period in 2019. Japan, another major destination for U.S. coal exports, reduced imports of U.S. coal by 50% through October 2020. Exports to Europe have also decreased.

EIA expects total U.S. coal exports to increase by 15 MMst (23%) in 2021, as a result of economic growth in major coal importers that are emerging from lower demand because of the pandemic in 2020. EIA expects coal exports to increase by 10 MMst (12%) in 2022 as market conditions continue to normalize following the pandemic. However, EIA expects that coal exports will total 92 MMst in 2022, slightly less than 2019 levels.

Coal Prices. EIA estimates the delivered coal price to U.S. electricity generators averaged $1.94 per million British thermal units (MMBtu) in 2020, which was 8 cents/MMBtu lower than the 2019 price. EIA forecasts that coal prices will increase to $2.06/MMBtu in 2021 and $2.07 in 2022.

Electricity

Electricity Consumption. EIA forecasts total U.S. electricity consumption, including direct use of electricity by combined-heat-and-power plants, will increase by 1.5% in 2021 and by 1.7% in 2022.

Social distancing guidelines related to the COVID-19 pandemic and restrictions on some economic activity such as limits on the number of customers in restaurants and retail stores have affected electricity consumption patterns over the past year. Residential electricity consumption has risen because people are staying at home for longer periods during the day and because many are working from home. In contrast, electricity consumption in the commercial and industrial sectors has fallen.

During the spring of 2020, retail sales of electricity to the residential sector were about 9% higher than the typical heating and cooling demand given the temperatures at that time. This effect appears to have moderated somewhat in recent months, averaging about 4% above typical consumption since July. EIA expects the effect of increased residential electricity usage to gradually decline through the first half of 2021. In addition, electricity usage for heating during the first quarter of 2021 will likely be more than the same period last year because of colder weather in the United States, with 11% more heating degree days. Annual residential electricity retail sales increased by 1.3% in 2020 and are forecast to grow by 2.4% in 2021 and by 1.6% in 2022.

Electricity consumption in the commercial sector during 2020 was down by an estimated 6.0% from 2019 as a result of the economic contraction related to COVID-19. In addition, electricity use at some office buildings may have been lower as some people were working from home instead of in their offices. EIA expects commercial activity to increase in 2021 with non-farm employment rising by 2.8%. However, some of the changes in working patterns may continue in the long term, reducing the need for electricity use at offices. EIA forecasts commercial sector retail electricity sales will grow by 0.9% in 2021 and by 1.8% in 2022.

Improving economic conditions will also likely increase electricity demand in the industrial sector. EIA forecasts that industrial production by electricity-intensive industries will increase by

2.9% in 2021 after declining 6.9% in 2020. This expected increase in industrial production contributes to EIA's forecast that retail sales of electricity to the industrial sector will rise by 1.2% in 2021. In 2022, EIA forecast retail sales of electricity to the industrial sector will increase by 1.1%.

Electricity Generation. EIA expects 1.2% more power generation in the U.S. electric power sector during 2021 than in 2020. Electric power sector generation in the forecast grows by an additional 1.5% in 2022.

The share of U.S. electricity generation supplied by natural gas-fired power plants has increased significantly during the past decade, rising from 23% of total generation in 2010 to an estimated 39% in 2020. Reduced generation from coal-fired power plants has offset this increase. Coal supplied 46% of U.S. generation in 2010, compared with an estimated 20% in 2019. Much of this change in the generation mix has been the result of sustained low prices for natural gas.

The cost of natural gas delivered to electric power generators was often below $3.00/MMBtu during the past two years. During 2020, the U.S. cost of delivered natural gas averaged an estimated $2.37/MMBtu, which would be the lowest price in nominal dollars since 1995. EIA forecasts the average cost of natural gas for electricity generation to rise by 41% to an average of $3.35/MMBtu in 2021, which is about the same price as in 2017. Forecast average U.S. delivered natural gas prices rise by an additional 8.9% in 2022.

These expected changes in the costs of fuels used for generating power will likely affect the use of coal and natural gas for electricity generation. EIA forecasts that the natural gas-fired share of total U.S. generation will decline to 36% in 2021 and 34% in 2022, which would be about the same natural gas share as in 2018. The expected rise in natural gas fuel costs make coal more economic for electricity generation, with EIA's forecast share of generation from coal-fired power plants rising to 22% in 2021 and 24% in 2022. However, these shares of coal generation would still be the second- and third-lowest share in history after the 20% share in 2020.

EIA expects the share of generation from renewable sources will increase from 20% in 2020 to 21% in 2021 and to 23% in 2022. Within the renewables category, hydropower generally averages about 7% of total generation, and EIA forecasts that it will be about that share in 2021 and in 2022. In the forecast, the share of total generation for renewables other than hydropower, which was 12% in 2020, will rise to 14% in 2021 and to 16% in 2022.

According to the latest information about the U.S. inventory of generating capacity, six nuclear reactors are scheduled to retire in either 2021 or 2022, and two are scheduled to come online. The forecast nuclear share of total electricity generation, which averaged nearly 21% in 2020 will fall to 20% by 2021 and to 19% in 2022, consistent with upcoming retirements.

Renewable Capacity. Over the next two years, renewable generating capacity continues to grow. Wind capacity growth begins to moderate, but solar capacity growth continues. In 2021, large-scale solar capacity growth in gigawatts (GW) exceeds wind growth for the first time. EIA

forecasts that 15 GW of solar photovoltaic (PV) generating capacity in the electric power sector will be added in 2021, with an additional 12 GW forecast for 2022. Small-scale solar PV capacity is forecast to increase by 4 GW in 2021, with another 3 GW forecast for 2022. Residential PV accounts for most of this additional small-scale generating capacity for both 2021 and 2022. EIA's forecast solar capacity growth reflects various state and federal policies to support renewable energy.

Tariffs on PV modules decline to 15% in 2021 and expire thereafter. Growth in PV generating capacity over the STEO forecast reflects, in large part, declining global prices for PV modules and increasing prices for natural gas. This anticipated fall in module price is expected to outweigh price increases incurred by the tariff in 2021.

Generating capacity from wind turbines in the electric power sector is forecast to grow by 12 GW in 2021, with an additional 4GW of growth expected for 2022. This growth in forecasted wind generating capacity for 2021 and 2022 marks a decline from the record of 21 GW added in 2020. Because wind capacity is often added at the end of the calendar year, increases in generation frequently lag behind increases in capacity for the year they occur in, and they are reflected in the generation for the next year.

Much of this slowing growth in wind can be attributed to the expiration of the production tax credit. The credit, which at the end of 2019 was extended through 2020, provided a 2.5 cents per kilowatthour (kWh) benefit for facilities entering service or securing 5% safe harboring (spending at least 5% of total estimated project cost) through the 2020 calendar year. The effect of the tax credit extension included in the Consolidated Appropriation Act 2021, enacted in late-December 2020, is not yet reflected in this forecast. EIA will update its data and forecasts as new information is reported on the EIA-860 survey of planned capacity additions.

Electricity Prices. EIA expects wholesale electricity prices in many areas of the country in 2020 will be higher than last year, reflecting the increased cost of natural gas for power generation. EIA forecasts that annual average wholesale prices in New England will rise 43% this year primarily as a result of expected colder winter weather that contributes to rising natural gas prices. However, in California, forecast wholesale electricity prices in 2021 average 8.1% lower than last year, primarily reflecting fewer spikes in prices related to hot summer weather as happened in 2020.

EIA forecasts the U.S. retail electricity price for the residential sector will average 13.3 cents/kWh in 2021, which is 1.2% higher than the average retail price in 2020. Forecast residential prices increase by an additional 1.2% in 2022.

U.S. Economic Assumptions and Energy-Related Carbon Dioxide Emissions

The STEO is based on macroeconomic forecasts by IHS Markit for the United States. EIA used the December 2020 version of the IHS Markit macroeconomic model with EIA's energy price forecasts as model assumptions to develop the economic forecasts in the STEO.

Using the IHS Markit model, EIA assumes U.S. real GDP declined by 3.5% in 2020 and that it will grow by 4.2% in 2021 and by 3.8% in 2022. This compares with 2.2% annual growth in 2019. EIA assumes that total industrial production decreased 6.9% in 2020, and EIA expects that it will increase 4.0% in 2021 and will grow by 4.5% in 2022. This growth compares with 0.9% annual growth in 2019. In the forecast, U.S. nonfarm employment, which grew by 1.4% in 2019, decreased by 5.7% in 2020, will increase by 2.8% in 2021, and will increase by 3.5% in 2022.

Energy-related carbon dioxide emissions. Energy-related carbon dioxide (CO2) emissions, fell by 11.1% in 2020 relative to 2019. CO2 emissions are expected to rise by 4.7% in 2021 and by 3.2% in 2022. EIA forecasts an increase in coal CO2 emissions and a decrease in natural gas CO2 emissions because of higher natural gas prices. EIA expects CO2 emissions from coal to rise by 12.5% in 2021 and by 8.0% in 2022, almost returning to 2019 levels. EIA expects CO2 emissions from natural gas to fall by 3.0% from 2020 to 2021 and by 2.1% from 2021 to 2022. Petroleum-related CO2 emissions increase 7.8% in 2021 and 5.0% in 2022 as transportation patterns begin to return to normal. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Notable forecast changes

- For more information, see the detailed table of forecast changes.

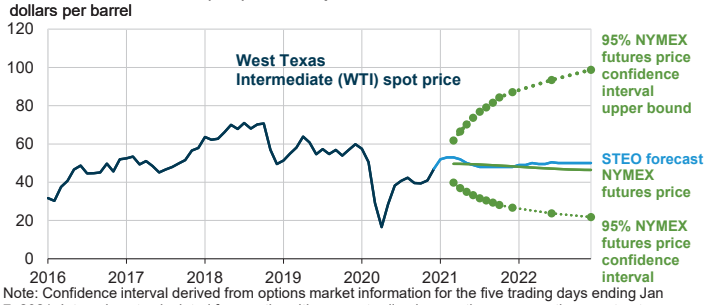
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

January 12, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

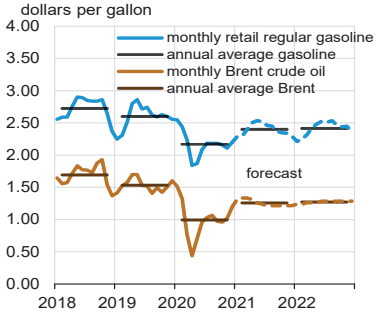


Note: Confidence interval derived from options market information for the five trading days ending Jan 7, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

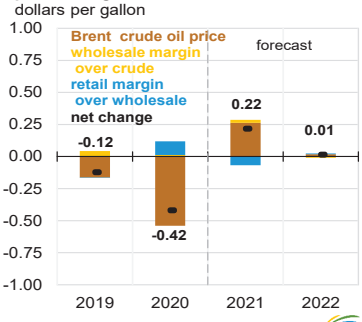
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021, CME Group, and Bloomberg, L.P.

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U.S. gasoline and crude oil prices
dollars per gallon



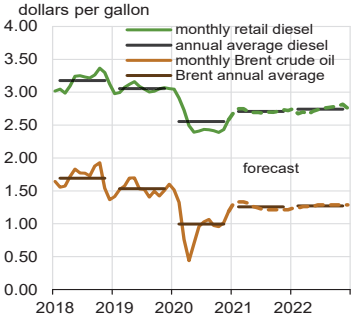
Components of annual gasoline price changes
dollars per gallon



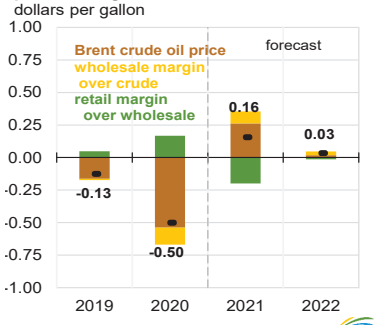
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

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U.S. diesel and crude oil prices



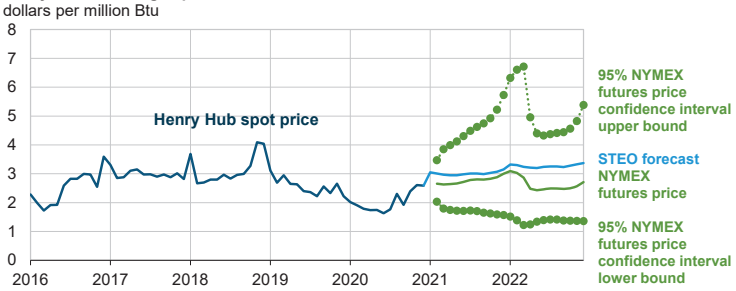
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

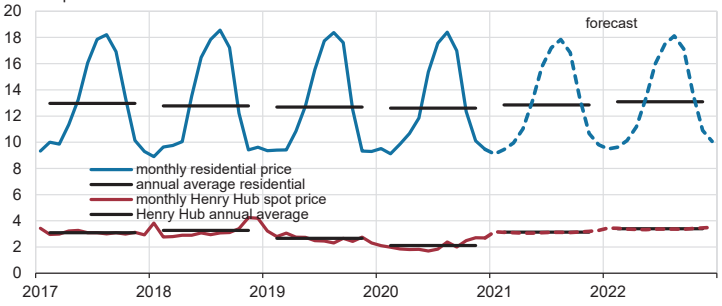


Note: Confidence interval derived from options market information for the five trading days ending Jan 7, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

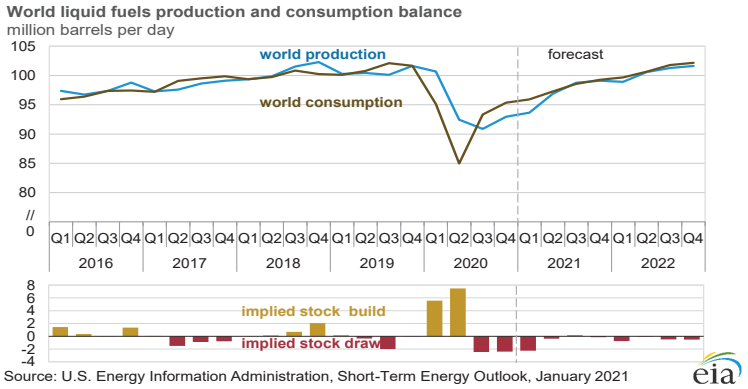
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021, and CME Group

U.S. natural gas prices

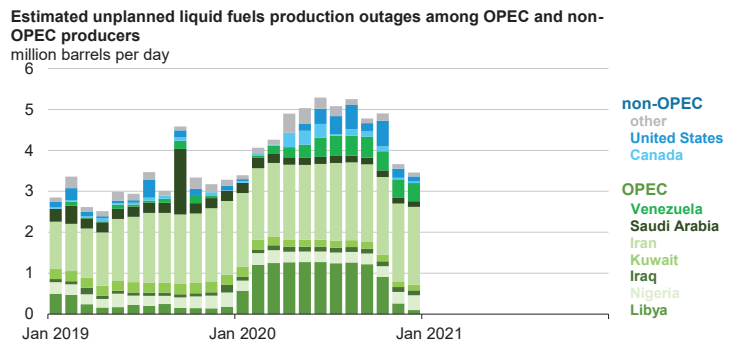
dollars per thousand cubic feet



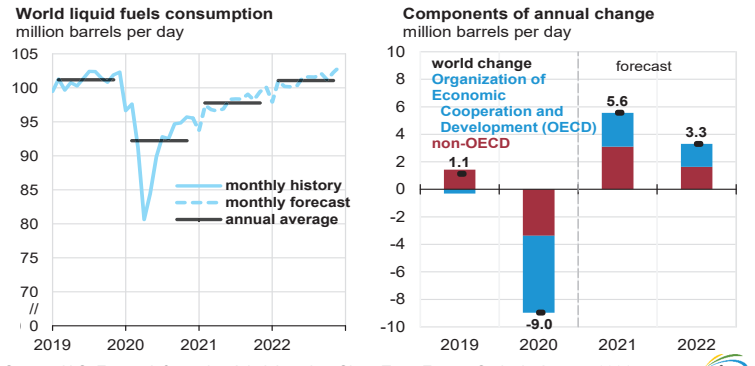
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021, and Refinitiv



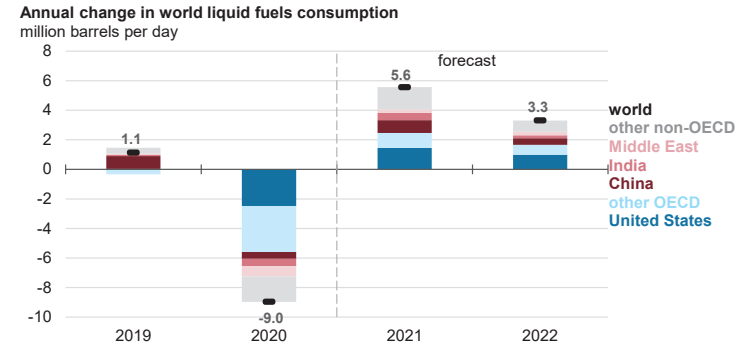
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



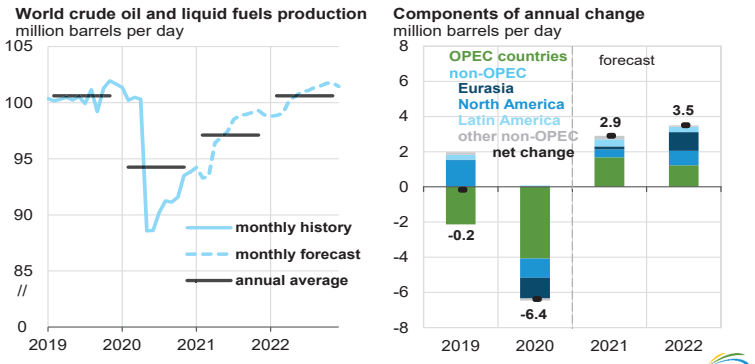
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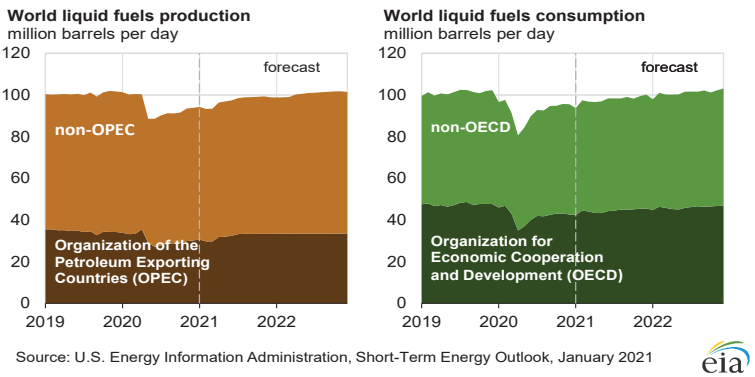
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

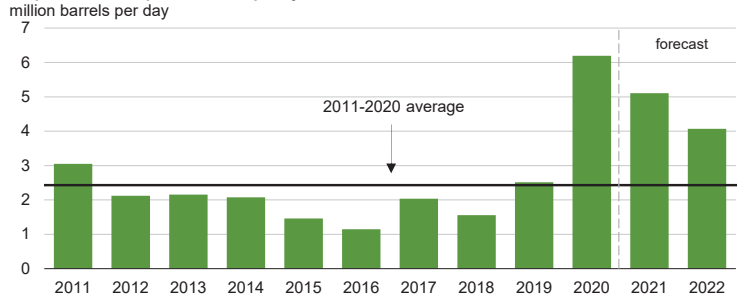


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



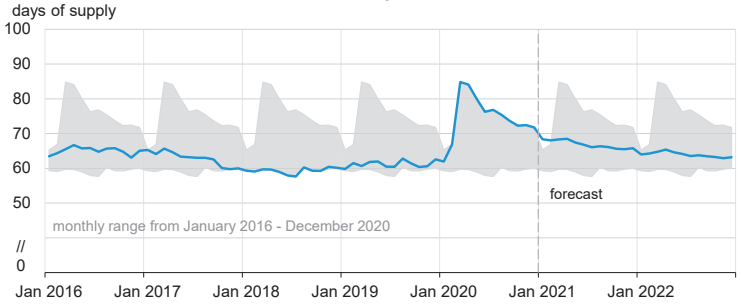
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



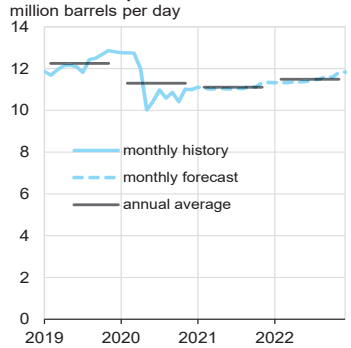
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

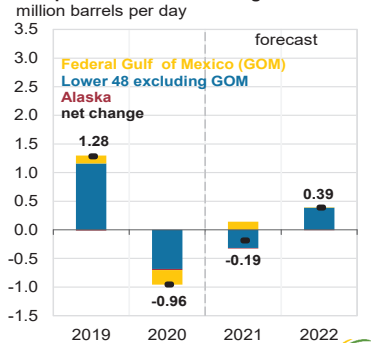


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. crude oil production
million barrels per day

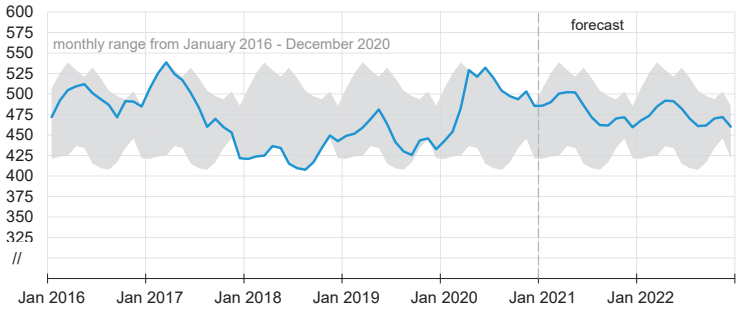


Components of annual change
million barrels per day



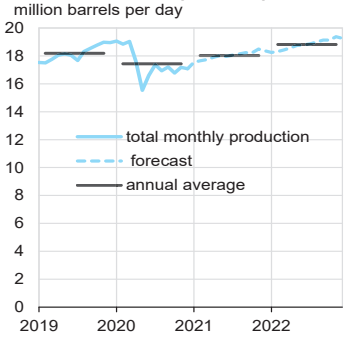
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. commercial crude oil inventories
million barrels

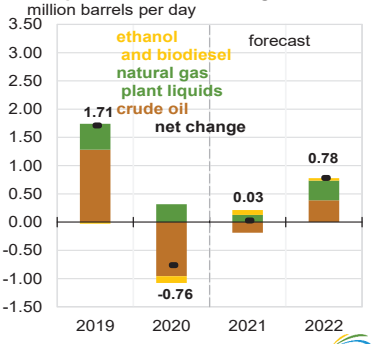


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. crude oil and liquid fuels production
million barrels per day

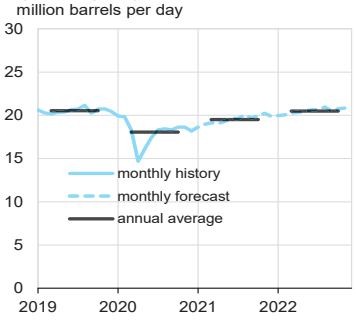


Components of annual change
million barrels per day

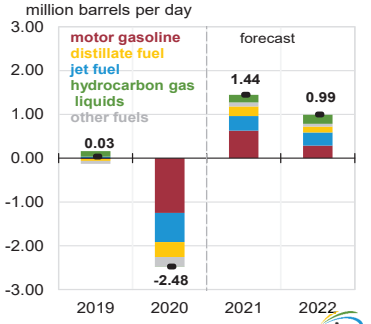


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January

U.S. liquid fuels product supplied (consumption)
million barrels per day

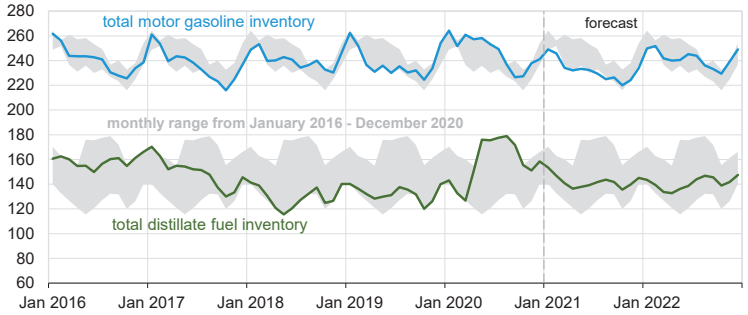


Components of annual change
million barrels per day



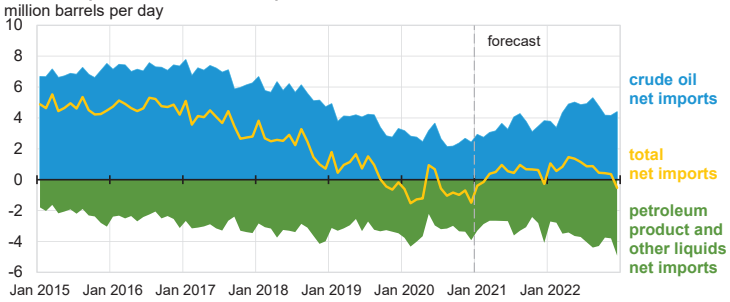
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. gasoline and distillate inventories
million barrels



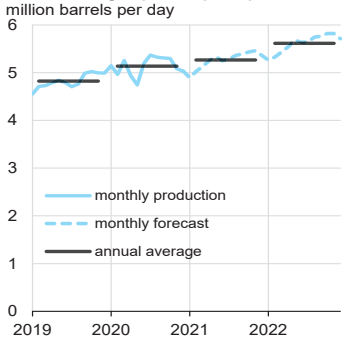
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

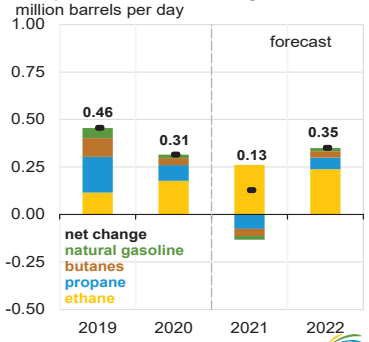


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

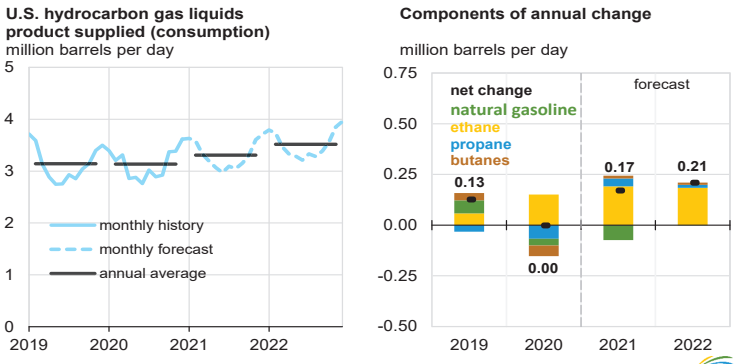
U.S. natural gas plant liquids production
million barrels per day



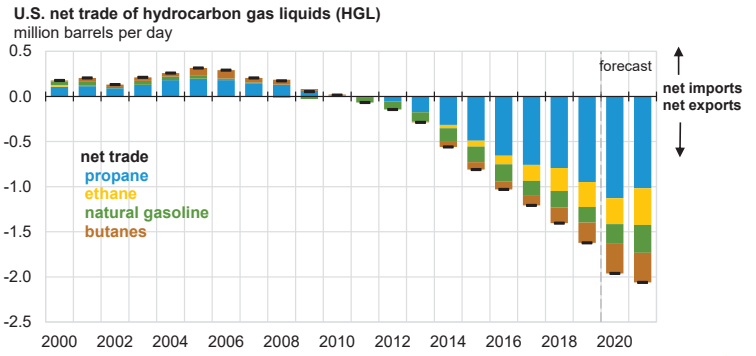
Components of annual change
million barrels per day



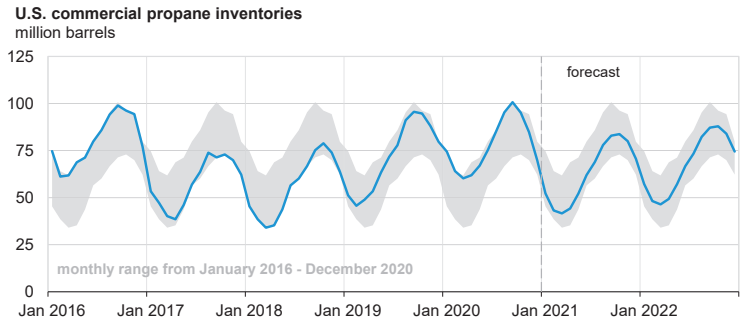
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



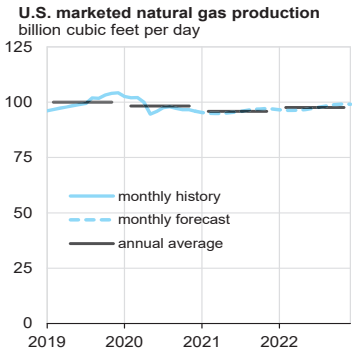
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

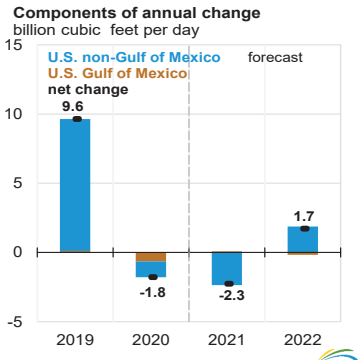


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

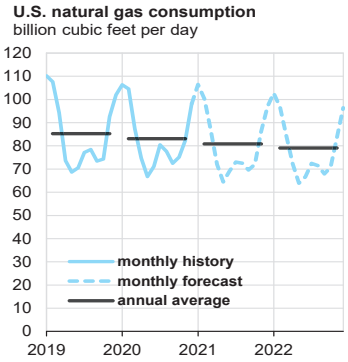


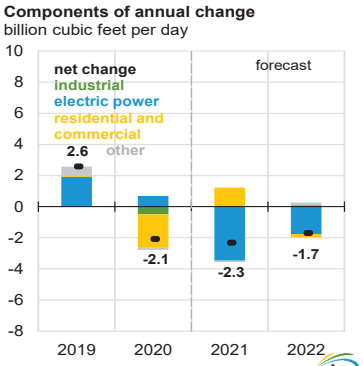
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



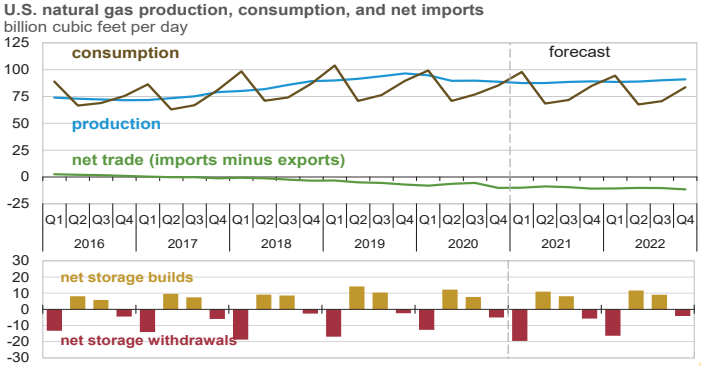


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



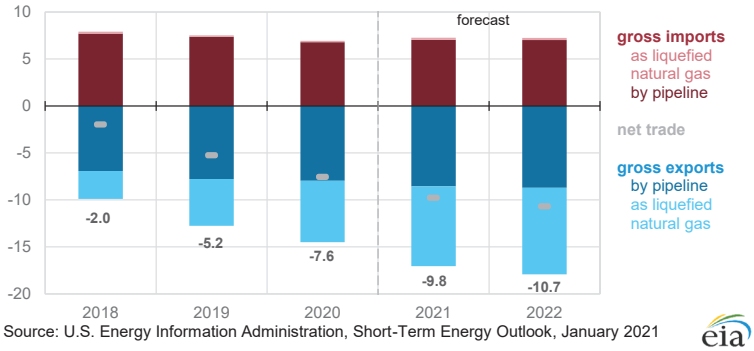


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



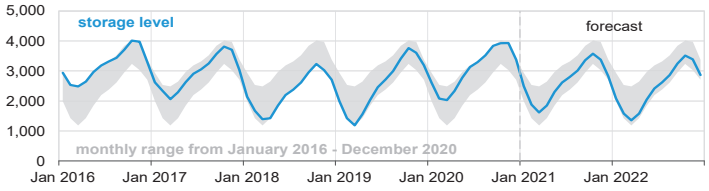
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. annual natural gas trade
billion cubic feet per day

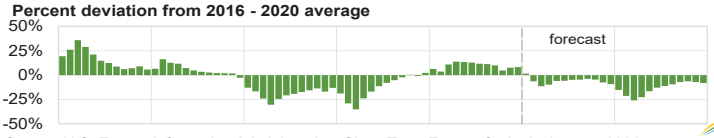


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. working natural gas in storage
billion cubic feet

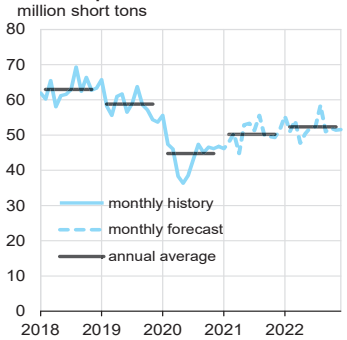


Percent deviation from 2016 - 2020 average

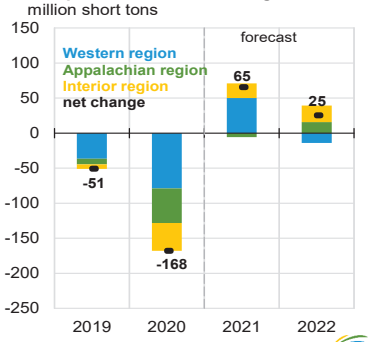


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

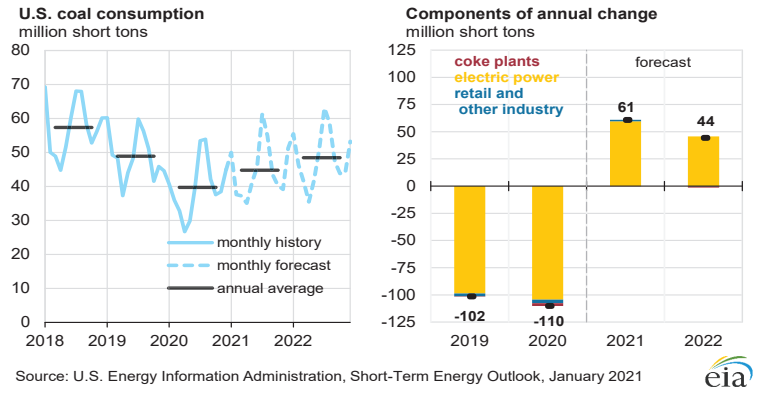
U.S. coal production
million short tons



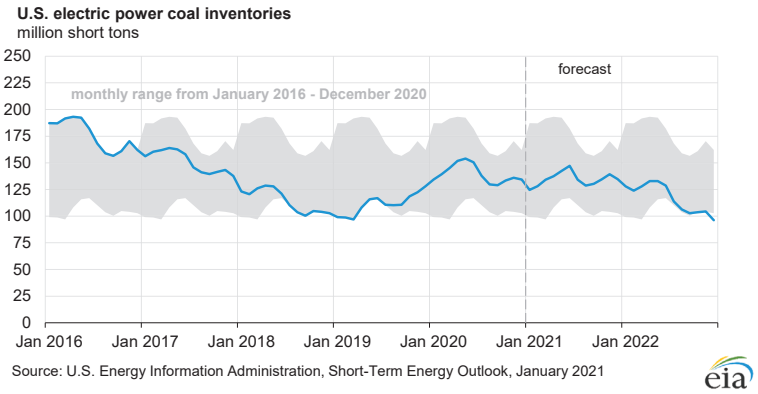
Components of annual change
million short tons



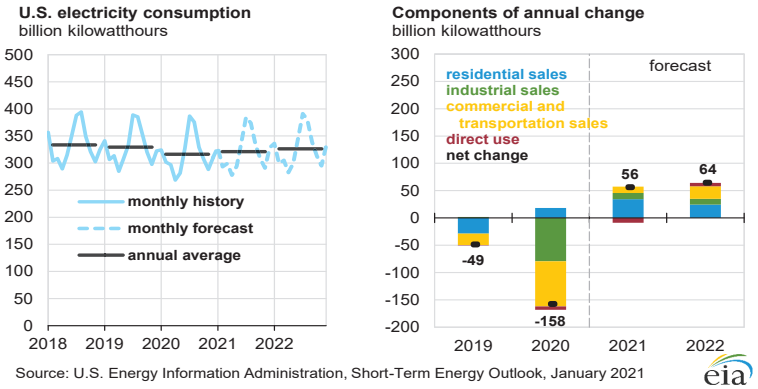
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



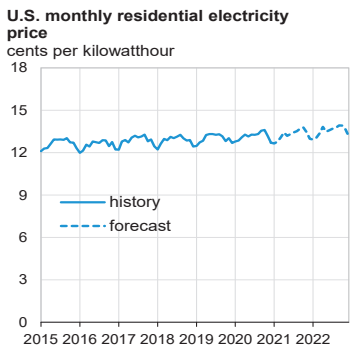
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

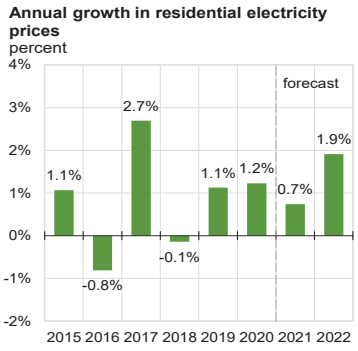


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

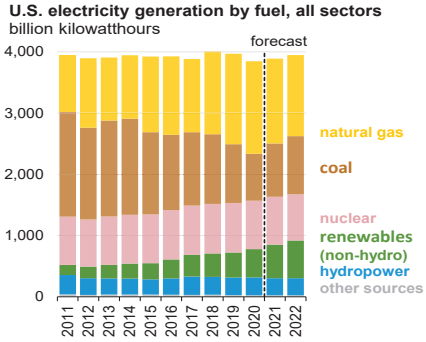


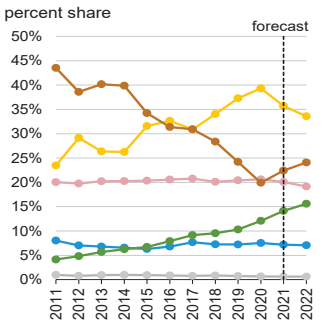
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021



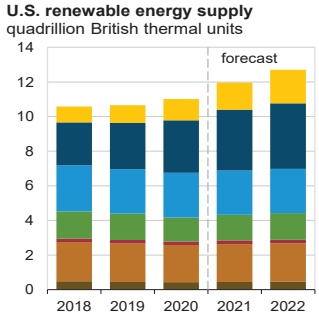


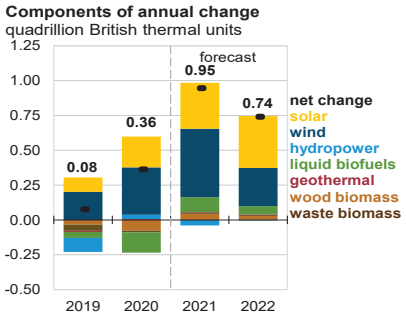
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

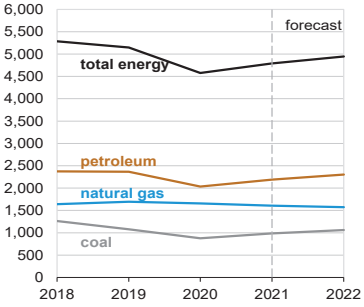




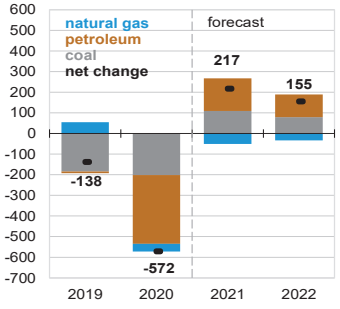
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. annual carbon emissions by source
million metric tons

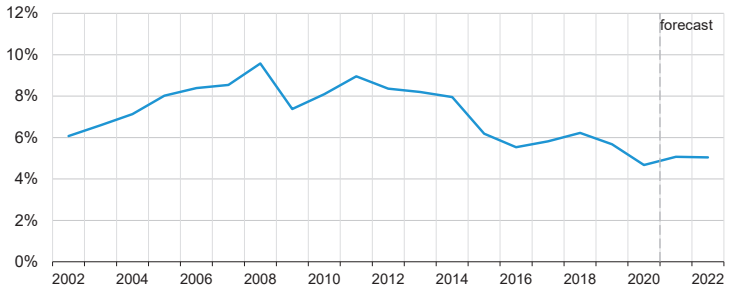


Components of annual change
million metric tons



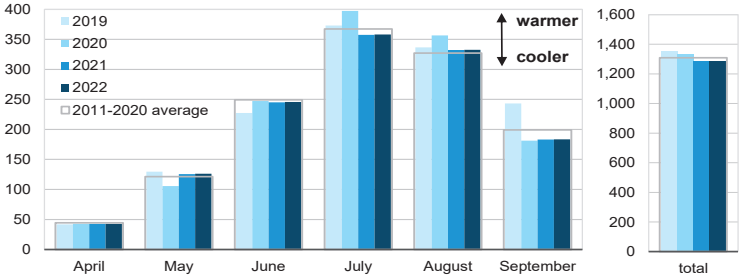
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. annual energy expenditures
share of gross domestic product



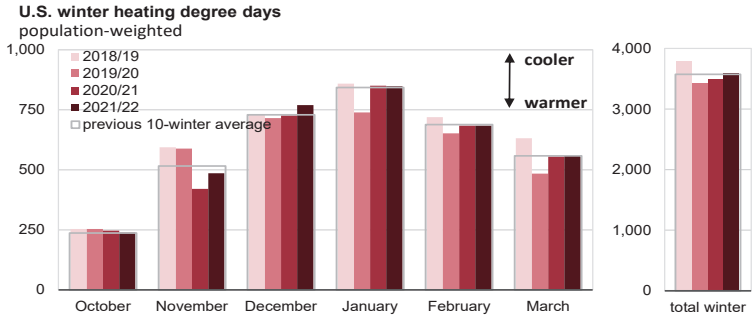
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

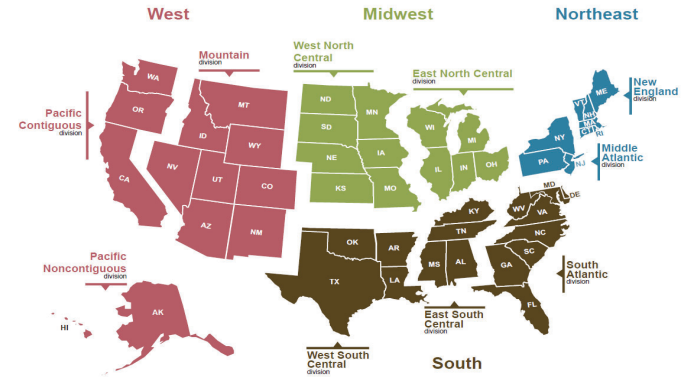


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2021

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.75**	**10.81**	**10.81**	**10.81**	*11.06*	*11.03*	*11.07*	*11.25*	*11.32*	*11.37*	*11.52*	*11.74*	**11.29**	*11.10*	*11.49*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.67**	**89.87**	**88.73**	*87.48*	*87.54*	*88.54*	*89.11*	*88.54*	*88.86*	*90.17*	*91.02*	**90.76**	*88.17*	*89.66*
Coal Production															
(million short tons)	**149**	**113**	**135**	**140**	*145*	*151*	*157*	*150*	*161*	*150*	*162*	*155*	**537**	*603*	*628*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.48**	*18.90*	*19.33*	*19.78*	*20.01*	*20.10*	*20.48*	*20.70*	*20.72*	**18.06**	*19.51*	*20.50*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.83**	**76.87**	**85.27**	*97.86*	*68.54*	*71.75*	*85.02*	*94.48*	*67.56*	*70.66*	*83.64*	**83.06**	*80.73*	*79.03*
Coal (b)															
(million short tons)	**109**	**96**	**149**	**121**	*125*	*122*	*160*	*131*	*143*	*128*	*169*	*141*	**476**	*537*	*581*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.86**	**9.84**	*10.24*	*10.01*	*11.87*	*10.09*	*10.44*	*10.18*	*12.06*	*10.23*	**10.37**	*10.56*	*10.73*
Renewables (c)															
(quadrillion Btu)	**2.93**	**3.01**	**2.84**	**2.87**	*3.14*	*3.33*	*3.08*	*3.08*	*3.34*	*3.56*	*3.29*	*3.22*	**11.64**	*12.63*	*13.41*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.12**	**20.66**	**23.47**	**23.23**	*24.60*	*22.37*	*23.68*	*24.24*	*25.27*	*23.07*	*24.25*	*24.69*	**92.47**	*94.89*	*97.28*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	*52.69*	*50.32*	*48.00*	*48.00*	*49.37*	*49.85*	*50.00*	*50.00*	**39.17**	*49.70*	*49.81*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	*3.01*	*2.96*	*3.00*	*3.08*	*3.29*	*3.22*	*3.24*	*3.33*	**2.03**	*3.01*	*3.27*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.91**	**1.99**	*2.07*	*2.08*	*2.04*	*2.05*	*2.08*	*2.08*	*2.06*	*2.07*	**1.94**	*2.06*	*2.07*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,584**	**18,830**	*18,961*	*19,065*	*19,292*	*19,487*	*19,697*	*19,871*	*20,020*	*20,146*	**18,432**	*19,201*	*19,933*
Percent change from prior year	**0.3**	**-9.0**	**-2.9**	**-2.2**	*-0.3*	*10.2*	*3.8*	*3.5*	*3.9*	*4.2*	*3.8*	*3.4*	**-3.5**	*4.2*	*3.8*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.9**	**114.4**	*114.8*	*115.3*	*115.8*	*116.3*	*116.8*	*117.4*	*118.0*	*118.6*	**113.6**	*115.6*	*117.7*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.2**	*1.3*	*2.2*	*1.7*	*1.7*	*1.8*	*1.8*	*1.9*	*2.0*	**1.2**	*1.7*	*1.9*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,919**	**15,515**	*15,659*	*15,441*	*15,375*	*15,426*	*15,532*	*15,601*	*15,678*	*15,754*	**15,781**	*15,475*	*15,641*
Percent change from prior year	**1.4**	**12.2**	**6.9**	**3.7**	*4.0*	*-7.2*	*-3.4*	*-0.6*	*-0.8*	*1.0*	*2.0*	*2.1*	**6.0**	*-1.9*	*1.1*
Manufacturing Production Index															
(Index, 2012=100)	**104.4**	**89.3**	**99.9**	**102.0**	*102.7*	*102.7*	*103.4*	*104.5*	*106.0*	*107.2*	*108.2*	*109.0*	**98.9**	*103.3*	*107.6*
Percent change from prior year	**-2.0**	**-15.5**	**-5.6**	**-3.6**	*-1.6*	*15.0*	*3.5*	*2.4*	*3.2*	*4.4*	*4.7*	*4.4*	**-6.7**	*4.5*	*4.1*
Weather															
U.S. Heating Degree-Days	**1,875**	**541**	**70**	**1,394**	*2,090*	*474*	*70*	*1,495*	*2,090*	*474*	*70*	*1,493*	**3,880**	*4,129*	*4,126*
U.S. Cooling Degree-Days	**71**	**395**	**935**	**123**	*46*	*413*	*873*	*100*	*45*	*414*	*874*	*100*	**1,525**	*1,432*	*1,434*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).

Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	*52.69*	*50.32*	*48.00*	*48.00*	*49.37*	*49.85*	*50.00*	*50.00*	**39.17**	*49.70*	*49.81*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	*55.69*	*53.32*	*51.00*	*51.00*	*52.37*	*53.35*	*54.00*	*54.00*	**41.69**	*52.70*	*53.44*
U.S. Imported Average	**43.76**	**26.33**	**39.91**	**40.44**	*50.65*	*48.30*	*46.00*	*46.00*	*47.14*	*47.58*	*47.50*	*47.50*	**37.20**	*47.53*	*47.44*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.88**	**40.79**	**41.54**	*51.65*	*49.30*	*47.00*	*47.00*	*48.10*	*48.59*	*48.50*	*48.50*	**39.62**	*48.66*	*48.43*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**134**	*161*	*172*	*163*	*151*	*151*	*168*	*171*	*159*	**133**	*162*	*163*
Diesel Fuel	**160**	**97**	**124**	**133**	*166*	*166*	*163*	*163*	*165*	*169*	*171*	*171*	**129**	*164*	*169*
Fuel Oil	**160**	**87**	**113**	**128**	*160*	*158*	*156*	*159*	*160*	*157*	*160*	*162*	**127**	*159*	*160*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**126**	*161*	*158*	*157*	*158*	*164*	*167*	*169*	*169*	**131**	*158*	*167*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**125**	*124*	*120*	*112*	*112*	*112*	*117*	*115*	*115*	**127**	*117*	*115*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	*233*	*252*	*243*	*233*	*226*	*248*	*250*	*241*	**218**	*240*	*242*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	*244*	*264*	*256*	*246*	*240*	*261*	*264*	*256*	**227**	*253*	*255*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	*273*	*269*	*269*	*272*	*271*	*270*	*277*	*279*	**255**	*271*	*274*
Heating Oil	**280**	**200**	**214**	**231**	*263*	*266*	*271*	*290*	*286*	*267*	*255*	*257*	**245**	*273*	*272*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	*3.13*	*3.08*	*3.12*	*3.20*	*3.41*	*3.34*	*3.37*	*3.46*	**2.11**	*3.13*	*3.40*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	*3.01*	*2.96*	*3.00*	*3.08*	*3.29*	*3.22*	*3.24*	*3.33*	**2.03**	*3.01*	*3.27*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.68**	*4.35*	*4.00*	*4.03*	*4.35*	*4.66*	*4.26*	*4.20*	*4.53*	**3.27**	*4.20*	*4.43*
Commercial Sector	**7.13**	**7.63**	**8.48**	**7.44**	*7.39*	*8.14*	*8.81*	*7.92*	*7.75*	*8.30*	*8.78*	*7.92*	**7.45**	*7.83*	*8.01*
Residential Sector	**9.46**	**11.89**	**17.62**	**10.14**	*9.44*	*12.57*	*17.27*	*10.66*	*9.70*	*12.73*	*17.56*	*10.89*	**10.68**	*10.77*	*11.06*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.91**	**1.99**	*2.07*	*2.08*	*2.04*	*2.05*	*2.08*	*2.08*	*2.06*	*2.07*	**1.94**	*2.06*	*2.07*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.81**	*3.61*	*3.21*	*3.22*	*3.45*	*3.95*	*3.51*	*3.50*	*3.74*	**2.37**	*3.35*	*3.65*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.09**	*9.70*	*11.00*	*9.93*	*9.59*	*9.96*	*10.84*	*10.35*	*10.18*	**8.94**	*10.03*	*10.32*
Distillate Fuel Oil	**13.27**	**8.39**	**10.38**	**10.59**	*12.83*	*13.07*	*12.77*	*12.89*	*12.97*	*13.26*	*13.38*	*13.47*	**10.74**	*12.88*	*13.27*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.37**	**6.63**	**7.09**	**6.60**	*6.41*	*6.71*	*7.10*	*6.62*	*6.43*	*6.72*	*7.12*	*6.62*	**6.68**	*6.71*	*6.73*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.48**	*10.27*	*10.77*	*11.23*	*10.68*	*10.41*	*10.90*	*11.33*	*10.75*	**10.62**	*10.76*	*10.87*
Residential Sector	**12.90**	**13.24**	**13.36**	**13.14**	*12.82*	*13.31*	*13.54*	*13.37*	*13.10*	*13.62*	*13.78*	*13.55*	**13.17**	*13.27*	*13.53*

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**32.90**	**29.42**	**29.87**	**30.47**	*30.84*	*30.97*	*31.17*	*31.61*	*31.68*	*31.91*	*32.11*	*32.62*	**30.66**	*31.15*	*32.08*
U.S. (50 States)	**20.22**	**17.58**	**18.30**	**18.22**	*18.32*	*18.64*	*18.80*	*19.02*	*19.04*	*19.42*	*19.73*	*20.02*	**18.58**	*18.70*	*19.56*
Canada	**5.65**	**4.94**	**4.92**	**5.62**	*5.75*	*5.70*	*5.71*	*5.73*	*5.78*	*5.77*	*5.82*	*5.87*	**5.28**	*5.72*	*5.81*
Mexico	**2.00**	**1.94**	**1.91**	**1.87**	*1.84*	*1.85*	*1.82*	*1.82*	*1.79*	*1.74*	*1.69*	*1.64*	**1.93**	*1.83*	*1.71*
Other OECD	**5.03**	**4.96**	**4.74**	**4.75**	*4.93*	*4.78*	*4.84*	*5.04*	*5.07*	*4.99*	*4.88*	*5.09*	**4.87**	*4.90*	*5.01*
Non-OECD	**67.79**	**63.03**	**61.00**	**62.50**	*62.83*	*65.93*	*67.59*	*67.50*	*67.23*	*68.68*	*69.18*	*69.02*	**63.57**	*65.98*	*68.53*
OPEC	**33.49**	**30.59**	**28.45**	**29.75**	*30.06*	*32.12*	*33.33*	*33.37*	*33.42*	*33.44*	*33.48*	*33.51*	**30.56**	*32.23*	*33.46*
Crude Oil Portion	**28.28**	**25.64**	**23.61**	**24.86**	*25.10*	*27.06*	*28.19*	*28.23*	*28.18*	*28.21*	*28.24*	*28.27*	**25.59**	*27.16*	*28.23*
Other Liquids (b)	**5.21**	**4.95**	**4.84**	**4.89**	*4.97*	*5.06*	*5.14*	*5.14*	*5.24*	*5.24*	*5.24*	*5.24*	**4.97**	*5.08*	*5.24*
Eurasia	**14.76**	**13.20**	**12.74**	**13.12**	*13.26*	*13.58*	*13.72*	*13.82*	*14.00*	*14.76*	*14.86*	*14.95*	**13.45**	*13.60*	*14.65*
China	**4.94**	**4.90**	**4.95**	**4.92**	*4.92*	*4.95*	*4.95*	*4.99*	*4.94*	*4.97*	*4.97*	*5.01*	**4.93**	*4.95*	*4.97*
Other Non-OECD	**14.61**	**14.34**	**14.86**	**14.71**	*14.59*	*15.28*	*15.59*	*15.31*	*14.87*	*15.51*	*15.87*	*15.55*	**14.63**	*15.19*	*15.45*
Total World Supply	**100.69**	**92.45**	**90.87**	**92.96**	*93.66*	*96.90*	*98.76*	*99.11*	*98.91*	*100.59*	*101.29*	*101.64*	**94.23**	*97.13*	*100.62*
Non-OPEC Supply	**67.21**	**61.86**	**62.42**	**63.22**	*63.60*	*64.78*	*65.43*	*65.74*	*65.49*	*67.15*	*67.82*	*68.13*	**63.67**	*64.89*	*67.16*
Consumption (million barrels per day) (c)															
OECD	**45.25**	**37.36**	**42.10**	**42.96**	*43.70*	*43.66*	*44.81*	*45.36*	*45.66*	*45.41*	*46.41*	*46.72*	**41.92**	*44.39*	*46.05*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.48**	*18.90*	*19.33*	*19.78*	*20.01*	*20.10*	*20.48*	*20.70*	*20.72*	**18.06**	*19.51*	*20.50*
U.S. Territories	**0.15**	**0.13**	**0.13**	**0.14**	*0.15*	*0.14*	*0.14*	*0.15*	*0.16*	*0.14*	*0.14*	*0.15*	**0.14**	*0.14*	*0.15*
Canada	**2.33**	**1.88**	**2.20**	**2.19**	*2.19*	*2.16*	*2.26*	*2.26*	*2.28*	*2.23*	*2.33*	*2.33*	**2.15**	*2.22*	*2.29*
Europe	**13.35**	**10.99**	**12.84**	**12.69**	*12.67*	*12.95*	*13.43*	*13.27*	*13.18*	*13.41*	*13.97*	*13.78*	**12.47**	*13.08*	*13.59*
Japan	**3.69**	**2.89**	**3.03**	**3.33**	*3.62*	*2.99*	*3.07*	*3.38*	*3.63*	*2.97*	*3.05*	*3.37*	**3.23**	*3.26*	*3.25*
Other OECD	**6.41**	**5.41**	**5.54**	**6.12**	*6.17*	*6.09*	*6.14*	*6.29*	*6.32*	*6.18*	*6.22*	*6.37*	**5.87**	*6.17*	*6.27*
Non-OECD	**49.88**	**47.61**	**51.23**	**52.40**	*52.23*	*53.62*	*53.77*	*53.90*	*54.01*	*55.24*	*55.37*	*55.46*	**50.29**	*53.38*	*55.03*
Eurasia	**4.85**	**4.48**	**5.27**	**5.16**	*4.90*	*4.99*	*5.39*	*5.25*	*5.09*	*5.16*	*5.56*	*5.41*	**4.94**	*5.13*	*5.31*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	*0.72*	*0.72*	*0.73*	*0.73*	*0.74*	*0.74*	*0.75*	*0.75*	**0.71**	*0.72*	*0.74*
China	**13.76**	**13.95**	**14.52**	**14.98**	*15.05*	*15.29*	*15.01*	*15.30*	*15.53*	*15.75*	*15.45*	*15.70*	**14.31**	*15.16*	*15.61*
Other Asia	**13.26**	**11.74**	**12.70**	**13.64**	*13.98*	*14.24*	*13.82*	*14.18*	*14.59*	*14.79*	*14.36*	*14.76*	**12.84**	*14.05*	*14.62*
Other Non-OECD	**17.31**	**16.74**	**18.04**	**17.90**	*17.58*	*18.39*	*18.83*	*18.44*	*18.07*	*18.81*	*19.25*	*18.83*	**17.50**	*18.31*	*18.74*
Total World Consumption	**95.13**	**84.97**	**93.34**	**95.36**	*95.93*	*97.28*	*98.58*	*99.26*	*99.67*	*100.65*	*101.79*	*102.17*	**92.21**	*97.77*	*101.08*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.89**	*0.41*	*-0.20*	*0.06*	*0.49*	*0.01*	*-0.49*	*0.01*	*0.46*	**-0.18**	*0.19*	*0.00*
Other OECD	**-0.54**	**-1.15**	**0.00**	**0.48**	*0.60*	*0.18*	*-0.08*	*-0.11*	*0.24*	*0.17*	*0.15*	*0.02*	**-0.30**	*0.15*	*0.15*
Other Stock Draws and Balance	**-4.60**	**-4.65**	**1.98**	**1.03**	*1.26*	*0.40*	*-0.17*	*-0.23*	*0.51*	*0.37*	*0.33*	*0.05*	**-1.54**	*0.31*	*0.31*
Total Stock Draw	**-5.57**	**-7.48**	**2.47**	**2.40**	*2.27*	*0.38*	*-0.18*	*0.16*	*0.77*	*0.06*	*0.49*	*0.53*	**-2.02**	*0.65*	*0.46*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	*1,311*	*1,338*	*1,339*	*1,298*	*1,301*	*1,349*	*1,351*	*1,319*	**1,344**	*1,298*	*1,319*
OECD Commercial Inventory	**2,967**	**3,204**	**3,173**	**3,051**	*2,964*	*2,974*	*2,982*	*2,951*	*2,932*	*2,965*	*2,953*	*2,919*	**3,051**	*2,951*	*2,919*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.87**	**24.46**	**25.13**	**25.71**	*25.91*	*26.19*	*26.33*	*26.57*	*26.61*	*26.93*	*27.23*	*27.53*	**25.79**	*26.25*	*27.08*
Canada	**5.65**	**4.94**	**4.92**	**5.62**	*5.75*	*5.70*	*5.71*	*5.73*	*5.78*	*5.77*	*5.82*	*5.87*	**5.28**	*5.72*	*5.81*
Mexico	**2.00**	**1.94**	**1.91**	**1.87**	*1.84*	*1.85*	*1.82*	*1.82*	*1.79*	*1.74*	*1.69*	*1.64*	**1.93**	*1.83*	*1.71*
United States	**20.22**	**17.58**	**18.30**	**18.22**	*18.32*	*18.64*	*18.80*	*19.02*	*19.04*	*19.42*	*19.73*	*20.02*	**18.58**	*18.70*	*19.56*
Central and South America	**6.05**	**6.09**	**6.60**	**6.31**	*6.11*	*6.77*	*7.10*	*6.85*	*6.38*	*7.06*	*7.46*	*7.18*	**6.26**	*6.71*	*7.02*
Argentina	**0.69**	**0.58**	**0.57**	**0.61**	*0.64*	*0.63*	*0.67*	*0.70*	*0.73*	*0.66*	*0.69*	*0.72*	**0.61**	*0.66*	*0.70*
Brazil	**3.44**	**3.89**	**4.29**	**3.84**	*3.57*	*4.34*	*4.66*	*4.29*	*3.73*	*4.51*	*4.86*	*4.41*	**3.86**	*4.22*	*4.38*
Colombia	**0.90**	**0.78**	**0.77**	**0.84**	*0.87*	*0.78*	*0.75*	*0.82*	*0.84*	*0.75*	*0.72*	*0.79*	**0.82**	*0.80*	*0.77*
Ecuador	**0.54**	**0.35**	**0.52**	**0.52**	*0.53*	*0.53*	*0.52*	*0.53*	*0.54*	*0.54*	*0.53*	*0.53*	**0.48**	*0.53*	*0.53*
Other Central and S. America	**0.48**	**0.48**	**0.46**	**0.49**	*0.50*	*0.50*	*0.50*	*0.51*	*0.55*	*0.61*	*0.67*	*0.73*	**0.48**	*0.50*	*0.64*
Europe	**4.39**	**4.31**	**4.13**	**4.22**	*4.40*	*4.25*	*4.31*	*4.52*	*4.55*	*4.47*	*4.37*	*4.59*	**4.26**	*4.37*	*4.50*
Norway	**2.06**	**2.01**	**1.96**	**2.00**	*2.18*	*2.11*	*2.18*	*2.31*	*2.34*	*2.27*	*2.27*	*2.39*	**2.01**	*2.19*	*2.32*
United Kingdom	**1.17**	**1.16**	**1.00**	**1.05**	*1.06*	*0.99*	*0.98*	*1.05*	*1.06*	*1.04*	*0.93*	*1.02*	**1.09**	*1.02*	*1.01*
Eurasia	**14.76**	**13.20**	**12.74**	**13.12**	*13.26*	*13.58*	*13.72*	*13.82*	*14.00*	*14.76*	*14.86*	*14.95*	**13.45**	*13.60*	*14.65*
Azerbaijan	**0.77**	**0.70**	**0.67**	**0.69**	*0.70*	*0.73*	*0.74*	*0.75*	*0.76*	*0.79*	*0.78*	*0.78*	**0.71**	*0.73*	*0.78*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	*1.83*	*1.86*	*1.88*	*1.89*	*1.91*	*1.99*	*1.99*	*2.01*	**1.86**	*1.87*	*1.98*
Russia	**11.55**	**10.25**	**9.97**	**10.24**	*10.36*	*10.62*	*10.74*	*10.82*	*10.99*	*11.63*	*11.75*	*11.81*	**10.50**	*10.64*	*11.55*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.25**	*0.24*	*0.24*	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.24**	*0.24*	*0.23*
Other Eurasia	**0.15**	**0.15**	**0.14**	**0.14**	*0.13*	*0.13*	*0.13*	*0.13*	*0.12*	*0.12*	*0.12*	*0.12*	**0.14**	*0.13*	*0.12*
Middle East	**3.24**	**3.18**	**3.15**	**3.18**	*3.25*	*3.30*	*3.32*	*3.32*	*3.37*	*3.37*	*3.37*	*3.37*	**3.19**	*3.29*	*3.37*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	*0.97*	*1.02*	*1.04*	*1.04*	*1.05*	*1.05*	*1.05*	*1.05*	**0.96**	*1.02*	*1.05*
Qatar	**2.06**	**2.06**	**2.06**	**2.06**	*2.10*	*2.10*	*2.10*	*2.10*	*2.12*	*2.12*	*2.12*	*2.12*	**2.06**	*2.10*	*2.12*
Asia and Oceania	**9.44**	**9.17**	**9.25**	**9.23**	*9.24*	*9.25*	*9.21*	*9.22*	*9.17*	*9.18*	*9.14*	*9.15*	**9.27**	*9.23*	*9.16*
Australia	**0.49**	**0.50**	**0.50**	**0.50**	*0.49*	*0.49*	*0.48*	*0.47*	*0.47*	*0.46*	*0.45*	*0.44*	**0.50**	*0.48*	*0.45*
China	**4.94**	**4.90**	**4.95**	**4.92**	*4.92*	*4.95*	*4.95*	*4.99*	*4.94*	*4.97*	*4.97*	*5.01*	**4.93**	*4.95*	*4.97*
India	**0.96**	**0.90**	**0.92**	**0.90**	*0.91*	*0.90*	*0.89*	*0.88*	*0.89*	*0.89*	*0.88*	*0.87*	**0.92**	*0.89*	*0.88*
Indonesia	**0.91**	**0.89**	**0.88**	**0.88**	*0.87*	*0.86*	*0.85*	*0.84*	*0.85*	*0.84*	*0.83*	*0.82*	**0.89**	*0.85*	*0.83*
Malaysia	**0.72**	**0.61**	**0.63**	**0.62**	*0.63*	*0.63*	*0.63*	*0.62*	*0.62*	*0.62*	*0.61*	*0.60*	**0.64**	*0.63*	*0.61*
Vietnam	**0.24**	**0.23**	**0.22**	**0.22**	*0.22*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	*0.21*	*0.20*	**0.23**	*0.22*	*0.21*
Africa	**1.46**	**1.45**	**1.43**	**1.44**	*1.45*	*1.44*	*1.44*	*1.44*	*1.40*	*1.39*	*1.38*	*1.37*	**1.45**	*1.44*	*1.38*
Egypt	**0.62**	**0.61**	**0.59**	**0.60**	*0.61*	*0.61*	*0.61*	*0.61*	*0.58*	*0.58*	*0.58*	*0.58*	**0.61**	*0.61*	*0.58*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.21**	**61.86**	**62.42**	**63.22**	*63.60*	*64.78*	*65.43*	*65.74*	*65.49*	*67.15*	*67.82*	*68.13*	**63.67**	*64.89*	*67.16*
OPEC non-crude liquids	**5.21**	**4.95**	**4.84**	**4.89**	*4.97*	*5.06*	*5.14*	*5.14*	*5.24*	*5.24*	*5.24*	*5.24*	**4.97**	*5.08*	*5.24*
Non-OPEC + OPEC non-crude	**72.41**	**66.81**	**67.26**	**68.10**	*68.57*	*69.84*	*70.57*	*70.88*	*70.72*	*72.39*	*73.05*	*73.37*	**68.64**	*69.97*	*72.39*
Unplanned non-OPEC Production Outages	**0.18**	**0.90**	**0.69**	**0.52**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.57**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

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Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	-	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.36**	**1.26**	**1.17**	**1.12**	-	-	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	-	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.10**	-	-	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.16**	-	-	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.90**	-	-	-	-	-	-	-	-	**1.95**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	-	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	-	-	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	-	-	-	-	-	-	-	-	**0.37**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.48**	-	-	-	-	-	-	-	-	**1.55**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	-	-	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	-	-	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	-	-	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.64**	**23.61**	**24.86**	*25.10*	*27.06*	*28.19*	*28.23*	*28.18*	*28.21*	*28.24*	*28.27*	**25.59**	*27.16*	*28.23*
Other Liquids (a)	**5.21**	**4.95**	**4.84**	**4.89**	*4.97*	*5.06*	*5.14*	*5.14*	*5.24*	*5.24*	*5.24*	*5.24*	**4.97**	*5.08*	*5.24*
Total OPEC Supply	**33.49**	**30.59**	**28.45**	**29.75**	*30.06*	*32.12*	*33.33*	*33.37*	*33.42*	*33.44*	*33.48*	*33.51*	**30.56**	*32.23*	*33.46*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.17**	*26.27*	*26.29*	*26.28*	*26.28*	*26.28*	*26.29*	*26.29*	*26.29*	**25.97**	*26.28*	*26.29*
Other	**5.82**	**5.60**	**5.48**	**6.34**	*5.89*	*6.01*	*6.02*	*6.02*	*5.96*	*5.99*	*6.02*	*6.05*	**5.81**	*5.98*	*6.01*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.51**	*32.15*	*32.30*	*32.30*	*32.30*	*32.25*	*32.27*	*32.31*	*32.35*	**31.78**	*32.26*	*32.29*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	*6.90*	*5.12*	*4.01*	*3.98*	*3.98*	*3.99*	*3.99*	*3.99*	**5.49**	*4.99*	*3.99*
Other	**0.00**	**0.72**	**1.04**	**1.04**	*0.16*	*0.12*	*0.09*	*0.09*	*0.08*	*0.08*	*0.08*	*0.08*	**0.70**	*0.11*	*0.08*
OPEC Total	**3.15**	**5.99**	**7.94**	**7.65**	*7.06*	*5.24*	*4.10*	*4.07*	*4.06*	*4.07*	*4.07*	*4.08*	**6.19**	*5.11*	*4.07*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.49**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**3.94**	*n/a*	*n/a*

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

(a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.16**	**22.52**	*22.95*	*23.38*	*23.92*	*24.16*	*24.26*	*24.61*	*24.92*	*24.95*	**21.94**	*23.61*	*24.69*
Canada	**2.33**	**1.88**	**2.20**	**2.19**	*2.19*	*2.16*	*2.26*	*2.26*	*2.28*	*2.23*	*2.33*	*2.33*	**2.15**	*2.22*	*2.29*
Mexico	**1.97**	**1.48**	**1.59**	**1.84**	*1.84*	*1.88*	*1.87*	*1.89*	*1.87*	*1.89*	*1.88*	*1.90*	**1.72**	*1.87*	*1.89*
United States	**19.33**	**16.08**	**18.36**	**18.48**	*18.90*	*19.33*	*19.78*	*20.01*	*20.10*	*20.48*	*20.70*	*20.72*	**18.06**	*19.51*	*20.50*
Central and South America	**6.20**	**5.68**	**6.11**	**6.35**	*6.31*	*6.50*	*6.63*	*6.65*	*6.44*	*6.60*	*6.74*	*6.76*	**6.09**	*6.53*	*6.64*
Brazil	**2.88**	**2.66**	**2.96**	**3.05**	*2.96*	*3.06*	*3.17*	*3.17*	*3.04*	*3.13*	*3.23*	*3.24*	**2.89**	*3.09*	*3.16*
Europe	**14.05**	**11.68**	**13.55**	**13.42**	*13.38*	*13.67*	*14.16*	*14.01*	*13.92*	*14.15*	*14.72*	*14.53*	**13.18**	*13.81*	*14.33*
Eurasia	**4.85**	**4.48**	**5.27**	**5.16**	*4.90*	*4.99*	*5.39*	*5.25*	*5.09*	*5.16*	*5.56*	*5.41*	**4.94**	*5.13*	*5.31*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	*3.69*	*3.81*	*4.13*	*3.99*	*3.84*	*3.95*	*4.28*	*4.13*	**3.73**	*3.90*	*4.05*
Middle East	**7.61**	**7.54**	**8.42**	**7.89**	*7.59*	*8.18*	*8.59*	*7.97*	*7.86*	*8.42*	*8.82*	*8.18*	**7.87**	*8.09*	*8.32*
Asia and Oceania	**34.59**	**32.09**	**33.74**	**35.72**	*36.44*	*36.19*	*35.61*	*36.74*	*37.65*	*37.25*	*36.64*	*37.77*	**34.04**	*36.24*	*37.33*
China	**13.76**	**13.95**	**14.52**	**14.98**	*15.05*	*15.29*	*15.01*	*15.30*	*15.53*	*15.75*	*15.45*	*15.70*	**14.31**	*15.16*	*15.61*
Japan	**3.69**	**2.89**	**3.03**	**3.33**	*3.62*	*2.99*	*3.07*	*3.38*	*3.63*	*2.97*	*3.05*	*3.37*	**3.23**	*3.26*	*3.25*
India	**4.63**	**3.77**	**4.17**	**4.85**	*4.93*	*4.98*	*4.63*	*4.90*	*5.10*	*5.17*	*4.83*	*5.14*	**4.36**	*4.86*	*5.06*
Africa	**4.19**	**4.06**	**4.09**	**4.30**	*4.35*	*4.37*	*4.29*	*4.48*	*4.46*	*4.46*	*4.39*	*4.57*	**4.16**	*4.37*	*4.47*
Total OECD Liquid Fuels Consumption	**45.25**	**37.36**	**42.10**	**42.96**	*43.70*	*43.66*	*44.81*	*45.36*	*45.66*	*45.41*	*46.41*	*46.72*	**41.92**	*44.39*	*46.05*
Total non-OECD Liquid Fuels Consumption	**49.88**	**47.61**	**51.23**	**52.40**	*52.23*	*53.62*	*53.77*	*53.90*	*54.01*	*55.24*	*55.37*	*55.46*	**50.29**	*53.38*	*55.03*
Total World Liquid Fuels Consumption	**95.13**	**84.97**	**93.34**	**95.36**	*95.93*	*97.28*	*98.58*	*99.26*	*99.67*	*100.65*	*101.79*	*102.17*	**92.21**	*97.77*	*101.08*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**109.9**	**107.2**	**111.8**	**112.3**	*115.0*	*115.8*	*116.7*	*117.5*	*120.3*	*120.9*	*121.6*	*122.1*	**110.3**	*116.2*	*121.2*
Percent change from prior year	**-3.7**	**-6.4**	**-2.8**	**-2.7**	*4.6*	*8.0*	*4.4*	*4.6*	*4.6*	*4.5*	*4.1*	*4.0*	**-3.9**	*5.4*	*4.3*
OECD Index, 2015 = 100													**103.3**	*107.6*	*111.5*
Percent change from prior year													**-5.0**	*4.2*	*3.6*
Non-OECD Index, 2015 = 100													**115.3**	*122.4*	*128.3*
Percent change from prior year													**-2.7**	*6.2*	*4.8*
Real U.S. Dollar Exchange Rate (b)															
Index, 2015 Q1 = 100	**106.52**	**108.27**	**106.90**	**105.80**	*104.75*	*104.73*	*104.61*	*104.24*	*103.98*	*103.96*	*103.78*	*103.53*	**106.87**	*104.58*	*103.81*
Percent change from prior year	**1.0**	**2.1**	**0.4**	**-0.4**	*-1.7*	*-3.3*	*-2.1*	*-1.5*	*-0.7*	*-0.7*	*-0.8*	*-0.7*	**0.7**	*-2.1*	*-0.7*

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. GDP data are from Oxford Economics.

(b) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. Exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

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Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.75**	**10.81**	**10.81**	**10.81**	*11.06*	*11.03*	*11.07*	*11.25*	*11.32*	*11.37*	*11.52*	*11.74*	**11.29**	*11.10*	*11.49*
Alaska	**0.48**	**0.41**	**0.44**	**0.47**	*0.46*	*0.41*	*0.41*	*0.47*	*0.46*	*0.40*	*0.41*	*0.46*	**0.45**	*0.44*	*0.43*
Federal Gulf of Mexico (b)	**1.96**	**1.69**	**1.45**	**1.46**	*1.84*	*1.81*	*1.73*	*1.75*	*1.81*	*1.80*	*1.76*	*1.78*	**1.64**	*1.78*	*1.79*
Lower 48 States (excl GOM)	**10.31**	**8.71**	**8.91**	**8.87**	*8.75*	*8.81*	*8.94*	*9.02*	*9.05*	*9.17*	*9.36*	*9.50*	**9.20**	*8.88*	*9.27*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.48**	*2.91*	*3.35*	*4.03*	*3.45*	*3.83*	*4.92*	*4.98*	*4.24*	**2.69**	*3.43*	*4.50*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	*0.04*	*0.10*	*0.07*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	*-0.17*	*0.16*	*0.27*	*0.02*	*-0.28*	*0.03*	*0.22*	*0.02*	**-0.14**	*0.07*	*0.00*
Crude Oil Adjustment (d)	**0.67**	**0.03**	**0.38**	**0.43**	*0.22*	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.38**	*0.21*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.89**	*14.06*	*14.85*	*15.66*	*14.93*	*15.14*	*16.58*	*16.99*	*16.26*	**14.21**	*14.88*	*16.25*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**1.01**	*1.00*	*1.05*	*1.06*	*1.03*	*1.06*	*1.09*	*1.13*	*1.14*	**0.94**	*1.04*	*1.10*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.14**	*5.02*	*5.28*	*5.34*	*5.42*	*5.34*	*5.62*	*5.72*	*5.78*	**5.14**	*5.27*	*5.62*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.06**	*1.04*	*1.07*	*1.11*	*1.11*	*1.11*	*1.12*	*1.13*	*1.14*	**1.00**	*1.09*	*1.13*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.96**	*0.95*	*0.96*	*1.01*	*1.01*	*1.01*	*1.01*	*1.01*	*1.03*	**0.90**	*0.98*	*1.02*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.21**	*0.20*	*0.20*	*0.21*	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.20*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.54**	*-2.95*	*-2.67*	*-3.34*	*-3.11*	*-3.01*	*-3.59*	*-4.25*	*-4.16*	**-3.41**	*-3.02*	*-3.76*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.14**	*-1.96*	*-2.09*	*-2.13*	*-2.06*	*-2.05*	*-2.22*	*-2.25*	*-2.15*	**-1.96**	*-2.06*	*-2.17*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.36**	*0.39*	*0.45*	*0.43*	*0.29*	*0.21*	*0.26*	*0.30*	*0.20*	**0.31**	*0.39*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.06**	*-0.11*	*-0.09*	*-0.09*	*-0.10*	*-0.11*	*-0.09*	*-0.09*	*-0.10*	**-0.06**	*-0.09*	*-0.09*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.41**	*0.47*	*0.65*	*0.51*	*0.15*	*0.53*	*0.75*	*0.43*	*0.22*	**0.41**	*0.44*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.81**	*-0.70*	*-0.60*	*-0.67*	*-0.48*	*-0.57*	*-0.65*	*-0.76*	*-0.73*	**-0.63**	*-0.61*	*-0.68*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.05**	*-0.07*	*-0.04*	*0.00*	*0.01*	*0.05*	*0.09*	*0.11*	*0.17*	**0.05**	*-0.02*	*0.11*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.77**	*-0.57*	*-0.54*	*-0.84*	*-0.42*	*-0.56*	*-1.04*	*-1.30*	*-1.21*	**-0.99**	*-0.59*	*-1.03*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.06**	*0.04*	*-0.01*	*0.00*	*0.06*	*-0.02*	*-0.07*	*-0.05*	*0.05*	**0.03**	*0.02*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.65**	*-0.46*	*-0.40*	*-0.55*	*-0.57*	*-0.49*	*-0.62*	*-0.64*	*-0.61*	**-0.57**	*-0.49*	*-0.59*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.72**	*0.53*	*-0.45*	*-0.28*	*0.42*	*0.25*	*-0.56*	*-0.24*	*0.33*	**-0.03**	*0.06*	*-0.06*
Total Supply	**19.33**	**16.08**	**18.36**	**18.48**	*18.90*	*19.33*	*19.78*	*20.01*	*20.10*	*20.48*	*20.70*	*20.72*	**18.06**	*19.51*	*20.50*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.46**	*3.51*	*3.08*	*3.10*	*3.54*	*3.66*	*3.28*	*3.33*	*3.79*	**3.14**	*3.31*	*3.52*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**-0.02**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.06**	*0.00*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.13**	*8.24*	*8.74*	*8.95*	*8.82*	*8.67*	*9.18*	*9.17*	*8.88*	**8.06**	*8.69*	*8.98*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.85**	*0.83*	*0.89*	*0.92*	*0.90*	*0.88*	*0.94*	*0.93*	*0.92*	**0.82**	*0.89*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	*1.26*	*1.39*	*1.51*	*1.48*	*1.57*	*1.71*	*1.77*	*1.78*	**1.08**	*1.41*	*1.71*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.88**	*4.00*	*3.98*	*3.87*	*4.10*	*4.21*	*4.12*	*4.03*	*4.12*	**3.77**	*3.99*	*4.12*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.25**	*0.24*	*0.23*	*0.28*	*0.25*	*0.23*	*0.21*	*0.26*	*0.26*	**0.22**	*0.25*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.70**	*1.67*	*1.92*	*2.06*	*1.83*	*1.75*	*1.99*	*2.14*	*1.88*	**1.75**	*1.87*	*1.94*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.48**	*18.90*	*19.33*	*19.78*	*20.01*	*20.10*	*20.48*	*20.70*	*20.72*	**18.06**	*19.51*	*20.50*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-1.06**	*-0.05*	*0.68*	*0.69*	*0.34*	*0.83*	*1.33*	*0.74*	*0.08*	**-0.72**	*0.41*	*0.74*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.5**	*500.5*	*486.3*	*461.5*	*459.5*	*484.7*	*482.1*	*461.6*	*460.1*	**485.5**	*459.5*	*460.1*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**230.4**	*185.2*	*230.7*	*265.8*	*222.2*	*183.3*	*229.9*	*267.2*	*225.3*	**230.4**	*222.2*	*225.3*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.5**	*92.4*	*91.0*	*90.2*	*83.1*	*93.3*	*91.0*	*90.0*	*83.2*	**78.5**	*83.1*	*83.2*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**28.9**	*29.8*	*28.7*	*28.5*	*28.8*	*30.8*	*29.6*	*29.3*	*29.6*	**28.9**	*28.8*	*29.6*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**241.1**	*234.2*	*232.3*	*226.3*	*233.9*	*241.7*	*245.2*	*233.1*	*249.0*	**241.1**	*233.9*	*249.0*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	*21.2*	*23.2*	*22.1*	*24.3*	*24.1*	*23.8*	*23.1*	*26.1*	**25.3**	*24.3*	*26.1*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**215.8**	*213.0*	*209.1*	*204.2*	*209.5*	*217.5*	*221.4*	*210.0*	*222.9*	**215.8**	*209.5*	*222.9*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.8**	*38.8*	*39.9*	*42.3*	*39.3*	*39.0*	*39.9*	*42.2*	*39.2*	**38.8**	*39.3*	*39.2*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**158.4**	*140.8*	*139.3*	*141.8*	*145.0*	*133.6*	*138.6*	*145.6*	*147.4*	**158.4**	*145.0*	*147.4*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	*31.5*	*33.0*	*31.2*	*32.5*	*32.0*	*32.8*	*31.0*	*32.6*	**30.2**	*32.5*	*32.6*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**52.3**	*58.0*	*56.9*	*51.3*	*53.5*	*62.5*	*60.3*	*51.0*	*52.4*	**52.3**	*53.5*	*52.4*
Total Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	*1,311*	*1,338*	*1,339*	*1,298*	*1,301*	*1,349*	*1,351*	*1,319*	**1,344**	*1,298*	*1,319*
Crude Oil in SPR	**635**	**656**	**642**	**638**	*634*	*626*	*619*	*615*	*611*	*606*	*604*	*594*	**638**	*615*	*594*

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.04**	*2.18*	*2.28*	*2.26*	*2.35*	*2.35*	*2.51*	*2.54*	*2.62*	**2.01**	*2.27*	*2.51*
Propane	**1.72**	**1.61**	**1.68**	**1.67**	*1.52*	*1.60*	*1.63*	*1.63*	*1.61*	*1.65*	*1.68*	*1.69*	**1.67**	*1.60*	*1.66*
Butanes	**0.91**	**0.86**	**0.90**	**0.88**	*0.81*	*0.84*	*0.87*	*0.87*	*0.85*	*0.88*	*0.90*	*0.90*	**0.89**	*0.85*	*0.88*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.55**	*0.51*	*0.56*	*0.59*	*0.56*	*0.53*	*0.57*	*0.60*	*0.58*	**0.58**	*0.56*	*0.57*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.00**	*0.00*	*0.00*	*0.01*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.29**	*0.27*	*0.29*	*0.30*	*0.30*	*0.31*	*0.33*	*0.32*	*0.32*	**0.27**	*0.29*	*0.32*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.27**	*0.27*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.21**	*-0.09*	*0.26*	*0.18*	*-0.20*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.01**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.30**	*-0.37*	*-0.41*	*-0.41*	*-0.44*	*-0.44*	*-0.45*	*-0.45*	*-0.46*	**-0.29**	*-0.41*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.23**	*-0.93*	*-1.04*	*-1.07*	*-1.03*	*-1.00*	*-1.13*	*-1.14*	*-1.10*	**-1.13**	*-1.02*	*-1.09*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.35**	*-0.32*	*-0.35*	*-0.35*	*-0.30*	*-0.31*	*-0.36*	*-0.36*	*-0.31*	**-0.33**	*-0.33*	*-0.33*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.25**	*-0.34*	*-0.30*	*-0.30*	*-0.29*	*-0.31*	*-0.29*	*-0.30*	*-0.28*	**-0.22**	*-0.31*	*-0.29*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.49**	*0.37*	*0.26*	*0.30*	*0.48*	*0.39*	*0.29*	*0.32*	*0.50*	**0.38**	*0.35*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	*0.13*	*0.17*	*0.17*	*0.16*	*0.17*	*0.18*	*0.19*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.75**	*1.85*	*1.86*	*1.88*	*1.92*	*1.93*	*2.05*	*2.11*	*2.15*	**1.69**	*1.88*	*2.06*
Propane	**1.09**	**0.59**	**0.58**	**1.04**	*1.15*	*0.61*	*0.61*	*1.02*	*1.17*	*0.61*	*0.63*	*1.04*	**0.82**	*0.85*	*0.86*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.29**	*0.29*	*0.29*	*0.29*	*0.29*	*0.30*	*0.30*	*0.30*	*0.29*	**0.27**	*0.29*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.20**	*0.15*	*0.23*	*0.21*	*0.21*	*0.19*	*0.23*	*0.21*	*0.21*	**0.19**	*0.20*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.18**	*0.07*	*0.08*	*0.11*	*0.10*	*0.08*	*0.08*	*0.10*	*0.11*	**0.16**	*0.09*	*0.09*
HGL Inventories (million barrels)															
Ethane	**52.57**	**49.54**	**62.45**	**75.30**	*68.56*	*70.19*	*67.50*	*67.97*	*65.07*	*66.90*	*65.46*	*67.24*	**60.01**	*68.55*	*66.17*
Propane	**60.28**	**75.31**	**100.71**	**69.85**	*41.64*	*61.98*	*82.92*	*70.70*	*46.46*	*66.72*	*87.20*	*74.54*	**69.85**	*70.70*	*74.54*
Propylene (at refineries only)	**1.41**	**1.50**	**1.51**	**1.53**	*1.47*	*1.88*	*2.30*	*2.73*	*2.66*	*2.85*	*3.06*	*3.68*	**1.53**	*2.73*	*3.68*
Butanes/Butylenes	**43.58**	**69.33**	**86.03**	**51.39**	*41.21*	*65.33*	*82.80*	*53.17*	*43.15*	*67.27*	*84.92*	*55.49*	**51.39**	*53.17*	*55.49*
Natural Gasoline (Pentanes Plus)	**23.99**	**35.67**	**38.63**	**35.88**	*32.40*	*31.47*	*30.54*	*28.73*	*25.57*	*26.09*	*26.35*	*25.09*	**35.88**	*28.73*	*25.09*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.89**	*14.06*	*14.85*	*15.66*	*14.93*	*15.14*	*16.58*	*16.99*	*16.26*	**14.21**	*14.88*	*16.25*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.62**	*0.50*	*0.43*	*0.48*	*0.65*	*0.55*	*0.47*	*0.51*	*0.69*	**0.51**	*0.51*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.07**	*1.10*	*1.14*	*1.17*	*1.16*	*1.15*	*1.20*	*1.19*	*1.18*	**1.06**	*1.14*	*1.18*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.41**	*0.24*	*0.46*	*0.44*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.28**	*0.38*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.39**	*0.63*	*0.84*	*0.66*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.53**	*0.60*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.38**	*16.52*	*17.72*	*18.42*	*17.36*	*17.51*	*19.34*	*19.65*	*18.70*	**16.61**	*17.51*	*18.81*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**1.01**	*1.00*	*1.05*	*1.06*	*1.03*	*1.06*	*1.09*	*1.13*	*1.14*	**0.94**	*1.04*	*1.10*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.35**	*0.46*	*0.83*	*0.77*	*0.38*	*0.51*	*0.88*	*0.80*	*0.41*	**0.54**	*0.61*	*0.65*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**9.03**	*9.00*	*9.49*	*9.70*	*9.48*	*9.33*	*9.89*	*9.98*	*9.82*	**8.75**	*9.42*	*9.76*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.02**	*1.32*	*1.44*	*1.53*	*1.43*	*1.52*	*1.63*	*1.69*	*1.58*	**1.02**	*1.43*	*1.60*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.43**	*4.33*	*4.43*	*4.67*	*4.48*	*4.61*	*5.16*	*5.35*	*5.30*	**4.73**	*4.48*	*5.11*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.16**	*0.22*	*0.26*	*0.26*	*0.20*	*0.25*	*0.29*	*0.29*	*0.23*	**0.19**	*0.23*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.39**	*2.19*	*2.31*	*2.55*	*2.42*	*2.34*	*2.59*	*2.68*	*2.51*	**2.31**	*2.37*	*2.53*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.39**	*17.52*	*18.77*	*19.48*	*18.39*	*18.57*	*20.43*	*20.79*	*19.83*	**17.55**	*18.54*	*19.91*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.29**	*14.56*	*15.27*	*16.06*	*15.36*	*15.50*	*16.77*	*17.21*	*16.52*	**14.71**	*15.31*	*16.51*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	**18.66**	*18.39*	*18.39*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	*0.79*	*0.83*	*0.87*	*0.84*	*0.84*	*0.91*	*0.94*	*0.90*	**0.79**	*0.83*	*0.90*

- = no data available

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**134**	*161*	*172*	*163*	*151*	*151*	*168*	*171*	*159*	**133**	*162*	*163*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	*226*	*241*	*238*	*225*	*219*	*236*	*244*	*233*	**214**	*233*	*233*
PADD 2	**226**	**179**	**207**	**202**	*216*	*240*	*227*	*213*	*204*	*236*	*236*	*222*	**204**	*224*	*225*
PADD 3	**210**	**162**	**186**	**183**	*207*	*221*	*212*	*199*	*198*	*216*	*219*	*208*	**187**	*210*	*210*
PADD 4	**247**	**201**	**233**	**221**	*229*	*255*	*251*	*233*	*227*	*252*	*259*	*244*	**226**	*243*	*246*
PADD 5	**311**	**258**	**283**	**278**	*299*	*322*	*306*	*313*	*301*	*321*	*315*	*323*	**284**	*310*	*315*
U.S. Average	**241**	**194**	**218**	**215**	*233*	*252*	*243*	*233*	*226*	*248*	*250*	*241*	**218**	*240*	*242*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	*244*	*264*	*256*	*246*	*240*	*261*	*264*	*256*	**227**	*253*	*255*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**67.8**	*60.6*	*61.2*	*58.1*	*59.5*	*65.2*	*67.5*	*62.7*	*68.7*	**67.8**	*59.5*	*68.7*
PADD 2	**60.2**	**52.6**	**46.2**	**51.1**	*54.3*	*53.8*	*50.8*	*50.2*	*53.8*	*53.2*	*51.2*	*51.2*	**51.1**	*50.2*	*51.2*
PADD 3	**84.8**	**90.5**	**79.7**	**82.1**	*81.2*	*80.3*	*80.6*	*85.2*	*84.9*	*87.4*	*82.3*	*89.3*	**82.1**	*85.2*	*89.3*
PADD 4	**9.2**	**7.7**	**7.6**	**8.6**	*7.9*	*7.9*	*7.5*	*8.0*	*7.8*	*7.8*	*7.7*	*8.2*	**8.6**	*8.0*	*8.2*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	*30.2*	*29.1*	*29.4*	*31.0*	*30.0*	*29.3*	*29.3*	*31.6*	**31.4**	*31.0*	*31.6*
U.S. Total	**260.8**	**253.3**	**226.5**	**241.1**	*234.2*	*232.3*	*226.3*	*233.9*	*241.7*	*245.2*	*233.1*	*249.0*	**241.1**	*233.9*	*249.0*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	*21.2*	*23.2*	*22.1*	*24.3*	*24.1*	*23.8*	*23.1*	*26.1*	**25.3**	*24.3*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**215.8**	*213.0*	*209.1*	*204.2*	*209.5*	*217.5*	*221.4*	*210.0*	*222.9*	**215.8**	*209.5*	*222.9*

- = no data available

Prices are not adjusted for inflation.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.58**	**96.39**	*95.08*	*95.21*	*96.35*	*97.02*	*96.41*	*96.75*	*98.18*	*99.11*	**98.26**	*95.92*	*97.62*
Alaska	**0.96**	**0.88**	**0.88**	**0.94**	*0.96*	*0.78*	*0.73*	*0.92*	*0.95*	*0.79*	*0.74*	*0.91*	**0.92**	*0.85*	*0.85*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.90**	*2.36*	*2.27*	*2.14*	*2.11*	*2.15*	*2.09*	*1.99*	*1.98*	**2.14**	*2.22*	*2.05*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.98**	**93.56**	*91.76*	*92.15*	*93.47*	*93.99*	*93.31*	*93.87*	*95.45*	*96.22*	**95.21**	*92.85*	*94.72*
Total Dry Gas Production	**94.79**	**89.67**	**89.87**	**88.73**	*87.48*	*87.54*	*88.54*	*89.11*	*88.54*	*88.86*	*90.17*	*91.02*	**90.76**	*88.17*	*89.66*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.17**	*0.32*	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.15**	*0.22*	*0.22*
LNG Gross Exports	**7.92**	**5.51**	**3.91**	**8.79**	*9.42*	*7.59*	*7.66*	*9.26*	*9.96*	*8.83*	*8.33*	*9.78*	**6.53**	*8.48*	*9.22*
Pipeline Gross Imports	**7.64**	**6.17**	**6.45**	**6.88**	*7.70*	*6.50*	*6.84*	*7.13*	*7.68*	*6.65*	*6.72*	*7.05*	**6.78**	*7.04*	*7.02*
Pipeline Gross Exports	**8.15**	**7.17**	**8.07**	**8.46**	*8.55*	*7.94*	*8.79*	*8.93*	*8.79*	*8.14*	*8.87*	*8.99*	**7.97**	*8.56*	*8.70*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.17**	*0.16*	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.17*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.01**	*19.50*	*-10.91*	*-8.08*	*5.74*	*16.39*	*-11.68*	*-8.99*	*4.09*	**-0.55**	*1.50*	*-0.11*
Total Supply	**99.53**	**71.22**	**76.89**	**83.70**	*97.19*	*67.94*	*71.20*	*84.15*	*94.34*	*67.21*	*71.06*	*83.75*	**82.82**	*80.06*	*79.04*
Balancing Item (b)	**-0.23**	**-0.39**	**-0.02**	**1.56**	*0.67*	*0.59*	*0.55*	*0.88*	*0.14*	*0.35*	*-0.41*	*-0.11*	**0.23**	*0.67*	*-0.01*
Total Primary Supply	**99.31**	**70.83**	**76.87**	**85.27**	*97.86*	*68.54*	*71.75*	*85.02*	*94.48*	*67.56*	*70.66*	*83.64*	**83.06**	*80.73*	*79.03*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.84**	**16.00**	*25.68*	*7.05*	*3.54*	*16.67*	*24.94*	*7.62*	*3.63*	*16.63*	**12.70**	*13.18*	*13.16*
Commercial	**13.93**	**5.82**	**4.37**	**9.93**	*15.09*	*6.62*	*4.73*	*10.62*	*14.83*	*6.21*	*4.64*	*10.63*	**8.50**	*9.24*	*9.05*
Industrial	**24.65**	**20.62**	**21.15**	**23.94**	*24.33*	*21.56*	*20.85*	*23.67*	*24.34*	*21.65*	*21.11*	*23.67*	**22.59**	*22.60*	*22.69*
Electric Power (c)	**29.55**	**29.04**	**40.12**	**27.70**	*24.80*	*26.12*	*35.32*	*26.25*	*22.31*	*24.64*	*33.78*	*24.73*	**31.61**	*28.14*	*26.39*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.87**	*4.81*	*4.81*	*4.87*	*4.91*	*4.87*	*4.89*	*4.96*	*5.01*	**4.97**	*4.85*	*4.94*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.69**	*3.01*	*2.23*	*2.29*	*2.76*	*3.03*	*2.39*	*2.37*	*2.81*	**2.55**	*2.57*	*2.65*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	*0.14*	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.83**	**76.87**	**85.27**	*97.86*	*68.54*	*71.75*	*85.02*	*94.48*	*67.56*	*70.66*	*83.64*	**83.06**	*80.73*	*79.03*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,030**	**3,133**	**3,840**	**3,375**	*1,620*	*2,613*	*3,356*	*2,828*	*1,353*	*2,416*	*3,243*	*2,867*	**3,375**	*2,828*	*2,867*
East Region (d)	**385**	**655**	**890**	**771**	*227*	*503*	*757*	*539*	*107*	*403*	*669*	*495*	**771**	*539*	*495*
Midwest Region (d)	**472**	**747**	**1,053**	**930**	*314*	*591*	*927*	*768*	*220*	*513*	*885*	*762*	**930**	*768*	*762*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,166**	*751*	*1,056*	*1,133*	*1,061*	*696*	*999*	*1,079*	*1,047*	**1,166**	*1,061*	*1,047*
Mountain Region (d)	**92**	**177**	**235**	**197**	*112*	*146*	*190*	*157*	*106*	*157*	*223*	*204*	**197**	*157*	*204*
Pacific Region (d)	**200**	**308**	**318**	**283**	*188*	*289*	*321*	*275*	*198*	*316*	*358*	*332*	**283**	*275*	*332*
Alaska	**23**	**25**	**31**	**28**	*28*	*28*	*28*	*28*	*28*	*28*	*28*	*28*	**28**	*28*	*28*

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	*3.13*	*3.08*	*3.12*	*3.20*	*3.41*	*3.34*	*3.37*	*3.46*	**2.11**	*3.13*	*3.40*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**13.74**	*13.06*	*13.98*	*17.00*	*13.15*	*12.90*	*13.94*	*17.05*	*13.26*	**14.21**	*13.48*	*13.44*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.34**	*9.88*	*12.11*	*16.87*	*11.09*	*10.25*	*12.59*	*17.34*	*11.51*	**11.65**	*11.03*	*11.43*
E. N. Central	**6.99**	**9.50**	**18.15**	**7.94**	*7.55*	*10.94*	*16.65*	*8.38*	*7.73*	*10.80*	*16.58*	*8.41*	**8.38**	*8.82*	*8.88*
W. N. Central	**6.85**	**9.89**	**17.36**	**8.27**	*7.56*	*10.82*	*17.06*	*9.09*	*7.95*	*10.92*	*17.15*	*9.22*	**8.37**	*8.98*	*9.22*
S. Atlantic	**12.12**	**15.52**	**24.11**	**14.73**	*12.14*	*16.84*	*22.78*	*12.67*	*11.28*	*16.51*	*22.77*	*12.81*	**14.37**	*13.74*	*13.28*
E. S. Central	**9.69**	**13.34**	**20.92**	**10.05**	*9.43*	*14.96*	*22.25*	*13.55*	*10.66*	*15.23*	*22.40*	*13.67*	**10.97**	*11.89*	*12.81*
W. S. Central	**8.52**	**14.22**	**20.58**	**9.62**	*8.42*	*14.67*	*20.75*	*11.94*	*9.01*	*14.65*	*20.69*	*11.89*	**10.68**	*11.14*	*11.54*
Mountain	**7.55**	**9.37**	**12.56**	**8.08**	*7.65*	*9.61*	*13.51*	*8.35*	*7.93*	*9.83*	*13.79*	*8.72*	**8.44**	*8.62*	*8.91*
Pacific	**13.41**	**14.47**	**14.50**	**12.95**	*13.06*	*13.91*	*14.73*	*13.68*	*13.89*	*14.69*	*15.51*	*14.49*	**13.62**	*13.59*	*14.41*
U.S. Average	**9.46**	**11.89**	**17.62**	**10.14**	*9.44*	*12.57*	*17.27*	*10.66*	*9.70*	*12.73*	*17.56*	*10.89*	**10.68**	*10.77*	*11.06*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**9.74**	*9.65*	*10.09*	*10.68*	*10.19*	*10.59*	*10.70*	*10.48*	*10.31*	**10.06**	*10.01*	*10.51*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.37**	*7.51*	*7.38*	*6.92*	*7.48*	*7.93*	*7.77*	*7.36*	*7.88*	**7.46**	*7.40*	*7.81*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.25**	*6.25*	*7.73*	*9.35*	*7.09*	*6.85*	*7.77*	*8.89*	*6.78*	**6.29**	*6.97*	*7.11*
W. N. Central	**5.43**	**6.53**	**8.14**	**6.53**	*6.91*	*7.71*	*9.01*	*7.31*	*7.17*	*7.77*	*9.08*	*7.25*	**6.13**	*7.30*	*7.42*
S. Atlantic	**8.51**	**9.21**	**9.53**	**8.99**	*8.58*	*9.54*	*9.92*	*8.85*	*8.46*	*9.40*	*9.74*	*8.78*	**8.90**	*8.97*	*8.86*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	*8.24*	*9.48*	*10.31*	*9.15*	*8.51*	*9.57*	*10.18*	*9.11*	**8.78**	*8.94*	*9.03*
W. S. Central	**5.99**	**7.18**	**8.05**	**7.20**	*6.98*	*7.81*	*8.73*	*8.05*	*7.22*	*7.78*	*8.30*	*7.60*	**6.82**	*7.68*	*7.57*
Mountain	**6.09**	**6.85**	**7.41**	**6.35**	*6.57*	*7.04*	*8.09*	*7.08*	*6.90*	*7.35*	*8.27*	*7.17*	**6.43**	*6.97*	*7.20*
Pacific	**9.58**	**9.30**	**9.59**	**9.09**	*9.03*	*9.18*	*9.70*	*9.21*	*9.20*	*9.14*	*9.69*	*9.39*	**9.38**	*9.21*	*9.32*
U.S. Average	**7.13**	**7.63**	**8.48**	**7.44**	*7.39*	*8.14*	*8.81*	*7.92*	*7.75*	*8.30*	*8.78*	*7.92*	**7.45**	*7.83*	*8.01*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.38**	*8.12*	*7.41*	*6.71*	*7.69*	*8.18*	*7.76*	*6.91*	*7.95*	**7.46**	*7.61*	*7.81*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.31**	*7.58*	*7.26*	*7.40*	*7.66*	*8.22*	*7.92*	*7.82*	*8.21*	**7.22**	*7.52*	*8.11*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.03**	*5.79*	*5.73*	*5.78*	*5.65*	*6.00*	*5.91*	*5.86*	*5.85*	**4.84**	*5.74*	*5.92*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.08**	*4.93*	*4.44*	*4.53*	*5.04*	*5.34*	*4.76*	*4.66*	*5.17*	**3.68**	*4.77*	*5.02*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	*5.31*	*4.90*	*4.93*	*5.18*	*5.45*	*5.03*	*4.97*	*5.25*	**4.06**	*5.10*	*5.19*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.10**	*4.87*	*4.55*	*4.58*	*4.96*	*5.19*	*4.77*	*4.59*	*4.94*	**3.67**	*4.76*	*4.89*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.77**	*3.21*	*3.25*	*3.38*	*3.41*	*3.53*	*3.50*	*3.55*	*3.62*	**2.30**	*3.31*	*3.55*
Mountain	**4.40**	**4.59**	**4.67**	**5.01**	*5.37*	*5.52*	*5.98*	*5.94*	*5.91*	*5.68*	*5.85*	*5.70*	**4.66**	*5.68*	*5.79*
Pacific	**7.46**	**6.28**	**6.18**	**6.87**	*7.16*	*6.57*	*6.95*	*7.06*	*7.17*	*6.74*	*7.05*	*7.11*	**6.77**	*6.95*	*7.03*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.68**	*4.35*	*4.00*	*4.03*	*4.35*	*4.66*	*4.26*	*4.20*	*4.53*	**3.27**	*4.20*	*4.43*

- = no data available

Prices are not adjusted for inflation.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.1**	**113.1**	**135.5**	**139.5**	*144.7*	*151.0*	*156.5*	*150.4*	*160.7*	*150.3*	*161.9*	*155.0*	**537.2**	*602.6*	*627.8*
Appalachia	**39.7**	**32.0**	**36.0**	**35.7**	*29.6*	*33.0*	*38.0*	*37.1*	*39.8*	*36.0*	*41.4*	*36.2*	**143.4**	*137.8*	*153.4*
Interior	**25.8**	**20.2**	**22.6**	**22.4**	*28.1*	*29.1*	*28.9*	*25.9*	*30.8*	*31.2*	*36.1*	*37.4*	**90.9**	*112.0*	*135.6*
Western	**83.6**	**60.9**	**76.8**	**81.5**	*87.0*	*88.8*	*89.7*	*87.5*	*90.1*	*83.1*	*84.3*	*81.3*	**302.9**	*352.9*	*338.9*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-1.0**	*0.5*	*2.1*	*2.6*	*-0.7*	*-0.7*	*-0.6*	*-0.5*	*-3.7*	**2.8**	*4.4*	*-5.5*
Imports	**1.3**	**1.1**	**1.3**	**0.9**	*0.9*	*1.0*	*1.3*	*1.3*	*1.0*	*1.0*	*1.3*	*1.3*	**4.7**	*4.4*	*4.6*
Exports	**20.0**	**14.8**	**15.3**	**16.5**	*23.5*	*20.8*	*19.4*	*18.2*	*26.8*	*23.4*	*21.4*	*20.5*	**66.5**	*81.9*	*92.1*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.2**	*13.9*	*12.8*	*12.0*	*11.5*	*17.2*	*14.5*	*12.8*	*12.2*	**42.1**	*50.2*	*56.7*
Steam Coal	**8.3**	**5.8**	**5.1**	**5.3**	*9.6*	*8.0*	*7.4*	*6.6*	*9.6*	*8.8*	*8.6*	*8.3*	**24.4**	*31.7*	*35.4*
Total Primary Supply	**130.9**	**100.8**	**123.5**	**122.9**	*122.5*	*133.2*	*141.0*	*132.9*	*134.2*	*127.3*	*141.2*	*132.1*	**478.1**	*529.5*	*534.9*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**20.5**	**-4.9**	*0.3*	*-13.3*	*16.7*	*-4.1*	*7.0*	*-1.0*	*25.8*	*6.8*	**-6.0**	*-0.4*	*38.7*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	**9.2**	*8.0*	*7.8*
Total Supply	**116.6**	**98.1**	**146.3**	**120.3**	*124.8*	*121.9*	*159.7*	*130.7*	*143.2*	*128.3*	*169.0*	*140.8*	**481.3**	*537.1*	*581.4*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.9**	**3.8**	*3.9*	*3.8*	*3.8*	*3.7*	*3.2*	*3.3*	*3.7*	*4.1*	**15.4**	*15.2*	*14.2*
Electric Power Sector (b)	**97.8**	**87.2**	**139.2**	**110.1**	*113.6*	*111.2*	*149.1*	*120.0*	*132.9*	*118.2*	*158.7*	*129.8*	**434.3**	*493.8*	*539.5*
Retail and Other Industry	**7.4**	**5.7**	**6.4**	**7.1**	*7.3*	*6.9*	*6.8*	*7.0*	*7.1*	*6.8*	*6.7*	*7.0*	**26.7**	*28.0*	*27.6*
Residential and Commercial	**0.3**	**0.1**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.9**	*0.9*	*0.7*
Other Industrial	**7.1**	**5.6**	**6.2**	**6.9**	*7.0*	*6.7*	*6.6*	*6.8*	*6.9*	*6.7*	*6.6*	*6.7*	**25.8**	*27.1*	*26.9*
Total Consumption	**109.5**	**96.4**	**149.5**	**121.0**	*124.8*	*121.9*	*159.7*	*130.7*	*143.2*	*128.3*	*169.0*	*140.8*	**476.3**	*537.1*	*581.4*
Discrepancy (c)	**7.1**	**1.7**	**-3.1**	**-0.7**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**5.0**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.6**	*28.1*	*26.0*	*23.4*	*24.1*	*24.8*	*25.4*	*25.9*	*29.6*	**28.6**	*24.1*	*29.6*
Secondary Inventories	**150.6**	**155.7**	**135.1**	**140.0**	*139.7*	*153.1*	*136.3*	*140.5*	*133.5*	*134.5*	*108.6*	*101.8*	**140.0**	*140.5*	*101.8*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**134.3**	*134.2*	*147.2*	*130.3*	*134.7*	*128.0*	*128.7*	*102.7*	*96.2*	**134.3**	*134.7*	*96.2*
Retail and General Industry	**3.0**	**3.0**	**3.7**	**3.5**	*3.8*	*3.7*	*3.8*	*3.6*	*3.9*	*3.8*	*3.9*	*3.7*	**3.5**	*3.6*	*3.7*
Coke Plants	**2.1**	**2.0**	**2.2**	**2.1**	*1.6*	*1.9*	*2.1*	*1.9*	*1.4*	*1.8*	*1.9*	*1.8*	**2.1**	*1.9*	*1.8*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.1*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	*6.32*	*6.32*	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.196**	**0.225**	*0.277*	*0.243*	*0.241*	*0.279*	*0.273*	*0.236*	*0.231*	*0.245*	**0.216**	*0.260*	*0.246*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.91**	**1.99**	*2.07*	*2.08*	*2.04*	*2.05*	*2.08*	*2.08*	*2.06*	*2.07*	**1.94**	*2.06*	*2.07*

- = no data available

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**965**	**933**	**1,149**	**947**	*955*	*966*	*1,135*	*972*	*973*	*982*	*1,154*	*985*	**3,994**	*4,028*	*4,095*
Electric Power Sector (a)	**924**	**896**	**1,109**	**910**	*919*	*930*	*1,099*	*935*	*936*	*946*	*1,114*	*947*	**3,839**	*3,884*	*3,943*
Industrial Sector (b)	**38**	**34**	**36**	**34**	*33*	*32*	*33*	*33*	*34*	*34*	*36*	*35*	**142**	*132*	*139*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**10**	**11**	**16**	**12**	*12*	*13*	*15*	*11*	*12*	*13*	*14*	*11*	**48**	*51*	*50*
Total Supply	**975**	**944**	**1,164**	**959**	*968*	*978*	*1,150*	*983*	*985*	*995*	*1,168*	*996*	**4,042**	*4,079*	*4,145*
Losses and Unaccounted for (c)	**52**	**67**	**73**	**54**	*46*	*67*	*58*	*55*	*45*	*68*	*59*	*56*	**245**	*227*	*228*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1057**	**880**	*890*	*880*	*1059*	*895*	*907*	*894*	*1074*	*907*	**3667**	*3724*	*3782*
Residential Sector	**340**	**334**	**453**	**331**	*362*	*344*	*448*	*339*	*370*	*349*	*454*	*344*	**1458**	*1493*	*1517*
Commercial Sector	**314**	**293**	**360**	**313**	*301*	*306*	*365*	*319*	*308*	*313*	*371*	*323*	**1279**	*1291*	*1314*
Industrial Sector	**231**	**216**	**241**	**235**	*225*	*228*	*245*	*236*	*227*	*231*	*248*	*238*	**923**	*934*	*945*
Transportation Sector	**2**	**1**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*1*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**33**	*32*	*31*	*33*	*32*	*33*	*32*	*35*	*34*	**137**	*128*	*135*
Total Consumption	**923**	**877**	**1092**	**905**	*922*	*911*	*1092*	*928*	*940*	*927*	*1109*	*941*	**3797**	*3853*	*3917*
Average residential electricity usage per customer (kWh)	**2,526**	**2,479**	**3,364**	**2,430**	*2,642*	*2,513*	*3,267*	*2,472*	*2,661*	*2,512*	*3,265*	*2,471*	**10,799**	*10,894*	*10,909*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**134.3**	*134.2*	*147.2*	*130.3*	*134.7*	*128.0*	*128.7*	*102.7*	*96.2*	**134.3**	*134.7*	*96.2*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**9.3**	*9.0*	*9.0*	*9.1*	*9.4*	*8.9*	*8.9*	*8.9*	*9.3*	**9.3**	*9.4*	*9.3*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**17.2**	*17.2*	*17.0*	*16.9*	*17.2*	*17.0*	*16.9*	*16.8*	*17.1*	**17.2**	*17.2*	*17.1*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.91**	**1.99**	*2.07*	*2.08*	*2.04*	*2.05*	*2.08*	*2.08*	*2.06*	*2.07*	**1.94**	*2.06*	*2.07*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.81**	*3.61*	*3.21*	*3.22*	*3.45*	*3.95*	*3.51*	*3.50*	*3.74*	**2.37**	*3.35*	*3.65*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.09**	*9.70*	*11.00*	*9.93*	*9.59*	*9.96*	*10.84*	*10.35*	*10.18*	**8.94**	*10.03*	*10.32*
Distillate Fuel Oil	**13.27**	**8.39**	**10.38**	**10.59**	*12.83*	*13.07*	*12.77*	*12.89*	*12.97*	*13.26*	*13.38*	*13.47*	**10.74**	*12.88*	*13.27*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.36**	**13.14**	*12.82*	*13.31*	*13.54*	*13.37*	*13.10*	*13.62*	*13.78*	*13.55*	**13.17**	*13.27*	*13.53*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.48**	*10.27*	*10.77*	*11.23*	*10.68*	*10.41*	*10.90*	*11.33*	*10.75*	**10.62**	*10.76*	*10.87*
Industrial Sector	**6.37**	**6.63**	**7.09**	**6.60**	*6.41*	*6.71*	*7.10*	*6.62*	*6.43*	*6.72*	*7.12*	*6.62*	**6.68**	*6.71*	*6.73*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	*26.10*	*26.92*	*28.59*	*24.66*	*25.91*	*26.64*	*28.63*	*25.93*	**26.99**	*26.57*	*26.78*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	*32.42*	*34.06*	*39.40*	*34.42*	*33.90*	*35.07*	*44.19*	*36.05*	**38.15**	*35.08*	*37.30*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	*49.60*	*31.55*	*34.00*	*37.06*	*46.98*	*31.30*	*33.94*	*36.59*	**26.52**	*38.05*	*37.20*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	*26.14*	*27.10*	*29.05*	*27.20*	*30.20*	*26.87*	*29.24*	*26.23*	**22.85**	*27.37*	*28.14*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	*27.40*	*27.76*	*31.27*	*28.00*	*30.10*	*28.54*	*31.58*	*27.19*	**24.49**	*28.61*	*29.35*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	*28.09*	*27.30*	*30.57*	*29.03*	*30.13*	*29.65*	*31.70*	*28.36*	**25.43**	*28.75*	*29.96*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	*23.26*	*23.66*	*28.48*	*24.58*	*24.62*	*24.99*	*29.73*	*24.86*	**22.55**	*25.00*	*26.05*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	*24.58*	*25.06*	*27.67*	*26.27*	*26.74*	*26.52*	*28.23*	*26.07*	**22.62**	*25.89*	*26.89*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	*26.19*	*27.76*	*28.03*	*27.85*	*28.27*	*28.32*	*29.15*	*28.11*	**23.48**	*27.46*	*28.46*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	*24.69*	*25.46*	*26.27*	*25.92*	*24.73*	*24.47*	*29.52*	*26.73*	**25.46**	*25.58*	*26.36*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	*29.08*	*30.83*	*31.45*	*29.71*	*29.43*	*29.01*	*34.63*	*31.25*	**39.64**	*30.26*	*31.08*

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.2**	*12.7*	*11.4*	*13.8*	*11.4*	*12.7*	*11.4*	*13.8*	*11.5*	**48.4**	*49.4*	*49.3*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**29.9**	*34.4*	*31.0*	*40.7*	*30.7*	*34.5*	*31.1*	*40.9*	*30.8*	**136.1**	*136.8*	*137.2*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.3**	*48.8*	*44.6*	*54.9*	*45.1*	*49.8*	*45.1*	*55.4*	*45.4*	**189.9**	*193.4*	*195.7*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.3**	*28.5*	*25.5*	*31.6*	*26.4*	*31.0*	*27.0*	*33.4*	*27.9*	**105.6**	*112.1*	*119.4*
S. Atlantic	**84.3**	**86.3**	**114.7**	**82.8**	*91.7*	*89.1*	*113.9*	*83.7*	*92.6*	*90.0*	*115.2*	*84.8*	**368.1**	*378.4*	*382.6*
E. S. Central	**29.0**	**26.0**	**37.2**	**25.7**	*32.2*	*27.3*	*38.2*	*26.7*	*32.9*	*27.7*	*38.6*	*27.0*	**118.0**	*124.4*	*126.2*
W. S. Central	**48.8**	**52.9**	**76.3**	**49.9**	*51.7*	*55.0*	*77.6*	*52.0*	*53.8*	*56.0*	*78.9*	*52.9*	**227.8**	*236.3*	*241.6*
Mountain	**22.5**	**25.7**	**36.2**	**23.4**	*23.1*	*25.8*	*34.2*	*23.4*	*23.5*	*26.2*	*34.8*	*23.8*	**107.8**	*106.5*	*108.2*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.9**	*37.7*	*33.5*	*41.6*	*38.1*	*38.1*	*33.8*	*41.9*	*38.4*	**151.8**	*150.9*	*152.2*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.4**	**334.1**	**453.3**	**330.6**	*362.1*	*344.3*	*447.7*	*338.8*	*370.1*	*349.3*	*454.1*	*343.8*	**1,458.4**	*1,492.9*	*1,517.3*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.6**	*11.6*	*10.7*	*12.9*	*11.7*	*11.6*	*10.8*	*12.9*	*11.7*	**47.6**	*46.9*	*47.0*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**32.9**	*33.1*	*33.8*	*39.3*	*34.3*	*34.2*	*35.0*	*40.2*	*34.8*	**138.7**	*140.5*	*144.2*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.7**	*41.6*	*40.9*	*48.2*	*43.3*	*42.9*	*42.0*	*49.1*	*43.9*	**170.4**	*174.1*	*177.9*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.7**	*24.2*	*22.0*	*26.9*	*24.3*	*24.9*	*22.6*	*27.6*	*24.9*	**96.4**	*97.4*	*99.9*
S. Atlantic	**72.0**	**70.0**	**85.7**	**73.8**	*69.2*	*73.3*	*87.2*	*75.0*	*71.0*	*74.9*	*88.6*	*75.8*	**301.5**	*304.6*	*310.3*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.6**	*20.2*	*20.4*	*25.9*	*20.9*	*20.5*	*20.7*	*26.2*	*21.1*	**85.9**	*87.5*	*88.6*
W. S. Central	**44.3**	**44.6**	**55.0**	**46.7**	*43.5*	*46.4*	*56.5*	*48.3*	*44.9*	*47.6*	*57.7*	*49.3*	**190.6**	*194.8*	*199.5*
Mountain	**22.4**	**22.1**	**27.4**	**23.0**	*21.8*	*23.0*	*27.3*	*23.4*	*22.4*	*23.7*	*27.9*	*23.9*	**95.0**	*95.6*	*97.9*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.5**	*34.3*	*34.0*	*39.3*	*36.7*	*34.1*	*33.9*	*38.9*	*36.2*	**148.2**	*144.3*	*143.1*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	*1.3*	*1.4*	*1.5*	*1.5*	*1.4*	*1.4*	*1.4*	*1.4*	**5.2**	*5.6*	*5.6*
Total	**313.7**	**292.7**	**360.2**	**312.8**	*300.9*	*306.0*	*364.8*	*319.4*	*308.0*	*312.5*	*370.5*	*322.9*	**1,279.5**	*1,291.2*	*1,314.0*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.8**	*3.5*	*3.6*	*3.9*	*3.7*	*3.4*	*3.5*	*3.8*	*3.7*	**14.9**	*14.6*	*14.4*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.9**	*17.5*	*17.0*	*18.7*	*17.9*	*17.7*	*17.2*	*19.0*	*18.2*	**70.7**	*71.1*	*72.0*
E. N. Central	**44.0**	**37.7**	**44.5**	**43.4**	*42.8*	*40.2*	*45.5*	*43.4*	*43.1*	*40.6*	*45.9*	*43.9*	**169.6**	*171.9*	*173.5*
W. N. Central	**21.7**	**20.3**	**23.2**	**23.1**	*21.2*	*22.1*	*23.8*	*23.4*	*21.7*	*22.6*	*24.3*	*23.9*	**88.4**	*90.4*	*92.5*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.7**	*31.8*	*32.7*	*34.7*	*33.7*	*31.8*	*32.8*	*34.8*	*33.7*	**131.8**	*132.8*	*133.1*
E. S. Central	**23.3**	**21.4**	**23.4**	**23.5**	*22.6*	*22.9*	*23.7*	*23.4*	*22.8*	*23.1*	*23.9*	*23.6*	**91.6**	*92.7*	*93.4*
W. S. Central	**46.7**	**44.9**	**47.7**	**47.9**	*46.5*	*47.8*	*48.7*	*48.5*	*47.6*	*49.0*	*49.9*	*49.7*	**187.2**	*191.6*	*196.3*
Mountain	**20.0**	**20.3**	**22.6**	**20.5**	*19.8*	*21.1*	*23.0*	*20.7*	*20.1*	*21.5*	*23.4*	*21.1*	**83.4**	*84.6*	*86.1*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.9**	*18.3*	*19.7*	*22.0*	*19.6*	*18.1*	*19.5*	*21.7*	*19.4*	**80.9**	*79.6*	*78.8*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	*1.1*	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.6**	*4.6*	*4.6*
Total	**230.6**	**216.0**	**241.4**	**234.9**	*225.2*	*228.2*	*245.1*	*235.6*	*227.4*	*231.0*	*248.0*	*238.4*	**923.0**	*934.0*	*944.8*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.8**	**26.7**	*27.9*	*25.8*	*30.7*	*27.0*	*27.8*	*25.8*	*30.6*	*27.0*	**111.4**	*111.4*	*111.2*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**81.5**	*85.8*	*82.5*	*99.5*	*83.7*	*87.2*	*84.0*	*100.8*	*84.5*	**348.6**	*351.5*	*356.5*
E. N. Central	**133.7**	**119.7**	**148.4**	**128.6**	*133.3*	*125.9*	*148.8*	*131.9*	*135.9*	*127.9*	*150.6*	*133.3*	**530.4**	*539.9*	*547.6*
W. N. Central	**74.0**	**65.7**	**79.5**	**71.2**	*74.0*	*69.6*	*82.3*	*74.1*	*77.6*	*72.2*	*85.3*	*76.7*	**290.4**	*300.0*	*311.9*
S. Atlantic	**189.4**	**187.6**	**235.0**	**190.6**	*193.0*	*195.3*	*236.1*	*192.6*	*195.7*	*198.0*	*238.9*	*194.6*	**802.6**	*817.0*	*827.2*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.8**	*75.0*	*70.7*	*87.8*	*71.0*	*76.2*	*71.6*	*88.7*	*71.7*	**295.5**	*304.5*	*308.1*
W. S. Central	**139.8**	**142.4**	**179.1**	**144.5**	*141.8*	*149.3*	*182.8*	*149.0*	*146.4*	*152.6*	*186.5*	*152.0*	**605.9**	*622.8*	*637.5*
Mountain	**64.9**	**68.2**	**86.3**	**66.9**	*64.7*	*69.9*	*84.5*	*67.6*	*66.0*	*71.4*	*86.1*	*68.8*	**286.3**	*286.8*	*292.3*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**96.4**	*90.6*	*87.5*	*103.0*	*94.5*	*90.6*	*87.4*	*102.8*	*94.2*	**381.6**	*375.6*	*374.9*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	*3.7*	*3.6*	*3.8*	*3.9*	*3.8*	*3.6*	*3.8*	*3.9*	**14.6**	*15.1*	*15.1*
Total	**886.6**	**844.3**	**1,056.5**	**880.0**	*889.8*	*880.1*	*1,059.2*	*895.4*	*907.2*	*894.4*	*1,074.2*	*906.6*	**3,667.3**	*3,724.5*	*3,782.4*

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.33**	**20.96**	**21.02**	*21.83*	*21.81*	*22.00*	*22.58*	*23.77*	*23.76*	*23.80*	*24.09*	**21.25**	*22.05*	*23.85*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	*15.51*	*16.21*	*16.64*	*16.42*	*15.85*	*16.45*	*16.83*	*16.56*	**15.92**	*16.21*	*16.44*
E. N. Central	**13.13**	**13.75**	**13.33**	**13.82**	*13.22*	*13.91*	*13.61*	*14.02*	*13.47*	*14.18*	*13.85*	*14.27*	**13.49**	*13.68*	*13.93*
W. N. Central	**10.99**	**12.59**	**12.89**	**11.58**	*11.14*	*12.64*	*13.08*	*11.58*	*10.95*	*12.55*	*12.97*	*11.44*	**12.02**	*12.13*	*11.99*
S. Atlantic	**11.80**	**11.81**	**12.06**	**11.79**	*11.52*	*11.73*	*12.18*	*12.02*	*11.88*	*12.07*	*12.47*	*12.19*	**11.88**	*11.88*	*12.17*
E. S. Central	**11.25**	**11.57**	**11.29**	**11.57**	*11.18*	*11.65*	*11.50*	*11.80*	*11.40*	*11.84*	*11.63*	*11.91*	**11.40**	*11.51*	*11.68*
W. S. Central	**11.05**	**11.42**	**11.30**	**11.00**	*10.67*	*11.22*	*11.34*	*11.14*	*10.77*	*11.33*	*11.45*	*11.27*	**11.21**	*11.12*	*11.23*
Mountain	**11.42**	**12.08**	**12.19**	**10.66**	*10.84*	*11.73*	*12.03*	*10.60*	*10.84*	*11.74*	*12.02*	*10.62*	**11.67**	*11.39*	*11.39*
Pacific	**15.69**	**16.18**	**17.79**	**16.55**	*16.31*	*17.04*	*18.35*	*16.89*	*16.92*	*17.97*	*19.00*	*17.20*	**16.61**	*17.18*	*17.79*
U.S. Average	**12.90**	**13.24**	**13.36**	**13.14**	*12.82*	*13.31*	*13.54*	*13.37*	*13.10*	*13.62*	*13.78*	*13.55*	**13.17**	*13.27*	*13.53*
Commercial Sector															
New England	**16.24**	**15.66**	**15.96**	**15.81**	*16.26*	*15.93*	*16.62*	*16.62*	*17.15*	*16.70*	*17.24*	*17.09*	**15.93**	*16.37*	*17.06*
Middle Atlantic	**11.69**	**12.53**	**13.22**	**12.09**	*11.48*	*12.71*	*13.48*	*12.39*	*11.64*	*12.87*	*13.56*	*12.37*	**12.40**	*12.56*	*12.65*
E. N. Central	**9.95**	**10.38**	**10.19**	**10.18**	*10.00*	*10.53*	*10.39*	*10.40*	*10.18*	*10.70*	*10.58*	*10.56*	**10.17**	*10.33*	*10.51*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.22**	*9.31*	*10.32*	*10.65*	*9.38*	*9.21*	*10.27*	*10.56*	*9.28*	**9.69**	*9.93*	*9.84*
S. Atlantic	**9.24**	**9.03**	**9.09**	**9.03**	*8.99*	*8.93*	*9.18*	*9.23*	*9.15*	*9.02*	*9.26*	*9.27*	**9.10**	*9.09*	*9.18*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.74**	*10.79*	*10.86*	*10.79*	*10.99*	*10.99*	*11.01*	*10.94*	*11.15*	**10.72**	*10.85*	*11.02*
W. S. Central	**7.84**	**7.87**	**7.90**	**8.15**	*8.04*	*8.25*	*8.31*	*8.23*	*8.14*	*8.35*	*8.42*	*8.30*	**7.94**	*8.22*	*8.31*
Mountain	**9.01**	**9.82**	**10.09**	**8.82**	*8.89*	*9.87*	*10.23*	*8.84*	*8.86*	*9.83*	*10.17*	*8.85*	**9.46**	*9.50*	*9.46*
Pacific	**13.50**	**14.79**	**17.20**	**14.64**	*13.49*	*15.15*	*17.78*	*14.92*	*13.70*	*15.47*	*18.07*	*15.22*	**15.08**	*15.41*	*15.69*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.48**	*10.27*	*10.77*	*11.23*	*10.68*	*10.41*	*10.90*	*11.33*	*10.75*	**10.62**	*10.76*	*10.87*
Industrial Sector															
New England	**12.29**	**12.23**	**12.52**	**12.97**	*12.35*	*12.44*	*12.81*	*13.31*	*12.66*	*12.68*	*12.98*	*13.46*	**12.51**	*12.74*	*12.95*
Middle Atlantic	**6.36**	**6.35**	**6.42**	**6.26**	*6.33*	*6.38*	*6.34*	*6.14*	*6.24*	*6.24*	*6.20*	*5.98*	**6.35**	*6.30*	*6.16*
E. N. Central	**6.50**	**6.78**	**6.75**	**6.70**	*6.61*	*6.91*	*6.83*	*6.79*	*6.69*	*6.99*	*6.89*	*6.83*	**6.68**	*6.79*	*6.85*
W. N. Central	**6.93**	**7.32**	**7.89**	**6.76**	*7.13*	*7.40*	*8.03*	*6.91*	*7.26*	*7.54*	*8.16*	*7.02*	**7.23**	*7.38*	*7.50*
S. Atlantic	**5.98**	**6.10**	**6.50**	**6.19**	*5.98*	*6.31*	*6.60*	*6.24*	*6.01*	*6.33*	*6.61*	*6.24*	**6.20**	*6.29*	*6.30*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.60**	*5.47*	*5.61*	*5.74*	*5.60*	*5.48*	*5.61*	*5.74*	*5.58*	**5.56**	*5.61*	*5.60*
W. S. Central	**5.04**	**4.98**	**5.23**	**5.19**	*4.97*	*4.82*	*5.08*	*5.06*	*4.85*	*4.70*	*4.95*	*4.95*	**5.11**	*4.98*	*4.87*
Mountain	**5.73**	**6.16**	**6.91**	**5.73**	*5.69*	*6.25*	*6.80*	*5.73*	*5.73*	*6.27*	*6.86*	*5.77*	**6.16**	*6.14*	*6.18*
Pacific	**8.97**	**10.34**	**12.37**	**10.52**	*9.37*	*10.84*	*12.55*	*10.79*	*9.67*	*11.17*	*12.98*	*11.15*	**10.61**	*10.96*	*11.32*
U.S. Average	**6.37**	**6.63**	**7.09**	**6.60**	*6.41*	*6.71*	*7.10*	*6.62*	*6.43*	*6.72*	*7.12*	*6.62*	**6.68**	*6.71*	*6.73*
All Sectors (a)															
New England	**18.01**	**17.62**	**17.80**	**17.55**	*18.27*	*18.02*	*18.54*	*18.66*	*19.57*	*19.23*	*19.64*	*19.54*	**17.75**	*18.38*	*19.51*
Middle Atlantic	**11.97**	**12.58**	**13.24**	**12.23**	*12.04*	*12.72*	*13.43*	*12.53*	*12.21*	*12.84*	*13.50*	*12.52*	**12.54**	*12.71*	*12.80*
E. N. Central	**9.92**	**10.47**	**10.35**	**10.23**	*10.09*	*10.57*	*10.49*	*10.45*	*10.28*	*10.75*	*10.65*	*10.59*	**10.24**	*10.40*	*10.57*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.23**	*9.39*	*10.25*	*10.83*	*9.39*	*9.36*	*10.27*	*10.82*	*9.36*	**9.79**	*9.98*	*9.97*
S. Atlantic	**9.81**	**9.82**	**10.17**	**9.72**	*9.70*	*9.77*	*10.25*	*9.92*	*9.93*	*9.96*	*10.42*	*10.01*	**9.90**	*9.92*	*10.10*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.31**	*9.35*	*9.46*	*9.74*	*9.52*	*9.52*	*9.59*	*9.84*	*9.60*	**9.39**	*9.53*	*9.65*
W. S. Central	**8.02**	**8.28**	**8.64**	**8.15**	*7.99*	*8.25*	*8.74*	*8.21*	*8.04*	*8.27*	*8.77*	*8.24*	**8.29**	*8.32*	*8.36*
Mountain	**8.84**	**9.58**	**10.14**	**8.52**	*8.61*	*9.46*	*10.02*	*8.50*	*8.61*	*9.46*	*10.01*	*8.52*	**9.33**	*9.21*	*9.21*
Pacific	**13.41**	**14.31**	**16.42**	**14.56**	*13.82*	*14.89*	*16.87*	*14.84*	*14.24*	*15.46*	*17.36*	*15.17*	**14.73**	*15.16*	*15.61*
U.S. Average	**10.29**	**10.64**	**11.11**	**10.44**	*10.33*	*10.71*	*11.25*	*10.63*	*10.51*	*10.88*	*11.39*	*10.72*	**10.64**	*10.75*	*10.90*

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.5**	**474.4**	**338.2**	*305.8*	*319.8*	*429.3*	*331.3*	*281.0*	*308.9*	*416.8*	*317.6*	**1,509.8**	*1,386.1*	*1,324.4*
Coal	**170.3**	**151.1**	**248.0**	**194.9**	*198.7*	*191.9*	*266.4*	*214.0*	*232.0*	*202.7*	*284.3*	*231.3*	**764.3**	*870.9*	*950.2*
Nuclear	**204.1**	**190.7**	**204.1**	**193.0**	*197.8*	*188.6*	*205.1*	*187.9*	*188.8*	*184.9*	*196.6*	*184.6*	**791.9**	*779.5*	*754.9*
Renewable Energy Sources:	**189.1**	**206.5**	**177.4**	**179.8**	*211.7*	*225.4*	*193.2*	*197.5*	*228.4*	*244.5*	*212.1*	*209.3*	**752.7**	*827.8*	*894.3*
Conventional Hydropower	**74.9**	**81.3**	**70.9**	**61.9**	*75.8*	*76.2*	*65.8*	*61.8*	*76.2*	*76.1*	*65.7*	*61.5*	**289.0**	*279.6*	*279.5*
Wind	**86.4**	**87.2**	**68.1**	**90.3**	*101.8*	*102.4*	*80.1*	*101.8*	*111.3*	*110.3*	*87.1*	*107.5*	**332.0**	*386.0*	*416.1*
Solar (a)	**16.7**	**27.1**	**27.3**	**17.4**	*22.1*	*35.1*	*35.6*	*23.2*	*28.4*	*45.8*	*47.1*	*29.3*	**88.4**	*116.0*	*150.5*
Biomass	**7.2**	**6.7**	**7.0**	**6.6**	*8.1*	*7.5*	*7.6*	*7.2*	*8.6*	*8.0*	*8.0*	*7.4*	**27.5**	*30.4*	*32.1*
Geothermal	**3.9**	**4.2**	**4.2**	**3.5**	*3.8*	*4.2*	*4.2*	*3.5*	*3.9*	*4.3*	*4.3*	*3.6*	**15.7**	*15.8*	*16.1*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.4**	*-1.1*	*-1.2*	*-2.1*	*-1.4*	*-0.9*	*-1.2*	*-2.2*	*-1.4*	**-5.6**	*-5.7*	*-5.7*
Petroleum (b)	**4.0**	**4.0**	**4.6**	**3.2**	*3.8*	*3.7*	*4.4*	*3.1*	*4.0*	*3.7*	*4.4*	*2.9*	**15.8**	*15.1*	*15.1*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	*1.0*	*0.3*	*0.6*	*0.9*	*1.0*	*0.3*	*0.6*	*0.8*	**3.1**	*2.8*	*2.8*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.8**	*1.7*	*1.8*	*1.7*	*1.8*	*1.7*	*1.8*	*1.7*	*1.8*	**7.4**	*7.1*	*7.1*
Total Generation	**924.1**	**895.8**	**1,109.2**	**910.3**	*919.5*	*930.4*	*1,098.7*	*935.2*	*936.0*	*945.8*	*1,114.4*	*947.0*	**3,839.4**	*3,883.7*	*3,943.1*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.9**	*9.2*	*9.5*	*16.2*	*12.0*	*10.7*	*11.8*	*16.8*	*10.7*	**47.8**	*46.8*	*50.1*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	**0.1**	*0.2*	*0.1*
Nuclear	**7.3**	**4.9**	**7.3**	**6.2**	*7.1*	*7.1*	*7.2*	*5.6*	*7.1*	*6.2*	*7.2*	*7.2*	**25.7**	*27.0*	*27.6*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.6**	*2.1*	*2.1*	*1.6*	*1.5*	*2.0*	*2.1*	*1.6*	*1.5*	**7.6**	*7.4*	*7.1*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	*3.4*	*3.0*	*2.6*	*2.9*	*3.6*	*3.3*	*2.8*	*3.1*	**10.3**	*11.9*	*12.8*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.4**	*1.5*	*1.5*
Total generation	**23.3**	**20.1**	**28.0**	**21.7**	*22.2*	*22.1*	*28.0*	*22.4*	*23.7*	*23.8*	*28.8*	*23.0*	**93.1**	*94.8*	*99.3*
Net energy for load (f)	**27.8**	**25.3**	**32.3**	**27.2**	*29.0*	*26.9*	*32.0*	*28.4*	*29.0*	*27.1*	*32.1*	*28.6*	**112.7**	*116.3*	*116.8*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**13.6**	*14.5*	*15.3*	*21.4*	*17.0*	*15.3*	*15.5*	*21.4*	*16.8*	**58.0**	*68.1*	*69.1*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.7**	*8.8*	*7.5*	*7.1*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.6**	*30.3*	*27.2*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.8**	*7.9*	*7.9*	*7.3*	*7.3*	*7.3*	*7.6*	*7.1*	*7.2*	**31.5**	*30.5*	*29.2*
Nonhydro renewables (d)	**2.0**	**2.0**	**1.7**	**2.0**	*2.1*	*2.2*	*1.9*	*2.4*	*2.8*	*3.0*	*2.6*	*3.1*	**7.7**	*8.6*	*11.5*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.6**	*0.7*	*0.6*
Total generation	**33.4**	**30.7**	**39.2**	**33.3**	*33.5*	*33.1*	*37.8*	*33.7*	*32.1*	*33.4*	*37.9*	*34.2*	**136.6**	*138.1*	*137.7*
Net energy for load (f)	**35.2**	**32.6**	**42.9**	**34.4**	*36.6*	*36.0*	*43.2*	*36.7*	*36.9*	*36.4*	*43.6*	*36.9*	**145.2**	*152.4*	*153.9*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.3**	*72.9*	*71.6*	*88.5*	*68.3*	*66.3*	*73.1*	*90.1*	*70.2*	**315.1**	*301.3*	*299.7*
Coal	**33.7**	**29.6**	**46.6**	**35.7**	*47.0*	*38.0*	*50.7*	*45.1*	*57.4*	*38.7*	*55.3*	*50.1*	**145.6**	*180.7*	*201.6*
Nuclear	**68.9**	**67.1**	**70.9**	**68.6**	*67.6*	*65.7*	*72.3*	*62.3*	*58.9*	*59.1*	*62.7*	*57.9*	**275.4**	*267.9*	*238.6*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**2.1**	*3.2*	*3.1*	*1.9*	*1.9*	*3.0*	*2.9*	*1.8*	*1.8*	**10.1**	*10.1*	*9.6*
Nonhydro renewables (d)	**10.3**	**10.2**	**7.8**	**10.3**	*12.0*	*12.2*	*9.2*	*11.3*	*13.0*	*13.4*	*10.3*	*12.2*	**38.7**	*44.7*	*48.9*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.5**	*0.6*	*0.4*	*0.3*	*0.6*	*0.7*	*0.5*	*0.4*	*0.5*	**2.0**	*1.9*	*2.1*
Total generation	**195.0**	**180.2**	**225.4**	**186.3**	*203.4*	*190.9*	*222.9*	*189.5*	*199.3*	*187.8*	*220.6*	*192.8*	**786.9**	*806.7*	*800.5*
Net energy for load (f)	**182.2**	**164.2**	**209.6**	**172.3**	*189.1*	*174.7*	*206.8*	*182.2*	*191.8*	*177.3*	*209.4*	*184.0*	**728.4**	*752.8*	*762.4*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**59.2**	*58.2*	*56.9*	*70.4*	*56.4*	*54.8*	*54.4*	*67.0*	*53.8*	**254.9**	*241.9*	*230.0*
Coal	**23.8**	**22.1**	**44.4**	**27.4**	*28.5*	*29.7*	*48.9*	*32.4*	*34.5*	*33.6*	*53.7*	*32.9*	**117.7**	*139.6*	*154.7*
Nuclear	**53.0**	**50.5**	**54.1**	**53.3**	*52.0*	*52.1*	*55.2*	*53.4*	*54.0*	*55.0*	*58.1*	*55.8*	**210.9**	*212.7*	*222.8*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.4**	*11.2*	*10.5*	*7.9*	*7.8*	*10.5*	*9.9*	*7.6*	*7.6*	**38.5**	*37.4*	*35.6*
Nonhydro renewables (d)	**3.5**	**5.0**	**5.0**	**3.6**	*3.9*	*5.8*	*6.0*	*4.2*	*4.8*	*7.4*	*8.0*	*5.2*	**17.0**	*19.9*	*25.5*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.4**	*-0.1*	*-0.4*	*-0.7*	*-0.4*	*-0.1*	*-0.4*	*-0.9*	*-0.4*	**-1.3**	*-1.5*	*-1.7*
Total generation	**153.2**	**146.7**	**186.4**	**151.6**	*153.9*	*154.6*	*187.7*	*153.8*	*158.4*	*160.0*	*193.5*	*154.9*	**637.8**	*650.0*	*666.8*
Net energy for load (f)	**160.3**	**150.1**	**186.7**	**154.2**	*160.0*	*158.7*	*189.1*	*157.7*	*161.9*	*160.9*	*191.4*	*159.2*	**651.3**	*665.6*	*673.5*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**40.6**	*32.5*	*37.7*	*45.7*	*36.5*	*30.9*	*36.8*	*44.0*	*33.8*	**179.1**	*152.4*	*145.4*
Coal	**2.1**	**3.5**	**5.7**	**5.6**	*7.0*	*8.7*	*7.7*	*7.3*	*8.3*	*9.3*	*9.2*	*8.9*	**16.9**	*30.8*	*35.7*
Nuclear	**7.3**	**7.6**	**7.6**	**7.2**	*7.8*	*7.0*	*7.9*	*6.8*	*7.8*	*7.3*	*8.0*	*7.1*	**29.6**	*29.6*	*30.3*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	*2.6*	*3.3*	*3.0*	*2.5*	*3.3*	*3.9*	*3.4*	*2.7*	**8.4**	*11.4*	*13.3*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.8**	*0.9*	*0.6*	*0.8*	*0.7*	*0.9*	*0.7*	*0.8*	*0.7*	**3.4**	*3.1*	*3.1*
Total generation	**52.1**	**60.0**	**69.3**	**56.1**	*50.9*	*57.6*	*65.2*	*53.9*	*51.3*	*57.9*	*65.5*	*53.2*	**237.6**	*227.5*	*227.9*
Net energy for load (f)	**48.5**	**60.4**	**71.2**	**54.3**	*47.4*	*58.0*	*67.2*	*52.6*	*47.9*	*58.5*	*67.7*	*53.0*	**234.3**	*225.2*	*227.2*

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**39.5**	*36.9*	*37.6*	*47.9*	*36.9*	*34.2*	*39.1*	*48.3*	*37.6*	**180.0**	*159.4*	*159.2*
Coal	**51.0**	**41.1**	**68.5**	**57.3**	*53.5*	*53.0*	*74.0*	*66.5*	*64.2*	*55.6*	*78.6*	*69.7*	**218.0**	*246.9*	*268.0*
Nuclear	**26.6**	**22.9**	**24.4**	**21.6**	*24.8*	*23.3*	*24.9*	*24.3*	*24.1*	*22.3*	*23.6*	*22.8*	**95.5**	*97.3*	*92.7*
Conventional hydropower	**3.1**	**3.2**	**2.9**	**2.1**	*2.4*	*2.6*	*2.5*	*2.0*	*2.3*	*2.5*	*2.4*	*1.9*	**11.1**	*9.5*	*9.1*
Nonhydro renewables (d)	**20.3**	**20.1**	**16.3**	**23.3**	*24.6*	*24.5*	*19.2*	*25.2*	*25.8*	*25.7*	*20.4*	*25.9*	**79.9**	*93.6*	*97.8*
Other energy sources (e)	**1.5**	**1.3**	**1.4**	**0.4**	*1.3*	*1.0*	*1.2*	*0.4*	*1.4*	*1.1*	*1.2*	*0.2*	**4.5**	*4.0*	*3.9*
Total generation	**146.4**	**131.7**	**166.8**	**144.1**	*143.6*	*141.9*	*169.8*	*155.3*	*151.9*	*146.2*	*174.6*	*158.1*	**589.1**	*610.6*	*630.7*
Net energy for load (f)	**152.8**	**140.4**	**174.7**	**147.0**	*149.4*	*149.6*	*174.8*	*155.1*	*154.6*	*153.8*	*178.6*	*158.1*	**614.8**	*628.9*	*645.1*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.4**	*13.4*	*13.1*	*22.1*	*14.1*	*13.6*	*13.3*	*22.5*	*13.4*	**71.3**	*62.8*	*62.8*
Coal	**17.0**	**15.7**	**26.7**	**16.0**	*15.8*	*17.3*	*24.8*	*15.9*	*17.8*	*17.7*	*26.0*	*18.3*	**75.4**	*73.7*	*79.8*
Nuclear	**4.4**	**4.4**	**4.2**	**3.9**	*3.9*	*3.3*	*4.4*	*4.4*	*4.3*	*4.3*	*3.9*	*2.8*	**16.8**	*16.0*	*15.3*
Conventional hydropower	**5.9**	**6.0**	**5.2**	**3.8**	*4.3*	*4.5*	*4.3*	*3.5*	*3.8*	*4.2*	*4.2*	*3.5*	**20.8**	*16.6*	*15.7*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.6**	**24.1**	*25.0*	*25.9*	*20.2*	*27.4*	*27.6*	*28.3*	*22.3*	*29.1*	**82.3**	*98.5*	*107.3*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.6**	*0.5*	*0.5*
Total generation	**65.1**	**63.8**	**77.0**	**61.4**	*62.5*	*64.1*	*75.9*	*65.6*	*67.2*	*68.0*	*79.0*	*67.3*	**267.3**	*268.1*	*281.5*
Net energy for load (f)	**61.6**	**60.0**	**74.9**	**58.4**	*58.5*	*60.5*	*74.1*	*61.5*	*61.7*	*63.0*	*77.0*	*63.9*	**254.8**	*254.6*	*265.5*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.6**	*24.9*	*31.2*	*44.5*	*28.9*	*20.2*	*25.9*	*38.2*	*25.6*	**175.2**	*129.6*	*109.9*
Coal	**13.1**	**15.8**	**20.3**	**17.3**	*17.4*	*19.5*	*24.3*	*17.5*	*17.8*	*19.6*	*25.0*	*18.2*	**66.6**	*78.7*	*80.6*
Nuclear	**10.4**	**9.7**	**11.0**	**10.4**	*10.7*	*9.8*	*10.3*	*9.6*	*10.7*	*10.0*	*11.0*	*10.0*	**41.5**	*40.4*	*41.7*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.1**	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**1.0**	*0.7*	*0.6*
Nonhydro renewables (d)	**22.5**	**24.8**	**20.8**	**23.5**	*27.2*	*31.3*	*28.0*	*29.3*	*32.7*	*38.0*	*35.1*	*33.1*	**91.6**	*115.8*	*138.9*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*1.5*
Total generation	**84.1**	**93.0**	**112.1**	**88.3**	*80.9*	*92.4*	*107.7*	*85.8*	*82.0*	*94.0*	*109.7*	*87.4*	**377.5**	*366.7*	*373.1*
Net energy for load (f)	**84.1**	**93.0**	**112.1**	**88.3**	*80.9*	*92.4*	*107.7*	*85.8*	*82.0*	*94.0*	*109.7*	*87.4*	**377.5**	*366.7*	*373.1*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.5**	**24.6**	*18.3*	*20.2*	*28.2*	*24.6*	*13.9*	*15.3*	*25.7*	*22.1*	**92.9**	*91.2*	*76.9*
Coal	**22.2**	**16.1**	**24.5**	**26.0**	*21.5*	*18.2*	*25.4*	*22.0*	*23.8*	*20.2*	*26.8*	*25.1*	**88.9**	*87.1*	*95.9*
Nuclear	**2.4**	**2.0**	**2.4**	**2.6**	*2.4*	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.5**	*8.4*	*9.6*
Conventional hydropower	**35.0**	**38.7**	**32.6**	**29.0**	*38.2*	*35.5*	*31.1*	*30.7*	*41.3*	*37.2*	*32.1*	*31.1*	**135.3**	*135.5*	*141.8*
Nonhydro renewables (d)	**13.7**	**14.4**	**12.7**	**11.9**	*16.2*	*16.6*	*14.5*	*14.0*	*18.5*	*18.7*	*16.2*	*15.2*	**52.6**	*61.3*	*68.6*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	*0.1*	*0.2*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.7**	*0.7*	*0.6*
Total generation	**97.2**	**88.5**	**99.9**	**94.4**	*96.7*	*91.9*	*101.7*	*94.0*	*100.0*	*94.0*	*103.3*	*96.2*	**379.9**	*384.3*	*393.5*
Net energy for load (f)	**88.2**	**78.9**	**88.6**	**85.0**	*86.3*	*81.1*	*90.1*	*86.4*	*86.5*	*81.6*	*90.5*	*86.6*	**340.7**	*344.0*	*345.1*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**13.0**	*9.3*	*14.3*	*20.1*	*14.2*	*5.9*	*11.3*	*19.0*	*11.6*	**59.8**	*57.9*	*47.8*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	*6.0*	*5.9*	*7.9*	*4.5*	*6.3*	*6.4*	*7.2*	*5.0*	**26.0**	*24.3*	*25.0*
Nuclear	**8.3**	**7.6**	**8.7**	**7.2**	*8.4*	*7.6*	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.7*	**31.8**	*32.3*	*32.2*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.6**	*2.5*	*3.8*	*3.5*	*2.5*	*2.3*	*3.6*	*3.4*	*2.4*	**13.0**	*12.2*	*11.6*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.4**	*3.3*	*3.9*	*3.1*	*3.1*	*4.1*	*4.7*	*4.0*	*3.8*	**10.5**	*13.3*	*16.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**31.8**	*29.5*	*35.4*	*43.4*	*31.9*	*27.0*	*33.6*	*42.4*	*30.5*	**141.3**	*140.2*	*133.6*
Net energy for load (f)	**21.9**	**26.5**	**35.5**	**23.7**	*22.0*	*27.1*	*34.4*	*23.5*	*22.4*	*27.4*	*34.7*	*23.7*	**107.6**	*107.1*	*108.2*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**24.5**	*14.8*	*11.8*	*23.6*	*21.6*	*14.6*	*11.6*	*23.1*	*21.3*	**80.8**	*71.8*	*70.6*
Coal	**1.4**	**1.2**	**2.1**	**2.4**	*1.4*	*1.2*	*2.2*	*2.3*	*1.4*	*1.2*	*2.1*	*2.3*	**7.1**	*7.2*	*7.0*
Nuclear	**4.8**	**4.9**	**4.5**	**2.3**	*4.3*	*4.0*	*4.7*	*4.7*	*4.6*	*3.9*	*4.4*	*4.0*	**16.5**	*17.7*	*16.9*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**4.0**	*3.2*	*5.7*	*5.2*	*3.9*	*3.0*	*5.4*	*5.0*	*3.8*	**18.2**	*18.0*	*17.3*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.0**	**12.0**	*15.1*	*20.0*	*19.2*	*12.9*	*15.7*	*21.5*	*20.7*	*13.9*	**63.1**	*67.3*	*71.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**-0.1**	*-0.1*	*0.0*	*0.1*	*-0.1*	*0.0*	*0.1*	*0.2*	*0.0*	**0.1**	*0.0*	*0.2*
Total generation	**40.3**	**43.2**	**57.1**	**45.1**	*38.9*	*42.8*	*54.9*	*45.4*	*39.3*	*43.6*	*55.4*	*45.3*	**185.8**	*182.0*	*183.8*
Net energy for load (f)	**57.9**	**61.0**	**77.1**	**62.6**	*56.7*	*61.8*	*75.5*	*61.5*	*57.5*	*62.3*	*75.9*	*61.8*	**258.7**	*255.5*	*257.5*

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226;

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.036**	**0.038**	**0.038**	**0.031**	*0.035*	*0.038*	*0.038*	*0.032*	*0.036*	*0.039*	*0.039*	*0.032*	**0.143**	*0.143*	*0.146*
Hydroelectric Power (a)	**0.667**	**0.724**	**0.631**	**0.561**	*0.691*	*0.694*	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.583**	*2.543*	*2.538*
Solar (b)	**0.152**	**0.246**	**0.248**	**0.159**	*0.202*	*0.319*	*0.324*	*0.211*	*0.259*	*0.417*	*0.428*	*0.266*	**0.805**	*1.056*	*1.370*
Waste Biomass (c)	**0.062**	**0.058**	**0.059**	**0.058**	*0.065*	*0.064*	*0.061*	*0.060*	*0.068*	*0.066*	*0.064*	*0.061*	**0.237**	*0.250*	*0.259*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	*0.061*	*0.051*	*0.057*	*0.051*	*0.065*	*0.057*	*0.060*	*0.053*	**0.185**	*0.219*	*0.236*
Wind	**0.786**	**0.794**	**0.620**	**0.822**	*0.926*	*0.932*	*0.729*	*0.927*	*1.013*	*1.004*	*0.793*	*0.979*	**3.023**	*3.514*	*3.788*
Subtotal	**1.752**	**1.904**	**1.643**	**1.676**	*1.979*	*2.099*	*1.807*	*1.840*	*2.131*	*2.277*	*1.981*	*1.948*	**6.976**	*7.725*	*8.337*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.187**	*0.181*	*0.185*	*0.195*	*0.196*	*0.192*	*0.195*	*0.197*	*0.199*	**0.697**	*0.758*	*0.784*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	*0.007*	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.008*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.040**	*0.040*	*0.038*	*0.037*	*0.040*	*0.039*	*0.038*	*0.037*	*0.040*	**0.156**	*0.154*	*0.154*
Wood Biomass	**0.350**	**0.341**	**0.337**	**0.347**	*0.342*	*0.339*	*0.351*	*0.354*	*0.345*	*0.342*	*0.354*	*0.357*	**1.375**	*1.387*	*1.399*
Subtotal	**0.596**	**0.522**	**0.559**	**0.581**	*0.570*	*0.570*	*0.592*	*0.598*	*0.585*	*0.583*	*0.596*	*0.604*	**2.259**	*2.330*	*2.368*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.023*	*0.023*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	*0.028*	*0.041*	*0.041*	*0.029*	*0.033*	*0.047*	*0.047*	*0.032*	**0.124**	*0.140*	*0.158*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	*0.020*	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.079**	**0.067**	*0.070*	*0.082*	*0.084*	*0.071*	*0.074*	*0.088*	*0.089*	*0.074*	**0.291**	*0.307*	*0.326*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.087**	**0.087**	**0.062**	*0.066*	*0.100*	*0.101*	*0.069*	*0.074*	*0.111*	*0.111*	*0.076*	**0.293**	*0.337*	*0.372*
Wood Biomass	**0.124**	**0.124**	**0.125**	**0.133**	*0.124*	*0.124*	*0.125*	*0.133*	*0.124*	*0.124*	*0.125*	*0.133*	**0.506**	*0.506*	*0.506*
Subtotal	**0.191**	**0.220**	**0.222**	**0.205**	*0.200*	*0.234*	*0.236*	*0.212*	*0.208*	*0.245*	*0.246*	*0.219*	**0.839**	*0.882*	*0.918*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	*0.075*	*0.076*	*0.074*	*0.080*	*0.081*	*0.084*	*0.089*	*0.092*	**0.275**	*0.305*	*0.347*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.261**	*0.250*	*0.269*	*0.282*	*0.277*	*0.264*	*0.284*	*0.285*	*0.283*	**1.005**	*1.078*	*1.115*
Subtotal	**0.318**	**0.284**	**0.340**	**0.337**	*0.325*	*0.345*	*0.356*	*0.357*	*0.345*	*0.368*	*0.374*	*0.375*	**1.280**	*1.383*	*1.462*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	*0.075*	*0.076*	*0.074*	*0.080*	*0.081*	*0.084*	*0.089*	*0.092*	**0.275**	*0.305*	*0.347*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.187**	*0.181*	*0.185*	*0.195*	*0.196*	*0.192*	*0.195*	*0.197*	*0.199*	**0.697**	*0.758*	*0.784*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.271**	*0.260*	*0.279*	*0.293*	*0.288*	*0.274*	*0.295*	*0.296*	*0.294*	**1.044**	*1.120*	*1.158*
Geothermal	**0.052**	**0.054**	**0.054**	**0.048**	*0.052*	*0.055*	*0.055*	*0.049*	*0.052*	*0.056*	*0.056*	*0.049*	**0.208**	*0.210*	*0.213*
Hydroelectric Power (a)	**0.670**	**0.727**	**0.634**	**0.563**	*0.694*	*0.697*	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.594**	*2.554*	*2.549*
Solar (b)(e)	**0.238**	**0.373**	**0.376**	**0.252**	*0.304*	*0.471*	*0.477*	*0.317*	*0.374*	*0.587*	*0.598*	*0.382*	**1.239**	*1.569*	*1.941*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.107**	*0.113*	*0.111*	*0.107*	*0.109*	*0.116*	*0.113*	*0.110*	*0.110*	**0.429**	*0.440*	*0.449*
Wood Biomass	**0.544**	**0.529**	**0.531**	**0.547**	*0.546*	*0.534*	*0.554*	*0.559*	*0.554*	*0.543*	*0.561*	*0.565*	**2.150**	*2.194*	*2.223*
Wind	**0.786**	**0.794**	**0.620**	**0.822**	*0.926*	*0.932*	*0.729*	*0.927*	*1.013*	*1.004*	*0.793*	*0.979*	**3.023**	*3.514*	*3.788*
Total Consumption	**2.926**	**3.007**	**2.844**	**2.867**	*3.143*	*3.330*	*3.075*	*3.078*	*3.343*	*3.562*	*3.287*	*3.220*	**11.644**	*12.627*	*13.412*

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly,* DOE/EIA-0226 and *Renewable Energy Annual,* DOE/EIA-0603; *Petroleum Supply Monthly,* DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,670**	**6,589**	**6,590**	**6,594**	*6,485*	*6,487*	*6,412*	*6,498*	*6,543*	*6,544*	*6,544*	*6,544*	**6,594**	*6,498*	*6,544*
Waste	**3,943**	**3,862**	**3,864**	**3,868**	*3,902*	*3,904*	*3,829*	*3,914*	*3,917*	*3,918*	*3,918*	*3,918*	**3,868**	*3,914*	*3,918*
Wood	**2,727**	**2,727**	**2,727**	**2,727**	*2,584*	*2,584*	*2,584*	*2,584*	*2,626*	*2,626*	*2,626*	*2,626*	**2,727**	*2,584*	*2,626*
Conventional Hydroelectric	**79,490**	**79,477**	**79,647**	**79,603**	*79,739*	*79,688*	*79,765*	*79,807*	*79,819*	*79,824*	*79,859*	*79,862*	**79,603**	*79,807*	*79,862*
Geothermal	**2,506**	**2,506**	**2,506**	**2,506**	*2,506*	*2,506*	*2,506*	*2,548*	*2,548*	*2,548*	*2,548*	*2,548*	**2,506**	*2,548*	*2,548*
Large-Scale Solar (b)	**38,952**	**41,176**	**42,796**	**48,887**	*50,718*	*53,192*	*55,676*	*64,301*	*65,175*	*70,162*	*71,428*	*76,799*	**48,887**	*64,301*	*76,799*
Wind	**105,749**	**107,203**	**108,874**	**124,136**	*126,084*	*126,933*	*127,911*	*136,286*	*136,836*	*138,057*	*138,137*	*140,386*	**124,136**	*136,286*	*140,386*
Other Sectors (c)															
Biomass	**6,443**	**6,443**	**6,443**	**6,460**	*6,460*	*6,440*	*6,440*	*6,440*	*6,440*	*6,444*	*6,444*	*6,444*	**6,460**	*6,440*	*6,444*
Waste	**786**	**786**	**786**	**804**	*804*	*804*	*804*	*804*	*804*	*804*	*804*	*804*	**804**	*804*	*804*
Wood	**5,656**	**5,656**	**5,656**	**5,656**	*5,656*	*5,636*	*5,636*	*5,636*	*5,636*	*5,641*	*5,641*	*5,641*	**5,656**	*5,636*	*5,641*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	*289*	*292*	*290*	*290*	*290*	*290*	*290*	*290*	**289**	*290*	*290*
Large-Scale Solar (b)	**441**	**453**	**458**	**459**	*461*	*461*	*461*	*476*	*476*	*476*	*476*	*476*	**459**	*476*	*476*
Small-Scale Solar (d)	**24,434**	**25,370**	**26,506**	**27,152**	*28,013*	*28,944*	*29,988*	*31,027*	*31,909*	*32,674*	*33,522*	*34,389*	**27,152**	*31,027*	*34,389*
Residential Sector	**15,072**	**15,700**	**16,428**	**16,989**	*17,524*	*18,086*	*18,705*	*19,347*	*19,889*	*20,342*	*20,910*	*21,492*	**16,989**	*19,347*	*21,492*
Commercial Sector	**7,486**	**7,730**	**8,079**	**8,123**	*8,393*	*8,701*	*9,061*	*9,397*	*9,678*	*9,933*	*10,159*	*10,391*	**8,123**	*9,397*	*10,391*
Industrial Sector	**1,875**	**1,939**	**1,998**	**2,040**	*2,097*	*2,157*	*2,222*	*2,284*	*2,342*	*2,398*	*2,452*	*2,506*	**2,040**	*2,284*	*2,506*
Wind	**118**	**344**	**353**	**353**	*353*	*353*	*353*	*353*	*353*	*353*	*353*	*353*	**353**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.7**	**7.0**	**6.6**	*8.1*	*7.5*	*7.6*	*7.2*	*8.6*	*8.0*	*8.0*	*7.4*	**27.5**	*30.4*	*32.1*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	*4.4*	*4.3*	*4.1*	*4.0*	*4.6*	*4.5*	*4.3*	*4.1*	**16.0**	*16.9*	*17.5*
Wood	**3.0**	**2.7**	**3.0**	**2.8**	*3.7*	*3.2*	*3.5*	*3.1*	*4.0*	*3.5*	*3.7*	*3.3*	**11.5**	*13.5*	*14.6*
Conventional Hydroelectric	**74.9**	**81.3**	**70.9**	**61.9**	*75.8*	*76.2*	*65.8*	*61.8*	*76.2*	*76.1*	*65.7*	*61.5*	**289.0**	*279.6*	*279.5*
Geothermal	**3.9**	**4.2**	**4.2**	**3.5**	*3.8*	*4.2*	*4.2*	*3.5*	*3.9*	*4.3*	*4.3*	*3.6*	**15.7**	*15.8*	*16.1*
Large-Scale Solar (b)	**16.7**	**27.1**	**27.3**	**17.4**	*22.1*	*35.1*	*35.6*	*23.2*	*28.4*	*45.8*	*47.1*	*29.3*	**88.4**	*116.0*	*150.5*
Wind	**86.4**	**87.2**	**68.1**	**90.3**	*101.8*	*102.4*	*80.1*	*101.8*	*111.3*	*110.3*	*87.1*	*107.5*	**332.0**	*386.0*	*416.1*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.2**	*7.3*	*7.1*	*7.0*	*7.2*	*7.3*	*7.1*	*7.0*	*7.2*	**28.6**	*28.6*	*28.6*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.7**	**6.4**	**6.3**	**6.5**	*6.6*	*6.4*	*6.3*	*6.5*	*6.6*	*6.4*	*6.3*	*6.5*	**25.9**	*25.8*	*25.8*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.8*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.4**	**8.6**	*9.6*	*14.3*	*14.4*	*9.9*	*11.0*	*16.2*	*16.1*	*11.0*	**41.8**	*48.1*	*54.3*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.3**	*5.8*	*8.8*	*8.8*	*6.1*	*6.7*	*9.9*	*9.9*	*6.8*	**25.3**	*29.5*	*33.3*
Commercial Sector	**2.7**	**3.8**	**3.9**	**2.6**	*3.0*	*4.3*	*4.4*	*3.0*	*3.5*	*5.0*	*4.9*	*3.4*	**13.0**	*14.7*	*16.7*
Industrial Sector	**0.7**	**1.0**	**1.1**	**0.7**	*0.8*	*1.2*	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.3**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.9*

-- = no data available

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to one megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than one megawatt).

(d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecastss: EIA-860M database, EIA-826 Solar PV database, and EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,584**	**18,830**	*18,961*	*19,065*	*19,292*	*19,487*	*19,697*	*19,871*	*20,020*	*20,146*	**18,432**	*19,201*	*19,933*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,916**	**13,124**	*13,166*	*13,286*	*13,477*	*13,628*	*13,758*	*13,857*	*13,937*	*14,019*	**12,755**	*13,389*	*13,893*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,309**	**3,391**	*3,424*	*3,421*	*3,438*	*3,465*	*3,496*	*3,529*	*3,562*	*3,593*	**3,293**	*3,437*	*3,545*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-2**	**34**	*60*	*63*	*80*	*104*	*132*	*140*	*142*	*135*	**-80**	*77*	*137*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,295**	*3,305*	*3,312*	*3,320*	*3,324*	*3,329*	*3,332*	*3,336*	*3,337*	**3,335**	*3,315*	*3,333*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,170**	**2,259**	*2,334*	*2,393*	*2,455*	*2,524*	*2,591*	*2,653*	*2,705*	*2,752*	**2,213**	*2,427*	*2,675*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,317**	*3,384*	*3,473*	*3,540*	*3,617*	*3,659*	*3,681*	*3,697*	*3,720*	**3,122**	*3,504*	*3,689*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,919**	**15,515**	*15,659*	*15,441*	*15,375*	*15,426*	*15,532*	*15,601*	*15,678*	*15,754*	**15,781**	*15,475*	*15,641*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.8**	**142.7**	*144.1*	*145.3*	*147.1*	*148.7*	*150.1*	*151.1*	*151.8*	*152.3*	**142.3**	*146.3*	*151.3*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.0**	**8.8**	**6.7**	*6.4*	*6.3*	*5.7*	*5.3*	*4.8*	*4.6*	*4.5*	*4.4*	**8.1**	*5.9*	*4.6*
Housing Starts															
(millions - SAAR)	**1.48**	**1.08**	**1.43**	**1.52**	*1.42*	*1.38*	*1.36*	*1.34*	*1.32*	*1.31*	*1.31*	*1.30*	**1.38**	*1.38*	*1.31*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**107.7**	**93.7**	**102.4**	**103.9**	*104.9*	*105.4*	*106.3*	*107.4*	*109.1*	*110.5*	*111.5*	*112.3*	**101.9**	*106.0*	*110.8*
Manufacturing	**104.4**	**89.3**	**99.9**	**102.0**	*102.7*	*102.7*	*103.4*	*104.5*	*106.0*	*107.2*	*108.2*	*109.0*	**98.9**	*103.3*	*107.6*
Food	**116.5**	**107.9**	**113.5**	**115.3**	*116.6*	*117.3*	*117.5*	*117.9*	*118.5*	*119.0*	*119.5*	*120.1*	**113.3**	*117.3*	*119.3*
Paper	**94.7**	**87.2**	**88.1**	**92.5**	*90.7*	*91.0*	*91.4*	*91.9*	*92.5*	*93.0*	*93.4*	*93.6*	**90.6**	*91.3*	*93.2*
Petroleum and Coal Products	**105.0**	**82.7**	**89.3**	**90.0**	*90.4*	*91.6*	*92.6*	*93.7*	*94.4*	*94.8*	*95.0*	*95.2*	**91.7**	*92.1*	*94.8*
Chemicals	**99.8**	**93.7**	**96.3**	**98.8**	*103.7*	*106.5*	*108.8*	*109.5*	*110.0*	*110.6*	*111.1*	*111.8*	**97.2**	*107.1*	*110.9*
Nonmetallic Mineral Products	**122.2**	**106.3**	**113.0**	**115.3**	*114.2*	*113.6*	*113.8*	*113.9*	*114.1*	*114.4*	*115.0*	*115.9*	**114.2**	*113.9*	*114.9*
Primary Metals	**94.4**	**69.6**	**79.3**	**85.9**	*82.2*	*81.9*	*82.0*	*82.6*	*83.8*	*84.7*	*85.4*	*86.1*	**82.3**	*82.2*	*85.0*
Coal-weighted Manufacturing (a)	**106.5**	**94.1**	**100.8**	**103.6**	*103.3*	*103.5*	*104.0*	*104.8*	*105.9*	*106.7*	*107.4*	*108.1*	**101.3**	*103.9*	*107.0*
Distillate-weighted Manufacturing (a)	**98.8**	**85.6**	**92.3**	**94.3**	*94.2*	*94.6*	*94.9*	*95.3*	*95.8*	*96.3*	*96.8*	*97.3*	**92.8**	*94.7*	*96.5*
Electricity-weighted Manufacturing (a)	**105.1**	**89.4**	**98.3**	**101.4**	*100.6*	*101.0*	*101.6*	*102.4*	*103.5*	*104.3*	*105.0*	*105.6*	**98.5**	*101.4*	*104.6*
Natural Gas-weighted Manufacturing (a)	**107.8**	**94.0**	**100.2**	**103.0**	*102.5*	*103.1*	*103.9*	*104.7*	*105.9*	*106.7*	*107.3*	*108.0*	**101.3**	*103.6*	*107.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.60**	**2.61**	*2.62*	*2.64*	*2.65*	*2.67*	*2.68*	*2.70*	*2.71*	*2.73*	**2.59**	*2.64*	*2.71*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.87**	**1.94**	**1.98**	*1.99*	*2.01*	*2.01*	*2.01*	*2.03*	*2.05*	*2.05*	*2.05*	**1.94**	*2.00*	*2.04*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.51**	*1.69*	*1.75*	*1.68*	*1.62*	*1.62*	*1.72*	*1.74*	*1.69*	**1.43**	*1.68*	*1.69*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.9**	**114.4**	*114.8*	*115.3*	*115.8*	*116.3*	*116.8*	*117.4*	*118.0*	*118.6*	**113.6**	*115.6*	*117.7*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,752**	**6,869**	**8,287**	**7,956**	*7,660*	*8,579*	*8,826*	*8,702*	*8,165*	*9,165*	*9,171*	*8,866*	**7,718**	*8,446*	*8,845*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**628**	**362**	**475**	**567**	*600*	*581*	*610*	*652*	*649*	*707*	*724*	*696*	**508**	*611*	*694*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**269**	*304*	*308*	*352*	*379*	*401*	*448*	*456*	*433*	**239**	*336*	*435*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**214.2**	*195.5*	*190.1*	*181.8*	*187.8*	*189.2*	*207.6*	*212.6*	*226.6*	**217.3**	*188.8*	*209.0*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.196**	**0.225**	*0.277*	*0.243*	*0.241*	*0.279*	*0.273*	*0.236*	*0.231*	*0.245*	**0.216**	*0.260*	*0.246*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**552**	**442**	**518**	**520**	*523*	*542*	*558*	*568*	*559*	*574*	*582*	*585*	**2,032**	*2,191*	*2,301*
Natural Gas	**493**	**351**	**385**	**428**	*481*	*340*	*359*	*426*	*464*	*335*	*354*	*420*	**1,657**	*1,607*	*1,573*
Coal	**202**	**177**	**274**	**221**	*228*	*223*	*292*	*240*	*261*	*235*	*309*	*258*	**874**	*983*	*1,062*
Total Energy (c)	**1,250**	**973**	**1,180**	**1,171**	*1,234*	*1,108*	*1,212*	*1,237*	*1,287*	*1,146*	*1,248*	*1,265*	**4,574**	*4,792*	*4,947*

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2009)															
New England	**993**	**901**	**972**	**983**	*990*	*995*	*1,006*	*1,017*	*1,027*	*1,036*	*1,043*	*1,049*	**962**	*1,002*	*1,039*
Middle Atlantic	**2,774**	**2,486**	**2,684**	**2,724**	*2,744*	*2,763*	*2,800*	*2,833*	*2,869*	*2,899*	*2,924*	*2,943*	**2,667**	*2,785*	*2,909*
E. N. Central	**2,502**	**2,266**	**2,465**	**2,486**	*2,501*	*2,513*	*2,539*	*2,561*	*2,584*	*2,602*	*2,618*	*2,631*	**2,430**	*2,528*	*2,609*
W. N. Central	**1,188**	**1,084**	**1,161**	**1,177**	*1,183*	*1,187*	*1,200*	*1,210*	*1,221*	*1,230*	*1,238*	*1,246*	**1,153**	*1,195*	*1,234*
S. Atlantic	**3,388**	**3,114**	**3,335**	**3,378**	*3,394*	*3,411*	*3,450*	*3,482*	*3,518*	*3,546*	*3,571*	*3,594*	**3,304**	*3,434*	*3,557*
E. S. Central	**828**	**742**	**804**	**815**	*820*	*824*	*834*	*842*	*851*	*859*	*865*	*871*	**797**	*830*	*861*
W. S. Central	**2,317**	**2,125**	**2,260**	**2,297**	*2,311*	*2,322*	*2,349*	*2,374*	*2,401*	*2,426*	*2,448*	*2,467*	**2,250**	*2,339*	*2,435*
Mountain	**1,283**	**1,177**	**1,257**	**1,275**	*1,282*	*1,288*	*1,303*	*1,315*	*1,328*	*1,339*	*1,348*	*1,358*	**1,248**	*1,297*	*1,343*
Pacific	**3,769**	**3,436**	**3,677**	**3,726**	*3,767*	*3,793*	*3,844*	*3,887*	*3,931*	*3,969*	*3,998*	*4,021*	**3,652**	*3,823*	*3,980*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**97.6**	**83.5**	**92.6**	**95.3**	*95.9*	*96.2*	*96.9*	*97.8*	*98.9*	*99.9*	*100.6*	*101.3*	**92.2**	*96.7*	*100.2*
Middle Atlantic	**97.1**	**80.3**	**91.0**	**92.5**	*93.2*	*93.5*	*94.4*	*95.5*	*97.2*	*98.7*	*99.8*	*100.7*	**90.3**	*94.1*	*99.1*
E. N. Central	**105.1**	**86.1**	**99.3**	**101.7**	*102.5*	*102.6*	*103.0*	*104.5*	*105.9*	*107.1*	*108.1*	*109.1*	**98.0**	*103.1*	*107.5*
W. N. Central	**103.7**	**90.3**	**100.5**	**102.4**	*103.1*	*103.2*	*103.8*	*104.8*	*106.3*	*107.4*	*108.4*	*109.2*	**99.2**	*103.7*	*107.8*
S. Atlantic	**109.2**	**94.4**	**105.0**	**107.3**	*107.9*	*107.8*	*108.6*	*109.5*	*111.1*	*112.4*	*113.3*	*114.1*	**104.0**	*108.5*	*112.7*
E. S. Central	**109.0**	**90.1**	**104.3**	**107.1**	*108.2*	*108.0*	*108.6*	*109.7*	*110.8*	*111.8*	*112.7*	*113.3*	**102.6**	*108.6*	*112.2*
W. S. Central	**99.8**	**87.8**	**95.5**	**97.7**	*98.0*	*97.8*	*98.5*	*99.6*	*101.3*	*102.7*	*103.7*	*104.4*	**95.2**	*98.5*	*103.0*
Mountain	**114.7**	**102.7**	**114.1**	**115.9**	*116.7*	*116.6*	*117.1*	*118.1*	*119.6*	*120.8*	*121.8*	*122.7*	**111.8**	*117.1*	*121.2*
Pacific	**102.4**	**86.8**	**95.6**	**97.2**	*97.6*	*97.6*	*98.5*	*99.4*	*101.2*	*102.8*	*103.9*	*105.0*	**95.5**	*98.3*	*103.3*
Real Personal Income (Billion $2009)															
New England	**892**	**995**	**941**	**913**	*919*	*908*	*906*	*909*	*915*	*920*	*924*	*928*	**935**	*911*	*922*
Middle Atlantic	**2,308**	**2,515**	**2,404**	**2,346**	*2,364*	*2,337*	*2,331*	*2,340*	*2,358*	*2,371*	*2,384*	*2,395*	**2,393**	*2,343*	*2,377*
E. N. Central	**2,449**	**2,691**	**2,581**	**2,514**	*2,536*	*2,504*	*2,493*	*2,500*	*2,513*	*2,523*	*2,533*	*2,544*	**2,559**	*2,508*	*2,528*
W. N. Central	**1,160**	**1,256**	**1,217**	**1,196**	*1,195*	*1,179*	*1,175*	*1,177*	*1,184*	*1,188*	*1,194*	*1,200*	**1,207**	*1,182*	*1,192*
S. Atlantic	**3,269**	**3,487**	**3,420**	**3,349**	*3,391*	*3,349*	*3,337*	*3,348*	*3,370*	*3,384*	*3,403*	*3,422*	**3,381**	*3,356*	*3,395*
E. S. Central	**904**	**971**	**947**	**925**	*937*	*924*	*921*	*923*	*928*	*931*	*935*	*940*	**937**	*926*	*934*
W. S. Central	**2,027**	**2,201**	**2,130**	**2,080**	*2,099*	*2,069*	*2,063*	*2,070*	*2,089*	*2,101*	*2,116*	*2,131*	**2,109**	*2,075*	*2,109*
Mountain	**1,211**	**1,316**	**1,273**	**1,245**	*1,255*	*1,238*	*1,235*	*1,238*	*1,246*	*1,251*	*1,258*	*1,265*	**1,261**	*1,241*	*1,255*
Pacific	**2,852**	**3,074**	**2,946**	**2,907**	*2,930*	*2,902*	*2,900*	*2,914*	*2,935*	*2,951*	*2,967*	*2,982*	**2,945**	*2,912*	*2,959*
Households (Thousands)															
New England	**5,895**	**5,878**	**5,903**	**5,942**	*5,958*	*5,969*	*5,984*	*6,000*	*6,016*	*6,031*	*6,044*	*6,052*	**5,942**	*6,000*	*6,052*
Middle Atlantic	**16,161**	**16,118**	**16,196**	**16,299**	*16,347*	*16,382*	*16,424*	*16,466*	*16,504*	*16,539*	*16,565*	*16,584*	**16,299**	*16,466*	*16,584*
E. N. Central	**18,880**	**18,836**	**18,934**	**19,052**	*19,107*	*19,155*	*19,213*	*19,276*	*19,334*	*19,378*	*19,414*	*19,441*	**19,052**	*19,276*	*19,441*
W. N. Central	**8,651**	**8,636**	**8,684**	**8,751**	*8,783*	*8,810*	*8,841*	*8,873*	*8,904*	*8,935*	*8,963*	*8,981*	**8,751**	*8,873*	*8,981*
S. Atlantic	**25,644**	**25,609**	**25,772**	**25,985**	*26,103*	*26,206*	*26,326*	*26,454*	*26,578*	*26,704*	*26,817*	*26,911*	**25,985**	*26,454*	*26,911*
E. S. Central	**7,657**	**7,641**	**7,683**	**7,742**	*7,770*	*7,793*	*7,820*	*7,849*	*7,877*	*7,904*	*7,928*	*7,945*	**7,742**	*7,849*	*7,945*
W. S. Central	**14,868**	**14,855**	**14,956**	**15,089**	*15,163*	*15,229*	*15,303*	*15,381*	*15,457*	*15,531*	*15,598*	*15,653*	**15,089**	*15,381*	*15,653*
Mountain	**9,450**	**9,449**	**9,521**	**9,615**	*9,671*	*9,721*	*9,778*	*9,837*	*9,894*	*9,948*	*9,998*	*10,039*	**9,615**	*9,837*	*10,039*
Pacific	**18,819**	**18,786**	**18,896**	**19,048**	*19,126*	*19,191*	*19,268*	*19,351*	*19,431*	*19,499*	*19,561*	*19,602*	**19,048**	*19,351*	*19,602*
Total Non-farm Employment (Millions)															
New England	**7.5**	**6.4**	**6.8**	**6.9**	*7.0*	*7.1*	*7.2*	*7.3*	*7.3*	*7.4*	*7.4*	*7.5*	**6.9**	*7.1*	*7.4*
Middle Atlantic	**20.1**	**16.8**	**18.0**	**18.3**	*18.5*	*18.7*	*19.0*	*19.3*	*19.5*	*19.8*	*19.9*	*20.0*	**18.3**	*18.9*	*19.8*
E. N. Central	**22.3**	**19.3**	**20.6**	**20.8**	*21.1*	*21.3*	*21.6*	*21.8*	*22.0*	*22.1*	*22.2*	*22.2*	**20.8**	*21.4*	*22.1*
W. N. Central	**10.8**	**9.8**	**10.2**	**10.3**	*10.4*	*10.4*	*10.5*	*10.6*	*10.7*	*10.7*	*10.8*	*10.8*	**10.3**	*10.5*	*10.7*
S. Atlantic	**29.4**	**26.4**	**27.6**	**28.0**	*28.2*	*28.4*	*28.7*	*29.0*	*29.3*	*29.5*	*29.6*	*29.7*	**27.8**	*28.6*	*29.5*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	*8.1*	*8.1*	*8.2*	*8.2*	*8.3*	*8.3*	*8.3*	*8.4*	**8.0**	*8.2*	*8.3*
W. S. Central	**18.0**	**16.4**	**16.9**	**17.2**	*17.3*	*17.4*	*17.6*	*17.7*	*17.9*	*18.0*	*18.1*	*18.2*	**17.1**	*17.5*	*18.0*
Mountain	**11.2**	**10.2**	**10.6**	**10.8**	*10.8*	*10.9*	*11.0*	*11.1*	*11.2*	*11.3*	*11.3*	*11.4*	**10.7**	*11.0*	*11.3*
Pacific	**24.0**	**20.9**	**21.8**	**22.2**	*22.5*	*22.7*	*23.1*	*23.4*	*23.6*	*23.8*	*23.9*	*24.0*	**22.2**	*22.9*	*23.8*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecast: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,732**	**970**	**114**	**1,982**	*3,144*	*858*	*124*	*2,096*	*3,049*	*858*	*124*	*2,096*	**5,799**	*6,222*	*6,128*
Middle Atlantic	**2,471**	**837**	**87**	**1,796**	*2,902*	*682*	*76*	*1,918*	*2,859*	*682*	*75*	*1,918*	**5,191**	*5,578*	*5,534*
E. N. Central	**2,788**	**848**	**125**	**2,072**	*3,120*	*715*	*115*	*2,231*	*3,146*	*715*	*115*	*2,231*	**5,834**	*6,182*	*6,208*
W. N. Central	**3,039**	**801**	**168**	**2,310**	*3,218*	*689*	*156*	*2,451*	*3,250*	*690*	*156*	*2,452*	**6,316**	*6,515*	*6,548*
South Atlantic	**1,108**	**252**	**17**	**839**	*1,381*	*186*	*10*	*908*	*1,372*	*185*	*10*	*906*	**2,216**	*2,484*	*2,473*
E. S. Central	**1,482**	**336**	**20**	**1,185**	*1,766*	*232*	*17*	*1,255*	*1,809*	*232*	*17*	*1,256*	**3,023**	*3,270*	*3,314*
W. S. Central	**971**	**102**	**8**	**731**	*1,068*	*69*	*4*	*772*	*1,159*	*69*	*4*	*772*	**1,812**	*1,914*	*2,004*
Mountain	**2,216**	**673**	**127**	**1,783**	*2,194*	*669*	*146*	*1,826*	*2,202*	*669*	*146*	*1,825*	**4,799**	*4,835*	*4,842*
Pacific	**1,535**	**524**	**63**	**1,053**	*1,559*	*576*	*85*	*1,195*	*1,515*	*577*	*85*	*1,196*	**3,175**	*3,416*	*3,373*
U.S. Average	**1,875**	**541**	**70**	**1,394**	*2,090*	*474*	*70*	*1,495*	*2,090*	*474*	*70*	*1,493*	**3,880**	*4,129*	*4,126*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**822**	**105**	**2,127**	*3,133*	*855*	*107*	*2,097*	*3,113*	*860*	*111*	*2,119*	**6,206**	*6,193*	*6,203*
Middle Atlantic	**2,949**	**644**	**69**	**1,944**	*2,913*	*677*	*72*	*1,908*	*2,896*	*686*	*73*	*1,924*	**5,606**	*5,570*	*5,579*
E. N. Central	**3,197**	**698**	**102**	**2,197**	*3,157*	*731*	*104*	*2,167*	*3,136*	*728*	*102*	*2,193*	**6,195**	*6,159*	*6,160*
W. N. Central	**3,287**	**702**	**132**	**2,379**	*3,247*	*728*	*133*	*2,367*	*3,218*	*723*	*132*	*2,398*	**6,500**	*6,475*	*6,470*
South Atlantic	**1,459**	**169**	**10**	**952**	*1,393*	*180*	*11*	*911*	*1,381*	*184*	*11*	*911*	**2,589**	*2,495*	*2,487*
E. S. Central	**1,849**	**214**	**15**	**1,277**	*1,771*	*231*	*16*	*1,245*	*1,761*	*235*	*14*	*1,246*	**3,356**	*3,264*	*3,256*
W. S. Central	**1,199**	**83**	**3**	**794**	*1,140*	*86*	*3*	*786*	*1,122*	*88*	*3*	*781*	**2,078**	*2,015*	*1,994*
Mountain	**2,192**	**718**	**135**	**1,844**	*2,182*	*701*	*134*	*1,844*	*2,163*	*683*	*135*	*1,831*	**4,890**	*4,861*	*4,812*
Pacific	**1,456**	**580**	**85**	**1,161**	*1,462*	*552*	*80*	*1,143*	*1,454*	*531*	*79*	*1,132*	**3,282**	*3,237*	*3,197*
U.S. Average	**2,149**	**472**	**64**	**1,509**	*2,108*	*482*	*65*	*1,482*	*2,090*	*478*	*64*	*1,486*	**4,194**	*4,136*	*4,117*
Cooling Degree Days															
New England	**0**	**104**	**544**	**0**	*0*	*88*	*425*	*2*	*0*	*88*	*425*	*2*	**647**	*515*	*515*
Middle Atlantic	**0**	**157**	**679**	**5**	*0*	*158*	*557*	*5*	*0*	*158*	*557*	*5*	**841**	*721*	*721*
E. N. Central	**2**	**216**	**606**	**2**	*0*	*222*	*552*	*7*	*0*	*222*	*552*	*7*	**826**	*782*	*782*
W. N. Central	**6**	**294**	**661**	**3**	*3*	*270*	*676*	*10*	*3*	*270*	*676*	*10*	**964**	*960*	*959*
South Atlantic	**196**	**619**	**1,232**	**307**	*125*	*664*	*1,189*	*249*	*131*	*665*	*1,190*	*250*	**2,354**	*2,228*	*2,237*
E. S. Central	**72**	**423**	**1,061**	**81**	*30*	*532*	*1,087*	*75*	*28*	*532*	*1,087*	*74*	**1,636**	*1,723*	*1,721*
W. S. Central	**175**	**840**	**1,502**	**207**	*103*	*918*	*1,534*	*214*	*87*	*918*	*1,535*	*214*	**2,724**	*2,769*	*2,755*
Mountain	**9**	**463**	**1,074**	**115**	*20*	*440*	*936*	*79*	*20*	*440*	*936*	*79*	**1,662**	*1,474*	*1,475*
Pacific	**24**	**199**	**726**	**129**	*27*	*169*	*589*	*59*	*27*	*169*	*589*	*59*	**1,079**	*845*	*844*
U.S. Average	**71**	**395**	**935**	**123**	*46*	*413*	*873*	*100*	*45*	*414*	*874*	*100*	**1,525**	*1,432*	*1,434*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	*0*	*81*	*474*	*1*	*0*	*82*	*469*	*1*	**555**	*556*	*552*
Middle Atlantic	**0**	**170**	**609**	**6**	*0*	*163*	*609*	*6*	*0*	*160*	*601*	*7*	**785**	*779*	*767*
E. N. Central	**3**	**240**	**579**	**8**	*3*	*234*	*572*	*7*	*3*	*235*	*564*	*7*	**829**	*816*	*808*
W. N. Central	**7**	**296**	**696**	**11**	*7*	*294*	*686*	*10*	*7*	*295*	*674*	*10*	**1,011**	*997*	*986*
South Atlantic	**127**	**696**	**1,201**	**247**	*143*	*680*	*1,195*	*261*	*144*	*673*	*1,191*	*267*	**2,272**	*2,280*	*2,276*
E. S. Central	**36**	**557**	**1,082**	**72**	*42*	*532*	*1,065*	*74*	*42*	*527*	*1,064*	*78*	**1,747**	*1,713*	*1,712*
W. S. Central	**100**	**892**	**1,576**	**207**	*114*	*880*	*1,567*	*210*	*114*	*868*	*1,542*	*213*	**2,774**	*2,771*	*2,737*
Mountain	**24**	**432**	**939**	**81**	*24*	*444*	*953*	*86*	*24*	*452*	*947*	*86*	**1,476**	*1,507*	*1,509*
Pacific	**31**	**185**	**624**	**78**	*31*	*193*	*649*	*86*	*31*	*200*	*653*	*86*	**918**	*959*	*970*
U.S. Average	**47**	**420**	**892**	**100**	*52*	*415*	*894*	*105*	*53*	*414*	*888*	*107*	**1,459**	*1,466*	*1,462*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday January 7, 2021.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

February 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The February *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply over the past year and will continue to affect these patterns in the future. U.S. gross domestic product (GDP) declined by 3.6% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 3.8% in 2021 and by 4.2% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit.

- Brent crude oil spot prices averaged $55 per barrel (b) in January, up $5/b from the December average but $9/b lower than the average in January of last year. Higher Brent prices in January largely reflected the January 5 announcement by Saudi Arabia that it would unilaterally cut 1.0 million barrels per day (b/d) of crude oil production in February and March, in addition to the reduced production levels on which the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) previously agreed. The U.S. Energy Information Administration (EIA) expects Brent crude oil prices will average $56/b in the first quarter of 2021 and $52/b over the remainder of the year. EIA expects lower oil prices later in 2021 as a result of rising oil supply that will slow the pace of global oil inventory withdrawals. EIA also expects that high global oil inventory levels and spare production capacity will limit upward price pressures. EIA expects Brent prices will average $55/b in 2022.

- EIA estimates that the world consumed 93.9 million b/d of petroleum and liquid fuels in January, which is down 2.8 million b/d from January 2020. EIA forecasts that global consumption of petroleum and liquid fuels will average 97.7 million b/d for all of 2021, which is up by 5.4 million b/d from 2020. EIA forecasts that consumption of petroleum and liquid fuel will increase by 3.5 million b/d in 2022 to average 101.2 million b/d.

- EIA estimates that U.S. crude oil production averaged 11.0 million b/d in January, which is down slightly from 11.1 million b/d in November (the most recent month for which historical data are available). EIA expects production will continue to decline slightly in the coming months, reaching 10.9 million b/d in June. Although oil-directed drilling has increased in the United States in recent months, the number of active drilling rigs remains lower than year-ago levels. EIA expects production from newly drilled wells will be more

than offset by declining production rates at existing wells in the first half of 2021. However, based on EIA's forecast that West Texas Intermediate crude oil prices will remain near or higher than $50/b during the forecast period, EIA expects drilling will continue to increase. As a result, production from new wells will exceed the declines from legacy wells, and overall crude oil production will increase in the second half of 2021 and in 2022. EIA estimates that U.S. crude oil production will average 11.0 million b/d in 2021—down from 11.3 million b/d in 2020 and 12.2 million b/d in 2019—and will rise to 11.5 million b/d in 2022.

- U.S. regular gasoline retail prices averaged $2.33 per gallon (gal) in January, compared with an average of $2.20/gal in December and $2.55/gal in January 2020. EIA forecasts gasoline prices to average $2.44/gal in 2021 and $2.46/gal in 2022. U.S. diesel fuel prices averaged $2.68/gal in January compared with $2.58/gal in December and $3.05/gal in January 2020, and EIA forecasts it will average $2.70/gal in 2021 and $2.77/gal in 2022.

- On a volume basis, U.S. consumption of gasoline declined by more than other petroleum products in 2020. EIA forecasts that U.S. gasoline consumption will rise in the forecast but remain lower than 2019 levels. U.S. gasoline consumption is forecast to average 8.6 million b/d in 2021 and 8.9 million b/d in 2022, up from 8.0 million b/d in 2020 but lower than the 9.3 million b/d consumed in 2019.

Natural Gas

- EIA expects that total U.S. consumption of natural gas will average 81.7 billion cubic feet per day (Bcf/d) in 2021, down 1.9% from 2020. The decline in total U.S. consumption reflects less natural gas consumed for electric power as a result of higher natural gas prices compared with last year. In 2021, EIA expects residential natural gas demand to average 12.9 Bcf/d (up 0.2 Bcf/d from 2020) and commercial demand to average 9.1 Bcf/d (up 0.6 Bcf/d from 2020). EIA forecasts industrial consumption will average 23.0 Bcf/d in 2021 (up 0.4 Bcf/d from 2020) as a result of increased manufacturing activity amid a recovering economy. Industrial consumption of 23.0 Bcf/d would be 0.1 Bcf/d below the 2019 level. EIA expects total U.S. natural gas consumption will average 81.0 Bcf/d in 2022.

- In January, the Henry Hub natural gas spot price averaged $2.71 per million British thermal units (MMBtu), up from the December average of $2.59/MMBtu. EIA expects Henry Hub spot prices to reach a monthly average of $2.98/MMBtu in February 2021. Higher expected prices in February reflect expectations of continued strong liquefied natural gas (LNG) exports and a shrinking surplus of natural gas in storage compared with the five-year (2016–20) average. EIA uses weather forecasts from the National Oceanic and Atmospheric Administration (NOAA) as an input into the STEO, and the NOAA forecast in this STEO is from late January. More recent forecasts for mid-February weather show cold temperatures could extend across much of the United States, which creates an upside risk to near-term prices in this outlook. EIA expects that Henry Hub spot prices will average $2.95/MMBtu in

2021, which is up from the 2020 average of $2.03/MMBtu. EIA expects that continued growth in LNG exports and in domestic natural gas consumption outside of the electric power sector, as production remains relatively flat, will contribute to Henry Hub spot prices rising to an average of $3.27/MMBtu in 2022.

- U.S. working natural gas in storage ended October at more than 3.9 trillion cubic feet (Tcf), 5% more than the 2015–19 average and the fourth-highest end-of-October level on record. EIA estimates that inventory withdrawals were 703 billion cubic feet (Bcf) in January, compared with a five-year (2016–20) average January withdrawal of 716 Bcf. The January withdrawals occurred at a lower rate than EIA forecast in last month's STEO. The lower-than-expected withdrawal is the result of warmer-than-average January temperatures that reduced natural gas use for space heating. However, EIA forecasts that declines in U.S. natural gas production this winter compared with last winter will more than offset the declines in natural gas consumption, which will contribute to natural gas storage returning to levels near the five-year average by the end of winter. Forecast natural gas inventories end March 2021 at 1.8 Tcf, which is about the same as the five-year average.

- EIA forecasts that U.S. production of dry natural gas will average 90.5 Bcf/d in 2021 and 91.0 Bcf/d in 2022, which are down from an average of 91.3 Bcf/d in 2020 and 93.1 Bcf/d in 2019. In the forecast, dry natural gas production remains relatively flat, averaging between 89.8 Bcf/d and 91.0 Bcf/d in every month from February 2021 through July 2022. Flat natural gas production is the result of falling production in several of the smaller natural gas producing regions being offset by growth in other regions, most notably in the Appalachia and Haynesville regions.

- EIA estimates that the United States exported 9.8 Bcf/d of LNG in January amid high spot natural gas prices in Asia. However, foggy conditions and high winds affected export operations at Sabine Pass LNG, Corpus Christi LNG, and Cameron LNG, leading to several weather-related closures and sporadic suspension of piloting services on several days in January. EIA forecasts that U.S. LNG exports will average 8.5 Bcf/d in 2021. In 2022, EIA forecasts LNG exports will average 9.2 Bcf/d, surpassing the amount of natural gas exported via pipeline for the first time.

Electricity, coal, renewables, and emissions

- EIA forecasts that consumption of electricity in the United States will increase by 1.6% in 2021 after falling 3.8% in 2020. EIA forecasts residential sector retail sales will grow by 2.2% in 2021. The increase is primarily a result of colder forecast temperatures in the first quarter of 2021 compared with the same period in 2020, which EIA expects will raise demand for space heating, along with EIA's assumption that more people will be working from home than in the first quarter of 2020. EIA expects retail sales of electricity in the commercial and industrial sectors will increase by 1.2% and 2.3%, respectively. For 2022, EIA forecasts total electricity consumption will grow by another 1.7%.

- EIA expects the share of U.S. electric power generated with natural gas to fall from 39% in 2020 to 37% in 2021 and to 35% in 2022. The forecast natural gas share declines in response to a forecast increase in the price of natural gas delivered to electricity generators from an average of $2.38/MMBtu in 2020 to $3.27/MMBtu in 2021 (a 37% increase). Coal's forecast share of electricity generation rises from 20% in 2020 to 21% in 2021 and to 22% in 2022. Electricity generation from renewable energy sources rises from 20% in 2020 to 21% in 2021 and to 23% in 2022. The nuclear share of U.S. generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022.

- EIA forecasts that planned additions to U.S. wind and solar generating capacity in 2021 and 2022 will contribute to increasing electricity generation from those sources. EIA estimates that the U.S. electric power sector added 17.5 gigawatts (GW) of new wind capacity in 2020. EIA expects 15.3 GW of wind capacity will be added in 2021 and 3.6 GW in 2022. Utility-scale solar capacity rose by an estimated 11.1 GW in 2020. The forecast for added utility-scale solar capacity is 16.2 GW for 2021 and 12.3 GW for 2022.

- EIA expects U.S. coal production to total 589 MMst in 2021, 50 MMst (9%) more than in 2020. In 2022, EIA expects coal production to rise by a further 5 MMst (1%). These increases reflect higher forecast demand for coal in the electric power sector because of rising natural gas prices, which increases coal's competitiveness relative to natural gas for power generation dispatch. Although EIA expects coal production to rise in 2022, expected production increases will be limited by strong inventory draws. EIA expects significant coal supply to the power sector will come from a reduction in inventory levels in 2022, as the power sector brings inventory levels back in line with historical averages. Coal production in the forecast will also be limited by declining production capacity, as high mine reclamation costs have contributed to mine divestments and closings that may counter the effects of higher coal demand.

- EIA expects rising global economic activity will contribute to rising steel production and power demand, which will lead to increased U.S. exports of both metallurgical and steam coal. EIA forecasts coal exports will total 85 MMst in 2021, up by 24% from 2020, which was the lowest level since 2016. EIA forecasts exports will rise by 6 MMst in 2022 to 91 MMst.

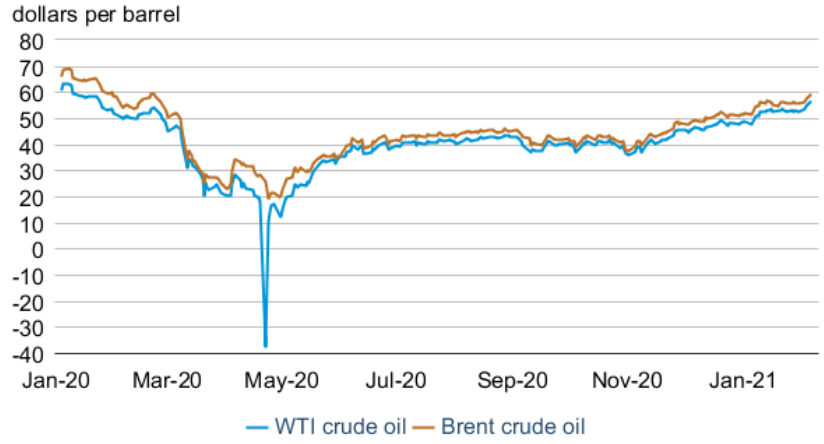
- EIA estimates that U.S. energy-related carbon dioxide (CO2) emissions decreased by 11% in 2020. This decline in emissions is the result of less energy consumption related to economic contraction in response to the COVID-19 pandemic. In 2021, EIA forecasts that energy-related CO2 emissions will increase by about 4% from the 2020 level as economic activity increases leading to rising energy use. Energy-related CO2 emissions are also expected to rise by 3% in 2022 as economic growth continues.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $58.84 per barrel (b) on February 4, 2021, an increase of $7.75/b from January 4, 2021. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $8.61/b during the same period, settling at $56.23 on February 4 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia Sources: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

Sustained production cuts by the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) continued to put upward pressure on crude oil prices in January. In early December, OPEC+ announced it would limit production increases planned for early 2021. Then in early January, OPEC+ largely reaffirmed those limits, and Saudi Arabia announced on January 5 that it would unilaterally cut an additional 1.0 million barrels per day (b/d) of production in February and March.

In addition to the OPEC+ supply reductions, expectations for increasing petroleum demand as a result of the rollout of COVID-19 vaccines are further supporting oil prices. Brent crude oil prices settled at more than $55/b on all but one day since January 8, marking the highest levels since the early days of the pandemic in late-February 2020. However, new government mobility restrictions in response to COVID-19 during the Lunar New Year holiday season in China and increased restrictions on travel in Europe both present the potential to keep petroleum demand lower than might otherwise be expected.

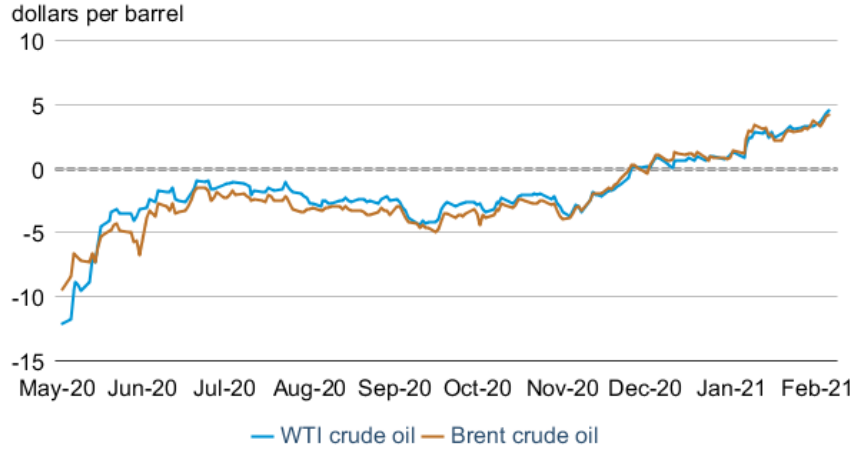
EIA expects that global consumption of petroleum and liquid fuels will rise by 5.4 million b/d in 2021, which is 0.2 million b/d less than forecast in last month's STEO. That pace of growth would bring global petroleum and liquid fuels consumption to an average of 97.7 million b/d for the year, still 3.5 million b/d less than in 2019.

Crude oil futures price spreads and floating storage: The crude oil market developed large contango (when near-term prices are lower than longer-dated ones) in April and May 2020 because a significant reduction in demand for crude oil reduced front-month futures contract prices. The magnitude of the contango narrowed in the summer, as crude oil production decreased and petroleum demand increased.

In early December, when the front-month Brent contract changed to February delivery, the spread became consistently backwardated (when near-term prices are higher than longer-dated ones). Backwardation developed as a result of market assessments that the rollout of the COVID-19 vaccine would contribute to rising oil demand in early 2021, combined with early December announcements of limited production increases from OPEC+ in the first quarter of 2021. EIA weekly data from January confirm near-term tightness in oil markets. EIA estimates U.S. crude oil inventories fell by 9.8 million barrels in January, compared with a five-year average build of 12.1 million barrels. Also, U.S. refinery inputs of crude oil increased in January compared with December. Typically refinery inputs decline in January.

This slight backwardation persisted through December, and then it increased significantly in January, when front-month crude oil prices reached 11-month highs. The Brent 1st–13th spread settled at $4.11/b and the WTI 1st–13th spread settled at $4.43/b on February 4, 2021 **(Figure 2)**. This increase in backwardation is most likely the result of Saudi Arabia's announced supply cuts for February and March, which EIA expects will contribute to global oil stock withdrawals during the first quarter of 2021. EIA forecasts first-quarter 2021 global oil stock withdrawals to average 2.0 million b/d, down only slightly from the high withdrawal rates during the second half of 2020.

Figure 2. Crude oil front-month to 13th month futures price spread

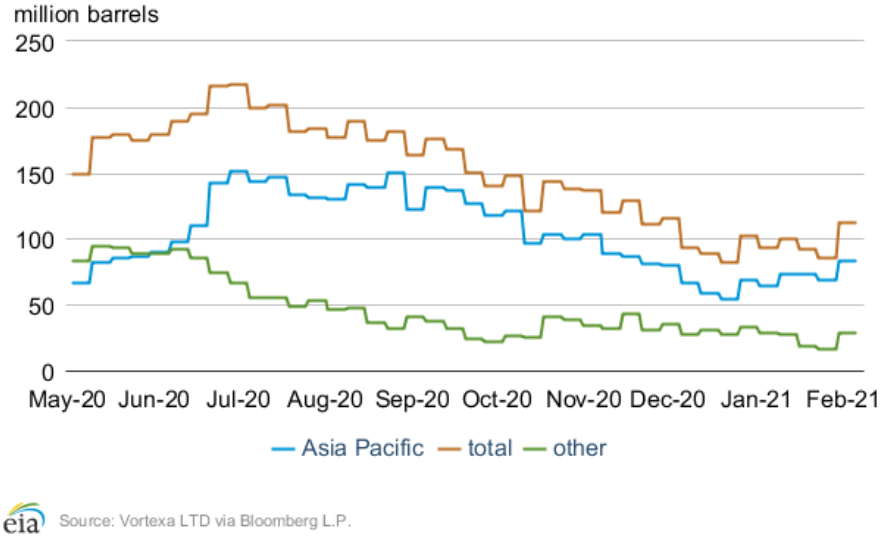


Source: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

The sharp contango in April and May 2020 was the result of substantial decreases in demand for liquid fuels in the first half of 2020 because of responses to the pandemic, which contributed to significant increases in crude oil inventories. As onshore crude oil storage began to fill, many

market participants resorted to storing crude oil in floating storage, which peaked at 222 million barrels during the week of June 26, 2020, according to energy analytics company, Vortexa **(Figure 3)**. Vortexa defines floating storage as the amount of crude oil on tankers that has been stationary for at least seven days. The initial growth in floating storage through June occurred across several regions. Both the Pacific and Atlantic basin markets stored crude oil when demand rapidly decreased. Current levels of backwardation indicate a need for inventory drawdowns to meet demand, suggesting current levels of floating storage may continue to decline.

Figure 3. Global oil in floating storage

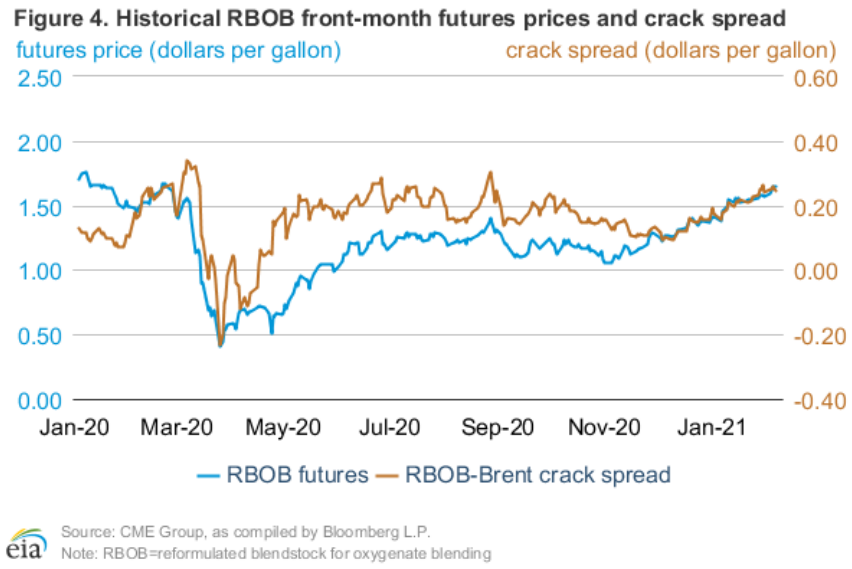


eia Source: Vortexa LTD via Bloomberg L.P.

As crude oil production fell and demand gradually increased, floating storage began to decline in Europe and other Atlantic Basin markets, but high Chinese crude oil purchases amid lower global crude oil prices resulted in increases in port congestion and floating storage off the Chinese coast. Floating storage declined by 32 million barrels globally between when the market entered backwardation in late November through late-January, before increasing at the end of the month. Vortexa reports that floating storage was 110 million barrels as of January 29, 2021, down 111 million barrels since June. EIA discussed the connection between Chinese crude oil imports, floating storage, and crude oil futures last October in *This Week in Petroleum.* Crude oil in floating storage has declined closer to levels observed in first-quarter 2020, but a combination of global oil demand and refinery runs that are still lower than year-ago levels is likely contributing to a near-term plateau of floating storage.

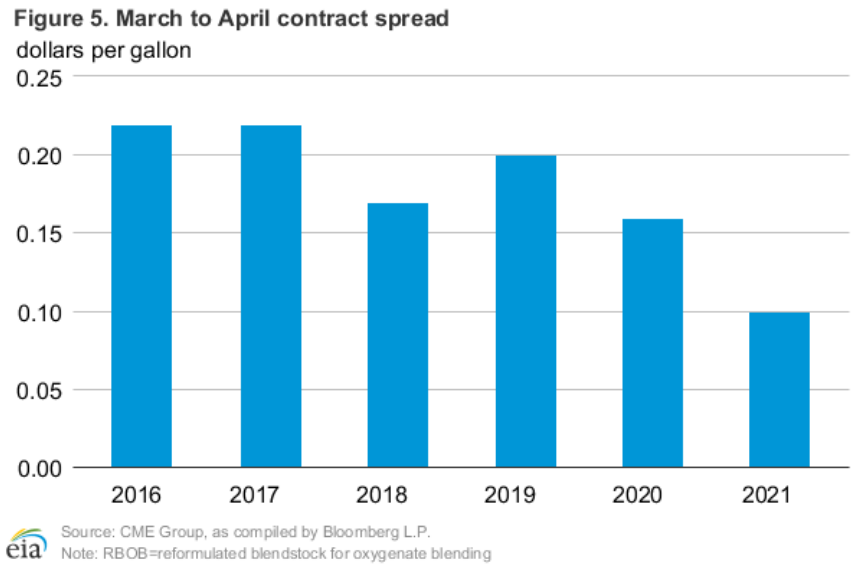
Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.64 per gallon (gal) on February 4, up 27 cents/gal from January 4 **(Figure 4)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 9 cents/gal to settle at 24 cents/gal during the same period.

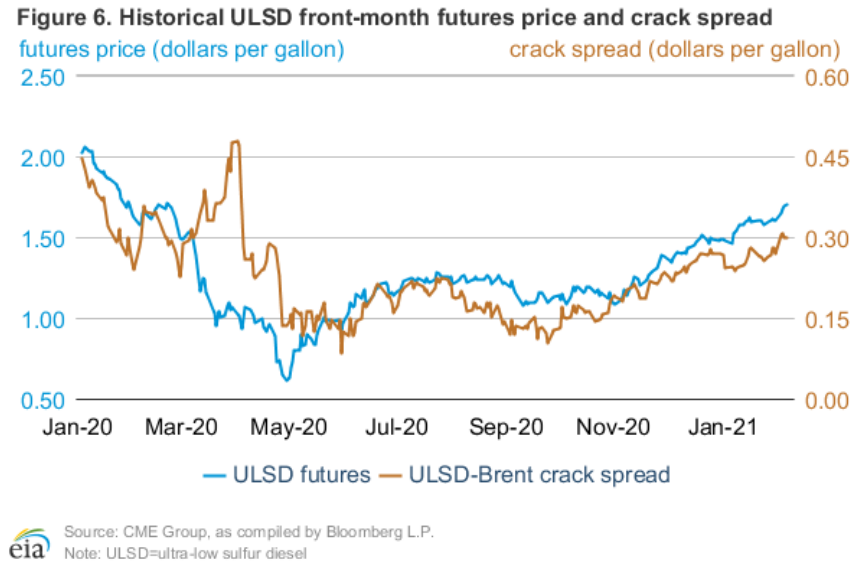


In the United States, expectations of increased domestic consumption likely contributed to upward pressure on the RBOB–Brent crack spread in January. EIA forecasts gasoline consumption will average 8.5 million barrels per day (b/d) from February to June, compared with consumption in January, which EIA estimates at 7.8 million b/d.

March to April RBOB contract spread: The RBOB futures contract for April delivery is the first contract during the year that trades the more-expensive-to-produce summer-grade gasoline. As a result, April contracts typically trade at a premium to March contracts. On the final trading day in January in the past five years, the average spread between RBOB contracts for April delivery and RBOB contracts for March delivery was 19 cents/gal **(Figure 5)**. In 2021, that spread was 10 cents/gal, the lowest since 2009. The relatively low spread this year likely indicates that expectations of a seasonal increase in spring and summer driving will be more subdued than in previous years. Additionally, the spread may be lower because refinery utilization levels are relatively low, and the marginal cost of increasing summer-grade gasoline production from a low baseline may be lower than under normal utilization rates.



Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $1.70/gal on February 4, up 24 cents/gal from January 4 **(Figure 6)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased by 5 cents/gal to settle at 30 cents/gal during the same period. January's average ULSD–Brent crack spread of 26 cents/gal was the highest since March 2020.



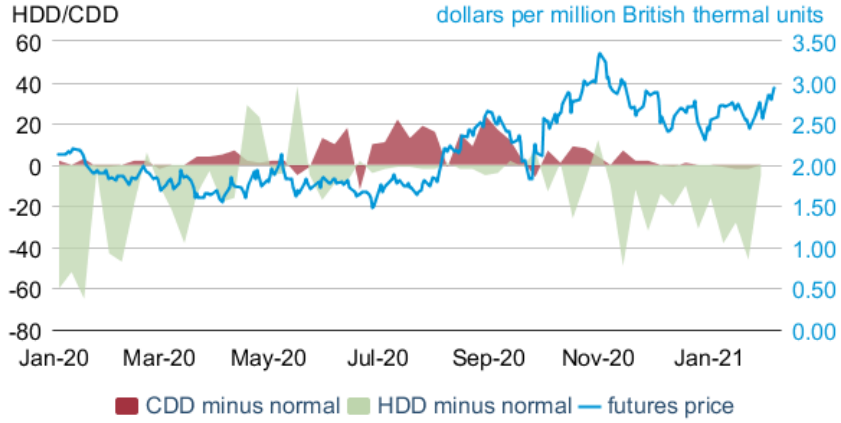
The ULSD-Brent crack spread generally increased throughout January and has continued to increase in early February. Higher estimated consumption in January likely contributed upward pressure to the crack spread, which has increased for four consecutive months. EIA estimates distillate consumption increased 0.36 million b/d (10%) from December to 4.01 million b/d in January. Because of the wide price spread between ULSD traded at New York Harbor and low

sulfur gasoil traded in Europe, U.S. net imports have been relatively high, contributing to a stock build of 3.9 million barrels (2.5%) in January. If confirmed by monthly data, January net imports were the highest for that month since 2011, and the January 2021 closing stock level was the highest for the month since 2017.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.94 per million British thermal units (MMBtu) on February 4, 2021, which is up 35 cents/MMBtu from January 4, 2021 **(Figure 7)**.

Figure 7. Natural gas front-month futures prices and actual minus historical average HDD and CDD



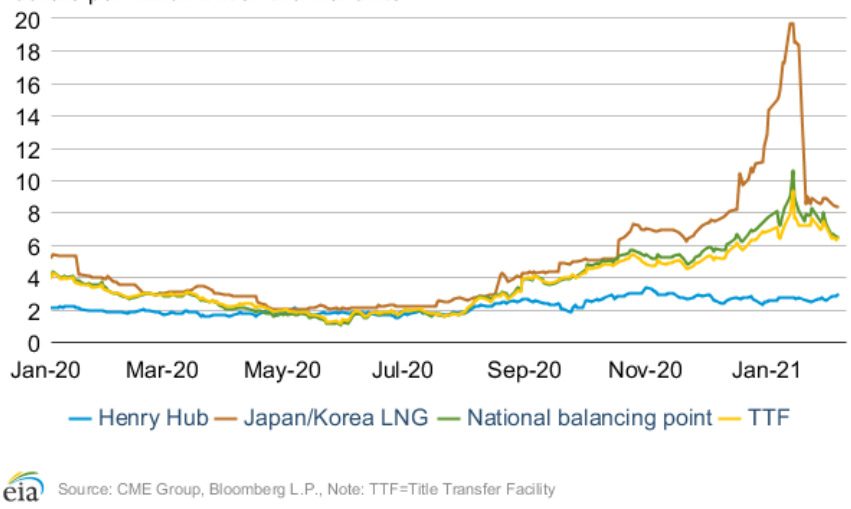
Sources: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

A shift to a colder weather outlook for the first half of February contributed to a substantial increase in the futures prices on February 1. The front-month contract settled at a higher price on February 1 than all trading days in January, which was the first time since 2014 that a February price settlement exceeded all of the closing prices from the previous month. U.S. temperatures in January were warmer-than-average but colder than January 2020, which helped to keep consumption nearly unchanged from the previous year and to moderate Henry Hub prices despite significant increases in natural gas prices in Europe and Asia because of colder weather in those regions.

EIA estimates that in January 2021, U.S. LNG exports reached record levels for the third consecutive month. U.S. dry natural gas production in January declined for the second consecutive month, but it experienced the smallest year-on-year decrease in six months. EIA estimates that U.S. inventory levels at the end of January remained 9% higher than the five-year (2016–20) average, but it forecasts that inventories will decline to lower than the five-year average by the end of March 2021.

International natural gas prices: Liquefied natural gas (LNG) spot and forward prices in northern Asia approached an all-time high in mid-January 2021 **(Figure 8)**. Sustained cold temperatures in Japan, China, and South Korea—the world's three largest LNG consumers—prompted an increase in space heating demand, a drawdown in LNG inventories, and an increase in LNG prices. LNG shipping constraints because of congestion at the Panama Canal and unplanned outages at multiple LNG export facilities were also significant contributors.

Figure 8. International natural gas prices



eia Source: CME Group, Bloomberg L.P., Note: TTF=Title Transfer Facility

In Japan, several power utilities were faced with critically low LNG inventories and purchased additional LNG volumes in global spot markets on a short-term basis. In northern China, the decline in temperatures to a five-decade low led to increased LNG imports, which in December 2020 reached the largest monthly LNG import volume in China to date. In South Korea, several coal plants were taken offline during the winter to reduce air pollution, requiring higher output from natural gas power plants.

Aside from the significant demand increase, unplanned outages at a number of LNG export facilities in several countries also contributed to reduced global LNG supply. Typically, LNG export facilities run at maximum capacity in the winter because more than 97% of global LNG consumption occurs in the northern hemisphere, where regasified LNG is used for space heating and the use of LNG depends on prevailing weather conditions. EIA estimates that in December 2020, global LNG export capacity was utilized at 88%—the lowest level for the month in at least six years.

Notable forecast changes

- EIA forecasts Federal U.S. Gulf of Mexico crude oil production will average almost 1.7 million barrels per day (b/d) in both 2021 and 2022, which is 0.1 million b/d lower than previously forecast. The reduced forecast reflects both announcements by operators that they will push back the start dates of several fields as well as initial production rates that were lower than EIA's previous expectations at fields that came online in the second half of 2020.
- EIA expects marketed natural gas production to average 98.3 billion cubic feet per day in the United States (Bcf/d) in 2021 and 98.9 Bcf/d in 2022, up 2.4 Bcf/d and 1.3 Bcf/d, respectively, from the January forecast. The upward revision reflects more forecast associated natural gas production from oil-directed wells in the Permian region.
- EIA expects natural gas use for power generation will total 1,430 billion kilowatthours (kWh) in 2021 and 1,397 billion kWh in 2022, which are up 3% and 5%, respectively, from the January STEO. The higher forecast reflects lower regional natural gas price assumptions in EIA's electricity generation model. The lower prices also reduce coal use for power generation in the forecast. EIA expects coal-fired power generation will total 835 billion kWh in 2021 and 888 billion kWh in 2022, which are down 4% and 7%, respectively, from the January STEO.
- EIA expects coal production to total 594 million short tons in 2022, which is 5% less than forecast in the January STEO. The lower forecast is the result of lower forecast coal use in the electric power sector.
- For more information, see the detailed table of forecast changes.

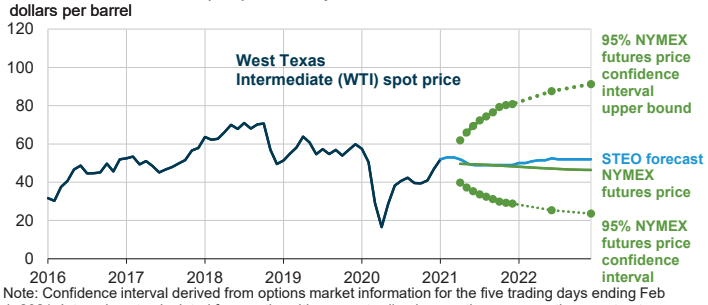
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Short-Term Energy Outlook
Chart Gallery

February 9, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

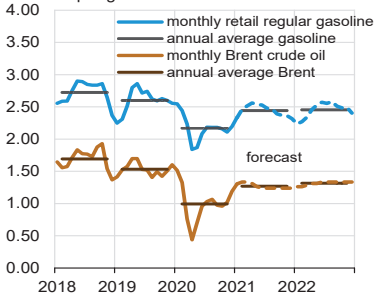


Note: Confidence interval derived from options market information for the five trading days ending Feb 4, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

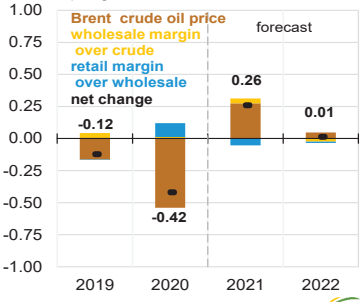
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021, CME Group, and Bloomberg, L.P.

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U.S. gasoline and crude oil prices
dollars per gallon



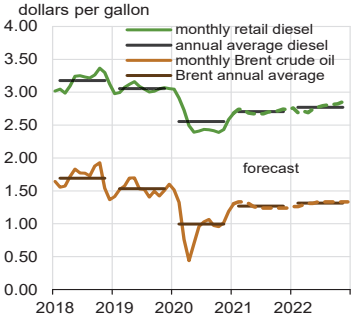
Components of annual gasoline price changes
dollars per gallon



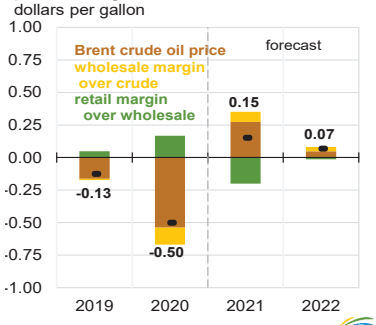
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

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U.S. diesel and crude oil prices



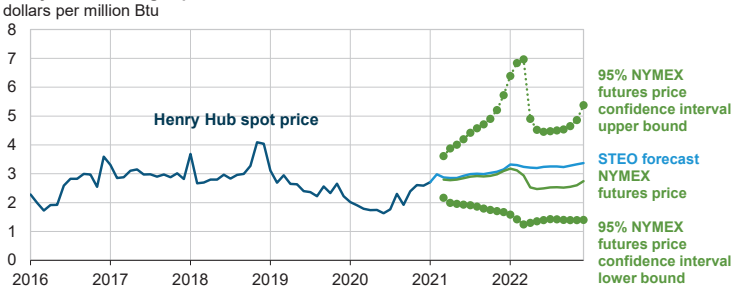
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

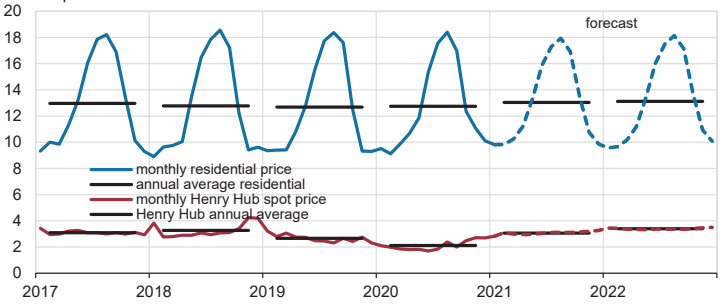


Note: Confidence interval derived from options market information for the five trading days ending Feb 4, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

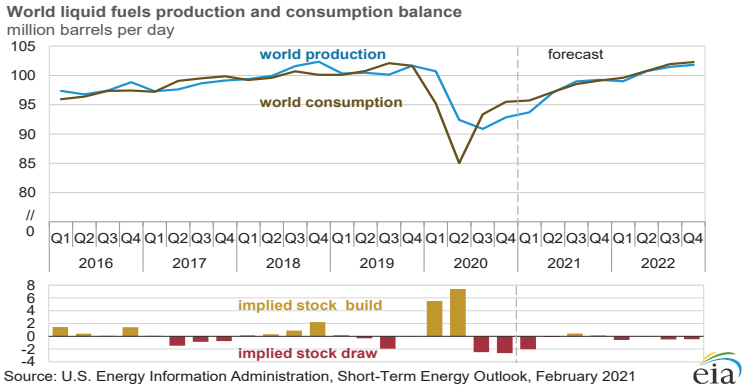
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021, and CME Group

U.S. natural gas prices

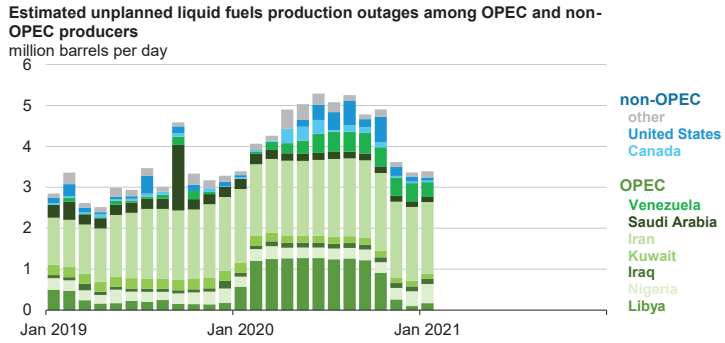
dollars per thousand cubic feet



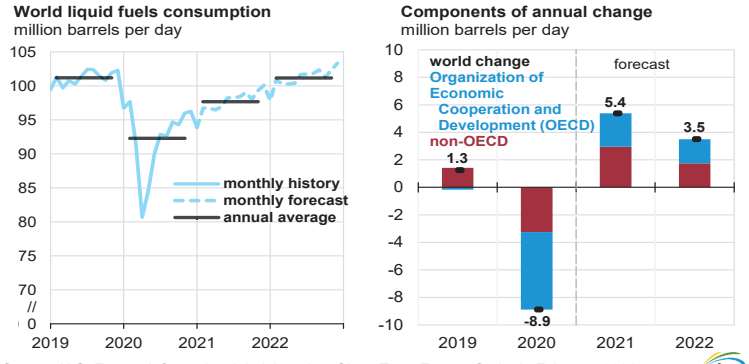
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021, and Refinitiv



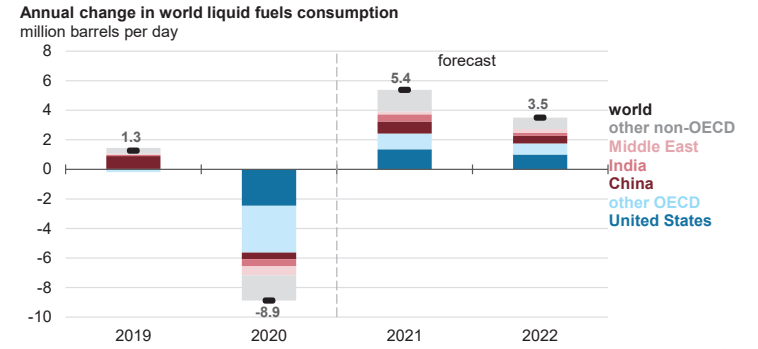
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



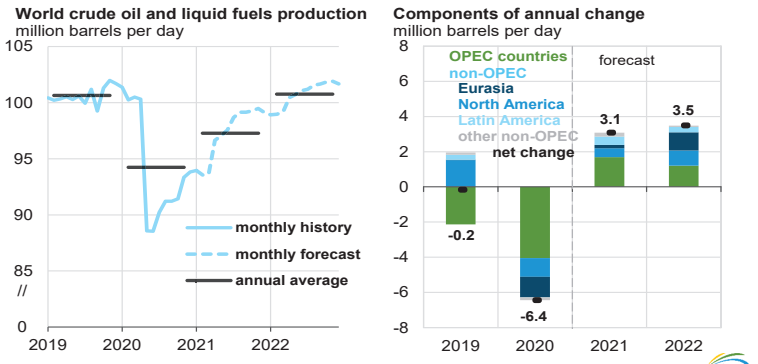
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



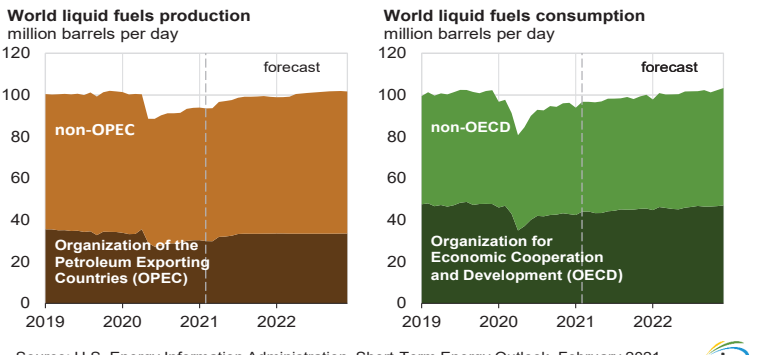
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



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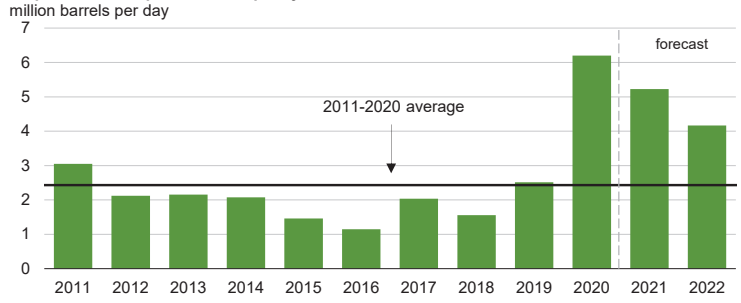


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



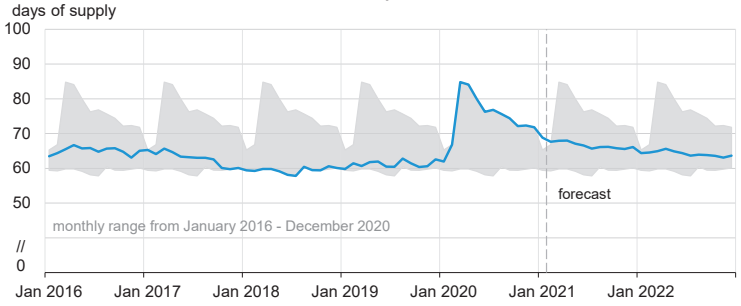
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



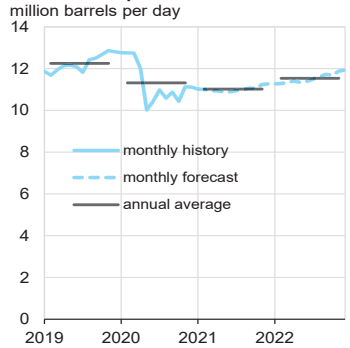
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

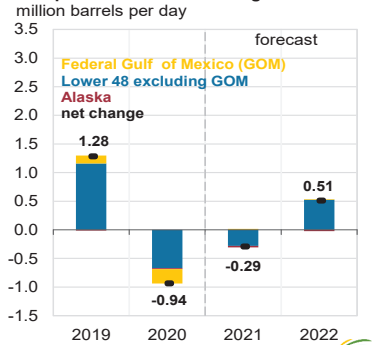


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. crude oil production
million barrels per day

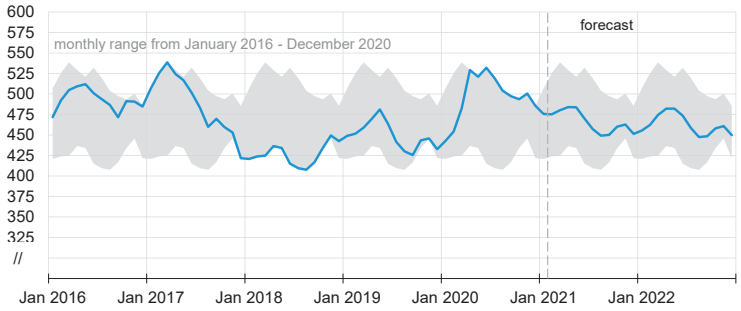


Components of annual change
million barrels per day



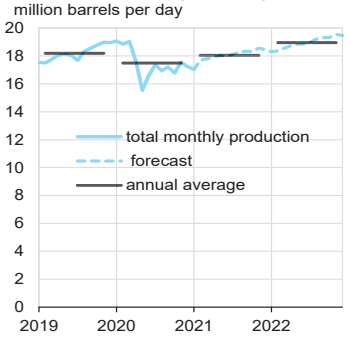
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. commercial crude oil inventories
million barrels

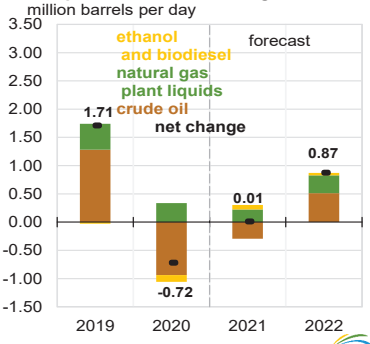


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. crude oil and liquid fuels production
million barrels per day

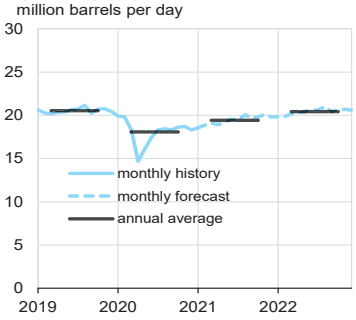


Components of annual change
million barrels per day

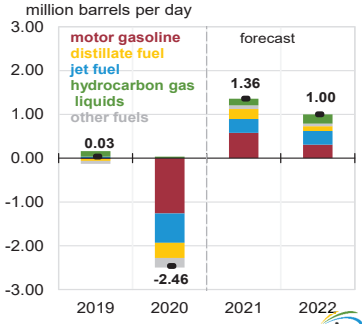


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February

U.S. liquid fuels product supplied (consumption)
million barrels per day

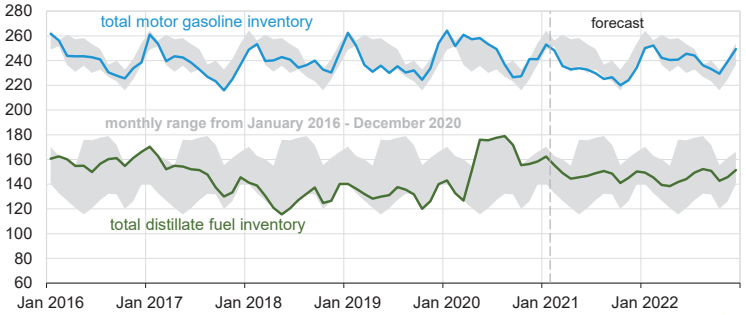


Components of annual change
million barrels per day



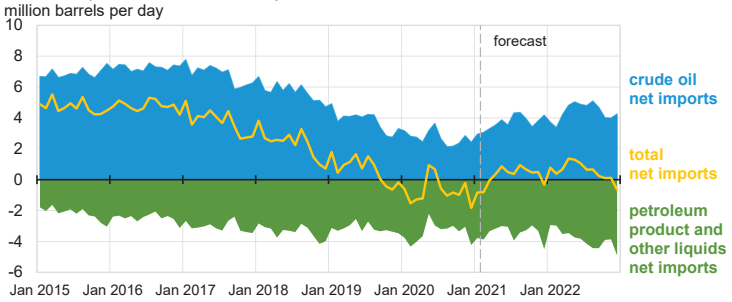
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. gasoline and distillate inventories
million barrels



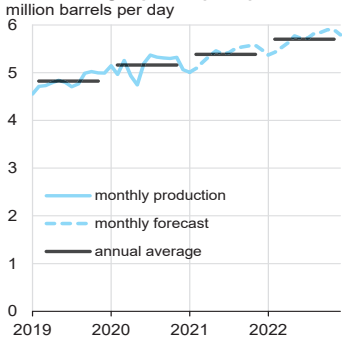
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

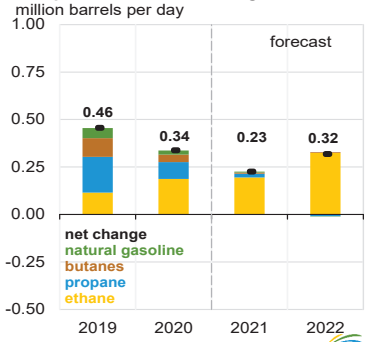


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

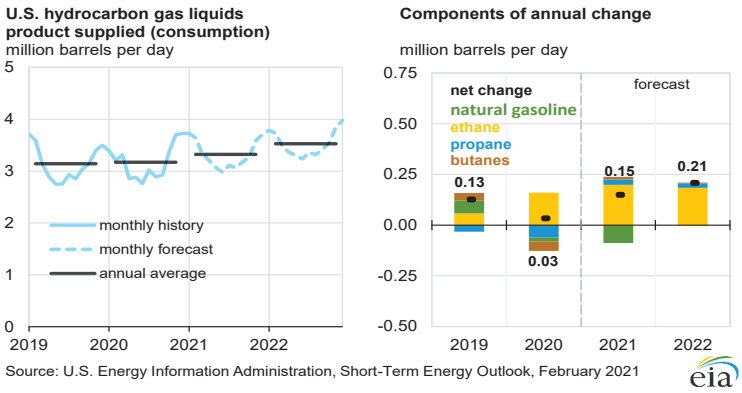
U.S. natural gas plant liquids production
million barrels per day



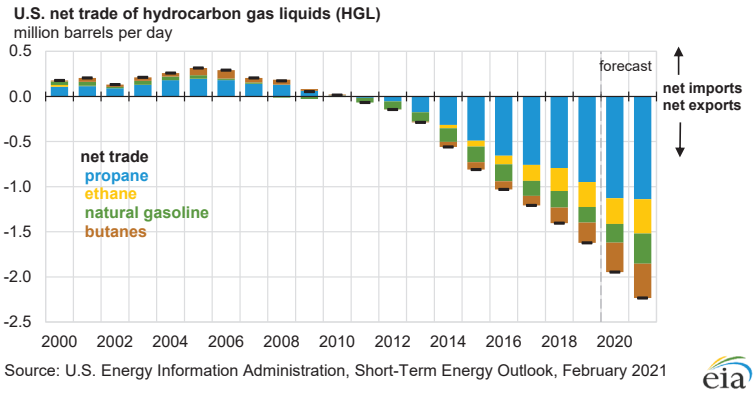
Components of annual change
million barrels per day



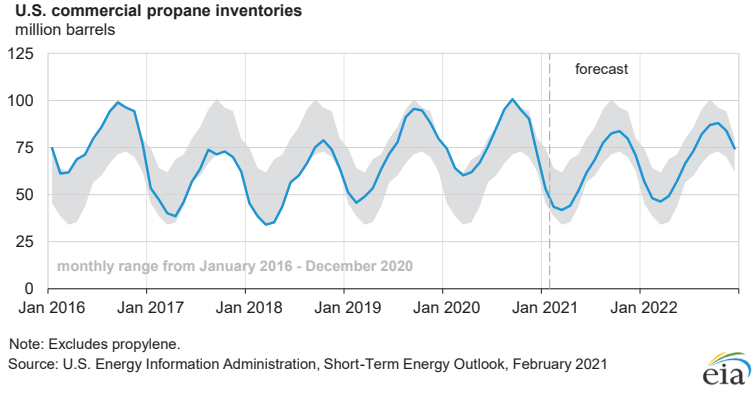
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



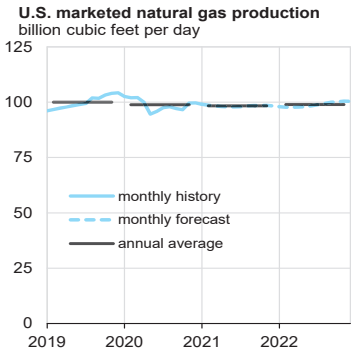
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

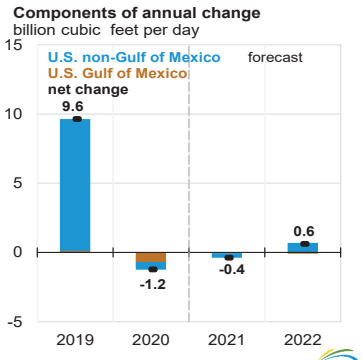


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

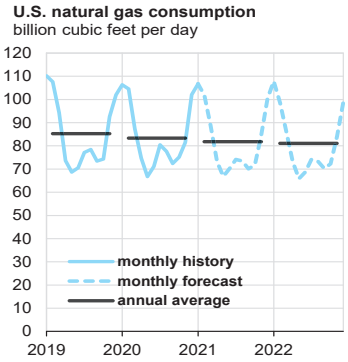


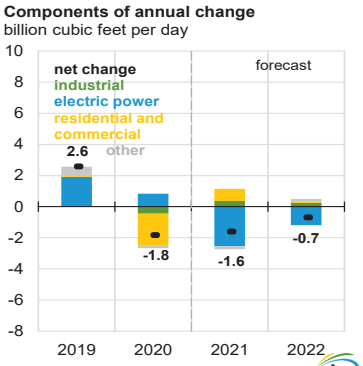
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



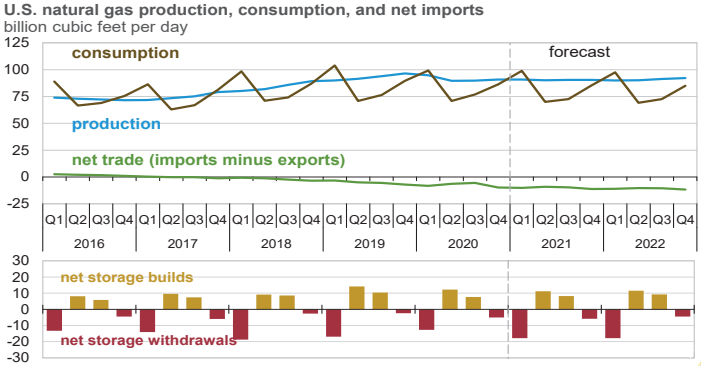


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



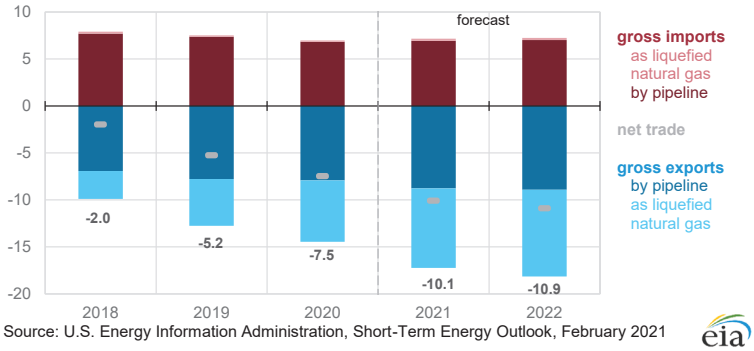


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



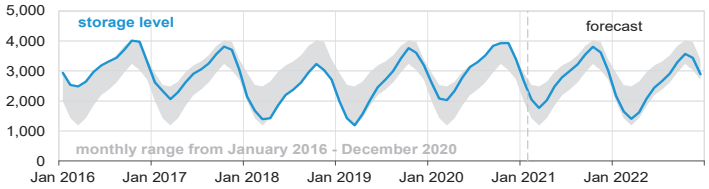
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. annual natural gas trade
billion cubic feet per day

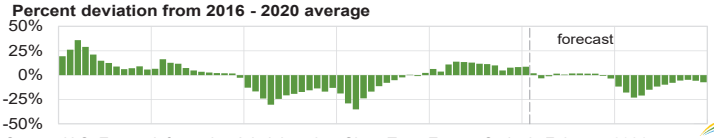


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. working natural gas in storage
billion cubic feet

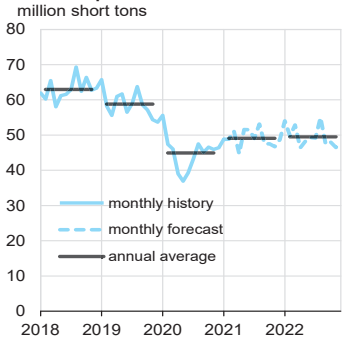


Percent deviation from 2016 - 2020 average

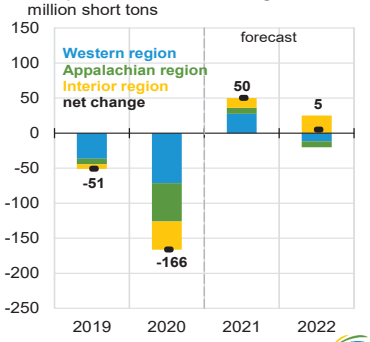


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

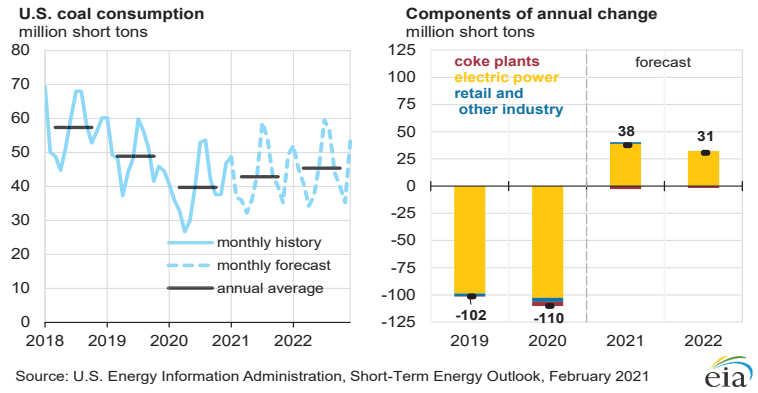
U.S. coal production
million short tons



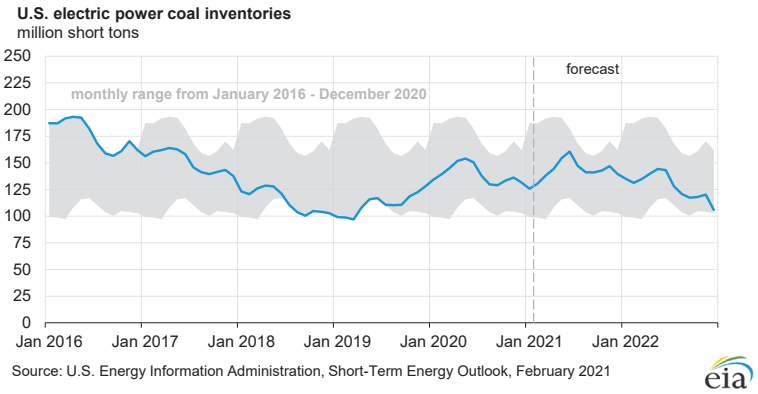
Components of annual change
million short tons



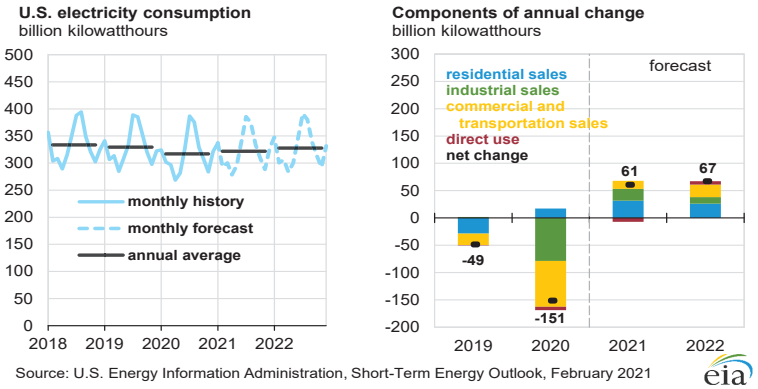
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



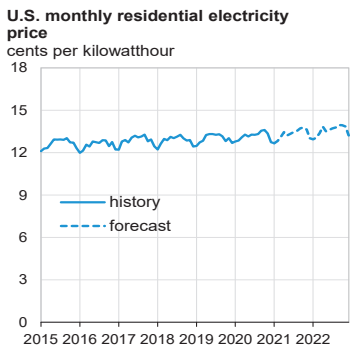
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

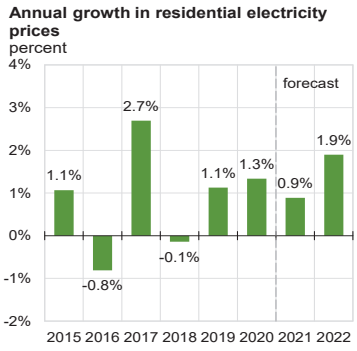


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

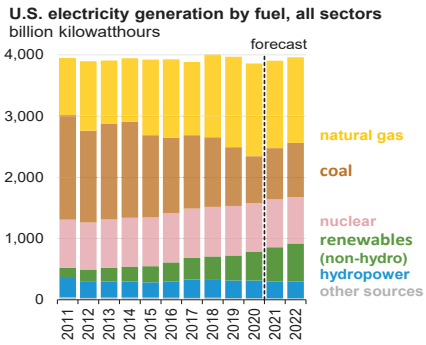


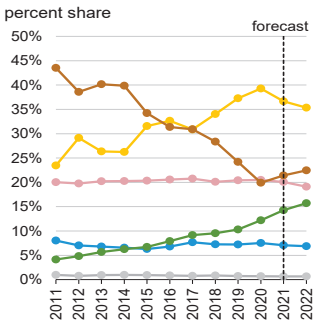
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021



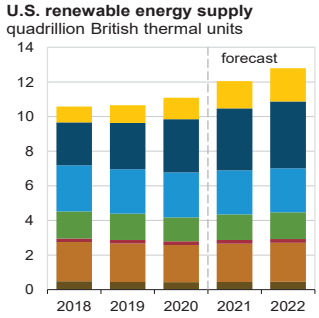


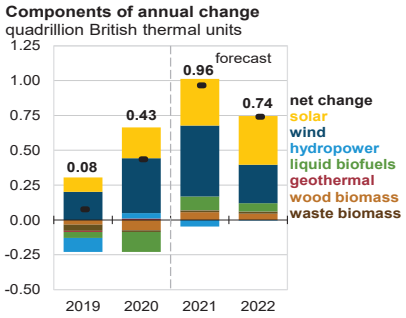
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

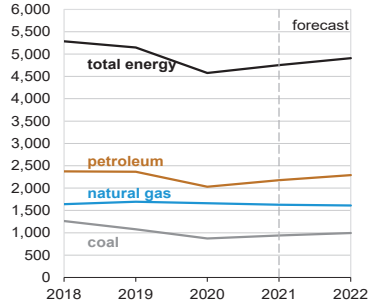




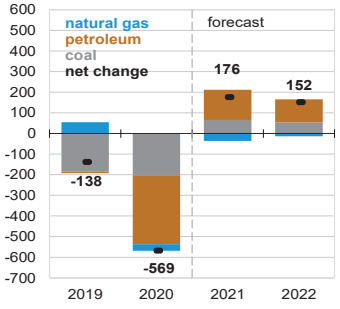
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. annual carbon emissions by source
million metric tons

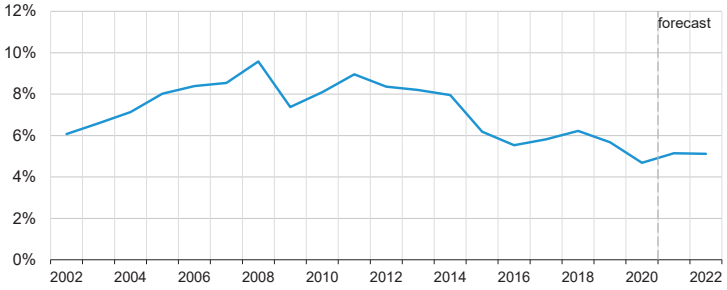


Components of annual change
million metric tons



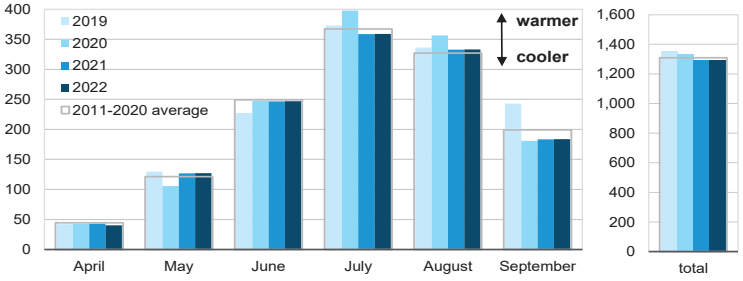
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

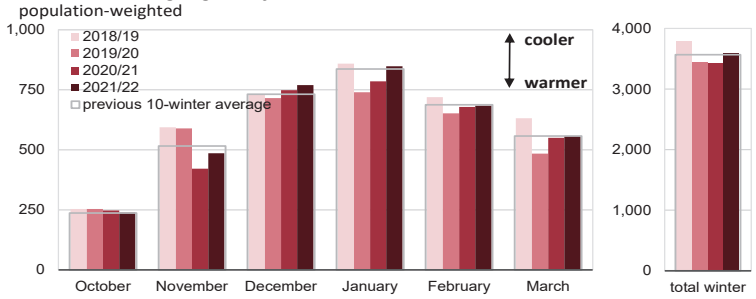
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

U.S. winter heating degree days
population-weighted

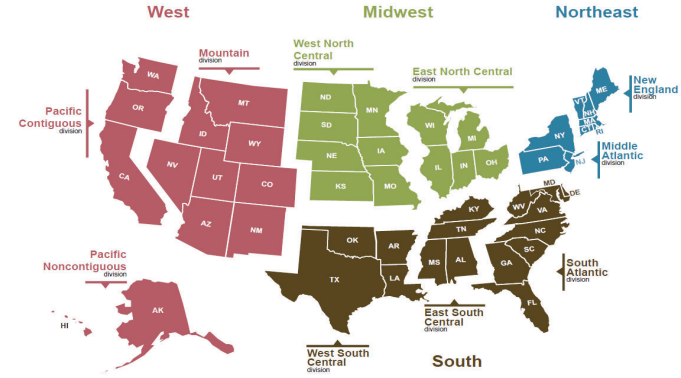


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2021

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.75**	**10.81**	**10.81**	**10.89**	*10.98*	*10.91*	*11.00*	*11.18*	*11.30*	*11.38*	*11.61*	*11.83*	**11.31**	*11.02*	*11.53*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.68**	**89.82**	**90.89**	*90.88*	*90.17*	*90.40*	*90.54*	*89.95*	*90.18*	*91.41*	*92.26*	**91.29**	*90.50*	*90.96*
Coal Production															
(million short tons)	**149**	**115**	**136**	**139**	*149*	*148*	*150*	*143*	*157*	*144*	*151*	*142*	**539**	*589*	*594*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.54**	*18.83*	*19.24*	*19.75*	*19.91*	*19.95*	*20.45*	*20.69*	*20.63*	**18.08**	*19.43*	*20.43*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.83**	**76.87**	**86.28**	*98.94*	*70.07*	*72.60*	*85.46*	*97.49*	*69.19*	*72.63*	*84.96*	**83.31**	*81.71*	*81.01*
Coal (b)															
(million short tons)	**109**	**96**	**148**	**122**	*121*	*112*	*156*	*125*	*138*	*118*	*160*	*129*	**476**	*514*	*544*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.86**	**9.91**	*10.33*	*10.05*	*11.89*	*10.06*	*10.60*	*10.21*	*12.07*	*10.19*	**10.39**	*10.59*	*10.77*
Renewables (c)															
(quadrillion Btu)	**2.93**	**3.01**	**2.84**	**2.94**	*3.14*	*3.33*	*3.08*	*3.16*	*3.35*	*3.57*	*3.28*	*3.30*	**11.72**	*12.71*	*13.50*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.12**	**20.66**	**23.45**	**23.52**	*24.61*	*22.28*	*23.68*	*24.20*	*25.39*	*23.02*	*24.24*	*24.62*	**92.74**	*94.78*	*97.27*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	*52.69*	*50.32*	*49.00*	*49.00*	*50.37*	*51.85*	*52.00*	*52.00*	**39.17**	*50.21*	*51.56*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	*2.85*	*2.88*	*2.99*	*3.08*	*3.29*	*3.22*	*3.24*	*3.33*	**2.03**	*2.95*	*3.27*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.91**	**1.94**	*2.07*	*2.07*	*2.04*	*2.05*	*2.07*	*2.08*	*2.06*	*2.07*	**1.93**	*2.05*	*2.07*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,726**	*18,820*	*18,967*	*19,221*	*19,444*	*19,661*	*19,848*	*20,003*	*20,134*	**18,409**	*19,113*	*19,911*
Percent change from prior year	**0.3**	**-9.0**	**-2.8**	**-2.7**	*-1.0*	*9.6*	*3.4*	*3.8*	*4.5*	*4.6*	*4.1*	*3.5*	**-3.6**	*3.8*	*4.2*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.3**	*114.6*	*115.1*	*115.6*	*116.2*	*116.6*	*117.3*	*118.0*	*118.6*	**113.6**	*115.4*	*117.6*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.2**	*1.1*	*2.0*	*1.6*	*1.6*	*1.8*	*1.9*	*2.0*	*2.1*	**1.1**	*1.6*	*1.9*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,905**	**15,573**	*16,312*	*15,524*	*15,435*	*15,418*	*15,531*	*15,591*	*15,669*	*15,744*	**15,792**	*15,672*	*15,634*
Percent change from prior year	**1.4**	**12.2**	**6.8**	**4.1**	*8.3*	*-6.6*	*-3.0*	*-1.0*	*-4.8*	*0.4*	*1.5*	*2.1*	**6.1**	*-0.8*	*-0.2*
Manufacturing Production Index															
(Index, 2012=100)	**104.4**	**89.3**	**99.9**	**102.6**	*104.1*	*104.3*	*104.9*	*106.0*	*107.5*	*108.8*	*109.6*	*110.3*	**99.1**	*104.8*	*109.1*
Percent change from prior year	**-2.0**	**-15.5**	**-5.6**	**-3.0**	*-0.2*	*16.7*	*5.0*	*3.3*	*3.2*	*4.4*	*4.5*	*4.0*	**-6.5**	*5.8*	*4.0*
Weather															
U.S. Heating Degree-Days	**1,876**	**540**	**71**	**1,417**	*2,014*	*470*	*70*	*1,494*	*2,090*	*476*	*70*	*1,492*	**3,903**	*4,048*	*4,128*
U.S. Cooling Degree-Days	**71**	**396**	**935**	**122**	*42*	*416*	*875*	*100*	*45*	*414*	*876*	*100*	**1,524**	*1,433*	*1,437*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109;
Petroleum Supply Annual , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130;
Electric Power Monthly , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	*52.69*	*50.32*	*49.00*	*49.00*	*50.37*	*51.85*	*52.00*	*52.00*	**39.17**	*50.21*	*51.56*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	*55.62*	*53.32*	*52.00*	*52.00*	*53.37*	*55.35*	*56.00*	*56.00*	**41.69**	*53.20*	*55.19*
U.S. Imported Average	**43.76**	**26.33**	**39.90**	**40.53**	*50.67*	*48.32*	*47.00*	*47.00*	*48.13*	*49.58*	*49.50*	*49.50*	**37.24**	*48.09*	*49.23*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.88**	**40.79**	**41.80**	*51.65*	*49.31*	*48.00*	*48.00*	*49.10*	*50.59*	*50.50*	*50.50*	**39.68**	*49.19*	*50.20*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**134**	*167*	*173*	*165*	*153*	*153*	*173*	*176*	*164*	**133**	*164*	*167*
Diesel Fuel	**160**	**97**	**124**	**132**	*165*	*164*	*163*	*164*	*166*	*172*	*175*	*175*	**129**	*164*	*172*
Fuel Oil	**160**	**87**	**113**	**125**	*155*	*155*	*156*	*160*	*161*	*161*	*163*	*166*	**126**	*157*	*162*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**123**	*155*	*156*	*157*	*159*	*165*	*170*	*172*	*173*	**131**	*157*	*170*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**121**	*124*	*120*	*114*	*114*	*115*	*121*	*120*	*120*	**126**	*118*	*119*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	*244*	*254*	*245*	*235*	*228*	*252*	*255*	*246*	**218**	*244*	*246*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	*254*	*266*	*258*	*248*	*242*	*266*	*269*	*260*	**227**	*256*	*259*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	*272*	*268*	*269*	*273*	*272*	*273*	*280*	*282*	**255**	*270*	*277*
Heating Oil	**280**	**200**	**214**	**229**	*260*	*264*	*271*	*291*	*287*	*270*	*258*	*261*	**244**	*271*	*274*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	*2.97*	*2.99*	*3.11*	*3.20*	*3.41*	*3.34*	*3.37*	*3.46*	**2.11**	*3.07*	*3.40*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	*2.85*	*2.88*	*2.99*	*3.08*	*3.29*	*3.22*	*3.24*	*3.33*	**2.03**	*2.95*	*3.27*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.79**	*4.27*	*3.92*	*4.02*	*4.36*	*4.67*	*4.27*	*4.20*	*4.54*	**3.30**	*4.15*	*4.43*
Commercial Sector	**7.13**	**7.63**	**8.48**	**7.59**	*7.48*	*8.14*	*8.81*	*7.95*	*7.78*	*8.30*	*8.77*	*7.92*	**7.50**	*7.88*	*8.02*
Residential Sector	**9.46**	**11.89**	**17.62**	**10.76**	*9.93*	*12.72*	*17.35*	*10.71*	*9.76*	*12.72*	*17.57*	*10.90*	**10.88**	*11.05*	*11.07*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.91**	**1.94**	*2.07*	*2.07*	*2.04*	*2.05*	*2.07*	*2.08*	*2.06*	*2.07*	**1.93**	*2.05*	*2.07*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.84**	*3.40*	*3.09*	*3.18*	*3.45*	*3.88*	*3.48*	*3.46*	*3.70*	**2.38**	*3.27*	*3.61*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.37**	*9.70*	*10.96*	*9.97*	*9.71*	*10.09*	*11.06*	*10.64*	*10.47*	**9.02**	*10.07*	*10.56*
Distillate Fuel Oil	**13.27**	**8.39**	**10.38**	**10.75**	*12.79*	*12.93*	*12.79*	*12.95*	*13.05*	*13.52*	*13.65*	*13.73*	**10.78**	*12.86*	*13.49*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.37**	**6.63**	**7.09**	**6.51**	*6.37*	*6.69*	*7.10*	*6.53*	*6.41*	*6.71*	*7.12*	*6.54*	**6.66**	*6.68*	*6.70*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.53**	*10.30*	*10.78*	*11.24*	*10.76*	*10.46*	*10.92*	*11.35*	*10.84*	**10.63**	*10.79*	*10.91*
Residential Sector	**12.90**	**13.24**	**13.36**	**13.20**	*12.85*	*13.33*	*13.55*	*13.45*	*13.11*	*13.64*	*13.81*	*13.63*	**13.19**	*13.31*	*13.56*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**32.91**	**29.42**	**29.92**	**30.63**	*30.94*	*31.04*	*31.32*	*31.74*	*31.79*	*32.03*	*32.29*	*32.83*	**30.72**	*31.26*	*32.24*
U.S. (50 States)	**20.22**	**17.58**	**18.30**	**18.35**	*18.33*	*18.63*	*18.87*	*19.09*	*19.10*	*19.51*	*19.89*	*20.19*	**18.61**	*18.73*	*19.68*
Canada	**5.65**	**4.94**	**4.89**	**5.62**	*5.78*	*5.75*	*5.77*	*5.79*	*5.83*	*5.80*	*5.82*	*5.86*	**5.27**	*5.77*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	*1.86*	*1.84*	*1.81*	*1.79*	*1.75*	*1.71*	*1.66*	*1.65*	**1.94**	*1.83*	*1.69*
Other OECD	**5.03**	**4.96**	**4.81**	**4.76**	*4.96*	*4.81*	*4.87*	*5.07*	*5.10*	*5.02*	*4.92*	*5.14*	**4.89**	*4.93*	*5.04*
Non-OECD	**67.81**	**63.01**	**60.96**	**62.23**	*62.78*	*66.05*	*67.67*	*67.54*	*67.24*	*68.71*	*69.18*	*68.98*	**63.49**	*66.03*	*68.53*
OPEC	**33.49**	**30.59**	**28.45**	**29.81**	*30.01*	*32.16*	*33.39*	*33.44*	*33.50*	*33.42*	*33.47*	*33.50*	**30.58**	*32.26*	*33.47*
Crude Oil Portion	**28.28**	**25.64**	**23.61**	**24.88**	*24.97*	*27.10*	*28.23*	*28.26*	*28.19*	*28.19*	*28.21*	*28.23*	**25.59**	*27.15*	*28.20*
Other Liquids (b)	**5.21**	**4.95**	**4.84**	**4.93**	*5.05*	*5.05*	*5.15*	*5.19*	*5.32*	*5.23*	*5.25*	*5.28*	**4.98**	*5.11*	*5.27*
Eurasia	**14.76**	**13.20**	**12.74**	**13.15**	*13.35*	*13.61*	*13.73*	*13.83*	*14.01*	*14.77*	*14.87*	*14.96*	**13.46**	*13.63*	*14.66*
China	**4.96**	**4.91**	**4.95**	**4.90**	*4.92*	*4.95*	*4.95*	*4.99*	*4.94*	*4.97*	*4.97*	*5.01*	**4.93**	*4.95*	*4.97*
Other Non-OECD	**14.60**	**14.32**	**14.83**	**14.37**	*14.50*	*15.33*	*15.61*	*15.27*	*14.79*	*15.56*	*15.87*	*15.50*	**14.53**	*15.18*	*15.43*
Total World Supply	**100.71**	**92.44**	**90.88**	**92.86**	*93.72*	*97.09*	*98.99*	*99.28*	*99.02*	*100.74*	*101.47*	*101.81*	**94.21**	*97.29*	*100.77*
Non-OPEC Supply	**67.22**	**61.85**	**62.43**	**63.05**	*63.71*	*64.93*	*65.60*	*65.84*	*65.52*	*67.33*	*68.01*	*68.31*	**63.63**	*65.03*	*67.30*
Consumption (million barrels per day) (c)															
OECD	**45.26**	**37.37**	**42.07**	**42.89**	*43.50*	*43.62*	*44.83*	*45.30*	*45.58*	*45.46*	*46.50*	*46.71*	**41.90**	*44.32*	*46.07*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.54**	*18.83*	*19.24*	*19.75*	*19.91*	*19.95*	*20.45*	*20.69*	*20.63*	**18.08**	*19.43*	*20.43*
U.S. Territories	**0.16**	**0.14**	**0.15**	**0.15**	*0.16*	*0.15*	*0.15*	*0.16*	*0.17*	*0.15*	*0.15*	*0.16*	**0.15**	*0.16*	*0.16*
Canada	**2.33**	**1.88**	**2.16**	**2.12**	*2.16*	*2.16*	*2.26*	*2.26*	*2.28*	*2.23*	*2.33*	*2.32*	**2.12**	*2.21*	*2.29*
Europe	**13.34**	**10.98**	**12.83**	**12.66**	*12.61*	*12.99*	*13.48*	*13.31*	*13.23*	*13.48*	*14.05*	*13.85*	**12.46**	*13.10*	*13.65*
Japan	**3.69**	**2.89**	**3.03**	**3.38**	*3.60*	*3.00*	*3.08*	*3.39*	*3.63*	*2.98*	*3.06*	*3.37*	**3.25**	*3.27*	*3.26*
Other OECD	**6.41**	**5.41**	**5.55**	**6.03**	*6.12*	*6.08*	*6.12*	*6.27*	*6.32*	*6.18*	*6.22*	*6.38*	**5.85**	*6.15*	*6.28*
Non-OECD	**49.94**	**47.67**	**51.30**	**52.62**	*52.24*	*53.58*	*53.72*	*53.84*	*54.04*	*55.30*	*55.46*	*55.57*	**50.39**	*53.35*	*55.10*
Eurasia	**4.85**	**4.48**	**5.27**	**5.16**	*4.89*	*4.98*	*5.37*	*5.23*	*5.07*	*5.14*	*5.55*	*5.40*	**4.94**	*5.12*	*5.29*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	*0.71*	*0.71*	*0.73*	*0.73*	*0.73*	*0.73*	*0.75*	*0.75*	**0.71**	*0.72*	*0.74*
China	**13.77**	**13.96**	**14.53**	**14.98**	*14.99*	*15.25*	*14.98*	*15.30*	*15.54*	*15.78*	*15.50*	*15.76*	**14.31**	*15.13*	*15.64*
Other Asia	**13.26**	**11.74**	**12.70**	**13.71**	*13.91*	*14.22*	*13.79*	*14.13*	*14.54*	*14.74*	*14.32*	*14.73*	**12.85**	*14.01*	*14.58*
Other Non-OECD	**17.36**	**16.80**	**18.09**	**18.04**	*17.74*	*18.41*	*18.85*	*18.45*	*18.15*	*18.90*	*19.34*	*18.93*	**17.57**	*18.36*	*18.83*
Total World Consumption	**95.20**	**85.04**	**93.37**	**95.51**	*95.74*	*97.20*	*98.55*	*99.14*	*99.61*	*100.77*	*101.96*	*102.29*	**92.29**	*97.67*	*101.17*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.86**	*0.78*	*-0.19*	*-0.01*	*0.45*	*0.01*	*-0.51*	*0.06*	*0.42*	**-0.19**	*0.26*	*0.00*
Other OECD	**-0.54**	**-1.15**	**0.04**	**0.52**	*0.40*	*0.09*	*-0.14*	*-0.19*	*0.19*	*0.17*	*0.14*	*0.02*	**-0.28**	*0.04*	*0.13*
Other Stock Draws and Balance	**-4.54**	**-4.56**	**1.95**	**1.26**	*0.84*	*0.21*	*-0.29*	*-0.40*	*0.39*	*0.36*	*0.29*	*0.04*	**-1.46**	*0.08*	*0.27*
Total Stock Draw	**-5.51**	**-7.39**	**2.48**	**2.64**	*2.02*	*0.11*	*-0.44*	*-0.14*	*0.59*	*0.02*	*0.49*	*0.48*	**-1.92**	*0.38*	*0.40*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,347**	*1,279*	*1,305*	*1,312*	*1,275*	*1,278*	*1,329*	*1,326*	*1,297*	**1,347**	*1,275*	*1,297*
OECD Commercial Inventory	**2,967**	**3,204**	**3,169**	**3,045**	*2,941*	*2,959*	*2,978*	*2,959*	*2,945*	*2,981*	*2,965*	*2,935*	**3,045**	*2,959*	*2,935*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.87**	**24.46**	**25.11**	**25.87**	*25.98*	*26.23*	*26.45*	*26.67*	*26.68*	*27.01*	*27.37*	*27.70*	**25.83**	*26.33*	*27.20*
Canada	**5.65**	**4.94**	**4.89**	**5.62**	*5.78*	*5.75*	*5.77*	*5.79*	*5.83*	*5.80*	*5.82*	*5.86*	**5.27**	*5.77*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	*1.86*	*1.84*	*1.81*	*1.79*	*1.75*	*1.71*	*1.66*	*1.65*	**1.94**	*1.83*	*1.69*
United States	**20.22**	**17.58**	**18.30**	**18.35**	*18.33*	*18.63*	*18.87*	*19.09*	*19.10*	*19.51*	*19.89*	*20.19*	**18.61**	*18.73*	*19.68*
Central and South America	**6.05**	**6.07**	**6.62**	**5.99**	*6.03*	*6.82*	*7.10*	*6.80*	*6.30*	*7.10*	*7.46*	*7.13*	**6.18**	*6.69*	*7.00*
Argentina	**0.69**	**0.58**	**0.57**	**0.55**	*0.64*	*0.68*	*0.67*	*0.67*	*0.73*	*0.70*	*0.69*	*0.69*	**0.60**	*0.66*	*0.70*
Brazil	**3.44**	**3.89**	**4.29**	**3.60**	*3.49*	*4.34*	*4.66*	*4.29*	*3.65*	*4.51*	*4.86*	*4.41*	**3.81**	*4.20*	*4.36*
Colombia	**0.90**	**0.78**	**0.77**	**0.83**	*0.87*	*0.78*	*0.75*	*0.80*	*0.84*	*0.75*	*0.72*	*0.77*	**0.82**	*0.80*	*0.77*
Ecuador	**0.54**	**0.36**	**0.52**	**0.52**	*0.53*	*0.53*	*0.52*	*0.53*	*0.54*	*0.54*	*0.53*	*0.53*	**0.48**	*0.53*	*0.53*
Other Central and S. America	**0.48**	**0.46**	**0.46**	**0.49**	*0.50*	*0.50*	*0.50*	*0.51*	*0.55*	*0.61*	*0.67*	*0.73*	**0.47**	*0.50*	*0.64*
Europe	**4.39**	**4.31**	**4.16**	**4.23**	*4.41*	*4.26*	*4.32*	*4.53*	*4.56*	*4.48*	*4.38*	*4.61*	**4.27**	*4.38*	*4.51*
Norway	**2.06**	**2.01**	**1.96**	**2.03**	*2.20*	*2.13*	*2.20*	*2.33*	*2.36*	*2.29*	*2.29*	*2.41*	**2.01**	*2.21*	*2.34*
United Kingdom	**1.17**	**1.16**	**1.03**	**1.04**	*1.05*	*0.99*	*0.98*	*1.04*	*1.05*	*1.04*	*0.93*	*1.03*	**1.10**	*1.01*	*1.01*
Eurasia	**14.76**	**13.20**	**12.74**	**13.15**	*13.35*	*13.61*	*13.73*	*13.83*	*14.01*	*14.77*	*14.87*	*14.96*	**13.46**	*13.63*	*14.66*
Azerbaijan	**0.77**	**0.70**	**0.67**	**0.69**	*0.70*	*0.73*	*0.74*	*0.75*	*0.76*	*0.79*	*0.79*	*0.79*	**0.71**	*0.73*	*0.78*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	*1.83*	*1.87*	*1.88*	*1.89*	*1.92*	*1.99*	*1.99*	*2.01*	**1.86**	*1.87*	*1.98*
Russia	**11.55**	**10.25**	**9.98**	**10.26**	*10.46*	*10.64*	*10.74*	*10.82*	*10.99*	*11.63*	*11.75*	*11.81*	**10.51**	*10.67*	*11.55*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.25**	*0.24*	*0.24*	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.24**	*0.24*	*0.23*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.14**	*0.13*	*0.13*	*0.13*	*0.13*	*0.12*	*0.12*	*0.12*	*0.12*	**0.15**	*0.13*	*0.12*
Middle East	**3.24**	**3.18**	**3.15**	**3.18**	*3.24*	*3.30*	*3.32*	*3.32*	*3.37*	*3.37*	*3.37*	*3.37*	**3.19**	*3.29*	*3.37*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	*0.97*	*1.02*	*1.04*	*1.04*	*1.05*	*1.05*	*1.05*	*1.05*	**0.96**	*1.02*	*1.05*
Qatar	**2.06**	**2.06**	**2.06**	**2.06**	*2.10*	*2.10*	*2.10*	*2.10*	*2.12*	*2.12*	*2.12*	*2.12*	**2.06**	*2.10*	*2.12*
Asia and Oceania	**9.46**	**9.17**	**9.25**	**9.20**	*9.24*	*9.28*	*9.24*	*9.25*	*9.20*	*9.21*	*9.17*	*9.18*	**9.27**	*9.25*	*9.19*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	*0.51*	*0.51*	*0.50*	*0.49*	*0.49*	*0.48*	*0.47*	*0.47*	**0.49**	*0.50*	*0.48*
China	**4.96**	**4.91**	**4.95**	**4.90**	*4.92*	*4.95*	*4.95*	*4.99*	*4.94*	*4.97*	*4.97*	*5.01*	**4.93**	*4.95*	*4.97*
India	**0.96**	**0.90**	**0.92**	**0.90**	*0.91*	*0.90*	*0.89*	*0.88*	*0.89*	*0.89*	*0.88*	*0.88*	**0.92**	*0.89*	*0.88*
Indonesia	**0.91**	**0.89**	**0.88**	**0.88**	*0.87*	*0.86*	*0.85*	*0.84*	*0.85*	*0.84*	*0.83*	*0.82*	**0.89**	*0.85*	*0.83*
Malaysia	**0.71**	**0.60**	**0.63**	**0.62**	*0.63*	*0.63*	*0.63*	*0.62*	*0.62*	*0.62*	*0.61*	*0.60*	**0.64**	*0.63*	*0.61*
Vietnam	**0.24**	**0.23**	**0.22**	**0.23**	*0.22*	*0.23*	*0.23*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	**0.23**	*0.22*	*0.21*
Africa	**1.46**	**1.45**	**1.42**	**1.42**	*1.45*	*1.45*	*1.45*	*1.45*	*1.39*	*1.38*	*1.37*	*1.36*	**1.44**	*1.45*	*1.38*
Egypt	**0.62**	**0.61**	**0.59**	**0.58**	*0.62*	*0.62*	*0.62*	*0.62*	*0.57*	*0.57*	*0.57*	*0.57*	**0.60**	*0.62*	*0.57*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.22**	**61.85**	**62.43**	**63.05**	*63.71*	*64.93*	*65.60*	*65.84*	*65.52*	*67.33*	*68.01*	*68.31*	**63.63**	*65.03*	*67.30*
OPEC non-crude liquids	**5.21**	**4.95**	**4.84**	**4.93**	*5.05*	*5.05*	*5.15*	*5.19*	*5.32*	*5.23*	*5.25*	*5.28*	**4.98**	*5.11*	*5.27*
Non-OPEC + OPEC non-crude	**72.43**	**66.80**	**67.28**	**67.98**	*68.75*	*69.98*	*70.76*	*71.02*	*70.84*	*72.55*	*73.26*	*73.58*	**68.62**	*70.14*	*72.57*
Unplanned non-OPEC Production Outages	**0.18**	**0.90**	**0.69**	**0.52**	-	-	-	-	-	-	-	-	**0.57**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	-	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.36**	**1.26**	**1.17**	**1.12**	-	-	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	-	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	-	-	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	-	-	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	-	-	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	-	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	-	-	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	-	-	-	-	-	-	-	-	**0.37**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	-	-	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	-	-	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	-	-	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	-	-	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.64**	**23.61**	**24.88**	*24.97*	*27.10*	*28.23*	*28.26*	*28.19*	*28.19*	*28.21*	*28.23*	**25.59**	*27.15*	*28.20*
Other Liquids (a)	**5.21**	**4.95**	**4.84**	**4.93**	*5.05*	*5.05*	*5.15*	*5.19*	*5.32*	*5.23*	*5.25*	*5.28*	**4.98**	*5.11*	*5.27*
Total OPEC Supply	**33.49**	**30.59**	**28.45**	**29.81**	*30.01*	*32.16*	*33.39*	*33.44*	*33.50*	*33.42*	*33.47*	*33.50*	**30.58**	*32.26*	*33.47*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	*26.38*	*26.39*	*26.38*	*26.38*	*26.38*	*26.39*	*26.39*	*26.39*	**25.98**	*26.38*	*26.39*
Other	**5.82**	**5.60**	**5.48**	**6.34**	*5.83*	*6.05*	*6.06*	*6.05*	*5.97*	*5.97*	*5.99*	*6.01*	**5.81**	*6.00*	*5.98*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	*32.21*	*32.44*	*32.44*	*32.43*	*32.35*	*32.36*	*32.38*	*32.40*	**31.79**	*32.38*	*32.37*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	*7.08*	*5.22*	*4.11*	*4.08*	*4.08*	*4.09*	*4.09*	*4.09*	**5.49**	*5.11*	*4.09*
Other	**0.00**	**0.72**	**1.04**	**1.07**	*0.16*	*0.12*	*0.09*	*0.09*	*0.08*	*0.08*	*0.08*	*0.08*	**0.71**	*0.11*	*0.08*
OPEC Total	**3.15**	**5.99**	**7.94**	**7.68**	*7.24*	*5.34*	*4.20*	*4.17*	*4.16*	*4.17*	*4.17*	*4.18*	**6.20**	*5.23*	*4.17*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.44**	-	-	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.12**	**22.47**	*22.84*	*23.28*	*23.89*	*24.06*	*24.12*	*24.59*	*24.92*	*24.86*	**21.92**	*23.52*	*24.63*
Canada	**2.33**	**1.88**	**2.16**	**2.12**	*2.16*	*2.16*	*2.26*	*2.26*	*2.28*	*2.23*	*2.33*	*2.32*	**2.12**	*2.21*	*2.29*
Mexico	**1.97**	**1.48**	**1.59**	**1.80**	*1.83*	*1.87*	*1.87*	*1.88*	*1.88*	*1.90*	*1.89*	*1.90*	**1.71**	*1.86*	*1.89*
United States	**19.33**	**16.08**	**18.36**	**18.54**	*18.83*	*19.24*	*19.75*	*19.91*	*19.95*	*20.45*	*20.69*	*20.63*	**18.08**	*19.43*	*20.43*
Central and South America	**6.20**	**5.68**	**6.11**	**6.36**	*6.30*	*6.49*	*6.62*	*6.64*	*6.43*	*6.60*	*6.74*	*6.75*	**6.09**	*6.52*	*6.63*
Brazil	**2.88**	**2.66**	**2.96**	**3.05**	*2.96*	*3.06*	*3.15*	*3.16*	*3.04*	*3.12*	*3.23*	*3.24*	**2.89**	*3.08*	*3.16*
Europe	**14.05**	**11.68**	**13.55**	**13.38**	*13.33*	*13.71*	*14.21*	*14.05*	*13.96*	*14.21*	*14.80*	*14.60*	**13.17**	*13.82*	*14.40*
Eurasia	**4.85**	**4.48**	**5.27**	**5.16**	*4.89*	*4.98*	*5.37*	*5.23*	*5.07*	*5.14*	*5.55*	*5.40*	**4.94**	*5.12*	*5.29*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	*3.68*	*3.80*	*4.12*	*3.97*	*3.83*	*3.93*	*4.27*	*4.12*	**3.73**	*3.89*	*4.04*
Middle East	**7.66**	**7.59**	**8.47**	**8.03**	*7.76*	*8.21*	*8.61*	*7.99*	*7.94*	*8.50*	*8.90*	*8.27*	**7.94**	*8.14*	*8.40*
Asia and Oceania	**34.60**	**32.11**	**33.76**	**35.80**	*36.28*	*36.15*	*35.56*	*36.70*	*37.62*	*37.25*	*36.66*	*37.82*	**34.07**	*36.17*	*37.34*
China	**13.77**	**13.96**	**14.53**	**14.98**	*14.99*	*15.25*	*14.98*	*15.30*	*15.54*	*15.78*	*15.50*	*15.76*	**14.31**	*15.13*	*15.64*
Japan	**3.69**	**2.89**	**3.03**	**3.38**	*3.60*	*3.00*	*3.08*	*3.39*	*3.63*	*2.98*	*3.06*	*3.37*	**3.25**	*3.27*	*3.26*
India	**4.63**	**3.77**	**4.17**	**4.93**	*4.93*	*4.97*	*4.63*	*4.89*	*5.10*	*5.17*	*4.82*	*5.14*	**4.37**	*4.85*	*5.06*
Africa	**4.19**	**4.07**	**4.09**	**4.31**	*4.34*	*4.37*	*4.29*	*4.48*	*4.47*	*4.47*	*4.40*	*4.58*	**4.16**	*4.37*	*4.48*
Total OECD Liquid Fuels Consumption	**45.26**	**37.37**	**42.07**	**42.89**	*43.50*	*43.62*	*44.83*	*45.30*	*45.58*	*45.46*	*46.50*	*46.71*	**41.90**	*44.32*	*46.07*
Total non-OECD Liquid Fuels Consumption	**49.94**	**47.67**	**51.30**	**52.62**	*52.24*	*53.58*	*53.72*	*53.84*	*54.04*	*55.30*	*55.46*	*55.57*	**50.39**	*53.35*	*55.10*
Total World Liquid Fuels Consumption	**95.20**	**85.04**	**93.37**	**95.51**	*95.74*	*97.20*	*98.55*	*99.14*	*99.61*	*100.77*	*101.96*	*102.29*	**92.29**	*97.67*	*101.17*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**109.9**	**107.2**	**111.9**	**112.5**	*114.7*	*115.7*	*116.8*	*117.6*	*120.4*	*121.1*	*121.7*	*122.3*	**110.4**	*116.2*	*121.4*
Percent change from prior year	**-3.6**	**-6.4**	**-2.7**	**-2.5**	*4.4*	*7.9*	*4.3*	*4.5*	*5.0*	*4.7*	*4.3*	*4.0*	**-3.8**	*5.3*	*4.5*
OECD Index, 2015 = 100													**103.4**	*107.5*	*111.7*
Percent change from prior year													**-4.9**	*3.9*	*3.9*
Non-OECD Index, 2015 = 100													**115.3**	*122.4*	*128.4*
Percent change from prior year													**-2.7**	*6.2*	*4.9*
Real U.S. Dollar Exchange Rate (b)															
Index, 2015 Q1 = 100	**106.5**	**108.2**	**106.9**	**105.5**	*103.7*	*103.6*	*103.3*	*103.0*	*102.6*	*102.7*	*102.5*	*102.4*	**106.8**	*103.4*	*102.6*
Percent change from prior year	**0.9**	**2.0**	**0.3**	**-0.8**	*-2.6*	*-4.3*	*-3.3*	*-2.3*	*-1.0*	*-0.8*	*-0.8*	*-0.6*	**0.6**	*-3.2*	*-0.8*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. GDP data are from Oxford Economics.

(b) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. Exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on .

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.75**	**10.81**	**10.81**	**10.89**	*10.98*	*10.91*	*11.00*	*11.18*	*11.30*	*11.38*	*11.61*	*11.83*	**11.31**	*11.02*	*11.53*
Alaska	**0.48**	**0.41**	**0.44**	**0.47**	*0.46*	*0.38*	*0.41*	*0.44*	*0.43*	*0.36*	*0.40*	*0.41*	**0.45**	*0.42*	*0.40*
Federal Gulf of Mexico (b)	**1.96**	**1.69**	**1.45**	**1.49**	*1.71*	*1.69*	*1.61*	*1.63*	*1.69*	*1.68*	*1.64*	*1.67*	**1.65**	*1.66*	*1.67*
Lower 48 States (excl GOM)	**10.31**	**8.71**	**8.92**	**8.93**	*8.81*	*8.83*	*8.98*	*9.11*	*9.18*	*9.34*	*9.57*	*9.75*	**9.22**	*8.93*	*9.46*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.54**	*3.10*	*3.65*	*4.21*	*3.80*	*3.77*	*4.91*	*4.86*	*4.09*	**2.71**	*3.69*	*4.41*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	*0.03*	*0.10*	*0.07*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	*0.06*	*0.11*	*0.22*	*-0.01*	*-0.26*	*0.01*	*0.27*	*-0.02*	**-0.14**	*0.09*	*0.00*
Crude Oil Adjustment (d)	**0.67**	**0.03**	**0.38**	**0.34**	*0.27*	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.35**	*0.22*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.93**	*14.44*	*14.98*	*15.72*	*15.18*	*15.09*	*16.56*	*16.99*	*16.16*	**14.22**	*15.08*	*16.20*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.98**	*1.01*	*1.06*	*1.06*	*1.04*	*1.05*	*1.09*	*1.13*	*1.13*	**0.94**	*1.04*	*1.10*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.23**	*5.11*	*5.40*	*5.49*	*5.54*	*5.44*	*5.71*	*5.80*	*5.87*	**5.16**	*5.39*	*5.70*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.07**	*1.04*	*1.06*	*1.11*	*1.11*	*1.10*	*1.12*	*1.13*	*1.14*	**1.00**	*1.08*	*1.12*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	*0.94*	*0.96*	*1.00*	*1.01*	*1.00*	*1.01*	*1.02*	*1.03*	**0.90**	*0.98*	*1.01*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.20**	*0.20*	*0.21*	*0.21*	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.55**	*-3.65*	*-3.07*	*-3.55*	*-3.59*	*-3.16*	*-3.67*	*-4.34*	*-4.23*	**-3.41**	*-3.47*	*-3.85*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.07**	*-2.29*	*-2.24*	*-2.23*	*-2.18*	*-2.13*	*-2.28*	*-2.29*	*-2.23*	**-1.95**	*-2.24*	*-2.23*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.33**	*0.38*	*0.46*	*0.44*	*0.30*	*0.20*	*0.26*	*0.30*	*0.20*	**0.31**	*0.39*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.05**	*-0.11*	*-0.09*	*-0.09*	*-0.10*	*-0.11*	*-0.09*	*-0.09*	*-0.10*	**-0.06**	*-0.09*	*-0.10*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.36**	*0.26*	*0.64*	*0.51*	*0.15*	*0.53*	*0.75*	*0.43*	*0.22*	**0.40**	*0.39*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.75**	*-0.66*	*-0.71*	*-0.72*	*-0.56*	*-0.70*	*-0.67*	*-0.76*	*-0.72*	**-0.61**	*-0.66*	*-0.71*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.05**	*-0.07*	*-0.06*	*0.00*	*-0.01*	*0.05*	*0.09*	*0.11*	*0.17*	**0.05**	*-0.03*	*0.10*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.85**	*-0.60*	*-0.63*	*-0.89*	*-0.64*	*-0.53*	*-1.04*	*-1.33*	*-1.19*	**-1.01**	*-0.69*	*-1.03*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.05**	*0.03*	*-0.02*	*0.00*	*0.06*	*-0.02*	*-0.07*	*-0.06*	*0.05*	**0.02**	*0.02*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.61**	*-0.60*	*-0.42*	*-0.55*	*-0.62*	*-0.46*	*-0.62*	*-0.65*	*-0.63*	**-0.56**	*-0.55*	*-0.59*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.69**	*0.69*	*-0.40*	*-0.29*	*0.41*	*0.22*	*-0.56*	*-0.24*	*0.33*	**-0.03**	*0.10*	*-0.06*
Total Supply	**19.33**	**16.08**	**18.36**	**18.54**	*18.83*	*19.24*	*19.75*	*19.91*	*19.95*	*20.45*	*20.69*	*20.63*	**18.08**	*19.43*	*20.43*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.60**	*3.56*	*3.08*	*3.11*	*3.52*	*3.66*	*3.30*	*3.37*	*3.78*	**3.17**	*3.32*	*3.53*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.06**	*0.00*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.07**	*8.11*	*8.67*	*8.91*	*8.79*	*8.52*	*9.16*	*9.17*	*8.88*	**8.04**	*8.62*	*8.93*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.85**	*0.82*	*0.88*	*0.92*	*0.90*	*0.87*	*0.93*	*0.93*	*0.92*	**0.82**	*0.88*	*0.91*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.08**	*1.22*	*1.38*	*1.50*	*1.47*	*1.57*	*1.70*	*1.77*	*1.77*	**1.08**	*1.39*	*1.70*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.85**	*4.04*	*3.95*	*3.88*	*4.06*	*4.21*	*4.10*	*4.00*	*4.07*	**3.76**	*3.98*	*4.09*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.23**	*0.22*	*0.23*	*0.28*	*0.25*	*0.23*	*0.21*	*0.25*	*0.26*	**0.22**	*0.24*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.71**	*1.68*	*1.93*	*2.07*	*1.81*	*1.76*	*1.99*	*2.14*	*1.86*	**1.75**	*1.87*	*1.94*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.54**	*18.83*	*19.24*	*19.75*	*19.91*	*19.95*	*20.45*	*20.69*	*20.63*	**18.08**	*19.43*	*20.43*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-1.01**	*-0.55*	*0.58*	*0.66*	*0.21*	*0.62*	*1.24*	*0.52*	*-0.15*	**-0.70**	*0.23*	*0.55*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.5**	*480.2*	*470.2*	*450.2*	*451.4*	*474.4*	*473.5*	*448.4*	*450.0*	**485.5**	*451.4*	*450.0*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**233.0**	*159.2*	*201.7*	*239.8*	*199.1*	*162.4*	*209.9*	*248.1*	*207.3*	**233.0**	*199.1*	*207.3*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.5**	*91.2*	*90.7*	*90.1*	*83.0*	*92.9*	*90.8*	*89.9*	*83.2*	**78.5**	*83.0*	*83.2*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**28.6**	*29.7*	*28.5*	*28.3*	*28.6*	*30.7*	*29.5*	*29.2*	*29.4*	**28.6**	*28.6*	*29.4*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**241.1**	*235.6*	*232.6*	*226.4*	*234.3*	*242.2*	*245.4*	*233.2*	*249.4*	**241.1**	*234.3*	*249.4*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	*21.3*	*23.2*	*22.1*	*24.4*	*24.2*	*23.8*	*23.1*	*26.1*	**25.3**	*24.4*	*26.1*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**215.8**	*214.3*	*209.4*	*204.3*	*209.9*	*218.0*	*221.6*	*210.1*	*223.2*	**215.8**	*209.9*	*223.2*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.8**	*41.3*	*41.9*	*43.8*	*40.6*	*40.0*	*40.8*	*43.1*	*40.0*	**38.8**	*40.6*	*40.0*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**158.4**	*149.1*	*146.7*	*148.6*	*150.2*	*139.5*	*144.1*	*150.8*	*151.5*	**158.4**	*150.2*	*151.5*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	*32.5*	*33.6*	*31.6*	*32.7*	*32.2*	*33.0*	*31.2*	*32.7*	**30.2**	*32.7*	*32.7*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**52.5**	*60.1*	*58.8*	*53.0*	*55.1*	*64.0*	*61.7*	*52.3*	*53.6*	**52.5**	*55.1*	*53.6*
Total Commercial Inventory	**1320.8**	**1452.8**	**1422.0**	**1346.5**	*1278.8*	*1304.8*	*1311.8*	*1275.0*	*1278.3*	*1328.7*	*1326.1*	*1297.0*	**1346.5**	*1275.0*	*1297.0*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	*635.4*	*626.7*	*620.4*	*616.1*	*611.8*	*607.6*	*604.9*	*595.2*	**638.1**	*616.1*	*595.2*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.08**	*2.00*	*2.22*	*2.26*	*2.35*	*2.38*	*2.54*	*2.57*	*2.65*	**2.02**	*2.21*	*2.54*
Propane	**1.72**	**1.61**	**1.68**	**1.70**	*1.69*	*1.70*	*1.71*	*1.70*	*1.64*	*1.68*	*1.71*	*1.72*	**1.68**	*1.70*	*1.69*
Butanes	**0.91**	**0.86**	**0.90**	**0.89**	*0.87*	*0.89*	*0.91*	*0.91*	*0.87*	*0.90*	*0.91*	*0.92*	**0.89**	*0.89*	*0.90*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.56**	*0.55*	*0.59*	*0.61*	*0.58*	*0.54*	*0.58*	*0.61*	*0.58*	**0.58**	*0.58*	*0.58*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	*0.00*	*0.00*	*0.01*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.29**	*0.27*	*0.30*	*0.30*	*0.30*	*0.31*	*0.33*	*0.33*	*0.32*	**0.27**	*0.29*	*0.32*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.28**	*0.27*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.21**	*-0.09*	*0.26*	*0.18*	*-0.20*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.01**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.30**	*-0.37*	*-0.37*	*-0.38*	*-0.40*	*-0.44*	*-0.45*	*-0.45*	*-0.46*	**-0.28**	*-0.38*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.23**	*-1.13*	*-1.15*	*-1.14*	*-1.13*	*-1.05*	*-1.16*	*-1.15*	*-1.15*	**-1.13**	*-1.14*	*-1.13*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.34**	*-0.40*	*-0.39*	*-0.39*	*-0.33*	*-0.33*	*-0.38*	*-0.38*	*-0.33*	**-0.33**	*-0.38*	*-0.35*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.21**	*-0.38*	*-0.33*	*-0.32*	*-0.31*	*-0.32*	*-0.30*	*-0.31*	*-0.29*	**-0.21**	*-0.34*	*-0.30*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.49**	*0.39*	*0.26*	*0.31*	*0.49*	*0.39*	*0.29*	*0.32*	*0.50*	**0.38**	*0.36*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	*0.13*	*0.17*	*0.17*	*0.16*	*0.17*	*0.18*	*0.19*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.78**	*1.89*	*1.87*	*1.89*	*1.93*	*1.95*	*2.07*	*2.12*	*2.17*	**1.70**	*1.90*	*2.08*
Propane	**1.09**	**0.59**	**0.58**	**1.06**	*1.14*	*0.61*	*0.62*	*0.99*	*1.16*	*0.62*	*0.64*	*1.01*	**0.83**	*0.84*	*0.86*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.29**	*0.29*	*0.30*	*0.29*	*0.29*	*0.30*	*0.30*	*0.30*	*0.29*	**0.28**	*0.29*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.23**	*0.18*	*0.23*	*0.21*	*0.21*	*0.19*	*0.23*	*0.21*	*0.21*	**0.19**	*0.21*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.24**	*0.07*	*0.08*	*0.11*	*0.10*	*0.08*	*0.08*	*0.09*	*0.10*	**0.18**	*0.09*	*0.09*
HGL Inventories (million barrels)															
Ethane	**52.6**	**49.5**	**62.5**	**75.9**	*55.3*	*48.9*	*48.2*	*51.5*	*50.9*	*53.9*	*53.4*	*56.1*	**60.2**	*51.0*	*53.6*
Propane	**60.3**	**75.3**	**100.7**	**71.3**	*41.8*	*61.7*	*82.5*	*70.5*	*46.4*	*66.6*	*87.0*	*74.5*	**71.3**	*70.5*	*74.5*
Propylene (at refineries only)	**1.4**	**1.5**	**1.5**	**1.4**	*1.4*	*1.8*	*2.2*	*2.6*	*2.6*	*2.8*	*3.0*	*3.6*	**1.4**	*2.6*	*3.6*
Butanes/Butylenes	**43.6**	**69.3**	**86.0**	**51.8**	*34.5*	*58.7*	*76.1*	*46.5*	*36.5*	*60.6*	*78.3*	*48.8*	**51.8**	*46.5*	*48.8*
Natural Gasoline (Pentanes Plus)	**24.0**	**35.7**	**38.6**	**35.9**	*31.7*	*30.8*	*30.0*	*28.2*	*25.1*	*25.6*	*25.9*	*24.7*	**35.9**	*28.2*	*24.7*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.93**	*14.44*	*14.98*	*15.72*	*15.18*	*15.09*	*16.56*	*16.99*	*16.16*	**14.22**	*15.08*	*16.20*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.62**	*0.53*	*0.43*	*0.48*	*0.65*	*0.55*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.07**	*1.08*	*1.14*	*1.17*	*1.16*	*1.14*	*1.20*	*1.19*	*1.18*	**1.06**	*1.14*	*1.18*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.36**	*0.24*	*0.46*	*0.44*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.27**	*0.38*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.38**	*0.42*	*0.83*	*0.66*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.53**	*0.54*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.36**	*16.70*	*17.84*	*18.48*	*17.62*	*17.44*	*19.31*	*19.66*	*18.60*	**16.60**	*17.66*	*18.76*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.98**	*1.01*	*1.06*	*1.06*	*1.04*	*1.05*	*1.09*	*1.13*	*1.13*	**0.94**	*1.04*	*1.10*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.37**	*0.47*	*0.84*	*0.77*	*0.39*	*0.51*	*0.88*	*0.80*	*0.41*	**0.55**	*0.62*	*0.65*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**8.95**	*8.84*	*9.53*	*9.72*	*9.54*	*9.30*	*9.89*	*9.99*	*9.81*	**8.73**	*9.41*	*9.75*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.02**	*1.32*	*1.44*	*1.52*	*1.44*	*1.51*	*1.62*	*1.68*	*1.57*	**1.02**	*1.43*	*1.60*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.48**	*4.50*	*4.49*	*4.71*	*4.64*	*4.59*	*5.14*	*5.34*	*5.21*	**4.75**	*4.59*	*5.07*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.16**	*0.21*	*0.26*	*0.26*	*0.20*	*0.25*	*0.29*	*0.29*	*0.23*	**0.19**	*0.23*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.37**	*2.37*	*2.33*	*2.56*	*2.45*	*2.33*	*2.58*	*2.68*	*2.50*	**2.30**	*2.43*	*2.52*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.34**	*17.71*	*18.90*	*19.54*	*18.66*	*18.49*	*20.40*	*20.79*	*19.73*	**17.54**	*18.71*	*19.86*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.34**	*14.87*	*15.38*	*16.11*	*15.58*	*15.45*	*16.75*	*17.21*	*16.44*	**14.72**	*15.49*	*16.47*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	**18.66**	*18.39*	*18.39*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	*0.81*	*0.84*	*0.88*	*0.85*	*0.84*	*0.91*	*0.94*	*0.89*	**0.79**	*0.84*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**134**	*167*	*173*	*165*	*153*	*153*	*173*	*176*	*164*	**133**	*164*	*167*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	*240*	*245*	*240*	*227*	*221*	*240*	*248*	*237*	**214**	*238*	*237*
PADD 2	**226**	**179**	**207**	**202**	*232*	*242*	*229*	*216*	*207*	*240*	*241*	*227*	**204**	*230*	*229*
PADD 3	**210**	**162**	**186**	**183**	*213*	*222*	*214*	*202*	*201*	*220*	*223*	*212*	**187**	*213*	*214*
PADD 4	**247**	**201**	**233**	**221**	*234*	*257*	*253*	*236*	*230*	*256*	*263*	*249*	**226**	*245*	*250*
PADD 5	**311**	**258**	**283**	**278**	*302*	*323*	*307*	*315*	*304*	*325*	*320*	*328*	**284**	*312*	*319*
U.S. Average	**241**	**194**	**218**	**215**	*244*	*254*	*245*	*235*	*228*	*252*	*255*	*246*	**218**	*244*	*246*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	*254*	*266*	*258*	*248*	*242*	*266*	*269*	*260*	**227**	*256*	*259*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**67.8**	*59.5*	*60.9*	*58.0*	*59.6*	*64.8*	*67.3*	*62.6*	*68.7*	**67.8**	*59.6*	*68.7*
PADD 2	**60.2**	**52.6**	**46.2**	**51.1**	*54.4*	*53.9*	*50.8*	*50.3*	*53.9*	*53.2*	*51.2*	*51.3*	**51.1**	*50.3*	*51.3*
PADD 3	**84.8**	**90.5**	**79.7**	**82.1**	*82.9*	*80.6*	*80.6*	*85.3*	*85.6*	*87.7*	*82.4*	*89.5*	**82.1**	*85.3*	*89.5*
PADD 4	**9.2**	**7.7**	**7.6**	**8.6**	*8.1*	*7.9*	*7.5*	*8.0*	*7.8*	*7.9*	*7.7*	*8.2*	**8.6**	*8.0*	*8.2*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	*30.6*	*29.3*	*29.4*	*31.0*	*30.0*	*29.4*	*29.3*	*31.7*	**31.4**	*31.0*	*31.7*
U.S. Total	**260.8**	**253.3**	**226.5**	**241.1**	*235.6*	*232.6*	*226.4*	*234.3*	*242.2*	*245.4*	*233.2*	*249.4*	**241.1**	*234.3*	*249.4*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	*21.3*	*23.2*	*22.1*	*24.4*	*24.2*	*23.8*	*23.1*	*26.1*	**25.3**	*24.4*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**215.8**	*214.3*	*209.4*	*204.3*	*209.9*	*218.0*	*221.6*	*210.1*	*223.2*	**215.8**	*209.9*	*223.2*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.65**	*98.68*	*97.95*	*98.26*	*98.47*	*97.83*	*98.09*	*99.41*	*100.35*	**98.82**	*98.34*	*98.93*
Alaska	**0.96**	**0.88**	**0.88**	**0.96**	*0.96*	*0.75*	*0.73*	*0.88*	*0.92*	*0.75*	*0.72*	*0.86*	**0.92**	*0.83*	*0.81*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.70**	*2.13*	*2.08*	*1.98*	*1.97*	*2.02*	*1.98*	*1.90*	*1.90*	**2.09**	*2.04*	*1.95*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**95.98**	*95.59*	*95.12*	*95.56*	*95.62*	*94.89*	*95.35*	*96.79*	*97.58*	**95.81**	*95.47*	*96.16*
Total Dry Gas Production	**94.79**	**89.68**	**89.82**	**90.89**	*90.88*	*90.17*	*90.40*	*90.54*	*89.95*	*90.18*	*91.41*	*92.26*	**91.29**	*90.50*	*90.96*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.13**	*0.32*	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.14**	*0.22*	*0.22*
LNG Gross Exports	**7.92**	**5.51**	**3.91**	**8.78**	*9.36*	*7.59*	*7.66*	*9.26*	*9.96*	*8.83*	*8.33*	*9.78*	**6.53**	*8.46*	*9.22*
Pipeline Gross Imports	**7.64**	**6.17**	**6.45**	**7.06**	*7.48*	*6.40*	*6.80*	*7.10*	*7.67*	*6.66*	*6.72*	*7.05*	**6.83**	*6.94*	*7.02*
Pipeline Gross Exports	**8.15**	**7.17**	**8.07**	**8.29**	*8.66*	*8.16*	*9.05*	*9.22*	*9.04*	*8.37*	*9.07*	*9.18*	**7.92**	*8.77*	*8.92*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.17*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.00**	*17.84*	*-11.22*	*-8.23*	*5.85*	*17.82*	*-11.46*	*-9.21*	*4.41*	**-0.55**	*1.00*	*0.33*
Total Supply	**99.53**	**71.22**	**76.85**	**86.19**	*98.67*	*69.95*	*72.62*	*85.38*	*96.92*	*68.53*	*71.88*	*85.14*	**83.44**	*81.59*	*80.56*
Balancing Item (b)	**-0.23**	**-0.39**	**0.02**	**0.10**	*0.27*	*0.12*	*-0.01*	*0.08*	*0.58*	*0.66*	*0.76*	*-0.17*	**-0.12**	*0.11*	*0.45*
Total Primary Supply	**99.31**	**70.83**	**76.87**	**86.28**	*98.94*	*70.07*	*72.60*	*85.46*	*97.49*	*69.19*	*72.63*	*84.96*	**83.31**	*81.71*	*81.01*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.84**	**16.11**	*25.11*	*7.08*	*3.40*	*16.37*	*25.14*	*7.68*	*3.47*	*16.26*	**12.73**	*12.94*	*13.09*
Commercial	**13.93**	**5.82**	**4.37**	**10.20**	*14.64*	*6.59*	*4.75*	*10.64*	*14.82*	*6.21*	*4.66*	*10.66*	**8.57**	*9.13*	*9.07*
Industrial	**24.65**	**20.62**	**21.15**	**24.08**	*24.71*	*21.95*	*21.24*	*24.09*	*24.81*	*22.22*	*21.70*	*24.23*	**22.62**	*22.99*	*23.23*
Electric Power (c)	**29.55**	**29.04**	**40.12**	**28.26**	*26.68*	*27.31*	*36.02*	*26.73*	*24.86*	*25.71*	*35.41*	*25.99*	**31.76**	*29.20*	*28.01*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	*4.99*	*4.95*	*4.97*	*4.98*	*4.95*	*4.96*	*5.03*	*5.07*	**5.00**	*4.97*	*5.00*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.51**	*2.67*	*2.04*	*2.08*	*2.50*	*2.76*	*2.25*	*2.20*	*2.59*	**2.50**	*2.32*	*2.45*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	*0.14*	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.83**	**76.87**	**86.28**	*98.94*	*70.07*	*72.60*	*85.46*	*97.49*	*69.19*	*72.63*	*84.96*	**83.31**	*81.71*	*81.01*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,030**	**3,133**	**3,840**	**3,375**	*1,770*	*2,791*	*3,548*	*3,010*	*1,406*	*2,449*	*3,296*	*2,890*	**3,375**	*3,010*	*2,890*
East Region (d)	**385**	**655**	**890**	**771**	*248*	*553*	*825*	*610*	*124*	*417*	*681*	*497*	**771**	*610*	*497*
Midwest Region (d)	**472**	**747**	**1,053**	**930**	*373*	*637*	*988*	*830*	*241*	*528*	*897*	*773*	**930**	*830*	*773*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,166**	*770*	*1,103*	*1,173*	*1,095*	*700*	*996*	*1,104*	*1,054*	**1,166**	*1,095*	*1,054*
Mountain Region (d)	**92**	**177**	**235**	**197**	*118*	*151*	*193*	*159*	*107*	*159*	*224*	*205*	**197**	*159*	*205*
Pacific Region (d)	**200**	**308**	**318**	**283**	*238*	*325*	*346*	*293*	*211*	*327*	*367*	*339*	**283**	*293*	*339*
Alaska	**23**	**25**	**31**	**27**	*23*	*23*	*23*	*23*	*23*	*23*	*23*	*23*	**27**	*23*	*23*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	*2.97*	*2.99*	*3.11*	*3.20*	*3.41*	*3.34*	*3.37*	*3.46*	**2.11**	*3.07*	*3.40*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**13.97**	*13.30*	*14.07*	*17.04*	*13.21*	*12.95*	*13.98*	*17.06*	*13.26*	**14.28**	*13.64*	*13.47*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.72**	*10.23*	*12.22*	*16.81*	*10.98*	*10.14*	*12.52*	*17.33*	*11.54*	**11.75**	*11.25*	*11.37*
E. N. Central	**6.99**	**9.50**	**18.15**	**8.37**	*7.95*	*11.11*	*16.76*	*8.51*	*7.84*	*10.85*	*16.62*	*8.42*	**8.51**	*9.15*	*8.95*
W. N. Central	**6.85**	**9.89**	**17.36**	**8.86**	*8.10*	*11.10*	*17.17*	*9.24*	*8.04*	*10.96*	*17.17*	*9.27*	**8.54**	*9.43*	*9.30*
S. Atlantic	**12.12**	**15.52**	**24.11**	**15.99**	*13.01*	*17.24*	*22.92*	*12.75*	*11.34*	*16.53*	*22.78*	*12.82*	**14.72**	*14.28*	*13.31*
E. S. Central	**9.69**	**13.34**	**20.92**	**11.41**	*9.93*	*15.07*	*22.24*	*13.62*	*10.70*	*15.20*	*22.36*	*13.69*	**11.40**	*12.40*	*12.84*
W. S. Central	**8.52**	**14.22**	**20.58**	**11.48**	*9.04*	*14.74*	*20.80*	*12.05*	*9.08*	*14.59*	*20.67*	*11.91*	**11.34**	*11.65*	*11.58*
Mountain	**7.55**	**9.37**	**12.56**	**8.15**	*7.73*	*9.63*	*13.51*	*8.36*	*7.95*	*9.84*	*13.80*	*8.73*	**8.45**	*8.67*	*8.93*
Pacific	**13.41**	**14.47**	**14.50**	**13.40**	*13.44*	*14.15*	*14.92*	*13.83*	*14.00*	*14.74*	*15.53*	*14.49*	**13.73**	*13.86*	*14.46*
U.S. Average	**9.46**	**11.89**	**17.62**	**10.76**	*9.93*	*12.72*	*17.35*	*10.71*	*9.76*	*12.72*	*17.57*	*10.90*	**10.88**	*11.05*	*11.07*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**9.97**	*9.77*	*10.07*	*10.61*	*10.11*	*10.52*	*10.67*	*10.46*	*10.31*	**10.13**	*10.03*	*10.47*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.35**	*7.49*	*7.31*	*6.84*	*7.40*	*7.86*	*7.72*	*7.33*	*7.88*	**7.45**	*7.35*	*7.77*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.37**	*6.24*	*7.69*	*9.37*	*7.19*	*6.95*	*7.82*	*8.90*	*6.77*	**6.33**	*7.01*	*7.16*
W. N. Central	**5.43**	**6.53**	**8.14**	**6.63**	*6.93*	*7.64*	*8.98*	*7.33*	*7.20*	*7.77*	*9.08*	*7.25*	**6.15**	*7.31*	*7.43*
S. Atlantic	**8.51**	**9.21**	**9.53**	**9.07**	*8.66*	*9.53*	*9.97*	*8.99*	*8.59*	*9.45*	*9.75*	*8.77*	**8.92**	*9.06*	*8.92*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.93**	*8.39*	*9.47*	*10.27*	*9.13*	*8.49*	*9.54*	*10.17*	*9.11*	**8.86**	*8.99*	*9.02*
W. S. Central	**5.99**	**7.18**	**8.05**	**7.59**	*7.19*	*7.83*	*8.71*	*8.07*	*7.23*	*7.76*	*8.29*	*7.60*	**6.93**	*7.77*	*7.57*
Mountain	**6.09**	**6.85**	**7.41**	**6.42**	*6.63*	*7.07*	*8.09*	*7.09*	*6.91*	*7.36*	*8.28*	*7.18*	**6.45**	*7.00*	*7.21*
Pacific	**9.58**	**9.30**	**9.59**	**9.59**	*9.53*	*9.41*	*9.81*	*9.27*	*9.24*	*9.17*	*9.71*	*9.40*	**9.54**	*9.47*	*9.35*
U.S. Average	**7.13**	**7.63**	**8.48**	**7.59**	*7.48*	*8.14*	*8.81*	*7.95*	*7.78*	*8.30*	*8.77*	*7.92*	**7.50**	*7.88*	*8.02*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.64**	*8.15*	*7.38*	*6.72*	*7.76*	*8.26*	*7.80*	*6.91*	*7.93*	**7.53**	*7.63*	*7.84*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.36**	*7.56*	*7.14*	*7.25*	*7.48*	*8.08*	*7.86*	*7.80*	*8.23*	**7.23**	*7.42*	*8.04*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.22**	*5.80*	*5.67*	*5.77*	*5.70*	*6.03*	*5.92*	*5.86*	*5.84*	**4.90**	*5.74*	*5.93*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.34**	*4.97*	*4.36*	*4.47*	*5.01*	*5.32*	*4.75*	*4.66*	*5.18*	**3.75**	*4.74*	*5.01*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.58**	*5.19*	*4.82*	*4.93*	*5.23*	*5.47*	*5.03*	*4.97*	*5.24*	**4.06**	*5.06*	*5.20*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.13**	*4.75*	*4.46*	*4.56*	*4.98*	*5.19*	*4.77*	*4.59*	*4.94*	**3.67**	*4.70*	*4.89*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.87**	*3.08*	*3.15*	*3.36*	*3.41*	*3.53*	*3.50*	*3.55*	*3.62*	**2.32**	*3.25*	*3.55*
Mountain	**4.40**	**4.59**	**4.67**	**4.90**	*5.23*	*5.39*	*5.89*	*5.88*	*5.88*	*5.66*	*5.84*	*5.69*	**4.63**	*5.58*	*5.77*
Pacific	**7.46**	**6.28**	**6.18**	**7.11**	*7.33*	*6.63*	*6.98*	*7.09*	*7.19*	*6.75*	*7.05*	*7.11*	**6.83**	*7.03*	*7.04*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.79**	*4.27*	*3.92*	*4.02*	*4.36*	*4.67*	*4.27*	*4.20*	*4.54*	**3.30**	*4.15*	*4.43*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.1**	**115.2**	**135.8**	**139.0**	*148.8*	*147.8*	*149.7*	*142.8*	*156.6*	*143.9*	*151.5*	*142.2*	**539.1**	*589.2*	*594.1*
Appalachia	**39.7**	**29.3**	**33.9**	**35.5**	*37.5*	*36.2*	*37.9*	*35.6*	*38.3*	*33.1*	*36.6*	*30.6*	**138.3**	*147.1*	*138.5*
Interior	**25.8**	**19.2**	**23.2**	**22.3**	*26.3*	*27.2*	*26.8*	*24.0*	*29.9*	*30.0*	*34.3*	*35.2*	**90.4**	*104.3*	*129.4*
Western	**83.6**	**66.7**	**78.8**	**81.2**	*85.1*	*84.4*	*85.0*	*83.2*	*88.4*	*80.9*	*80.6*	*76.3*	**310.3**	*337.7*	*326.2*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-1.0**	*0.4*	*2.1*	*2.6*	*-0.6*	*-0.7*	*-0.6*	*-0.5*	*-3.6*	**2.8**	*4.4*	*-5.4*
Imports	**1.3**	**1.1**	**1.3**	**1.5**	*1.3*	*1.1*	*1.3*	*1.3*	*1.0*	*1.0*	*1.3*	*1.3*	**5.3**	*5.1*	*4.6*
Exports	**20.0**	**14.8**	**15.3**	**18.4**	*24.8*	*18.4*	*18.9*	*22.8*	*26.1*	*19.7*	*20.4*	*24.5*	**68.4**	*84.9*	*90.7*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**10.8**	*14.4*	*11.3*	*12.7*	*13.5*	*15.3*	*11.9*	*13.5*	*14.3*	**41.7**	*51.9*	*55.1*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.6**	*10.4*	*7.2*	*6.2*	*9.2*	*10.8*	*7.7*	*6.9*	*10.2*	**26.8**	*33.0*	*35.6*
Total Primary Supply	**130.9**	**102.9**	**123.8**	**121.1**	*125.7*	*132.6*	*134.7*	*120.7*	*130.8*	*124.7*	*132.0*	*115.3*	**478.7**	*513.7*	*502.7*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-3.0**	*-6.3*	*-22.9*	*19.5*	*1.8*	*5.1*	*-8.7*	*25.8*	*11.7*	**-3.2**	*-7.9*	*33.9*
Waste Coal (a)	**2.3**	**2.3**	**2.3**	**2.3**	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	**9.2**	*8.0*	*7.8*
Total Supply	**116.6**	**100.1**	**147.6**	**120.3**	*121.4*	*111.7*	*156.2*	*124.6*	*137.8*	*118.0*	*159.7*	*129.0*	**484.6**	*513.9*	*544.5*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.2**	*2.9*	*2.8*	*2.9*	*2.7*	*2.2*	*2.3*	*2.5*	*2.8*	**14.0**	*11.3*	*9.8*
Electric Power Sector (b)	**97.8**	**87.2**	**139.2**	**111.8**	*111.4*	*102.0*	*146.6*	*114.8*	*128.6*	*108.9*	*150.4*	*119.2*	**436.0**	*474.8*	*507.1*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.0**	*7.2*	*6.9*	*6.8*	*7.0*	*7.1*	*6.8*	*6.7*	*7.0*	**26.2**	*27.8*	*27.6*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.7*
Other Industrial	**7.1**	**5.6**	**5.9**	**6.8**	*6.9*	*6.7*	*6.6*	*6.7*	*6.9*	*6.7*	*6.6*	*6.7*	**25.4**	*26.9*	*26.9*
Total Consumption	**109.5**	**96.4**	**148.4**	**122.0**	*121.4*	*111.7*	*156.2*	*124.6*	*137.8*	*118.0*	*159.7*	*129.0*	**476.3**	*513.9*	*544.5*
Discrepancy (c)	**7.1**	**3.8**	**-0.8**	**-1.7**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**8.3**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	*28.1*	*26.1*	*23.5*	*24.1*	*24.8*	*25.4*	*25.8*	*29.5*	**28.5**	*24.1*	*29.5*
Secondary Inventories	**150.6**	**155.7**	**134.2**	**137.2**	*143.5*	*166.4*	*146.9*	*145.0*	*140.0*	*148.7*	*122.9*	*111.2*	**137.2**	*145.0*	*111.2*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**131.5**	*138.0*	*160.7*	*141.0*	*139.5*	*134.7*	*143.2*	*117.3*	*105.9*	**131.5**	*139.5*	*105.9*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**3.5**	*3.8*	*3.7*	*3.8*	*3.6*	*3.9*	*3.8*	*3.9*	*3.7*	**3.5**	*3.6*	*3.7*
Coke Plants	**2.1**	**2.0**	**2.0**	**2.0**	*1.5*	*1.8*	*1.9*	*1.7*	*1.2*	*1.5*	*1.6*	*1.4*	**2.0**	*1.7*	*1.4*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.1*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	*6.32*	*6.32*	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	*0.259*	*0.246*	*0.249*	*0.285*	*0.280*	*0.250*	*0.248*	*0.259*	**0.216**	*0.260*	*0.259*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.91**	**1.94**	*2.07*	*2.07*	*2.04*	*2.05*	*2.07*	*2.08*	*2.06*	*2.07*	**1.93**	*2.05*	*2.07*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**965**	**933**	**1,149**	**962**	*972*	*969*	*1,137*	*969*	*988*	*985*	*1,155*	*982*	**4,009**	*4,047*	*4,109*
Electric Power Sector (a)	**924**	**896**	**1,109**	**924**	*935*	*933*	*1,100*	*932*	*950*	*948*	*1,114*	*943*	**3,853**	*3,900*	*3,955*
Industrial Sector (b)	**38**	**34**	**36**	**35**	*34*	*33*	*34*	*34*	*34*	*34*	*37*	*36*	**142**	*134*	*141*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**10**	**11**	**15**	**11**	*13*	*13*	*15*	*11*	*12*	*13*	*14*	*11*	**47**	*51*	*50*
Total Supply	**975**	**944**	**1,164**	**973**	*984*	*982*	*1,152*	*980*	*1,000*	*998*	*1,169*	*993*	**4,056**	*4,098*	*4,160*
Losses and Unaccounted for (c)	**52**	**67**	**72**	**61**	*54*	*67*	*58*	*55*	*46*	*68*	*59*	*55*	**252**	*235*	*229*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**878**	*897*	*882*	*1,061*	*893*	*921*	*896*	*1,075*	*903*	**3,666**	*3,733*	*3,794*
Residential Sector	**340**	**334**	**453**	**330**	*361*	*344*	*447*	*336*	*374*	*349*	*452*	*340*	**1,458**	*1,489*	*1,515*
Commercial Sector	**314**	**293**	**360**	**311**	*304*	*306*	*365*	*318*	*312*	*312*	*370*	*321*	**1,278**	*1,293*	*1,316*
Industrial Sector	**231**	**216**	**241**	**236**	*230*	*230*	*247*	*237*	*233*	*234*	*251*	*240*	**924**	*945*	*957*
Transportation Sector	**2**	**1**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	*33*	*32*	*33*	*33*	*33*	*33*	*36*	*34*	**138**	*130*	*136*
Total Consumption	**923**	**877**	**1,091**	**912**	*930*	*914*	*1,094*	*926*	*954*	*929*	*1,110*	*937*	**3,803**	*3,864*	*3,931*
Average residential electricity usage per customer (kWh)	**2,527**	**2,480**	**3,365**	**2,448**	*2,644*	*2,518*	*3,270*	*2,460*	*2,705*	*2,519*	*3,268*	*2,458*	**10,821**	*10,891*	*10,950*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**131.5**	*138.0*	*160.7*	*141.0*	*139.5*	*134.7*	*143.2*	*117.3*	*105.9*	**131.5**	*139.5*	*105.9*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.4**	*8.6*	*8.8*	*8.9*	*9.3*	*8.7*	*8.7*	*8.7*	*9.2*	**8.4**	*9.3*	*9.2*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	*16.9*	*16.8*	*16.7*	*16.9*	*16.8*	*16.6*	*16.6*	*16.9*	**16.8**	*16.9*	*16.9*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.91**	**1.94**	*2.07*	*2.07*	*2.04*	*2.05*	*2.07*	*2.08*	*2.06*	*2.07*	**1.93**	*2.05*	*2.07*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.84**	*3.40*	*3.09*	*3.18*	*3.45*	*3.88*	*3.48*	*3.46*	*3.70*	**2.38**	*3.27*	*3.61*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.37**	*9.70*	*10.96*	*9.97*	*9.71*	*10.09*	*11.06*	*10.64*	*10.47*	**9.02**	*10.07*	*10.56*
Distillate Fuel Oil	**13.27**	**8.39**	**10.38**	**10.75**	*12.79*	*12.93*	*12.79*	*12.95*	*13.05*	*13.52*	*13.65*	*13.73*	**10.78**	*12.86*	*13.49*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.36**	**13.20**	*12.85*	*13.33*	*13.55*	*13.45*	*13.11*	*13.64*	*13.81*	*13.63*	**13.19**	*13.31*	*13.56*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.53**	*10.30*	*10.78*	*11.24*	*10.76*	*10.46*	*10.92*	*11.35*	*10.84*	**10.63**	*10.79*	*10.91*
Industrial Sector	**6.37**	**6.63**	**7.09**	**6.51**	*6.37*	*6.69*	*7.10*	*6.53*	*6.41*	*6.71*	*7.12*	*6.54*	**6.66**	*6.68*	*6.70*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	*23.10*	*23.21*	*28.21*	*23.12*	*23.50*	*23.60*	*27.39*	*23.27*	**26.99**	*24.41*	*24.44*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	*32.49*	*31.46*	*39.89*	*32.10*	*33.79*	*31.47*	*40.97*	*34.99*	**38.15**	*33.99*	*35.30*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	*43.60*	*29.85*	*32.50*	*35.90*	*44.99*	*30.22*	*32.67*	*34.65*	**26.52**	*35.46*	*35.63*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	*28.97*	*26.69*	*29.12*	*27.71*	*31.08*	*27.73*	*29.89*	*26.77*	**22.85**	*28.13*	*28.87*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	*27.93*	*28.18*	*31.86*	*28.40*	*31.37*	*29.84*	*33.12*	*28.99*	**24.49**	*29.09*	*30.83*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	*28.27*	*28.31*	*31.89*	*29.12*	*31.38*	*31.04*	*33.49*	*30.06*	**25.43**	*29.40*	*31.49*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	*24.32*	*24.20*	*29.20*	*24.70*	*25.91*	*26.17*	*31.42*	*26.14*	**22.55**	*25.60*	*27.41*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	*24.41*	*25.51*	*28.51*	*26.62*	*27.36*	*27.41*	*29.42*	*26.92*	**22.62**	*26.26*	*27.78*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	*26.84*	*27.05*	*28.08*	*28.43*	*28.75*	*28.68*	*29.56*	*28.78*	**23.48**	*27.60*	*28.94*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	*25.14*	*23.82*	*29.32*	*26.23*	*25.88*	*22.94*	*29.95*	*28.23*	**25.46**	*26.13*	*26.75*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	*29.13*	*28.39*	*32.98*	*28.95*	*30.54*	*27.47*	*34.62*	*32.01*	**39.64**	*29.86*	*31.16*

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.1**	*12.6*	*11.3*	*13.8*	*11.3*	*12.9*	*11.3*	*13.8*	*11.3*	**48.3**	*49.0*	*49.2*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.4**	*34.5*	*30.9*	*40.7*	*31.0*	*35.3*	*30.9*	*40.7*	*31.0*	**136.7**	*137.0*	*137.9*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	*48.4*	*44.7*	*54.8*	*44.9*	*50.3*	*45.1*	*55.1*	*45.1*	**190.0**	*192.8*	*195.6*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.3**	*28.3*	*25.7*	*31.2*	*26.3*	*31.9*	*27.4*	*33.0*	*27.7*	**105.6**	*111.6*	*120.0*
S. Atlantic	**84.3**	**86.3**	**114.7**	**83.0**	*92.5*	*89.1*	*113.9*	*83.3*	*94.4*	*89.9*	*114.8*	*84.0*	**368.3**	*378.7*	*383.1*
E. S. Central	**29.0**	**26.0**	**37.2**	**25.6**	*32.3*	*27.4*	*38.2*	*26.4*	*33.3*	*27.7*	*38.5*	*26.6*	**117.9**	*124.3*	*126.2*
W. S. Central	**48.8**	**52.9**	**76.3**	**48.7**	*51.1*	*55.0*	*77.7*	*50.7*	*53.6*	*55.7*	*78.8*	*51.5*	**226.7**	*234.6*	*239.6*
Mountain	**22.5**	**25.7**	**36.2**	**23.8**	*22.9*	*25.7*	*34.1*	*23.8*	*23.2*	*26.0*	*34.6*	*24.2*	**108.2**	*106.5*	*108.0*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.2**	*37.5*	*33.4*	*41.6*	*37.3*	*38.3*	*33.5*	*41.7*	*37.5*	**151.1**	*149.8*	*150.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.4**	**334.1**	**453.3**	**329.8**	*361.5*	*344.3*	*447.2*	*336.3*	*374.4*	*348.6*	*452.3*	*340.1*	**1,457.6**	*1,489.3*	*1,515.4*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	*11.7*	*10.7*	*12.8*	*11.5*	*11.9*	*10.8*	*12.9*	*11.5*	**47.4**	*46.8*	*47.0*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	*33.7*	*33.8*	*39.2*	*34.5*	*35.0*	*34.9*	*40.1*	*35.0*	**138.9**	*141.2*	*145.0*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.5**	*42.0*	*40.9*	*48.2*	*43.1*	*43.5*	*41.9*	*49.0*	*43.6*	**170.2**	*174.2*	*178.0*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.6**	*24.7*	*22.2*	*27.0*	*24.2*	*25.5*	*22.8*	*27.7*	*24.8*	**96.3**	*98.2*	*100.8*
S. Atlantic	**72.0**	**70.0**	**85.7**	**73.5**	*70.4*	*73.3*	*87.2*	*74.7*	*72.8*	*74.9*	*88.5*	*75.4*	**301.3**	*305.6*	*311.6*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.5**	*20.5*	*20.5*	*25.9*	*20.8*	*20.9*	*20.8*	*26.2*	*21.0*	**85.9**	*87.7*	*88.8*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.7**	*42.9*	*46.4*	*56.5*	*47.3*	*44.4*	*47.4*	*57.6*	*48.1*	**189.6**	*193.1*	*197.5*
Mountain	**22.4**	**22.1**	**27.4**	**22.9**	*21.7*	*23.0*	*27.3*	*23.4*	*22.3*	*23.6*	*27.9*	*23.8*	**94.9**	*95.4*	*97.6*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.5**	*34.7*	*34.1*	*39.3*	*36.8*	*34.6*	*33.9*	*38.9*	*36.3*	**148.2**	*144.9*	*143.6*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	*1.3*	*1.4*	*1.5*	*1.5*	*1.4*	*1.4*	*1.4*	*1.4*	**5.2**	*5.6*	*5.6*
Total	**313.7**	**292.7**	**360.2**	**311.2**	*303.6*	*306.2*	*365.0*	*317.9*	*312.3*	*312.4*	*370.1*	*320.8*	**1,277.9**	*1,292.7*	*1,315.6*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.8**	*3.5*	*3.6*	*3.9*	*3.7*	*3.5*	*3.5*	*3.8*	*3.7*	**14.9**	*14.7*	*14.5*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.7**	*18.3*	*17.1*	*18.9*	*17.8*	*18.4*	*17.4*	*19.2*	*18.1*	**70.5**	*72.1*	*73.1*
E. N. Central	**44.0**	**37.7**	**44.5**	**43.8**	*44.2*	*40.6*	*45.9*	*44.0*	*44.5*	*41.2*	*46.5*	*44.5*	**170.0**	*174.8*	*176.7*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.6**	*21.8*	*22.4*	*24.0*	*22.9*	*22.2*	*22.9*	*24.7*	*23.5*	**87.8**	*91.1*	*93.4*
S. Atlantic	**32.8**	**31.0**	**34.2**	**34.7**	*32.7*	*32.9*	*34.9*	*34.7*	*32.7*	*33.1*	*35.1*	*34.8*	**132.7**	*135.3*	*135.8*
E. S. Central	**23.3**	**21.4**	**23.4**	**23.3**	*23.2*	*23.3*	*24.0*	*23.4*	*23.4*	*23.6*	*24.3*	*23.6*	**91.4**	*93.9*	*94.8*
W. S. Central	**46.7**	**44.9**	**47.7**	**48.7**	*47.0*	*48.2*	*49.0*	*49.5*	*48.0*	*49.4*	*50.4*	*50.8*	**188.0**	*193.7*	*198.7*
Mountain	**20.0**	**20.3**	**22.6**	**20.1**	*19.6*	*21.1*	*23.1*	*20.3*	*20.0*	*21.5*	*23.5*	*20.7*	**82.9**	*84.2*	*85.7*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.7**	*18.9*	*20.0*	*22.2*	*19.6*	*18.6*	*19.8*	*22.0*	*19.4*	**80.8**	*80.6*	*79.8*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	*1.1*	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.6*	*4.6*
Total	**230.6**	**216.0**	**241.4**	**235.6**	*230.4*	*230.3*	*247.0*	*237.2*	*232.5*	*233.6*	*250.7*	*240.4*	**923.7**	*945.0*	*957.1*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.8**	**26.4**	*28.0*	*25.7*	*30.7*	*26.7*	*28.3*	*25.7*	*30.6*	*26.6*	**111.1**	*111.0*	*111.2*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.2**	*87.4*	*82.5*	*99.5*	*84.1*	*89.5*	*83.9*	*100.7*	*84.8*	**349.3**	*353.5*	*359.0*
E. N. Central	**133.7**	**119.7**	**148.4**	**128.8**	*134.8*	*126.3*	*149.0*	*132.2*	*138.5*	*128.3*	*150.8*	*133.3*	**530.7**	*542.3*	*550.9*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.5**	*74.8*	*70.3*	*82.2*	*73.5*	*79.7*	*73.2*	*85.4*	*76.0*	**289.7**	*300.9*	*314.3*
S. Atlantic	**189.4**	**187.6**	**235.0**	**191.5**	*195.9*	*195.6*	*236.4*	*192.9*	*200.2*	*198.3*	*238.7*	*194.5*	**803.5**	*820.7*	*831.7*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.4**	*76.0*	*71.2*	*88.1*	*70.6*	*77.5*	*72.1*	*89.0*	*71.2*	**295.2**	*305.9*	*309.8*
W. S. Central	**139.8**	**142.4**	**179.1**	**143.2**	*141.1*	*149.7*	*183.3*	*147.6*	*146.0*	*152.6*	*186.9*	*150.5*	**604.5**	*621.7*	*636.0*
Mountain	**64.9**	**68.2**	**86.3**	**66.8**	*64.3*	*69.8*	*84.5*	*67.6*	*65.5*	*71.2*	*86.0*	*68.7*	**286.2**	*286.3*	*291.5*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.6**	*91.3*	*87.6*	*103.3*	*93.8*	*91.6*	*87.4*	*102.8*	*93.3*	**380.8**	*376.0*	*375.1*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	*3.7*	*3.6*	*3.8*	*3.9*	*3.8*	*3.6*	*3.8*	*3.9*	**14.6**	*15.1*	*15.1*
Total	**886.6**	**844.3**	**1,056.5**	**878.3**	*897.3*	*882.4*	*1,060.8*	*893.0*	*920.8*	*896.2*	*1,074.6*	*902.8*	**3,665.6**	*3,733.5*	*3,794.4*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.33**	**20.96**	**20.96**	*21.76*	*21.74*	*21.90*	*22.37*	*23.54*	*23.56*	*23.61*	*23.86*	**21.24**	*21.94*	*23.64*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**16.00**	*15.53*	*16.24*	*16.68*	*16.47*	*15.86*	*16.49*	*16.89*	*16.64*	**15.92**	*16.24*	*16.48*
E. N. Central	**13.13**	**13.75**	**13.33**	**13.71**	*13.18*	*13.90*	*13.62*	*13.93*	*13.41*	*14.19*	*13.89*	*14.20*	**13.47**	*13.65*	*13.91*
W. N. Central	**10.99**	**12.59**	**12.89**	**11.54**	*11.15*	*12.63*	*13.14*	*11.56*	*10.86*	*12.49*	*12.99*	*11.42*	**12.01**	*12.15*	*11.95*
S. Atlantic	**11.80**	**11.81**	**12.06**	**11.78**	*11.49*	*11.73*	*12.18*	*12.04*	*11.84*	*12.09*	*12.50*	*12.24*	**11.88**	*11.88*	*12.18*
E. S. Central	**11.25**	**11.57**	**11.29**	**11.53**	*11.12*	*11.62*	*11.49*	*11.78*	*11.34*	*11.83*	*11.64*	*11.90*	**11.39**	*11.49*	*11.66*
W. S. Central	**11.05**	**11.42**	**11.30**	**11.22**	*10.74*	*11.20*	*11.30*	*11.33*	*10.79*	*11.30*	*11.41*	*11.47*	**11.26**	*11.16*	*11.26*
Mountain	**11.42**	**12.08**	**12.19**	**11.22**	*11.47*	*12.18*	*12.35*	*11.36*	*11.62*	*12.29*	*12.41*	*11.42*	**11.79**	*11.90*	*11.99*
Pacific	**15.69**	**16.18**	**17.79**	**16.67**	*16.29*	*17.03*	*18.31*	*16.95*	*16.85*	*17.88*	*18.90*	*17.21*	**16.64**	*17.18*	*17.74*
U.S. Average	**12.90**	**13.24**	**13.36**	**13.20**	*12.85*	*13.33*	*13.55*	*13.45*	*13.11*	*13.64*	*13.81*	*13.63*	**13.19**	*13.31*	*13.56*
Commercial Sector															
New England	**16.24**	**15.66**	**15.96**	**15.70**	*16.10*	*15.83*	*16.53*	*16.42*	*16.89*	*16.55*	*17.14*	*16.90*	**15.90**	*16.23*	*16.88*
Middle Atlantic	**11.69**	**12.53**	**13.22**	**12.38**	*11.64*	*12.76*	*13.51*	*12.71*	*11.81*	*12.90*	*13.58*	*12.68*	**12.47**	*12.69*	*12.77*
E. N. Central	**9.95**	**10.38**	**10.19**	**10.25**	*10.01*	*10.53*	*10.41*	*10.49*	*10.21*	*10.73*	*10.61*	*10.67*	**10.18**	*10.36*	*10.56*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.16**	*9.27*	*10.32*	*10.68*	*9.33*	*9.14*	*10.22*	*10.55*	*9.23*	**9.68**	*9.91*	*9.79*
S. Atlantic	**9.24**	**9.03**	**9.09**	**9.01**	*8.98*	*8.93*	*9.18*	*9.21*	*9.16*	*9.05*	*9.29*	*9.28*	**9.09**	*9.08*	*9.20*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	*10.68*	*10.81*	*10.77*	*10.92*	*10.88*	*10.98*	*10.94*	*11.09*	**10.70**	*10.79*	*10.97*
W. S. Central	**7.84**	**7.87**	**7.90**	**8.08**	*8.05*	*8.28*	*8.37*	*8.24*	*8.24*	*8.43*	*8.51*	*8.34*	**7.92**	*8.25*	*8.39*
Mountain	**9.01**	**9.82**	**10.09**	**9.14**	*9.15*	*9.98*	*10.28*	*9.18*	*9.12*	*9.95*	*10.23*	*9.19*	**9.54**	*9.68*	*9.65*
Pacific	**13.50**	**14.79**	**17.20**	**14.79**	*13.58*	*15.15*	*17.77*	*15.06*	*13.75*	*15.42*	*18.00*	*15.32*	**15.11**	*15.46*	*15.69*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.53**	*10.30*	*10.78*	*11.24*	*10.76*	*10.46*	*10.92*	*11.35*	*10.84*	**10.63**	*10.79*	*10.91*
Industrial Sector															
New England	**12.29**	**12.23**	**12.52**	**12.39**	*11.97*	*12.27*	*12.72*	*12.66*	*12.23*	*12.50*	*12.91*	*12.81*	**12.36**	*12.42*	*12.62*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.30**	*6.35*	*6.38*	*6.34*	*6.19*	*6.26*	*6.26*	*6.22*	*6.05*	**6.36**	*6.32*	*6.20*
E. N. Central	**6.50**	**6.78**	**6.75**	**6.65**	*6.59*	*6.92*	*6.84*	*6.75*	*6.68*	*7.00*	*6.91*	*6.81*	**6.67**	*6.77*	*6.85*
W. N. Central	**6.93**	**7.32**	**7.89**	**6.69**	*7.10*	*7.40*	*8.03*	*6.84*	*7.24*	*7.54*	*8.16*	*6.95*	**7.21**	*7.35*	*7.48*
S. Atlantic	**5.98**	**6.10**	**6.50**	**6.04**	*5.99*	*6.31*	*6.60*	*6.10*	*6.03*	*6.34*	*6.63*	*6.10*	**6.16**	*6.25*	*6.28*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.47**	*5.40*	*5.60*	*5.75*	*5.47*	*5.42*	*5.61*	*5.75*	*5.46*	**5.53**	*5.56*	*5.56*
W. S. Central	**5.04**	**4.98**	**5.23**	**4.97**	*4.77*	*4.71*	*5.04*	*4.81*	*4.66*	*4.60*	*4.90*	*4.70*	**5.06**	*4.83*	*4.72*
Mountain	**5.73**	**6.16**	**6.91**	**5.87**	*5.80*	*6.28*	*6.83*	*5.87*	*5.84*	*6.32*	*6.89*	*5.92*	**6.19**	*6.22*	*6.27*
Pacific	**8.97**	**10.34**	**12.37**	**10.72**	*9.47*	*10.84*	*12.57*	*10.99*	*9.79*	*11.17*	*12.98*	*11.37*	**10.66**	*11.03*	*11.40*
U.S. Average	**6.37**	**6.63**	**7.09**	**6.51**	*6.37*	*6.69*	*7.10*	*6.53*	*6.41*	*6.71*	*7.12*	*6.54*	**6.66**	*6.68*	*6.70*
All Sectors (a)															
New England	**18.01**	**17.62**	**17.80**	**17.40**	*18.08*	*17.90*	*18.44*	*18.39*	*19.30*	*19.04*	*19.49*	*19.26*	**17.72**	*18.21*	*19.28*
Middle Atlantic	**11.97**	**12.58**	**13.24**	**12.39**	*12.06*	*12.74*	*13.44*	*12.71*	*12.26*	*12.85*	*13.51*	*12.71*	**12.58**	*12.76*	*12.86*
E. N. Central	**9.92**	**10.47**	**10.35**	**10.19**	*10.02*	*10.56*	*10.49*	*10.41*	*10.24*	*10.75*	*10.66*	*10.57*	**10.23**	*10.37*	*10.55*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.19**	*9.35*	*10.24*	*10.84*	*9.35*	*9.30*	*10.23*	*10.80*	*9.32*	**9.78**	*9.97*	*9.93*
S. Atlantic	**9.81**	**9.82**	**10.17**	**9.67**	*9.67*	*9.76*	*10.25*	*9.87*	*9.91*	*9.97*	*10.44*	*9.98*	**9.88**	*9.90*	*10.09*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.24**	*9.25*	*9.42*	*9.72*	*9.44*	*9.43*	*9.55*	*9.83*	*9.53*	**9.38**	*9.47*	*9.59*
W. S. Central	**8.02**	**8.28**	**8.64**	**8.09**	*7.93*	*8.21*	*8.72*	*8.15*	*8.00*	*8.24*	*8.76*	*8.18*	**8.28**	*8.28*	*8.32*
Mountain	**8.84**	**9.58**	**10.14**	**8.90**	*8.95*	*9.67*	*10.17*	*8.95*	*9.00*	*9.71*	*10.19*	*8.99*	**9.42**	*9.49*	*9.52*
Pacific	**13.41**	**14.31**	**16.41**	**14.70**	*13.84*	*14.87*	*16.86*	*14.95*	*14.23*	*15.39*	*17.28*	*15.24*	**14.77**	*15.18*	*15.59*
U.S. Average	**10.29**	**10.64**	**11.11**	**10.45**	*10.32*	*10.71*	*11.25*	*10.65*	*10.51*	*10.88*	*11.40*	*10.75*	**10.64**	*10.75*	*10.91*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.5**	**474.4**	**341.8**	*328.2*	*332.5*	*438.1*	*331.3*	*311.8*	*321.6*	*437.1*	*326.5*	**1,513.4**	*1,430.0*	*1,397.1*
Coal	**170.3**	**151.1**	**248.0**	**198.2**	*193.7*	*176.3*	*261.1*	*204.2*	*222.6*	*187.0*	*267.9*	*210.9*	**767.6**	*835.4*	*888.4*
Nuclear	**204.1**	**190.7**	**204.1**	**191.4**	*198.9*	*189.4*	*205.4*	*188.8*	*188.8*	*185.5*	*196.6*	*185.4*	**790.3**	*782.4*	*756.2*
Renewable Energy Sources:	**189.1**	**206.5**	**177.4**	**187.7**	*208.9*	*229.7*	*190.7*	*202.5*	*222.0*	*248.3*	*208.4*	*214.3*	**760.6**	*831.8*	*892.9*
Conventional Hydropower	**74.9**	**81.3**	**70.9**	**63.2**	*73.2*	*80.8*	*63.4*	*58.1*	*69.1*	*80.5*	*63.9*	*58.3*	**290.3**	*275.4*	*271.8*
Wind	**86.4**	**87.2**	**68.1**	**96.1**	*101.4*	*102.4*	*80.1*	*109.8*	*111.4*	*110.2*	*86.7*	*115.8*	**337.8**	*393.7*	*424.1*
Solar (a)	**16.7**	**27.1**	**27.3**	**17.7**	*22.0*	*34.8*	*35.4*	*23.5*	*28.2*	*44.8*	*45.2*	*28.5*	**88.7**	*115.6*	*146.7*
Biomass	**7.2**	**6.7**	**7.0**	**6.7**	*8.3*	*7.5*	*7.7*	*7.3*	*9.1*	*8.5*	*8.3*	*7.8*	**27.6**	*30.8*	*33.8*
Geothermal	**3.9**	**4.2**	**4.2**	**3.9**	*3.9*	*4.2*	*4.2*	*3.9*	*4.1*	*4.2*	*4.3*	*4.0*	**16.2**	*16.2*	*16.5*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.3**	*-1.1*	*-1.2*	*-2.1*	*-1.2*	*-0.9*	*-1.2*	*-2.2*	*-1.3*	**-5.5**	*-5.6*	*-5.5*
Petroleum (b)	**4.0**	**4.0**	**4.6**	**3.8**	*3.3*	*4.1*	*4.4*	*3.9*	*3.4*	*4.3*	*4.4*	*4.0*	**16.4**	*15.7*	*16.1*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	*1.0*	*0.3*	*0.6*	*0.9*	*0.9*	*0.4*	*0.7*	*0.9*	**3.1**	*2.9*	*2.8*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.8**	*1.8*	*1.9*	*1.7*	*1.8*	*1.8*	*1.9*	*1.7*	*1.9*	**7.4**	*7.2*	*7.2*
Total Generation	**924.1**	**895.8**	**1,109.2**	**924.2**	*934.7*	*933.0*	*1,100.0*	*932.3*	*950.3*	*947.7*	*1,114.5*	*942.6*	**3,853.3**	*3,899.9*	*3,955.0*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.7**	*11.2*	*9.8*	*16.5*	*12.4*	*11.2*	*12.2*	*17.5*	*12.4*	**47.6**	*49.9*	*53.3*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	*0.1*	*0.0*	*0.0*	*0.1*	*0.3*	*0.0*	*0.0*	*0.0*	**0.1**	*0.1*	*0.4*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	*7.0*	*7.1*	*7.2*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.7**	*26.9*	*27.6*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.8**	*2.0*	*2.2*	*1.3*	*1.7*	*2.0*	*2.3*	*1.4*	*1.7*	**7.8**	*7.2*	*7.3*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.7**	*3.4*	*3.0*	*2.6*	*3.1*	*3.7*	*3.3*	*2.8*	*3.4*	**10.5**	*12.2*	*13.4*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.4**	*1.5*	*1.6*
Total generation	**23.3**	**20.1**	**28.0**	**21.7**	*24.0*	*22.6*	*28.0*	*23.3*	*24.7*	*24.4*	*29.3*	*25.2*	**93.1**	*97.9*	*103.6*
Net energy for load (f)	**27.8**	**25.2**	**32.3**	**27.6**	*29.6*	*27.0*	*31.9*	*28.3*	*29.7*	*27.2*	*32.1*	*28.4*	**112.9**	*116.7*	*117.5*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**13.1**	*15.6*	*15.8*	*20.8*	*15.6*	*16.7*	*15.3*	*21.3*	*15.7*	**57.4**	*67.8*	*68.9*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	*9.1*	*7.5*	*7.1*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.6**	*30.5*	*27.2*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.8**	*7.6*	*7.1*	*6.9*	*7.4*	*7.4*	*7.0*	*6.8*	*7.3*	**31.6**	*29.0*	*28.5*
Nonhydro renewables (d)	**2.0**	**2.0**	**1.7**	**2.2**	*2.1*	*2.2*	*1.9*	*2.6*	*2.8*	*2.9*	*2.5*	*3.3*	**7.9**	*8.8*	*11.5*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.6**	*0.6*	*0.6*
Total generation	**33.4**	**30.7**	**39.2**	**32.9**	*34.6*	*32.8*	*36.8*	*32.5*	*33.5*	*32.4*	*37.4*	*33.4*	**136.2**	*136.8*	*136.7*
Net energy for load (f)	**35.2**	**32.4**	**42.9**	**34.6**	*36.5*	*35.4*	*42.6*	*36.2*	*37.0*	*36.1*	*43.3*	*36.6*	**145.2**	*150.7*	*152.9*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**64.5**	*80.2*	*77.7*	*89.6*	*71.2*	*74.6*	*79.5*	*95.3*	*75.7*	**310.3**	*318.7*	*325.0*
Coal	**33.7**	**29.6**	**46.6**	**38.7**	*42.4*	*34.7*	*48.9*	*44.1*	*51.2*	*36.4*	*49.4*	*42.9*	**148.6**	*170.0*	*179.9*
Nuclear	**68.9**	**67.1**	**70.9**	**68.8**	*68.0*	*65.7*	*72.3*	*62.3*	*58.9*	*59.1*	*62.7*	*57.9*	**275.6**	*268.4*	*238.6*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	*2.6*	*2.6*	*1.5*	*2.0*	*2.5*	*2.6*	*1.5*	*2.0*	**9.9**	*8.7*	*8.7*
Nonhydro renewables (d)	**10.3**	**10.2**	**7.8**	**11.3**	*11.9*	*12.3*	*9.2*	*13.0*	*12.9*	*13.6*	*10.2*	*13.9*	**39.6**	*46.4*	*50.6*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	*0.6*	*0.3*	*0.3*	*0.9*	*0.6*	*0.5*	*0.4*	*0.9*	**2.2**	*2.0*	*2.4*
Total generation	**195.0**	**180.2**	**225.4**	**185.8**	*205.7*	*193.3*	*221.8*	*193.4*	*200.7*	*191.7*	*219.4*	*193.3*	**786.3**	*814.2*	*805.1*
Net energy for load (f)	**182.2**	**163.4**	**209.6**	**176.8**	*192.6*	*173.0*	*205.3*	*181.3*	*195.4*	*176.5*	*208.4*	*183.5*	**732.0**	*752.3*	*763.7*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**59.1**	*60.9*	*57.4*	*71.4*	*58.3*	*61.7*	*56.2*	*69.5*	*51.5*	**254.8**	*248.0*	*239.0*
Coal	**23.8**	**22.1**	**44.4**	**27.6**	*29.9*	*28.2*	*47.9*	*31.6*	*32.7*	*31.1*	*50.9*	*38.2*	**117.9**	*137.7*	*152.9*
Nuclear	**53.0**	**50.5**	**54.1**	**52.7**	*52.7*	*52.1*	*55.2*	*53.4*	*54.0*	*55.0*	*58.1*	*55.8*	**210.3**	*213.4*	*222.8*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.8**	*10.6*	*7.4*	*6.4*	*7.7*	*10.1*	*7.3*	*6.4*	*7.6*	**38.9**	*32.0*	*31.4*
Nonhydro renewables (d)	**3.5**	**5.0**	**5.0**	**3.8**	*4.0*	*5.8*	*6.1*	*4.4*	*4.9*	*7.3*	*7.8*	*5.2*	**17.2**	*20.3*	*25.3*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.3**	*-0.1*	*-0.3*	*-0.6*	*-0.3*	*0.0*	*-0.4*	*-0.8*	*-0.3*	**-1.2**	*-1.2*	*-1.5*
Total generation	**153.2**	**146.7**	**186.4**	**151.7**	*158.1*	*150.6*	*186.4*	*155.1*	*163.4*	*156.6*	*191.9*	*158.0*	**637.9**	*650.1*	*669.9*
Net energy for load (f)	**157.5**	**152.7**	**186.5**	**152.6**	*162.5*	*158.6*	*188.5*	*156.6*	*164.5*	*161.2*	*191.0*	*158.3*	**649.3**	*666.3*	*675.0*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.2**	*33.8*	*42.5*	*47.0*	*36.4*	*33.7*	*41.7*	*46.3*	*36.3*	**179.7**	*159.7*	*158.1*
Coal	**2.1**	**3.5**	**5.7**	**4.5**	*4.0*	*6.4*	*5.9*	*4.9*	*4.3*	*6.8*	*6.4*	*4.6*	**15.8**	*21.2*	*22.2*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	*7.8*	*7.0*	*7.9*	*6.8*	*7.8*	*7.3*	*8.0*	*7.1*	**29.5**	*29.6*	*30.3*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	*2.6*	*3.3*	*3.0*	*2.5*	*3.3*	*4.2*	*3.4*	*2.7*	**8.4**	*11.4*	*13.6*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	*0.8*	*0.7*	*0.8*	*0.7*	*0.9*	*0.7*	*0.8*	*0.7*	**3.3**	*3.1*	*3.1*
Total generation	**52.1**	**60.0**	**69.3**	**55.3**	*49.1*	*60.0*	*64.6*	*51.3*	*50.1*	*60.7*	*65.1*	*51.4*	**236.8**	*225.0*	*227.4*
Net energy for load (f)	**50.1**	**54.0**	**71.3**	**55.8**	*47.3*	*57.8*	*66.8*	*52.2*	*48.3*	*58.6*	*67.4*	*52.7*	**231.3**	*224.2*	*227.0*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**38.6**	*37.6*	*39.6*	*47.6*	*35.0*	*34.1*	*38.8*	*49.8*	*38.1*	**179.1**	*159.8*	*160.7*
Coal	**51.0**	**41.1**	**68.5**	**57.2**	*57.1*	*50.6*	*75.0*	*58.6*	*68.6*	*54.8*	*77.5*	*57.7*	**218.0**	*241.3*	*258.5*
Nuclear	**26.6**	**22.9**	**24.4**	**21.3**	*24.6*	*23.2*	*24.9*	*24.3*	*24.0*	*22.3*	*23.5*	*22.7*	**95.2**	*96.9*	*92.6*
Conventional hydropower	**3.1**	**3.2**	**2.9**	**2.6**	*2.4*	*2.5*	*2.0*	*1.8*	*2.0*	*2.4*	*1.9*	*1.8*	**11.6**	*8.8*	*8.2*
Nonhydro renewables (d)	**20.3**	**20.1**	**16.3**	**24.8**	*24.6*	*24.5*	*19.3*	*27.2*	*26.3*	*25.9*	*20.7*	*28.0*	**81.5**	*95.5*	*101.0*
Other energy sources (e)	**1.5**	**1.3**	**1.4**	**0.9**	*0.9*	*1.5*	*1.2*	*0.9*	*0.8*	*1.6*	*1.2*	*1.0*	**5.1**	*4.5*	*4.6*
Total generation	**146.4**	**131.7**	**166.8**	**145.5**	*147.1*	*141.9*	*169.9*	*147.7*	*155.8*	*145.9*	*174.7*	*149.3*	**590.4**	*606.6*	*625.6*
Net energy for load (f)	**152.8**	**141.5**	**174.6**	**149.6**	*153.3*	*150.3*	*174.9*	*154.8*	*157.7*	*154.0*	*178.4*	*157.5*	**618.4**	*633.3*	*647.6*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**14.9**	*13.8*	*13.2*	*22.1*	*14.6*	*13.7*	*12.7*	*22.6*	*14.8*	**72.9**	*63.7*	*63.9*
Coal	**17.0**	**15.7**	**26.7**	**17.7**	*17.3*	*16.0*	*26.4*	*16.6*	*20.0*	*17.1*	*27.5*	*19.1*	**77.1**	*76.4*	*83.7*
Nuclear	**4.4**	**4.4**	**4.2**	**3.9**	*3.9*	*3.3*	*4.4*	*4.4*	*4.3*	*4.3*	*3.9*	*2.8*	**16.8**	*16.0*	*15.3*
Conventional hydropower	**5.9**	**6.0**	**5.2**	**4.6**	*3.6*	*4.0*	*3.7*	*3.2*	*3.1*	*4.0*	*3.7*	*3.2*	**21.7**	*14.5*	*13.9*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.6**	**24.1**	*24.9*	*25.6*	*20.2*	*28.2*	*27.8*	*28.3*	*22.6*	*30.0*	**82.3**	*98.9*	*108.6*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.5**	*0.5*	*0.5*
Total generation	**65.1**	**63.8**	**77.0**	**65.4**	*63.7*	*62.3*	*76.9*	*67.2*	*69.0*	*66.5*	*80.4*	*70.1*	**271.3**	*270.0*	*286.0*
Net energy for load (f)	**62.8**	**63.7**	**74.9**	**60.5**	*60.5*	*61.3*	*74.3*	*61.2*	*64.7*	*64.4*	*77.7*	*63.9*	**262.0**	*257.3*	*270.6*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**37.1**	*31.6*	*38.2*	*51.2*	*30.7*	*28.1*	*32.6*	*46.6*	*27.7*	**175.7**	*151.7*	*135.0*
Coal	**13.1**	**15.8**	**20.3**	**17.1**	*13.5*	*15.6*	*21.2*	*15.0*	*12.0*	*14.3*	*19.3*	*14.2*	**66.4**	*65.2*	*59.9*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	*10.8*	*10.6*	*10.7*	*10.5*	*10.7*	*10.6*	*11.0*	*10.7*	**41.4**	*42.6*	*43.0*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**1.1**	*0.7*	*0.7*
Nonhydro renewables (d)	**22.5**	**24.8**	**20.8**	**24.3**	*27.2*	*31.3*	*27.8*	*30.1*	*32.2*	*37.1*	*33.3*	*33.1*	**92.4**	*116.3*	*135.7*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*1.5*
Total generation	**84.1**	**93.0**	**112.1**	**89.5**	*83.7*	*96.3*	*111.3*	*86.8*	*83.7*	*95.1*	*110.7*	*86.2*	**378.6**	*378.1*	*375.7*
Net energy for load (f)	**84.1**	**93.0**	**112.1**	**89.5**	*83.7*	*96.3*	*111.3*	*86.8*	*83.7*	*95.1*	*110.7*	*86.2*	**378.6**	*378.1*	*375.7*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.5**	**23.7**	*18.6*	*14.7*	*28.4*	*22.8*	*17.2*	*11.7*	*26.1*	*21.9*	**91.9**	*84.5*	*76.9*
Coal	**22.2**	**16.1**	**24.5**	**26.0**	*21.4*	*17.8*	*24.9*	*25.1*	*24.3*	*18.9*	*26.5*	*26.2*	**88.9**	*89.2*	*96.0*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	*2.4*	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.5**	*8.5*	*9.6*
Conventional hydropower	**35.0**	**38.7**	**32.6**	**29.5**	*37.0*	*43.1*	*30.6*	*27.6*	*34.1*	*43.0*	*31.0*	*27.7*	**135.7**	*138.2*	*135.7*
Nonhydro renewables (d)	**13.7**	**14.4**	**12.7**	**13.6**	*16.0*	*16.6*	*14.5*	*15.7*	*18.2*	*18.5*	*16.0*	*16.9*	**54.2**	*62.8*	*69.7*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	*0.1*	*0.2*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.7**	*0.6*	*0.5*
Total generation	**97.2**	**88.5**	**99.9**	**95.5**	*95.6*	*93.5*	*100.9*	*93.8*	*96.2*	*94.6*	*102.2*	*95.3*	**381.0**	*383.8*	*388.4*
Net energy for load (f)	**90.8**	**82.2**	**92.7**	**89.2**	*89.2*	*84.4*	*94.7*	*89.5*	*89.6*	*85.1*	*95.3*	*89.9*	**354.9**	*357.9*	*359.8*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.5**	*9.0*	*11.6*	*19.6*	*12.0*	*5.2*	*8.7*	*18.7*	*10.8*	**61.4**	*52.3*	*43.4*
Coal	**5.3**	**5.3**	**8.8**	**6.5**	*6.2*	*5.4*	*8.4*	*5.7*	*7.4*	*6.0*	*7.6*	*5.4*	**25.8**	*25.7*	*26.5*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	*8.5*	*7.6*	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.7*	**31.6**	*32.4*	*32.2*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	*2.9*	*3.9*	*3.9*	*2.6*	*3.0*	*3.9*	*3.9*	*2.6*	**12.9**	*13.3*	*13.4*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	*3.3*	*3.8*	*3.2*	*3.2*	*4.4*	*4.8*	*4.2*	*4.0*	**10.4**	*13.5*	*17.3*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**32.8**	*30.0*	*32.4*	*43.8*	*31.2*	*28.4*	*30.9*	*43.2*	*30.6*	**142.3**	*137.4*	*133.0*
Net energy for load (f)	**19.7**	**23.8**	**32.5**	**21.4**	*19.2*	*24.1*	*31.3*	*20.9*	*19.2*	*24.3*	*31.6*	*21.0*	**97.4**	*95.5*	*96.1*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**24.1**	*15.2*	*11.4*	*23.3*	*21.4*	*14.9*	*11.6*	*22.6*	*21.0*	**80.4**	*71.2*	*70.0*
Coal	**1.4**	**1.2**	**2.1**	**2.2**	*1.4*	*1.2*	*2.1*	*2.2*	*1.3*	*1.1*	*2.1*	*2.2*	**7.0**	*6.9*	*6.7*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	*4.0*	*4.0*	*4.7*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*17.3*	*16.9*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**3.1**	*4.0*	*7.3*	*6.5*	*3.5*	*4.4*	*7.6*	*6.7*	*3.7*	**17.2**	*21.2*	*22.4*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.0**	**13.2**	*15.2*	*19.9*	*19.2*	*14.1*	*15.9*	*21.4*	*20.5*	*14.9*	**64.4**	*68.4*	*72.6*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	*-0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.1**	*0.1*	*0.3*
Total generation	**40.3**	**43.2**	**57.1**	**44.7**	*39.6*	*43.8*	*55.8*	*45.9*	*41.1*	*45.6*	*56.5*	*45.8*	**185.4**	*185.2*	*188.9*
Net energy for load (f)	**57.4**	**60.5**	**75.9**	**62.5**	*56.9*	*61.2*	*74.6*	*60.5*	*57.0*	*61.7*	*75.0*	*60.8*	**256.4**	*253.2*	*254.4*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.036**	**0.038**	**0.038**	**0.035**	*0.036*	*0.038*	*0.038*	*0.036*	*0.037*	*0.038*	*0.039*	*0.036*	**0.147**	*0.146*	*0.149*
Hydroelectric Power (a)	**0.667**	**0.724**	**0.631**	**0.569**	*0.691*	*0.694*	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.591**	*2.543*	*2.538*
Solar (b)	**0.152**	**0.246**	**0.248**	**0.161**	*0.200*	*0.317*	*0.322*	*0.214*	*0.257*	*0.408*	*0.412*	*0.259*	**0.808**	*1.053*	*1.335*
Waste Biomass (c)	**0.062**	**0.058**	**0.059**	**0.059**	*0.065*	*0.064*	*0.061*	*0.061*	*0.069*	*0.066*	*0.065*	*0.063*	**0.238**	*0.251*	*0.263*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	*0.063*	*0.052*	*0.058*	*0.052*	*0.072*	*0.066*	*0.064*	*0.057*	**0.185**	*0.224*	*0.259*
Wind	**0.786**	**0.794**	**0.620**	**0.875**	*0.923*	*0.932*	*0.729*	*0.999*	*1.015*	*1.003*	*0.789*	*1.054*	**3.075**	*3.584*	*3.861*
Subtotal	**1.752**	**1.904**	**1.643**	**1.745**	*1.979*	*2.096*	*1.807*	*1.920*	*2.140*	*2.275*	*1.966*	*2.025*	**7.044**	*7.802*	*8.405*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.187**	*0.179*	*0.184*	*0.195*	*0.195*	*0.190*	*0.194*	*0.197*	*0.200*	**0.698**	*0.754*	*0.781*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	*0.007*	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.008*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.040**	*0.040*	*0.038*	*0.037*	*0.040*	*0.039*	*0.038*	*0.037*	*0.039*	**0.156**	*0.155*	*0.155*
Wood Biomass	**0.350**	**0.341**	**0.337**	**0.353**	*0.346*	*0.342*	*0.354*	*0.357*	*0.348*	*0.345*	*0.357*	*0.360*	**1.381**	*1.399*	*1.410*
Subtotal	**0.596**	**0.522**	**0.559**	**0.588**	*0.573*	*0.572*	*0.594*	*0.599*	*0.584*	*0.586*	*0.600*	*0.607*	**2.265**	*2.338*	*2.377*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	*0.029*	*0.042*	*0.042*	*0.030*	*0.034*	*0.049*	*0.049*	*0.033*	**0.124**	*0.143*	*0.164*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	*0.020*	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.079**	**0.067**	*0.070*	*0.083*	*0.085*	*0.072*	*0.075*	*0.090*	*0.091*	*0.076*	**0.291**	*0.309*	*0.332*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.087**	**0.087**	**0.062**	*0.068*	*0.102*	*0.103*	*0.071*	*0.076*	*0.115*	*0.115*	*0.078*	**0.294**	*0.343*	*0.384*
Wood Biomass	**0.124**	**0.124**	**0.125**	**0.131**	*0.124*	*0.124*	*0.125*	*0.131*	*0.124*	*0.124*	*0.125*	*0.131*	**0.503**	*0.503*	*0.503*
Subtotal	**0.191**	**0.220**	**0.222**	**0.203**	*0.201*	*0.236*	*0.238*	*0.211*	*0.210*	*0.248*	*0.250*	*0.219*	**0.836**	*0.886*	*0.926*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	*0.073*	*0.074*	*0.073*	*0.079*	*0.081*	*0.083*	*0.089*	*0.092*	**0.274**	*0.299*	*0.345*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.262**	*0.247*	*0.267*	*0.281*	*0.277*	*0.259*	*0.283*	*0.285*	*0.283*	**1.006**	*1.071*	*1.110*
Subtotal	**0.318**	**0.284**	**0.340**	**0.337**	*0.320*	*0.341*	*0.354*	*0.355*	*0.340*	*0.367*	*0.373*	*0.375*	**1.280**	*1.370*	*1.455*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	*0.073*	*0.074*	*0.073*	*0.079*	*0.081*	*0.083*	*0.089*	*0.092*	**0.274**	*0.299*	*0.345*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.187**	*0.179*	*0.184*	*0.195*	*0.195*	*0.190*	*0.194*	*0.197*	*0.200*	**0.698**	*0.754*	*0.781*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.272**	*0.257*	*0.277*	*0.292*	*0.287*	*0.269*	*0.294*	*0.296*	*0.294*	**1.045**	*1.112*	*1.153*
Geothermal	**0.052**	**0.054**	**0.054**	**0.052**	*0.052*	*0.054*	*0.055*	*0.052*	*0.053*	*0.055*	*0.055*	*0.053*	**0.212**	*0.214*	*0.216*
Hydroelectric Power (a)	**0.670**	**0.727**	**0.634**	**0.571**	*0.694*	*0.697*	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.602**	*2.554*	*2.549*
Solar (b)(e)	**0.238**	**0.373**	**0.376**	**0.254**	*0.304*	*0.472*	*0.478*	*0.321*	*0.375*	*0.583*	*0.587*	*0.379*	**1.240**	*1.575*	*1.924*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	*0.114*	*0.111*	*0.107*	*0.110*	*0.118*	*0.113*	*0.111*	*0.112*	**0.430**	*0.442*	*0.454*
Wood Biomass	**0.544**	**0.529**	**0.531**	**0.550**	*0.553*	*0.538*	*0.558*	*0.560*	*0.564*	*0.554*	*0.568*	*0.568*	**2.153**	*2.209*	*2.254*
Wind	**0.786**	**0.794**	**0.620**	**0.875**	*0.923*	*0.932*	*0.729*	*0.999*	*1.015*	*1.003*	*0.789*	*1.054*	**3.075**	*3.584*	*3.861*
Total Consumption	**2.926**	**3.007**	**2.844**	**2.940**	*3.143*	*3.328*	*3.077*	*3.158*	*3.349*	*3.566*	*3.280*	*3.302*	**11.717**	*12.706*	*13.496*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,632**	**6,551**	**6,590**	**6,592**	*6,485*	*6,487*	*6,412*	*6,498*	*6,543*	*6,544*	*6,544*	*6,544*	**6,592**	*6,498*	*6,544*
Waste	**3,943**	**3,862**	**3,864**	**3,865**	*3,902*	*3,904*	*3,829*	*3,914*	*3,917*	*3,918*	*3,918*	*3,918*	**3,865**	*3,914*	*3,918*
Wood	**2,689**	**2,689**	**2,727**	**2,727**	*2,584*	*2,584*	*2,584*	*2,584*	*2,626*	*2,626*	*2,626*	*2,626*	**2,727**	*2,584*	*2,626*
Conventional Hydroelectric	**79,499**	**79,486**	**79,656**	**79,607**	*79,748*	*79,696*	*79,774*	*79,816*	*79,828*	*79,833*	*79,868*	*79,871*	**79,607**	*79,816*	*79,871*
Geothermal	**2,506**	**2,506**	**2,506**	**2,506**	*2,506*	*2,506*	*2,506*	*2,548*	*2,548*	*2,548*	*2,548*	*2,548*	**2,506**	*2,548*	*2,548*
Large-Scale Solar (b)	**39,004**	**41,228**	**42,848**	**48,310**	*50,804*	*53,221*	*56,010*	*64,550*	*65,603*	*70,390*	*71,660*	*76,866*	**48,310**	*64,550*	*76,866*
Wind	**105,743**	**107,197**	**108,869**	**120,867**	*125,980*	*126,928*	*128,199*	*136,157*	*136,713*	*137,456*	*137,536*	*139,778*	**120,867**	*136,157*	*139,778*
Other Sectors (c)															
Biomass	**6,443**	**6,443**	**6,443**	**6,458**	*6,460*	*6,440*	*6,440*	*6,440*	*6,440*	*6,444*	*6,444*	*6,444*	**6,458**	*6,440*	*6,444*
Waste	**786**	**786**	**786**	**802**	*804*	*804*	*804*	*804*	*804*	*804*	*804*	*804*	**802**	*804*	*804*
Wood	**5,656**	**5,656**	**5,656**	**5,656**	*5,656*	*5,636*	*5,636*	*5,636*	*5,636*	*5,641*	*5,641*	*5,641*	**5,656**	*5,636*	*5,641*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	*289*	*292*	*290*	*290*	*290*	*290*	*290*	*290*	**289**	*290*	*290*
Large-Scale Solar (b)	**441**	**453**	**458**	**459**	*471*	*471*	*471*	*486*	*486*	*486*	*486*	*486*	**459**	*486*	*486*
Small-Scale Solar (d)	**24,434**	**25,370**	**26,506**	**27,402**	*28,407*	*29,461*	*30,580*	*31,728*	*32,840*	*33,835*	*34,821*	*35,837*	**27,402**	*31,728*	*35,837*
Residential Sector	**15,072**	**15,700**	**16,428**	**17,133**	*17,775*	*18,423*	*19,094*	*19,789*	*20,490*	*21,111*	*21,750*	*22,410*	**17,133**	*19,789*	*22,410*
Commercial Sector	**7,486**	**7,730**	**8,079**	**8,232**	*8,536*	*8,879*	*9,261*	*9,649*	*9,997*	*10,311*	*10,599*	*10,897*	**8,232**	*9,649*	*10,897*
Industrial Sector	**1,875**	**1,939**	**1,998**	**2,038**	*2,097*	*2,159*	*2,225*	*2,290*	*2,353*	*2,413*	*2,471*	*2,530*	**2,038**	*2,290*	*2,530*
Wind	**118**	**344**	**353**	**353**	*353*	*353*	*353*	*353*	*353*	*353*	*353*	*353*	**353**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.7**	**7.0**	**6.7**	*8.3*	*7.5*	*7.7*	*7.3*	*9.1*	*8.5*	*8.3*	*7.8*	**27.6**	*30.8*	*33.8*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	*4.4*	*4.3*	*4.1*	*4.1*	*4.7*	*4.5*	*4.4*	*4.3*	**16.1**	*17.0*	*17.8*
Wood	**3.0**	**2.7**	**3.0**	**2.8**	*3.9*	*3.2*	*3.6*	*3.2*	*4.5*	*4.1*	*4.0*	*3.5*	**11.5**	*13.9*	*16.0*
Conventional Hydroelectric	**74.9**	**81.3**	**70.9**	**63.2**	*73.2*	*80.8*	*63.4*	*58.1*	*69.1*	*80.5*	*63.9*	*58.3*	**290.3**	*275.4*	*271.8*
Geothermal	**3.9**	**4.2**	**4.2**	**3.9**	*3.9*	*4.2*	*4.2*	*3.9*	*4.1*	*4.2*	*4.3*	*4.0*	**16.2**	*16.2*	*16.5*
Large-Scale Solar (b)	**16.7**	**27.1**	**27.3**	**17.7**	*22.0*	*34.8*	*35.4*	*23.5*	*28.2*	*44.8*	*45.2*	*28.5*	**88.7**	*115.6*	*146.7*
Wind	**86.4**	**87.2**	**68.1**	**96.1**	*101.4*	*102.4*	*80.1*	*109.8*	*111.4*	*110.2*	*86.7*	*115.8*	**337.8**	*393.7*	*424.1*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.2**	*7.3*	*7.1*	*7.0*	*7.2*	*7.3*	*7.1*	*7.0*	*7.2*	**28.6**	*28.5*	*28.5*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.3**	**6.5**	*6.6*	*6.4*	*6.3*	*6.5*	*6.6*	*6.4*	*6.3*	*6.5*	**25.9**	*25.8*	*25.8*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.8*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.4**	**8.7**	*9.8*	*14.6*	*14.7*	*10.1*	*11.3*	*16.8*	*16.7*	*11.5*	**41.9**	*49.2*	*56.3*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	*6.0*	*9.0*	*9.0*	*6.2*	*6.9*	*10.3*	*10.3*	*7.1*	**25.4**	*30.3*	*34.5*
Commercial Sector	**2.7**	**3.8**	**3.9**	**2.6**	*3.0*	*4.4*	*4.5*	*3.1*	*3.6*	*5.1*	*5.1*	*3.5*	**13.0**	*15.0*	*17.3*
Industrial Sector	**0.7**	**1.0**	**1.1**	**0.7**	*0.8*	*1.2*	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.9*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,726**	*18,820*	*18,967*	*19,221*	*19,444*	*19,661*	*19,848*	*20,003*	*20,134*	**18,409**	*19,113*	*19,911*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,925**	**13,045**	*12,979*	*13,117*	*13,346*	*13,502*	*13,629*	*13,732*	*13,813*	*13,899*	**12,737**	*13,236*	*13,768*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,315**	**3,416**	*3,494*	*3,513*	*3,532*	*3,553*	*3,575*	*3,599*	*3,627*	*3,652*	**3,301**	*3,523*	*3,613*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-1**	**60**	*95*	*88*	*82*	*111*	*139*	*142*	*142*	*137*	**-73**	*94*	*140*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,296**	*3,328*	*3,348*	*3,353*	*3,359*	*3,356*	*3,362*	*3,367*	*3,363*	**3,335**	*3,347*	*3,362*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,167**	**2,258**	*2,336*	*2,390*	*2,453*	*2,526*	*2,598*	*2,663*	*2,717*	*2,764*	**2,212**	*2,426*	*2,686*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,355**	*3,487*	*3,570*	*3,624*	*3,678*	*3,695*	*3,698*	*3,700*	*3,711*	**3,132**	*3,590*	*3,701*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,905**	**15,573**	*16,312*	*15,524*	*15,435*	*15,418*	*15,531*	*15,591*	*15,669*	*15,744*	**15,792**	*15,672*	*15,634*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.8**	**142.6**	*143.8*	*145.4*	*147.5*	*149.1*	*150.4*	*151.2*	*151.8*	*152.1*	**142.3**	*146.4*	*151.4*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	*6.0*	*5.6*	*4.9*	*4.4*	*4.0*	*3.8*	*3.8*	*3.9*	**8.1**	*5.2*	*3.9*
Housing Starts															
(millions - SAAR)	**1.48**	**1.08**	**1.43**	**1.55**	*1.58*	*1.51*	*1.44*	*1.40*	*1.34*	*1.32*	*1.29*	*1.26*	**1.39**	*1.48*	*1.30*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**107.7**	**93.7**	**102.4**	**104.5**	*106.1*	*106.6*	*107.5*	*108.6*	*110.1*	*111.5*	*112.4*	*113.1*	**102.1**	*107.2*	*111.8*
Manufacturing	**104.4**	**89.3**	**99.9**	**102.6**	*104.1*	*104.3*	*104.9*	*106.0*	*107.5*	*108.8*	*109.6*	*110.3*	**99.1**	*104.8*	*109.1*
Food	**116.5**	**107.9**	**113.5**	**115.7**	*117.0*	*117.6*	*117.8*	*118.3*	*118.9*	*119.5*	*120.0*	*120.5*	**113.4**	*117.7*	*119.7*
Paper	**94.7**	**87.2**	**87.0**	**91.7**	*92.7*	*92.8*	*93.1*	*93.6*	*94.3*	*95.1*	*95.6*	*95.8*	**90.1**	*93.0*	*95.2*
Petroleum and Coal Products	**105.0**	**82.7**	**89.3**	**90.8**	*91.2*	*92.2*	*93.2*	*94.3*	*95.1*	*95.6*	*95.8*	*95.9*	**91.9**	*92.7*	*95.6*
Chemicals	**99.8**	**93.7**	**96.3**	**98.0**	*102.4*	*106.4*	*109.4*	*110.9*	*111.5*	*111.7*	*112.0*	*112.6*	**97.0**	*107.3*	*111.9*
Nonmetallic Mineral Products	**122.2**	**106.3**	**113.0**	**117.0**	*116.0*	*115.3*	*115.5*	*115.7*	*116.0*	*116.2*	*116.8*	*117.6*	**114.6**	*115.6*	*116.7*
Primary Metals	**94.4**	**69.6**	**79.3**	**88.2**	*87.1*	*86.1*	*86.0*	*86.6*	*88.2*	*89.8*	*90.7*	*91.2*	**82.9**	*86.4*	*90.0*
Coal-weighted Manufacturing (a)	**106.5**	**94.1**	**100.7**	**104.2**	*104.8*	*104.9*	*105.5*	*106.3*	*107.5*	*108.5*	*109.2*	*109.8*	**101.4**	*105.4*	*108.7*
Distillate-weighted Manufacturing (a)	**98.8**	**85.6**	**92.2**	**95.1**	*95.6*	*95.8*	*96.1*	*96.5*	*97.1*	*97.6*	*98.2*	*98.6*	**92.9**	*96.0*	*97.9*
Electricity-weighted Manufacturing (a)	**105.1**	**89.4**	**98.3**	**102.2**	*102.5*	*102.6*	*103.1*	*104.0*	*105.3*	*106.5*	*107.2*	*107.7*	**98.7**	*103.1*	*106.7*
Natural Gas-weighted Manufacturing (a)	**107.8**	**94.0**	**100.2**	**103.9**	*104.2*	*104.5*	*105.3*	*106.3*	*107.7*	*108.9*	*109.6*	*110.1*	**101.5**	*105.1*	*109.1*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.60**	**2.61**	*2.63*	*2.65*	*2.66*	*2.67*	*2.69*	*2.70*	*2.72*	*2.73*	**2.59**	*2.65*	*2.71*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.87**	**1.94**	**1.98**	*2.01*	*2.03*	*2.03*	*2.03*	*2.04*	*2.06*	*2.06*	*2.06*	**1.94**	*2.03*	*2.06*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.51**	*1.71*	*1.75*	*1.69*	*1.64*	*1.64*	*1.76*	*1.79*	*1.73*	**1.43**	*1.70*	*1.73*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.3**	*114.6*	*115.1*	*115.6*	*116.2*	*116.6*	*117.3*	*118.0*	*118.6*	**113.6**	*115.4*	*117.6*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,751**	**6,869**	**8,287**	**7,968**	*7,639*	*8,501*	*8,789*	*8,727*	*8,129*	*9,170*	*9,179*	*8,879*	**7,721**	*8,418*	*8,842*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**628**	**362**	**475**	**566**	*597*	*577*	*607*	*648*	*646*	*705*	*722*	*694*	**508**	*607*	*692*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**268**	*302*	*305*	*350*	*377*	*399*	*447*	*455*	*432*	**239**	*334*	*433*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	*194.4*	*189.5*	*181.6*	*189.0*	*187.5*	*207.2*	*213.3*	*229.2*	**217.5**	*188.6*	*209.3*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	*0.259*	*0.246*	*0.249*	*0.285*	*0.280*	*0.250*	*0.248*	*0.259*	**0.216**	*0.260*	*0.259*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**552**	**442**	**518**	**519**	*519*	*538*	*556*	*564*	*555*	*572*	*581*	*581*	**2,031**	*2,178*	*2,289*
Natural Gas	**493**	**351**	**385**	**433**	*486*	*347*	*364*	*429*	*479*	*343*	*364*	*426*	**1,662**	*1,626*	*1,612*
Coal	**202**	**177**	**271**	**223**	*222*	*204*	*285*	*229*	*251*	*215*	*291*	*237*	**874**	*939*	*993*
Total Energy (c)	**1,250**	**973**	**1,177**	**1,177**	*1,229*	*1,093*	*1,208*	*1,224*	*1,287*	*1,133*	*1,238*	*1,247*	**4,578**	*4,754*	*4,905*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2009)															
New England	**993**	**901**	**969**	**973**	*978*	*986*	*999*	*1,010*	*1,021*	*1,030*	*1,038*	*1,044*	**959**	*993*	*1,033*
Middle Atlantic	**2,774**	**2,486**	**2,669**	**2,701**	*2,711*	*2,736*	*2,774*	*2,814*	*2,851*	*2,883*	*2,911*	*2,932*	**2,658**	*2,759*	*2,894*
E. N. Central	**2,502**	**2,266**	**2,458**	**2,464**	*2,475*	*2,495*	*2,524*	*2,550*	*2,575*	*2,595*	*2,612*	*2,627*	**2,423**	*2,511*	*2,602*
W. N. Central	**1,188**	**1,084**	**1,168**	**1,172**	*1,175*	*1,181*	*1,195*	*1,206*	*1,217*	*1,227*	*1,237*	*1,244*	**1,153**	*1,189*	*1,231*
S. Atlantic	**3,388**	**3,114**	**3,337**	**3,356**	*3,368*	*3,395*	*3,440*	*3,476*	*3,514*	*3,543*	*3,568*	*3,591*	**3,299**	*3,420*	*3,554*
E. S. Central	**828**	**742**	**809**	**814**	*817*	*822*	*832*	*840*	*849*	*857*	*863*	*868*	**798**	*828*	*859*
W. S. Central	**2,317**	**2,125**	**2,267**	**2,292**	*2,301*	*2,316*	*2,346*	*2,373*	*2,402*	*2,428*	*2,451*	*2,472*	**2,250**	*2,334*	*2,438*
Mountain	**1,283**	**1,177**	**1,265**	**1,275**	*1,280*	*1,289*	*1,306*	*1,320*	*1,334*	*1,345*	*1,354*	*1,364*	**1,250**	*1,299*	*1,350*
Pacific	**3,769**	**3,436**	**3,684**	**3,710**	*3,747*	*3,780*	*3,837*	*3,886*	*3,931*	*3,972*	*4,001*	*4,025*	**3,650**	*3,813*	*3,982*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**97.6**	**83.5**	**92.6**	**95.6**	*97.1*	*97.6*	*98.2*	*99.3*	*100.3*	*101.3*	*101.9*	*102.5*	**92.3**	*98.0*	*101.5*
Middle Atlantic	**97.1**	**80.3**	**91.0**	**92.9**	*94.3*	*94.7*	*95.5*	*96.8*	*98.4*	*99.9*	*100.9*	*101.8*	**90.3**	*95.3*	*100.2*
E. N. Central	**105.1**	**86.1**	**99.3**	**101.8**	*103.5*	*103.9*	*104.2*	*105.8*	*107.2*	*108.4*	*109.3*	*110.0*	**98.1**	*104.3*	*108.7*
W. N. Central	**103.7**	**90.3**	**100.5**	**102.9**	*104.4*	*104.5*	*104.9*	*106.0*	*107.4*	*108.6*	*109.5*	*110.2*	**99.3**	*104.9*	*108.9*
S. Atlantic	**109.2**	**94.4**	**105.1**	**108.1**	*109.8*	*109.8*	*110.6*	*111.7*	*113.1*	*114.5*	*115.2*	*115.8*	**104.2**	*110.5*	*114.6*
E. S. Central	**109.0**	**90.1**	**104.2**	**107.5**	*109.5*	*109.4*	*109.8*	*111.0*	*112.1*	*113.1*	*113.8*	*114.1*	**102.7**	*109.9*	*113.3*
W. S. Central	**99.8**	**87.8**	**95.5**	**98.2**	*99.2*	*99.0*	*99.7*	*100.9*	*102.7*	*104.2*	*105.1*	*105.7*	**95.3**	*99.7*	*104.4*
Mountain	**114.7**	**102.7**	**114.0**	**117.4**	*119.0*	*119.0*	*119.5*	*120.5*	*121.9*	*123.2*	*124.1*	*124.8*	**112.2**	*119.5*	*123.5*
Pacific	**102.4**	**86.8**	**95.6**	**97.4**	*98.6*	*98.7*	*99.6*	*100.6*	*102.3*	*104.0*	*105.0*	*105.9*	**95.5**	*99.4*	*104.3*
Real Personal Income (Billion $2009)															
New England	**890**	**978**	**937**	**906**	*942*	*905*	*901*	*901*	*907*	*911*	*916*	*921*	**928**	*912*	*914*
Middle Atlantic	**2,305**	**2,509**	**2,426**	**2,357**	*2,448*	*2,336*	*2,328*	*2,327*	*2,348*	*2,360*	*2,374*	*2,386*	**2,399**	*2,360*	*2,367*
E. N. Central	**2,453**	**2,695**	**2,577**	**2,515**	*2,618*	*2,507*	*2,497*	*2,496*	*2,511*	*2,520*	*2,532*	*2,543*	**2,560**	*2,529*	*2,526*
W. N. Central	**1,158**	**1,259**	**1,190**	**1,182**	*1,231*	*1,185*	*1,178*	*1,173*	*1,177*	*1,180*	*1,185*	*1,191*	**1,197**	*1,192*	*1,183*
S. Atlantic	**3,272**	**3,511**	**3,416**	**3,370**	*3,514*	*3,379*	*3,369*	*3,363*	*3,385*	*3,398*	*3,416*	*3,436*	**3,392**	*3,406*	*3,408*
E. S. Central	**909**	**989**	**937**	**927**	*975*	*934*	*930*	*927*	*933*	*935*	*940*	*944*	**941**	*942*	*938*
W. S. Central	**2,037**	**2,201**	**2,115**	**2,083**	*2,173*	*2,090*	*2,078*	*2,074*	*2,093*	*2,104*	*2,119*	*2,134*	**2,109**	*2,103*	*2,113*
Mountain	**1,216**	**1,322**	**1,267**	**1,246**	*1,296*	*1,246*	*1,243*	*1,241*	*1,249*	*1,254*	*1,260*	*1,268*	**1,263**	*1,257*	*1,258*
Pacific	**2,833**	**3,042**	**2,988**	**2,955**	*3,083*	*2,928*	*2,917*	*2,912*	*2,932*	*2,946*	*2,961*	*2,977*	**2,954**	*2,960*	*2,954*
Households (Thousands)															
New England	**5,896**	**5,877**	**5,900**	**5,924**	*5,937*	*5,950*	*5,963*	*5,975*	*5,987*	*5,997*	*6,006*	*6,014*	**5,924**	*5,975*	*6,014*
Middle Atlantic	**16,161**	**16,102**	**16,164**	**16,234**	*16,274*	*16,311*	*16,344*	*16,374*	*16,402*	*16,428*	*16,448*	*16,471*	**16,234**	*16,374*	*16,471*
E. N. Central	**18,864**	**18,814**	**18,901**	**18,988**	*19,040*	*19,094*	*19,143*	*19,190*	*19,232*	*19,258*	*19,280*	*19,305*	**18,988**	*19,190*	*19,305*
W. N. Central	**8,646**	**8,631**	**8,677**	**8,732**	*8,764*	*8,794*	*8,820*	*8,846*	*8,868*	*8,890*	*8,910*	*8,926*	**8,732**	*8,846*	*8,926*
S. Atlantic	**25,669**	**25,649**	**25,815**	**25,999**	*26,124*	*26,241*	*26,349*	*26,456*	*26,553*	*26,649*	*26,734*	*26,814*	**25,999**	*26,456*	*26,814*
E. S. Central	**7,659**	**7,647**	**7,689**	**7,738**	*7,768*	*7,795*	*7,819*	*7,843*	*7,865*	*7,885*	*7,903*	*7,918*	**7,738**	*7,843*	*7,918*
W. S. Central	**14,887**	**14,880**	**14,981**	**15,097**	*15,173*	*15,245*	*15,312*	*15,378*	*15,439*	*15,498*	*15,553*	*15,603*	**15,097**	*15,378*	*15,603*
Mountain	**9,464**	**9,470**	**9,544**	**9,628**	*9,688*	*9,745*	*9,799*	*9,852*	*9,901*	*9,945*	*9,986*	*10,022*	**9,628**	*9,852*	*10,022*
Pacific	**18,779**	**18,739**	**18,838**	**18,950**	*19,012*	*19,068*	*19,121*	*19,172*	*19,222*	*19,264*	*19,305*	*19,338*	**18,950**	*19,172*	*19,338*
Total Non-farm Employment (Millions)															
New England	**7.5**	**6.4**	**6.8**	**6.9**	*7.0*	*7.1*	*7.2*	*7.3*	*7.4*	*7.4*	*7.4*	*7.5*	**6.9**	*7.1*	*7.4*
Middle Atlantic	**20.1**	**16.8**	**18.0**	**18.3**	*18.5*	*18.7*	*19.0*	*19.3*	*19.5*	*19.8*	*19.9*	*20.0*	**18.3**	*18.9*	*19.8*
E. N. Central	**22.3**	**19.3**	**20.6**	**20.8**	*21.0*	*21.3*	*21.5*	*21.8*	*22.0*	*22.1*	*22.1*	*22.2*	**20.8**	*21.4*	*22.1*
W. N. Central	**10.8**	**9.8**	**10.2**	**10.3**	*10.4*	*10.4*	*10.5*	*10.6*	*10.7*	*10.7*	*10.8*	*10.8*	**10.3**	*10.5*	*10.7*
S. Atlantic	**29.4**	**26.4**	**27.6**	**28.0**	*28.2*	*28.4*	*28.8*	*29.1*	*29.4*	*29.5*	*29.6*	*29.6*	**27.8**	*28.6*	*29.5*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	*8.1*	*8.1*	*8.2*	*8.3*	*8.3*	*8.3*	*8.3*	*8.3*	**8.0**	*8.2*	*8.3*
W. S. Central	**18.0**	**16.4**	**16.9**	**17.2**	*17.3*	*17.4*	*17.6*	*17.8*	*18.0*	*18.1*	*18.1*	*18.2*	**17.1**	*17.5*	*18.1*
Mountain	**11.2**	**10.2**	**10.6**	**10.8**	*10.8*	*10.9*	*11.1*	*11.2*	*11.3*	*11.3*	*11.4*	*11.4*	**10.7**	*11.0*	*11.3*
Pacific	**24.0**	**20.9**	**21.8**	**22.1**	*22.4*	*22.8*	*23.1*	*23.4*	*23.7*	*23.8*	*23.9*	*24.0*	**22.2**	*22.9*	*23.8*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,736**	**971**	**114**	**1,994**	*3,016*	*853*	*124*	*2,097*	*3,070*	*851*	*124*	*2,097*	**5,815**	*6,090*	*6,142*
Middle Atlantic	**2,471**	**837**	**86**	**1,838**	*2,786*	*675*	*75*	*1,917*	*2,867*	*677*	*75*	*1,917*	**5,233**	*5,454*	*5,536*
E. N. Central	**2,788**	**847**	**126**	**2,100**	*2,993*	*706*	*114*	*2,231*	*3,146*	*718*	*114*	*2,231*	**5,861**	*6,045*	*6,210*
W. N. Central	**3,036**	**797**	**168**	**2,309**	*3,051*	*682*	*156*	*2,452*	*3,250*	*699*	*156*	*2,452*	**6,310**	*6,341*	*6,558*
South Atlantic	**1,108**	**252**	**17**	**875**	*1,349*	*184*	*10*	*906*	*1,368*	*188*	*10*	*905*	**2,252**	*2,450*	*2,471*
E. S. Central	**1,482**	**336**	**20**	**1,224**	*1,731*	*232*	*17*	*1,256*	*1,809*	*246*	*17*	*1,256*	**3,062**	*3,235*	*3,328*
W. S. Central	**970**	**102**	**8**	**736**	*1,043*	*69*	*4*	*773*	*1,162*	*85*	*4*	*772*	**1,815**	*1,888*	*2,023*
Mountain	**2,213**	**672**	**127**	**1,769**	*2,175*	*665*	*144*	*1,824*	*2,189*	*667*	*144*	*1,823*	**4,781**	*4,808*	*4,823*
Pacific	**1,541**	**526**	**65**	**1,080**	*1,479*	*577*	*86*	*1,198*	*1,518*	*576*	*86*	*1,198*	**3,212**	*3,339*	*3,378*
U.S. Average	**1,876**	**540**	**71**	**1,417**	*2,014*	*470*	*70*	*1,494*	*2,090*	*476*	*70*	*1,492*	**3,903**	*4,048*	*4,128*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**823**	**105**	**2,128**	*3,133*	*856*	*107*	*2,099*	*3,101*	*860*	*111*	*2,121*	**6,207**	*6,195*	*6,193*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	*2,913*	*677*	*72*	*1,912*	*2,884*	*685*	*73*	*1,928*	**5,606**	*5,574*	*5,571*
E. N. Central	**3,197**	**698**	**102**	**2,197**	*3,157*	*731*	*105*	*2,170*	*3,124*	*727*	*102*	*2,196*	**6,194**	*6,162*	*6,149*
W. N. Central	**3,287**	**702**	**132**	**2,379**	*3,247*	*728*	*133*	*2,367*	*3,201*	*722*	*132*	*2,398*	**6,500**	*6,474*	*6,452*
South Atlantic	**1,459**	**169**	**10**	**952**	*1,393*	*180*	*11*	*914*	*1,378*	*184*	*11*	*915*	**2,589**	*2,498*	*2,487*
E. S. Central	**1,850**	**214**	**15**	**1,277**	*1,772*	*231*	*16*	*1,249*	*1,757*	*235*	*14*	*1,250*	**3,356**	*3,268*	*3,257*
W. S. Central	**1,199**	**83**	**3**	**794**	*1,140*	*86*	*3*	*786*	*1,119*	*88*	*3*	*782*	**2,078**	*2,015*	*1,992*
Mountain	**2,192**	**718**	**135**	**1,844**	*2,181*	*701*	*134*	*1,843*	*2,161*	*682*	*135*	*1,829*	**4,889**	*4,859*	*4,808*
Pacific	**1,456**	**580**	**85**	**1,162**	*1,462*	*553*	*81*	*1,147*	*1,447*	*532*	*80*	*1,136*	**3,284**	*3,243*	*3,195*
U.S. Average	**2,149**	**472**	**64**	**1,509**	*2,108*	*482*	*65*	*1,484*	*2,082*	*478*	*64*	*1,488*	**4,194**	*4,138*	*4,112*
Cooling Degree Days															
New England	**0**	**103**	**545**	**0**	*0*	*88*	*424*	*2*	*0*	*88*	*424*	*2*	**648**	*514*	*514*
Middle Atlantic	**0**	**157**	**679**	**5**	*0*	*160*	*558*	*5*	*0*	*160*	*558*	*5*	**840**	*723*	*723*
E. N. Central	**2**	**216**	**608**	**2**	*0*	*227*	*555*	*7*	*0*	*226*	*555*	*7*	**828**	*789*	*789*
W. N. Central	**6**	**296**	**664**	**3**	*3*	*273*	*678*	*10*	*3*	*271*	*677*	*10*	**968**	*964*	*962*
South Atlantic	**196**	**620**	**1,233**	**302**	*114*	*666*	*1,190*	*250*	*132*	*669*	*1,191*	*251*	**2,352**	*2,220*	*2,243*
E. S. Central	**73**	**424**	**1,061**	**81**	*24*	*535*	*1,089*	*75*	*28*	*530*	*1,088*	*75*	**1,638**	*1,723*	*1,722*
W. S. Central	**174**	**840**	**1,501**	**212**	*93*	*920*	*1,535*	*214*	*87*	*899*	*1,535*	*214*	**2,726**	*2,762*	*2,735*
Mountain	**10**	**465**	**1,082**	**113**	*18*	*442*	*941*	*80*	*20*	*443*	*942*	*80*	**1,670**	*1,481*	*1,485*
Pacific	**24**	**197**	**716**	**126**	*26*	*170*	*589*	*59*	*27*	*169*	*589*	*59*	**1,064**	*844*	*844*
U.S. Average	**71**	**396**	**935**	**122**	*42*	*416*	*875*	*100*	*45*	*414*	*876*	*100*	**1,524**	*1,433*	*1,437*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	*0*	*81*	*474*	*1*	*0*	*82*	*469*	*1*	**554**	*556*	*552*
Middle Atlantic	**0**	**170**	**609**	**6**	*0*	*163*	*609*	*6*	*0*	*160*	*601*	*7*	**785**	*779*	*767*
E. N. Central	**3**	**240**	**579**	**8**	*3*	*234*	*572*	*7*	*3*	*235*	*564*	*7*	**829**	*816*	*809*
W. N. Central	**7**	**296**	**696**	**11**	*7*	*294*	*686*	*10*	*7*	*295*	*675*	*10*	**1,010**	*998*	*987*
South Atlantic	**127**	**696**	**1,202**	**247**	*143*	*680*	*1,196*	*261*	*143*	*674*	*1,192*	*266*	**2,272**	*2,279*	*2,275*
E. S. Central	**36**	**557**	**1,082**	**72**	*42*	*532*	*1,065*	*74*	*42*	*528*	*1,064*	*79*	**1,747**	*1,713*	*1,713*
W. S. Central	**100**	**892**	**1,576**	**207**	*114*	*880*	*1,567*	*210*	*113*	*868*	*1,542*	*214*	**2,774**	*2,772*	*2,737*
Mountain	**24**	**432**	**939**	**81**	*24*	*444*	*954*	*86*	*24*	*453*	*948*	*86*	**1,476**	*1,508*	*1,511*
Pacific	**31**	**185**	**624**	**78**	*31*	*193*	*647*	*85*	*31*	*199*	*652*	*85*	**917**	*956*	*967*
U.S. Average	**47**	**420**	**892**	**100**	*52*	*415*	*894*	*105*	*53*	*414*	*888*	*107*	**1,459**	*1,466*	*1,462*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday February 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the February 2021 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Dec 2020	Jan 2021	Dec 2020 - Jan 2021 Average	Dec 2019 - Jan 2020 Average	2017 - 2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	93.8	94.0	93.9	101.5	99.9
Global Petroleum and Other Liquids Consumption (b)	96.2	93.9	95.1	99.5	100.0
Biofuels Production (c)	2.0	1.9	2.0	2.1	2.5
Biofuels Consumption (c)	2.3	2.2	2.2	2.3	2.3
Iran Liquid Fuels Production	2.9	2.9	2.9	2.9	4.1
Iran Liquid Fuels Consumption	2.0	2.1	2.1	1.8	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	88.9	89.1	89.0	96.5	93.3
Consumption (d)	91.9	89.5	90.7	95.4	95.9
Production minus Consumption	-3.0	-0.5	-1.7	1.1	-2.6
World Inventory Net Withdrawals Including Iran	2.4	-0.1	1.2	-2.0	0.1
Estimated OECD Inventory Level (e) (million barrels)	3,045	3,030	3,038	2,891	2,910
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	7.7	6.7	7.2	2.9	2.0

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
(b) Consumption of petroleum by the OECD countries is synonymous with “products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Dec 2020	Jan 2021	Dec 2020 - Jan 2021 Average	Dec 2019 - Jan 2020 Average	2017 - 2019 Average
Brent Front Month Futures Price ($ per barrel)	50.22	55.32	52.58	64.47	63.53
WTI Front Month Futures Price ($ per barrel)	47.07	52.10	49.40	58.75	57.60
Dubai Front Month Futures Price ($ per barrel)	50.13	54.91	52.35	65.16	62.36
Brent 1st - 13th Month Futures Spread ($ per barrel)	0.87	2.76	1.75	5.38	2.02
WTI 1st - 13th Month Futures Spread ($ per barrel)	0.63	2.70	1.59	4.18	1.39
RBOB Front Month Futures Price ($ per gallon)	1.33	1.53	1.42	1.64	1.76
Heating Oil Front Month Futures Price ($ per gallon)	1.45	1.58	1.51	1.92	1.90
RBOB - Brent Futures Crack Spread ($ per gallon)	0.13	0.21	0.17	0.11	0.24
Heating Oil - Brent Futures Crack Spread ($ per gallon)	50.22	55.32	52.58	64.47	63.53
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.25	0.26	0.26	0.39	0.39

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Appendix to the February 2021 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Dec 2020	Jan 2021	Dec 2020 - Jan 2021 Average	Dec 2019 - Jan 2020 Average	2017 - 2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	93.8	94.0	93.9	101.5	99.9
Global Petroleum and Other Liquids Consumption (b)	96.2	93.9	95.1	99.5	100.0
Biofuels Production (c)	2.0	1.9	2.0	2.1	2.5
Biofuels Consumption (c)	2.3	2.2	2.2	2.3	2.3
Iran Liquid Fuels Production	2.9	2.9	2.9	2.9	4.1
Iran Liquid Fuels Consumption	2.0	2.1	2.1	1.8	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	88.9	89.1	89.0	96.5	93.3
Consumption (d)	91.9	89.5	90.7	95.4	95.9
Production minus Consumption	-3.0	-0.5	-1.7	1.1	-2.6
World Inventory Net Withdrawals Including Iran	2.4	-0.1	1.2	-2.0	0.1
Estimated OECD Inventory Level (e) (million barrels)	3,045	3,030	3,038	2,891	2,910
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	7.7	6.7	7.2	2.9	2.0

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
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Independent Statistics & Analysis
U.S. Energy Information Administration

March 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The March *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply during the past year and will continue to affect these patterns in the future. U.S. gross domestic product (GDP) declined by 3.5% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 5.5% in 2021 and by 4.2% in 2022, compared with an assumption of 3.8% in 2021 and 4.2% in 2022 in last month's STEO. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit.

- Brent crude oil spot prices averaged $62 per barrel (b) in February, up $8/b from January's average and up $7/b from February 2020. Rising Brent prices in February continued to reflect expectations of rising oil demand as both COVID-19 vaccination rates and global economic activity have increased, combined with ongoing petroleum supply limitations by the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+). In addition, disruptions to petroleum supply from extreme winter weather in the United States (notably in Texas) put upward pressure on crude oil prices during February.

- The U.S. Energy Information Administration (EIA) expects OPEC crude oil production will average 25.3 million barrels per day (b/d) in April, which is similar to expected production for March and down 1.6 million b/d from EIA's forecast for April OPEC production in last month's STEO. EIA expects OPEC crude oil production will rise to 26.6 million b/d in May. This increase reflects Saudi Arabia ending voluntary cuts of 1.0 million b/d, along with the relaxation of cuts that were extended through April at the March 4 OPEC+ meeting. This forecast assumes OPEC will produce 27.9 million b/d on average in the second half of 2021, as OPEC+ generally increases crude oil output to supply rising global oil consumption.

- The OPEC+ extension of existing supply cuts through April added significantly to near-term upward oil price pressures. Following the meeting, the Brent crude oil spot price settled at $67/b on March 4, up 4% from the day before. EIA expects Brent prices will average between $65-$70/b during March and April, more than $10/b above EIA's expectation last month. EIA continues to expect downward crude oil price pressures will emerge in the coming months as the oil market becomes more balanced. Brent crude oil prices in the forecast average $58/b in the second half of 2021.

- EIA's forecast of declining crude oil prices and a more balanced oil market reflect global oil supply surpassing oil demand during the second half of 2021. Although EIA expects inventories to fall by 1.2 million b/d in the first half of 2021, increases in global oil supply will contribute to inventories rising by almost 0.4 million b/d in the second half of 2021 and a mostly balanced market in 2022. However, the forecast depends heavily on future production decisions by OPEC+, the responsiveness of U.S. tight oil production to higher oil prices, and the pace of oil demand growth, among other factors. EIA expects Brent prices will average $59/b in 2022.

- EIA estimates that the world consumed 95.9 million b/d of petroleum and liquid fuels in February, which is down 1.6 million b/d from February 2020. If confirmed by final consumption data, the 1.6 million b/d decline would represent the smallest year-over-year decline since the COVID-19 outbreak began affecting oil consumption in January 2020. EIA forecasts that global consumption of petroleum and liquid fuels will average 97.5 million b/d for all of 2021, which is up by 5.3 million b/d from 2020. EIA forecasts that consumption will increase by another 3.8 million b/d in 2022 to average 101.3 million b/d.

- EIA estimates that U.S. crude oil production averaged 10.4 million b/d in February, which is down 0.5 million b/d from estimated January production. Most of the decline reflects the cold temperatures that affected much of the country, particularly Texas. Unlike the relatively winterized oil production infrastructure in northern areas of the country, infrastructure in Texas, such as wellheads, gathering lines, and processing facilities, are more susceptible to the effects of extremely cold weather. Following the freeze-offs, EIA forecasts crude oil production will rise to almost 11.0 million b/d in March. EIA expects U.S. crude oil production will average 11.1 million b/d in 2021 and 12.0 million b/d in 2022. In 2020, production averaged 11.3 million b/d, down from 12.2 million b/d in 2019. EIA's current forecast for U.S. crude oil production in 2022 is 0.5 million b/d higher than in last month's STEO because of higher expected crude oil prices.

Natural Gas

- In February, the Henry Hub natural gas spot price averaged $5.35 per million British thermal units (MMBtu), which was up from the January average of $2.71/MMBtu and the highest nominal monthly average Henry Hub spot price since February 2014. Higher prices in February reflect increased demand for natural gas because of much colder-than-normal temperatures throughout most of the country. Price effects were amplified because the rise in demand occurred amid a drop in natural gas production due to well freeze-offs. EIA expects Henry Hub spot prices to decline to an average of $2.88/MMBtu in the second quarter of 2021. EIA expects that Henry Hub spot prices will average $3.14/MMBtu in 2021, which is up from the 2020 average of $2.03/MMBtu. EIA expects that continued growth in liquefied natural gas (LNG) exports, along with relatively flat production, will contribute to Henry Hub spot prices rising to an average of $3.16/MMBtu in 2022.

- EIA expects that U.S. consumption of natural gas will average 82.5 billion cubic feet per day (Bcf/d) in 2021, down 0.9% from 2020. The decline in U.S. natural gas consumption reflects less natural gas consumed for electric power generation because of higher natural gas prices compared with last year. In 2021, EIA expects residential natural gas consumption to average 13.1 Bcf/d (up 0.4 Bcf/d from 2020) and commercial consumption to average 9.3 Bcf/d (up 0.7 Bcf/d from 2020). EIA forecasts industrial consumption will average 23.8 Bcf/d in 2021 (up 1.3 Bcf/d from 2020) as a result of increasing manufacturing activity amid a recovering economy. EIA estimates that total natural gas consumption in February was the highest on record, at 111.8 Bcf/d, because cold weather affected much of the United States and increased natural gas demand for heating and power generation. However, EIA expects natural gas consumption in March to decline from February levels as temperatures return closer to normal, based on forecasts by the National Oceanic and Atmospheric Administration. EIA expects U.S. natural gas consumption will average 81.6 Bcf/d in 2022.

- The United States ended October 2020 with more than 3.9 trillion cubic feet (Tcf) in working natural gas storage, 5% more than the 2015–19 average and the fourth-highest end-of-October level on record. EIA estimates that inventory withdrawals were 829 billion cubic feet (Bcf) in February, the largest February withdrawal on record. The February 2021 withdrawal was significantly larger than the five-year (2016–20) average February withdrawal of 452 Bcf. In mid-February, the combination of strong natural gas demand and lower production led to the second-largest weekly storage withdrawal on record, including a record weekly withdrawal of 156 Bcf in the South Central region, which includes Texas. The large February withdrawal has resulted in end-of-month storage levels falling lower than their five-year average. EIA forecasts that natural gas inventories will end March 2021 at 1.6 Tcf, which is 13% lower than the five-year average. EIA forecasts that natural gas inventories will ultimately end the 2021 injection season (end of October) at almost 3.7 Tcf, which is 2% less than the five-year average.

- EIA forecasts that U.S. production of dry natural gas averaged 87.8 Bcf/d in February, which is down from 92.4 Bcf/d in December (the most recent month that has final data). The decline in natural gas production was mostly a result of freeze-offs, which occur when water and other liquids in the raw natural gas stream freeze at the wellhead or in natural gas gathering lines near production activities. Unlike the relatively winterized natural gas production infrastructure in northern areas of the country, natural gas production infrastructure, such as wellheads, gathering lines, and processing facilities, in Texas are more susceptible to the effects of extremely cold weather. For 2021, EIA expects that overall dry natural gas production will average 91.4 Bcf/d, which is 0.9 Bcf/d more than the February STEO forecast. The higher forecast largely reflects higher forecast crude oil prices, which EIA expects will contribute to more associated natural gas production.

- In February, U.S. LNG exports averaged 7.5 Bcf/d, a 2.3 Bcf/d (23%) decline from January. LNG exports were affected by the logistical constraints associated with suspending piloting

services on several days at some U.S. LNG export ports located in the Gulf of Mexico because of inclement weather. In addition, several U.S. LNG export facilities (including Freeport, Cameron, and Corpus Christi) experienced lower natural gas feedstock supply in mid-February following declines in natural gas production because of extremely cold weather. EIA expects U.S. LNG exports to continue their seasonal decline from March through May, averaging 7.8 Bcf/d in this period.

Electricity, coal, renewables, and emissions

- EIA forecasts that electricity consumption in the United States will increase by 2.1% in 2021 after it fell 3.8% in 2020. EIA forecasts residential sector retail electricity sales will grow by 2.7% in 2021. This increase is primarily a result of colder temperatures in the first quarter of 2021 compared with the same period in 2020. Despite rolling power outages in Texas and some other states in February, estimated U.S. residential consumption during the first quarter of 2021 is 10% higher than at the same time in 2020. EIA expects retail sales of electricity in the commercial and industrial sectors in 2021 will increase by 0.7% and 3.7%, respectively. For 2022, EIA forecasts total electricity consumption will grow by another 1.4%.

- EIA expects the share of U.S. electric power generated with natural gas will average 36% in 2021 and 35% in 2022, which is down from 39% in 2020. The forecast natural gas share declines in response to a forecast increase in the price of natural gas delivered to electricity generators from an average of $2.40/MMBtu in 2020 to $3.46/MMBtu in 2021 (a 44% increase). Coal's forecast share of electricity generation averages 23% in both 2021 and 2022, up from 20% in 2020. Electricity generation from renewable energy sources rises from 20% in 2020 to 21% in 2021 and to 23% in 2022. The nuclear share of U.S. generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022.

- EIA expects U.S. coal production to total 581 MMst in 2021, 42 MMst (8%) more than in 2020. In 2022, EIA expects coal production to rise by a further 29 MMst (5%). Recent extreme cold weather in much of the country contributed to an increase in coal use for power generation. EIA expects that coal use for power generation will increase by 16% to 505 MMst in 2021. Supply for rising coal-fired generation will be partly met by draws from on-site stockpiles at power plants.

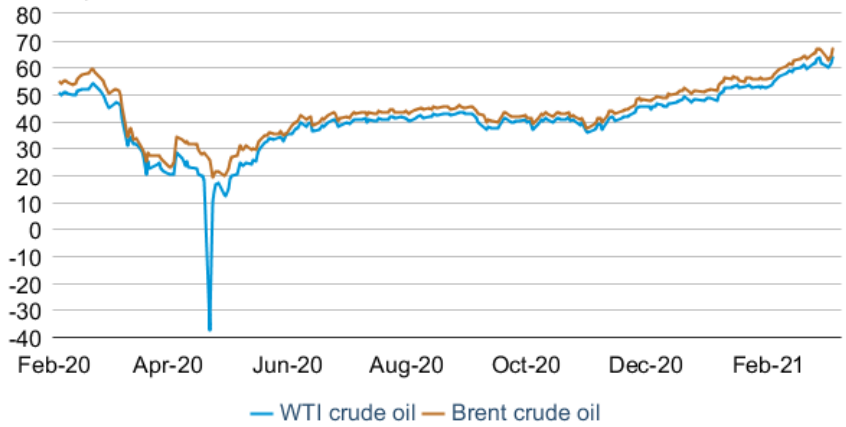
- EIA estimates that U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020. This decline in emissions was the result of less energy consumption related to economic contraction resulting from the COVID-19 pandemic. In 2021, EIA forecasts energy-related CO_2 emissions will increase by about 6% from the 2020 level as economic activity increases and leads to rising energy use. EIA also expects energy-related CO_2 emissions to rise in 2022, but by a slower rate of 2%. EIA forecasts coal-related CO_2 emissions will rise by 14% in 2021 and by 2% in 2022.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $66.74 per barrel (b) on March 4, 2021, an increase of $10.39/b from February 1, 2021. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $10.28/b during the same period, settling at $63.83/b on March 4 **(Figure 1).**

Figure 1. Crude oil front-month futures prices



Sources: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

The increase in crude oil prices during February reflects continuing global oil inventory draws following production cuts by the Organization of the Petroleum Exporting Countries (OPEC), partner countries (OPEC+), as well as a further, unilateral 1.0 million barrels per day (b/d) production cut from Saudi Arabia. In addition, EIA estimates U.S. crude oil production declined by 0.5 million b/d in February as a result of extremely cold weather that caused well freeze-offs. This reduction in supply occurred against a backdrop of rising global oil demand.

Global oil markets significantly tightened in February. EIA estimates February global liquid fuels supply fell by 1.8 million b/d from January while liquid fuels consumption rose 2.2 million b/d, resulting in the strongest monthly global oil inventory draw since inventories began falling in mid-2020. Initial estimates by EIA show February global oil inventory draws were 0.6 million b/d larger than forecast last month.

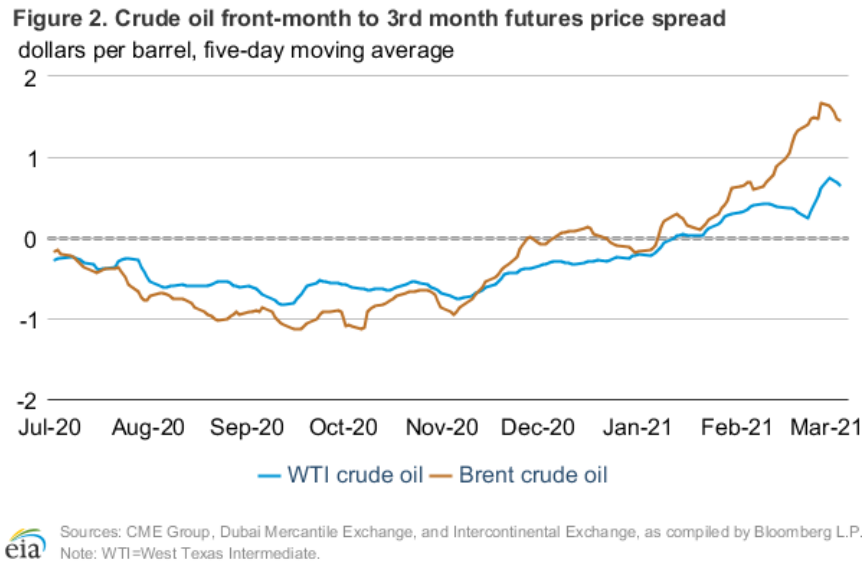
At its meeting on March 4, OPEC+ announced its member countries would maintain crude oil production cuts through April, except for relatively small production increases from Russia and Kazakhstan. The announcement also noted that Saudi Arabia would maintain its voluntary production cut going into April. The announcement from OPEC+ put further upward pressure on crude oil prices, and front-month Brent futures on March 4 increased by $2.67/b compared with the previous day. The sustained production curtailment suggests that supply will remain

constrained in the near term even as demand continues to increase. As a result, EIA expects that further inventory withdrawals to meet rising crude oil demand will support crude oil prices through at least the end of April. In last month's outlook, EIA had forecast that OPEC would begin relaxing production cuts in April, but following the March 4 announcement, EIA now expects that to happen beginning in May. EIA expects OPEC crude oil production will increase to an average 26.6 million b/d in May, which would be an increase of 1.5 million b/d compared with the January–April average. The supply increase contributes to easing pressure on global crude oil prices in the forecast, with global oil inventory draws averaging 0.3 million b/d in May and June compared with 1.7 million b/d in the first four months of the year.

EIA forecasts Brent crude oil prices will average $67/b in March and April 2021. EIA continues to expect downward crude oil price pressures will emerge in the coming months as the oil market becomes more balanced, with EIA's forecast Brent price falling to $65/b in May and then $58/b over the second half of 2021. Even at $58/b, prices would be higher than they were at the end of 2020. The higher crude oil prices also result in rising forecast U.S. crude oil production by the second half of 2021, and particularly in 2022. Rising U.S. production, along with higher production from OPEC+, and continuing high OPEC spare production capacity contributes to EIA's forecast of relatively balanced oil markets during the second half of 2021 and 2022, which moderate price pressures over that period.

EIA's forecast of downward oil price pressure and increased crude oil availability has several key uncertainties. The speed of actual demand recovery, based on vaccination rates and the degree to which travel and employment conditions return to pre-COVID levels, remains an important uncertainty on the demand side. At the same time, the degree to which OPEC+ production cuts will continue after April remains a source of uncertainty on the supply side, especially because increasing crude oil prices will continue to provide an incentive for OPEC+ participants to agree to production increases in later meetings. Finally, the responsiveness of U.S. tight oil production to higher oil prices is also uncertain.

Crude oil futures price spreads: The spread between front-month and 3rd month futures contract prices for Brent and WTI diverged in mid-February, suggesting substantially different market expectations for crude oil availability in the months of March and April **(Figure 2)**. The Brent front-month to 3rd month spread has been climbing steadily since January, exceeding $1/b beginning on February 16. At the same time, the backwardation (when near-term prices are higher than longer-dated ones) in WTI decreased from the beginning of the month, reaching a low point in the aftermath of the extreme cold weather across much of the United States, particularly in Texas. As the WTI front-month contract rolled over from March delivery to April delivery and as the disruptive market effects of the U.S. Gulf Coast weather conditions lessened, the backwardation of the WTI front-month to 3rd month spread contract began to increase in line with the trend in Brent, reaching 66 cents/b as of March 4.

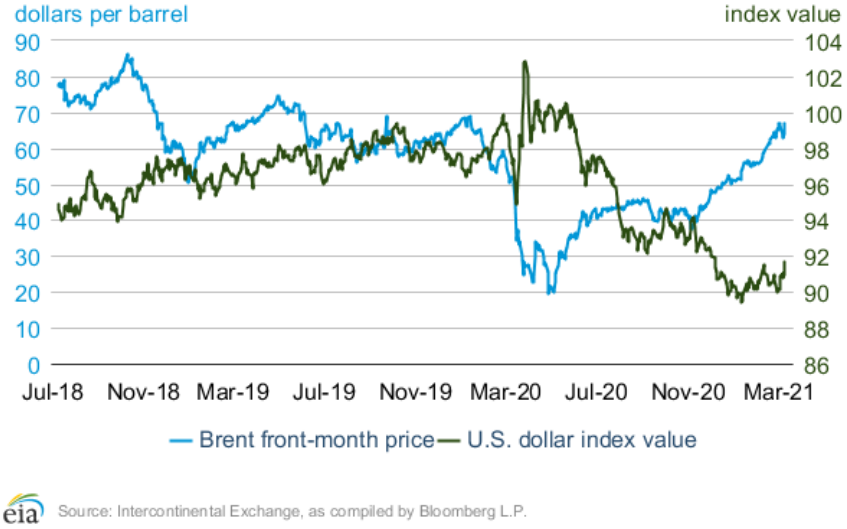


The difference between the contracts for the two crude oil grades reflects both a difference in market demand for crude oil in March compared with April and the relatively longer lead time for global crude oil deliveries, which puts more upward pressure on Brent. Differences in the delivery dates between the Brent and WTI front month contracts suggest that crude oil for April delivery was in higher demand, compared to March. The Brent futures contract trades for April delivery throughout February, but WTI trades for March delivery during most of February. The difference in the front-month to 3rd-month spread likely reflects differing market expectations about crude oil availability during the respective front-month contract periods. April became the front-month for the Brent contract sooner, resulting in increasing front-month prices for Brent because of expectations of higher refinery demand for crude oil in preparation for increased summer demand. The WTI front-month contract, conversely, did not shift to April delivery until near the end of February, and after a brief period of disruption because of weather outages, the WTI front-month contract began to increase at the end of the month, which also likely reflects reports of major inventory draws and greater expected refinery demand in April.

The difference in value between the Brent and WTI front-month to 3rd-month spreads is not necessarily a seasonal one and does not always occur in preparation for summer demand. Lower OPEC+ production through April means many buyers will need to turn to crude oil inventories to acquire product in time for April delivery. As the global benchmark, Brent is likely to reflect substantial international crude oil movements by waterborne cargos that can take weeks or months to arrive at their destinations. WTI, conversely, remains the benchmark of choice for many refiners located closer to the Permian Basin and nearby refining hubs in the U.S. Midwest and Gulf Coast. The relatively shorter supply chain for WTI from production sites in the U.S. Midcontinent to nearby customers, combined with shorter expected lead times to increase crude oil production, could result in a lower call on crude oil inventories from refiners and, therefore, less upward price pressure on WTI compared with Brent.

Brent and the U.S. dollar index: The U.S. dollar index, which measures the relative value of the U.S. dollar against the values of several foreign currencies, has decreased since November 2020, meaning the U.S. dollar has depreciated against other currencies **(Figure 3)**. Most international benchmark crude oils, including Brent crude oil and WTI, are priced in U.S. dollars, so the U.S. dollar's value can meaningfully affect crude oil acquisition costs in other countries where currencies are appreciating or depreciating.

Figure 3. Brent crude oil price vs. the value of the U.S. dollar

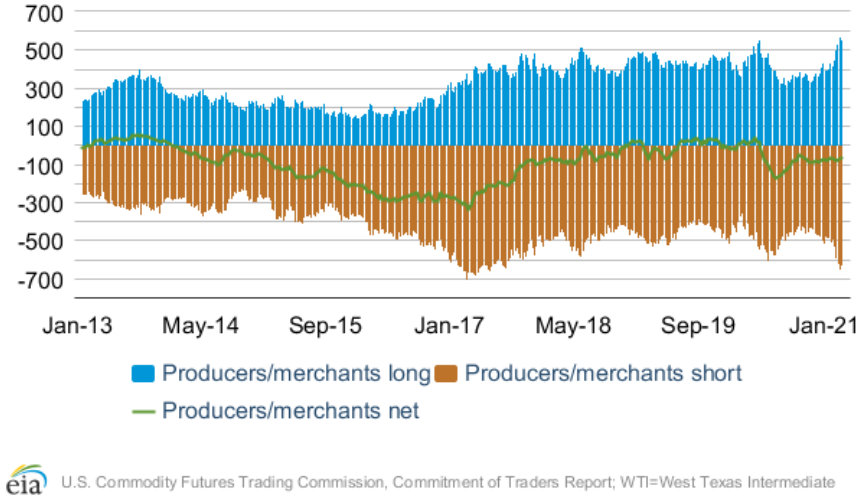


eia Source: Intercontinental Exchange, as compiled by Bloomberg L.P.

Because a strong currency can indicate higher demand for a country's goods and services, a weaker U.S. dollar may indicate strong economic growth in the rest of the world, which would also correlate with stronger crude oil demand. Even in cases where independent monetary policy decisions, rather than underlying economic growth, may be driving the relative value of the dollar, relatively cheaper crude oil acquisition costs allow those actors to pay a higher dollar-denominated price for crude oil by benefitting from the dollar's reduced exchange rate. These factors may help to explain instances of inverse correlations between crude oil prices and the value of the U.S. dollar. The current period of relative weakness in the dollar also corresponds with rising demand and higher prices for other commodities in the agricultural and industrial metals sectors, which suggests expectations for broad economic expansion. The U.S. dollar index was showing signs of relative strength during the height of COVID-19 disruptions, regularly reaching or exceeding 100 from March through May 2020. The strength corresponds to increased demand for dollars as a financial safe haven during a period of increased uncertainty. However, the index hasn't exceeded 100 since May 15, 2020, and averaged 93 each month from August through November 2020. Since December, the U.S. dollar index has averaged 91. The rising demand for crude oil and other commodities, combined with the weaker dollar, reflects an increasing risk tolerance in the market and high economic growth expectations among market participants.

WTI crude oil producer/merchant positions: Rising producer/merchant open interest in WTI futures contracts indicates increased futures market activity in the petroleum market after a period of reduced interest during 2020 **(Figure 4)**. In February 2021, the average total monthly contracts (long position contracts plus short position contracts) for producers/merchants increased to more than 1 million contracts for the first time since May 2020. The Commodity Futures Trading Commission (CFTC) defines producers/merchants as entities engaged in handling the physical commodity. The rise in producer/merchant contracts reflects increased business activity among crude oil producers, shippers, refiners, or other physical market participants. Crude oil producers use short position futures contracts to serve as a hedge against the risk that prices will decrease in the future. Refiners or shippers use long positions to hedge against higher crude oil prices. The increases in Brent and WTI prices since the fourth quarter of 2020 may be contributing to the rising contract open interest. The current prices provide an incentive for crude oil producers to secure a contract rate based on present highs in case prices decrease by expiration. Conversely, the potential for continued crude oil price increases is an incentive for physical market buyers to secure a contract rate at present levels in case prices continue to rise. Despite the increase in open interest contracts overall, the net position of producer/merchant contracts has remained short, suggesting that more producer/merchant contracts continue to serve as a hedge against decreasing crude oil prices rather than rising crude oil prices (long). On a monthly average basis, producer/merchant open interest has been in a net short position since April, and has remained relatively steady at a net short position of between 70,000 and 90,000 contracts since October 2020.

Figure 4. Producer / merchant open interest in WTI futures contracts

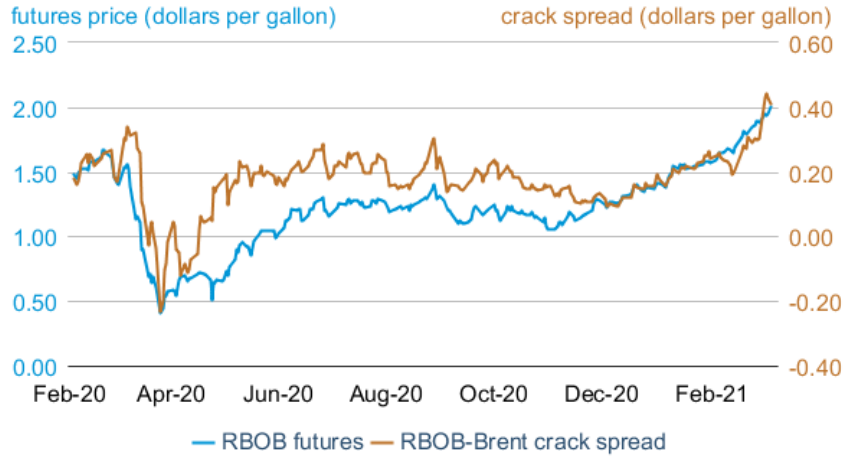


Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $2.00 per gallon (gal) on March 4, up 41 cents/gal from February 1 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent

crude oil) increased by 16 cents/gal to settle at 41 cents/gal during the same period. On March 2, the crack spread closed at 44 cents/gal, the highest since September 1, 2017.

Figure 5. Historical RBOB front-month futures prices and crack spread

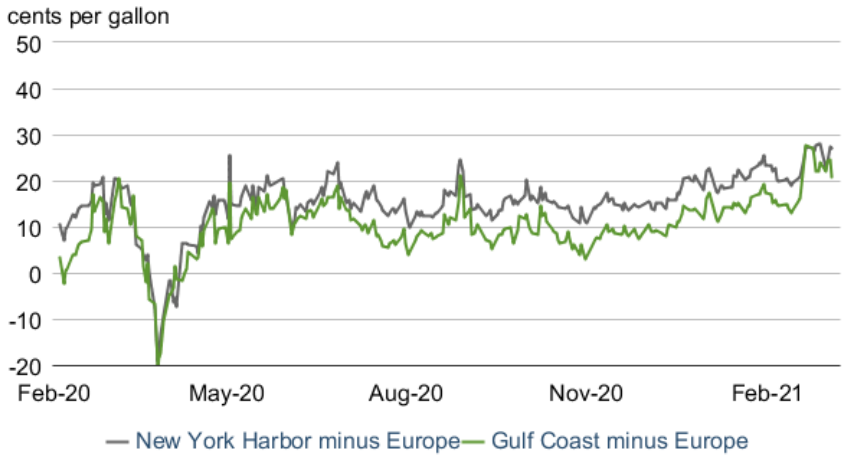


Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending

The increase in the RBOB–Brent crack spread likely reflects unplanned refinery outages in mid-February combined with expectations of increased consumption. The crack spread increased 12 cents/gal from February 10 to February 19 when the extreme cold disrupted energy supply—particularly in Texas, where several refineries fully or partially shut down. Refining activity is not likely to fully recover immediately because the cold weather damaged some refining units, which in some cases, might require longer or more complicated restart processes. EIA estimates that March gasoline production will remain subdued as gasoline demand increases. Expectations of higher gasoline demand and subdued supply likely contributed to the crack spread increase at the end of February.

Gasoline spot prices: Because the refining disruptions were concentrated on the Gulf Coast, that region experienced the highest gasoline spot price increases during the cold spell. These supply disruptions also affected the gasoline spot market more broadly. New York Harbor gasoline spot prices increased and, to a lesser degree, European gasoline spot prices also increased. Spot prices for New York Harbor gasoline were trading at a 6 cent/gal premium to Gulf Coast conventional gasoline on February 10. As Gulf Coast spot prices increased, the spread between the two spot prices decreased, and on February 19, New York Harbor prices were selling at a discount to Gulf Coast conventional gasoline spot prices **(Figure 6)**. Furthermore, both New York Harbor and Gulf Coast spot prices increased relative to Eurobob spot prices, increasing from premiums of 20 cents/gal and 14 cents/gal on February 10, respectively, to both selling at premiums of more than 27 cents/gal on February 19. At the end of the month, Gulf Coast conventional gasoline prices and then New York Harbor gasoline prices decreased slightly as some of the shut-down refining capacity on the Gulf Coast came back online.

Figure 6. Gasoline spot price differentials

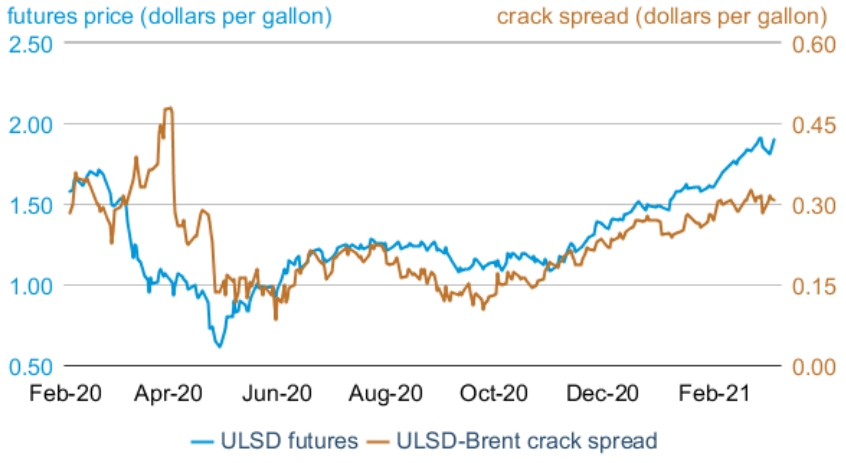


eia Source: Bloomberg L.P.

Because New York Harbor and Gulf Coast gasoline spot prices continue to sell at relatively high premiums to Eurobob spot prices, the United States will likely import more European gasoline in the near future to make up for reduced refining. EIA forecasts the United States will be a net importer of 0.2 million b/d of gasoline in March, which would be the first time the United States is a net importer of gasoline in March since 2015.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $1.90/gal on March 4, up 25 cents/gal from February 1 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) was unchanged, settling at 31 cents/gal during the same period.

Figure 7. Historical ULSD front-month futures price and crack spread

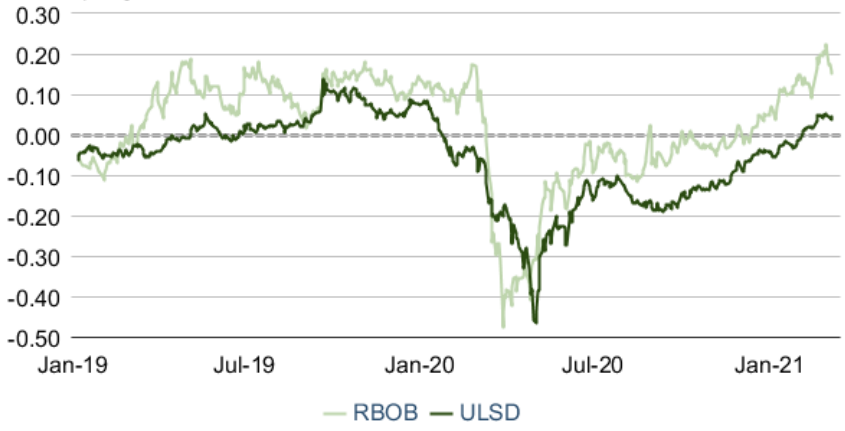


eia Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

The ULSD–Brent crack spread traded within a narrow 4 cent/gal range in February, but an estimated distillate inventory draw of 20.8 million barrels contributed to the February crack spread averaging 4 cents/gal higher than in January. EIA estimates that distillate consumption increased to 4.09 million b/d for February, which is up 1% from 4.05 in January and up 2% from February 2020. Decreases in distillate net imports and production also contributed to the highest February inventory draw since 1986. EIA estimates that distillate inventories decreased to 141.3 million barrels in February, which is 4% lower than the five-year (2016–20) average.

ULSD 1st to 13th contract spread: The ULSD 1st to 13th futures price spread became backwardated (where near-term contract prices are higher than farther-dated ones) on February 1 for the first time since January 2020, but the backwardation is narrower than RBOB's backwardation **(Figure 8)**. The ULSD 1st-13th spread has been increasing as distillate inventories have been decreasing from their high summer 2020 levels. Since August 2020, distillate inventories have decreased from 178.9 million barrels to 141.3 million barrels, a 21% decrease.

Figure 8. Petroleum product front-month to 13th month futures price spread



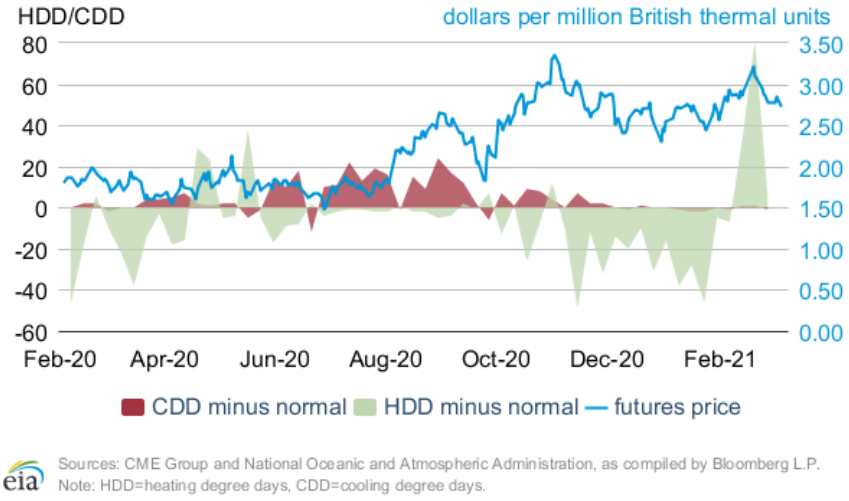
U.S. EIA, Bloomberg LP, RBOB=reformulated blendstock for oxygenate blending, ULSD=ultra-low sulfur diesel

Recent inventory draws reflected a tightening distillate market and coincided with a shift into backwardation on February 1 as well as the increasing backwardation throughout the month. However, ULSD's backwardation remains narrower than RBOB's because distillate inventories remain close to their seasonal average and are not forecasted to decrease by as much as gasoline inventories in March. EIA forecasts that there will be a substantial gasoline inventory draw in March because of refinery outages and an expected increase in consumption. The expected tightness in the gasoline market is likely contributing to the wider backwardation.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.75 per million British thermal units (MMBtu) on March 4, 2021, which is down 10 cents/MMBtu from February 1, 2021 **(Figure 9)**.

Figure 9. Natural gas front-month futures prices and actual minus historical average HDD and CDD

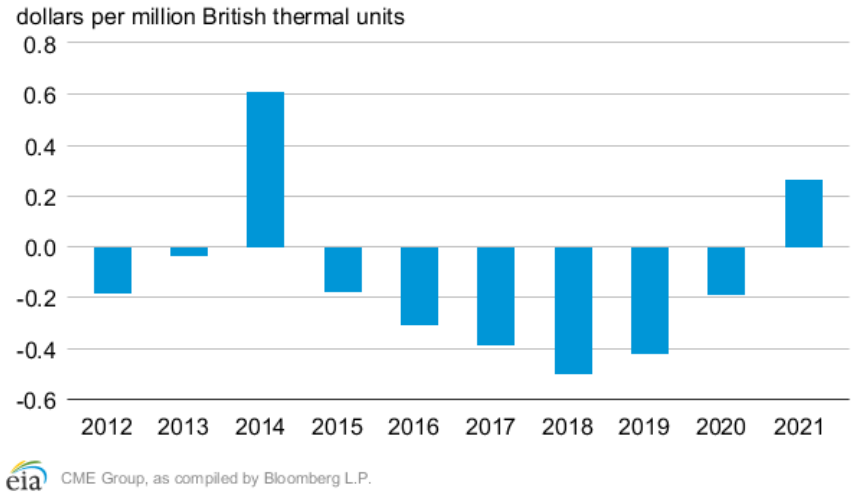


Sources: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

Despite February front-month futures prices increasing 37 cents/MMBtu from February 1 to February 17, futures prices ended the month lower than they started after the contract rolled to April delivery, indicating market participants did not expect the weather effects that disrupted natural gas markets last month to be lasting. During the coldest week in the United States since the week ending January 6, 2018, natural gas futures prices peaked at $3.22/MMBtu on February 17. The futures price decreased in all seven of the remaining February trading days, decreasing 45 cents/MMBtu from February 17 to February 26. Disruptions to the production and flow of natural gas during the cold spell also supported a record Henry Hub spot price of $23.86/MMBtu on February 17.

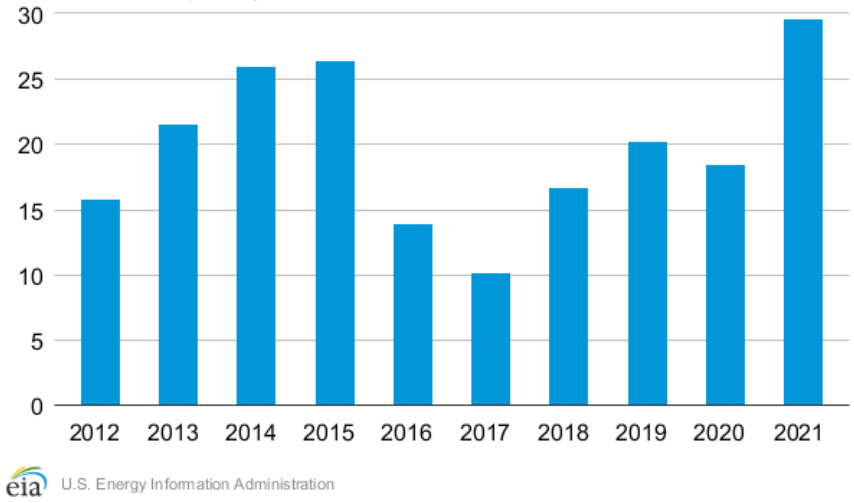
February's combination of cold weather and large inventory draws contributed to the front-month futures price averaging 27 cents/MMBtu higher in February than in January. This increase reflects a 29 cent/MMBtu increase on February 1 and the cold spell in mid-February. The last time the average February front-month futures price was higher than the average January front-month futures price was in 2014, also a colder-than-normal winter **(Figure 10)**.

Figure 10. January to February average front-month natural gas contract price change



EIA estimates U.S. natural gas inventory draws totaled 29.6 billion cubic feet per day (Bcf/d) in February **(Figure 11)**. The draw was a February record and the second-fastest withdrawal rate for any month on record. The cold weather, especially in Texas and the Midwest, contributed to high natural gas consumption. EIA estimates U.S. natural gas consumption was 111.8 Bcf/d in February, which, if confirmed in monthly data, is a record level of U.S. natural gas consumption for any month. Furthermore, production decreased because of weather-related outages in Texas and natural gas exports increased compared with last February's levels. The combination of increased consumption, decreased production, and relatively high exports all contributed to February's high inventory draws.

Figure 11. February natural gas net inventory withdrawal



Although February's cold weather reduced EIA's end-of-March inventory forecast by 178 Bcf compared with last month's forecast, EIA's forecast for the end of 2021 was relatively unchanged from last month's forecast. EIA forecasts that inventories will be 68 Bcf lower than last month's forecast at the end of December 2021, primarily because of higher crude oil prices leading to more drilling activity and higher natural gas production. During the final three quarters of 2021, EIA now expects 1.3 Bcf/d more dry gas production than forecast in February, while forecast demand remains relatively unchanged.

Notable forecast changes

- Based on forecasts from IHS Markit, this STEO includes an increased assumption of economic activity compared with last month's STEO. This forecast assumes that U.S. gross domestic product (GDP) will grow by 5.5% in 2021, which is up from the expected growth of 3.8% in the February STEO, and by 4.2% in 2022, which is largely unchanged from the February STEO.

- EIA forecasts Brent crude oil prices will average $61 per barrel (b) in 2021 and $59/b in 2022. Those forecasts are $7/b and $3/b higher, respectively, than in the February STEO. The increase largely reflects less expected OPEC crude oil production in this STEO.

- This STEO includes a stronger assumption of global GDP from Oxford Economics than in last month's forecast. The increase in expected economic activity contributes to 0.3 million b/d more growth in global liquid fuels consumption in 2022 in this STEO compared with last month. In 2021, however, EIA forecasts similar forecast overall consumption growth compared with the February STEO because the effects of stronger economic activity are offset by a reduced expectation for global jet fuel consumption. EIA reduced expectations for jet fuel consumption in 2021 in response to lower than expected first-quarter flight activity, along with reduced air travel expectations from the International Civil Aviation Organization during the second quarter of 2021.

- EIA expects U.S. crude oil production to average 11.1 million barrels per day (b/d) in 2021, 0.1 million b/d more than in the February STEO. Forecast production rises to 12.0 million b/d in 2022, which is up 0.5 million b/d from the February STEO. The increase in EIA's U.S. crude oil production forecast reflects higher expected crude oil prices.

- In this STEO, EIA included initial adjustments arising from the effects of the pause on federal oil and natural gas leasing outlined in Executive Order 14008. EIA assumes that no new federal leases are granted during the STEO forecast period but that permitting and drilling on currently held federal leases continues pursuant to Section 3, Subsection G of Department of Interior Order SO-3395. No effects will likely occur until 2022 because there is roughly a minimum eight-to-ten month delay from leasing to production in onshore areas

and longer in offshore areas. Incorporating this change reduced U.S. crude oil production by less than 0.1 million b/d on average in 2022.

- Higher GDP assumptions in this forecast contribute to higher forecast U.S. distillate fuel consumption. In this STEO, EIA forecasts that distillate consumption in 2021 will average 4.1 million b/d and 4.2 million b/d in 2022. Both forecasts are 0.1 million b/d higher than in the February STEO.

- EIA expects U.S. dry natural gas production will average 91.4 billion cubic feet per day (Bcf/d) in 2021, which is up 0.9 Bcf/d from the February STEO. EIA expects production to rise to 92.8 Bcf/d in 2022, which is up 1.9 Bcf/d from last month's forecast. The higher forecast mostly reflects increased associated natural gas production because of the upward revision to EIA's crude oil production forecast.

- EIA expects natural gas storage inventories to be 13% lower than the five-year average for March, compared with 3% lower than the end-of-March five-year average in the February STEO forecast. The lower storage forecast reflects large natural gas withdrawals during mid-February.

- EIA forecasts industrial natural gas consumption to increase to 23.8 Bcf/d in 2021, a 0.8 Bcf/d increase from the February STEO forecast. This increase reflects increased manufacturing activity because of improved economic conditions expected in 2021.

- EIA expects coal-fired electric power generation will total 887 billion kilowatthours in 2021, which is up 6% from last month's forecast. The increase mostly reflects more coal use in the first quarter because of extremely cold weather that raised natural gas prices and made coal more competitive compared with natural gas for electricity generation.

- Secondary forecast coal inventories are lower by 40 million short tons (MMst) (27%) in 2021 and by 36 MMst (32%) in 2022 compared with the February forecast. Lower expected inventories reflect EIA's expectation that coal-fired electricity generation will increase at a faster rate than the forecast increase in coal production, which reflects a general decline in coal production capacity coupled with historically high on-site coal inventories.

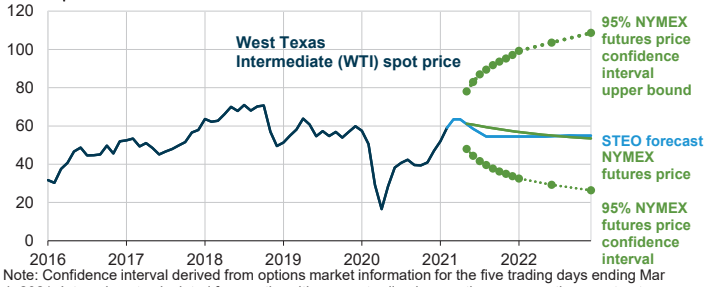
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook Chart Gallery

March 9, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

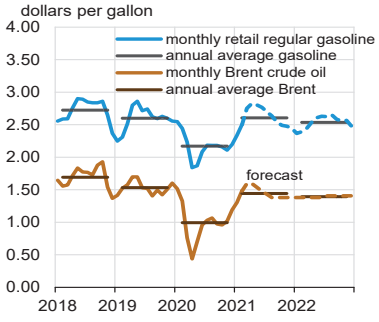


Note: Confidence interval derived from options market information for the five trading days ending Mar 4, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

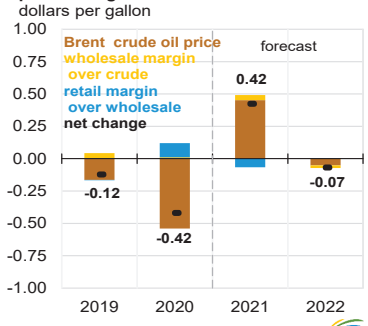
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021, CME Group, and Bloomberg, L.P.

eia

U.S. gasoline and crude oil prices
dollars per gallon



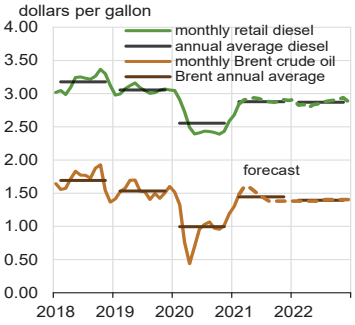
Components of annual gasoline price changes
dollars per gallon



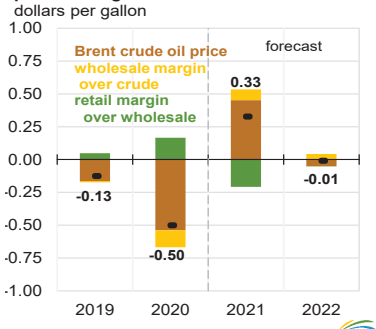
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

eia

U.S. diesel and crude oil prices



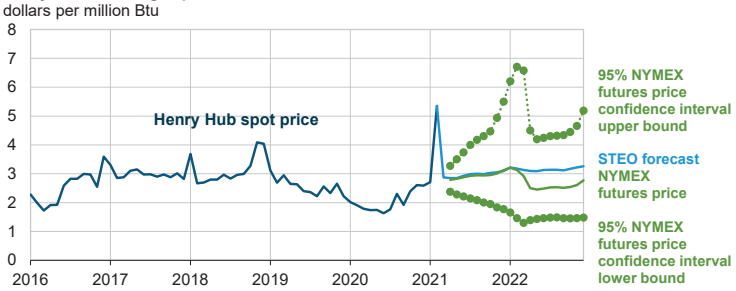
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

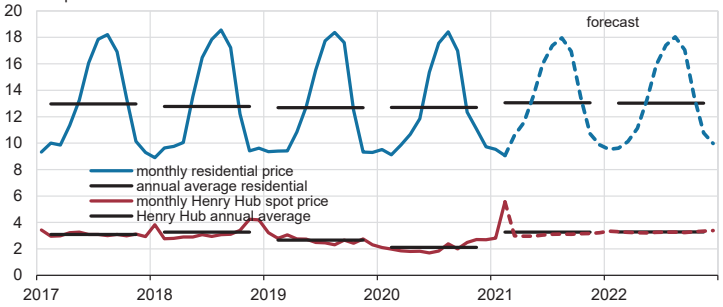


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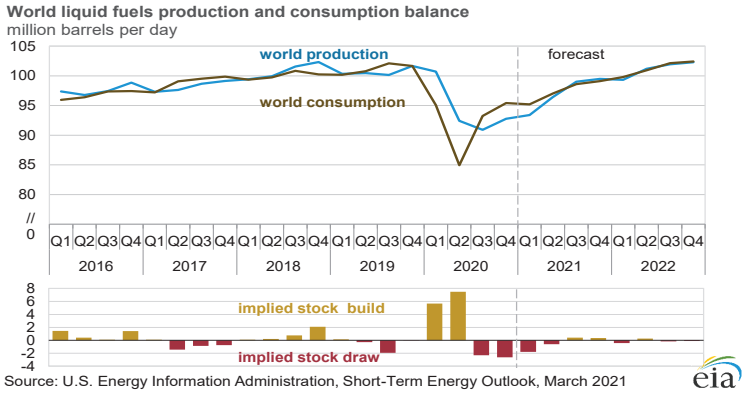
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021, and CME Group

U.S. natural gas prices

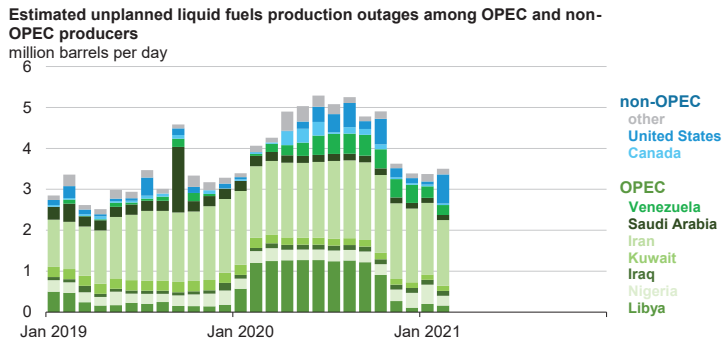
dollars per thousand cubic feet



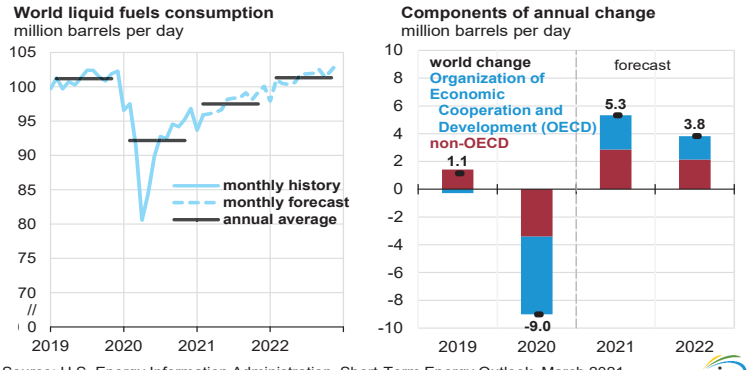
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021, and Refinitiv



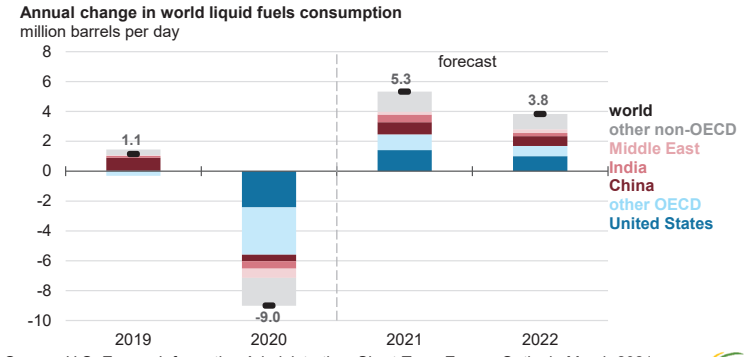
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



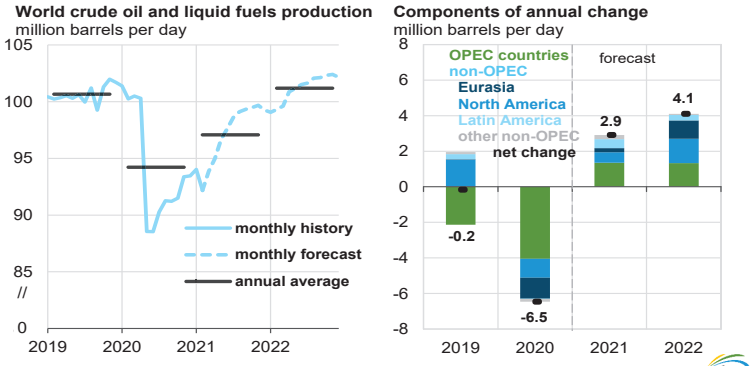
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



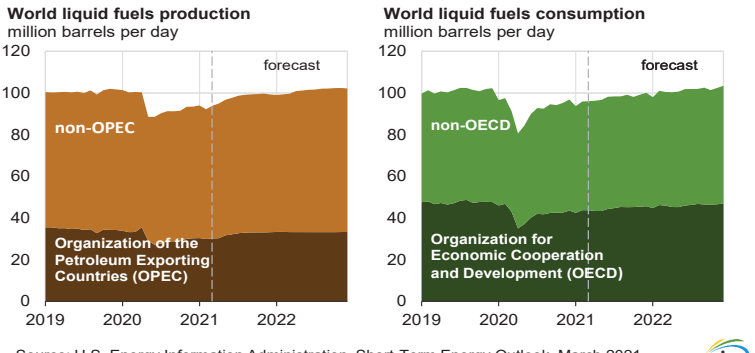
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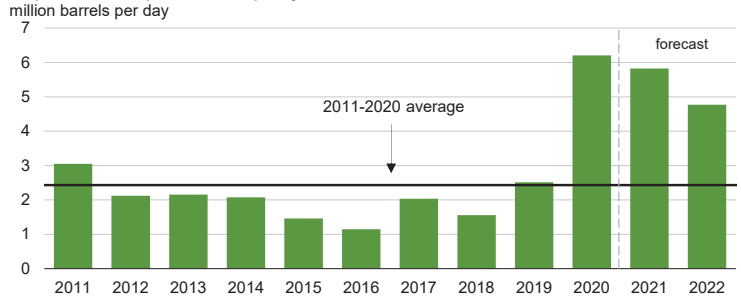


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



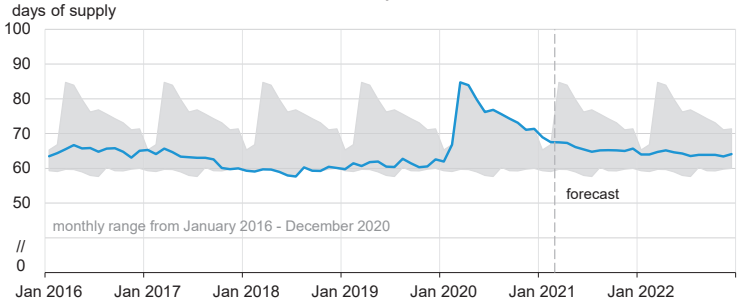
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



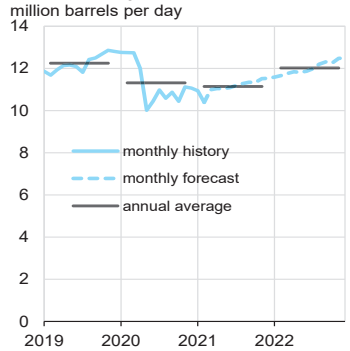
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

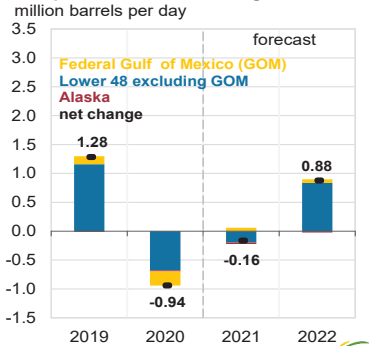


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

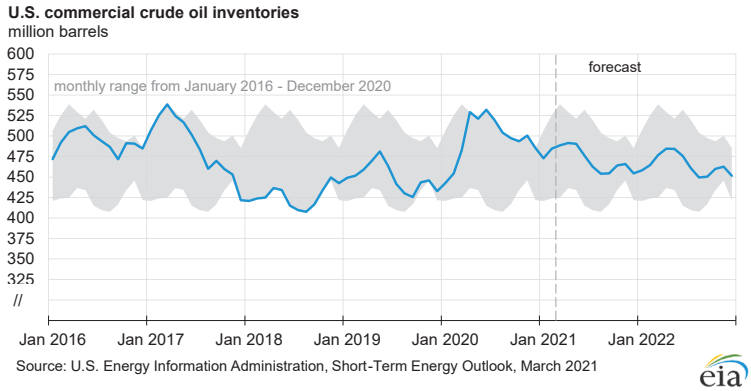
U.S. crude oil production
million barrels per day

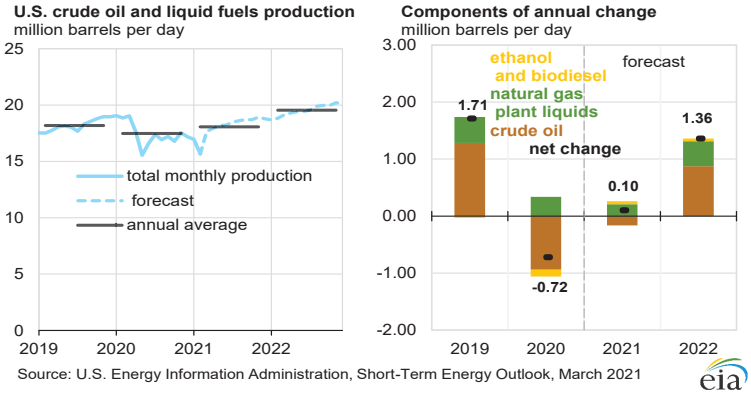


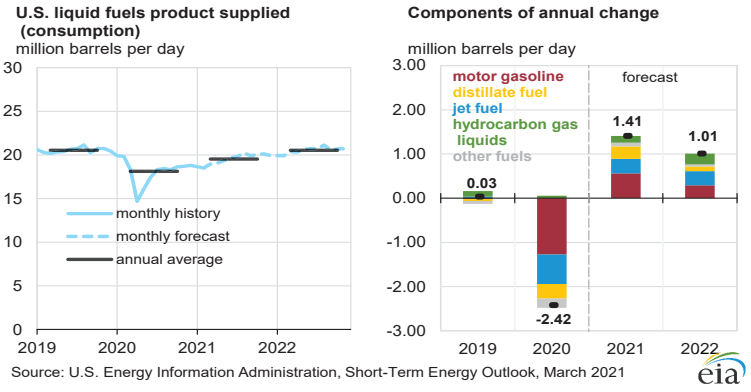
Components of annual change
million barrels per day



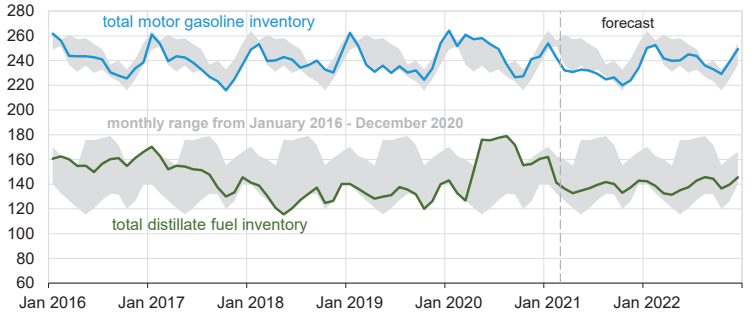
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2016 - December 2020
forecast
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021
eia


U.S. crude oil and liquid fuels production
million barrels per day
25
20
15
10
5
0
total monthly production
forecast
annual average
2019
2020
2021
2022
Components of annual change
million barrels per day
3.00
2.00
1.00
0.00
-1.00
-2.00
ethanol
and biodiesel
natural gas
plant liquids
crude oil
net change
forecast
1.71
-0.72
0.10
1.36
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021
eia

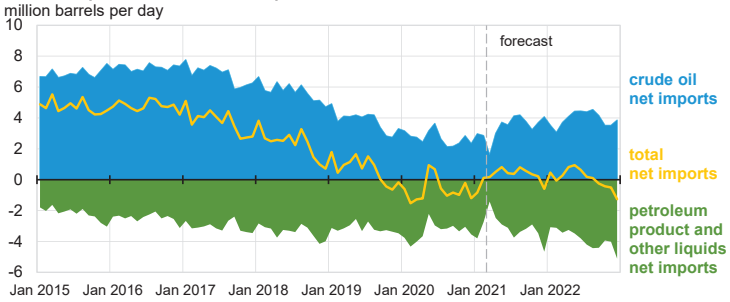

U.S. liquid fuels product supplied
(consumption)
million barrels per day
30
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2019
2020
2021
2022
Components of annual change
million barrels per day
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas
liquids
other fuels
forecast
0.03
-2.42
1.41
1.01
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021
eia

U.S. gasoline and distillate inventories
million barrels



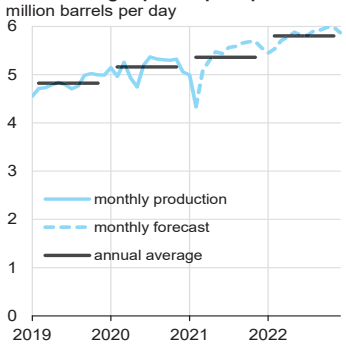
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

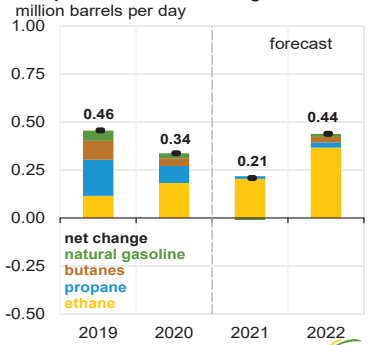


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

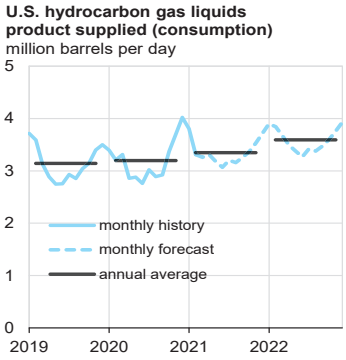
U.S. natural gas plant liquids production
million barrels per day

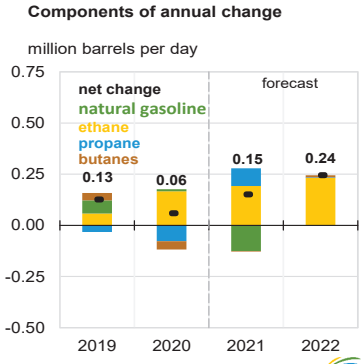


Components of annual change
million barrels per day

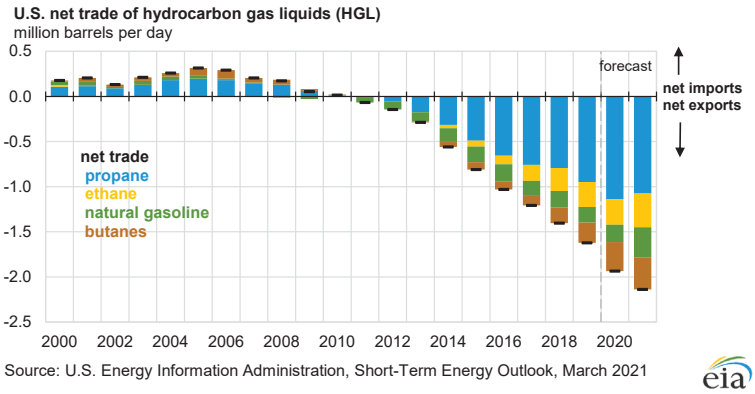


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

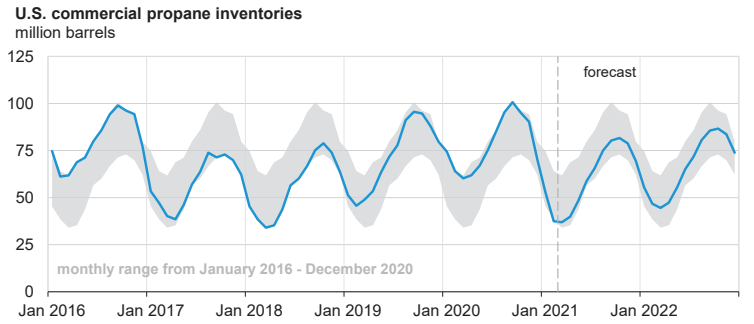




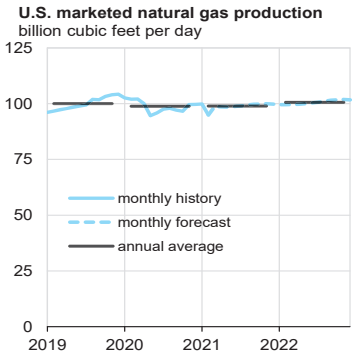
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

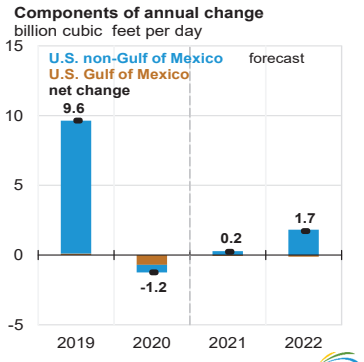


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

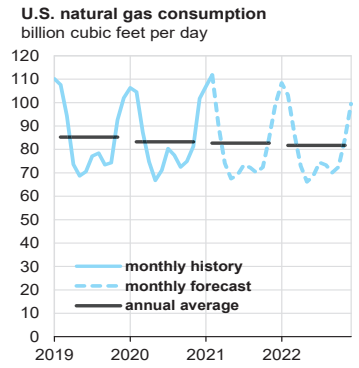


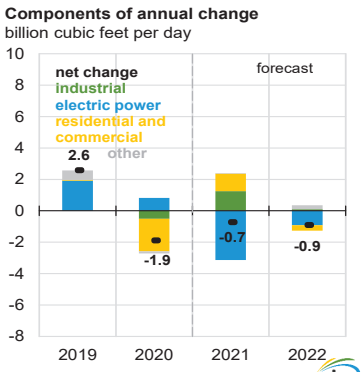
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



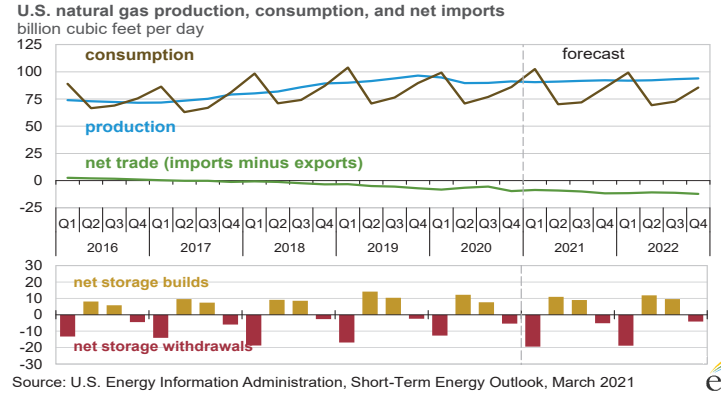


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



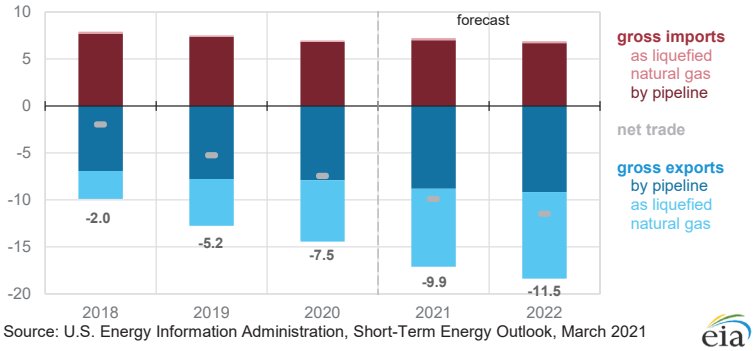


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



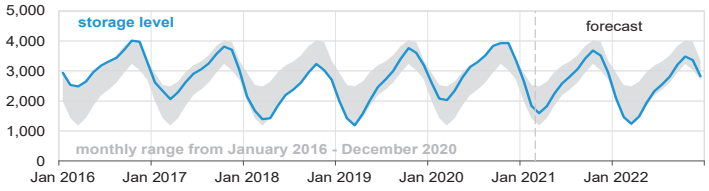
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

U.S. annual natural gas trade
billion cubic feet per day

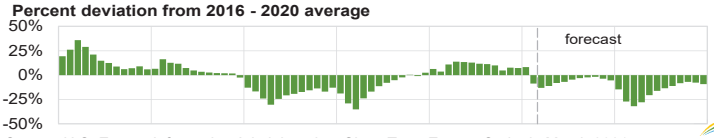


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

U.S. working natural gas in storage
billion cubic feet

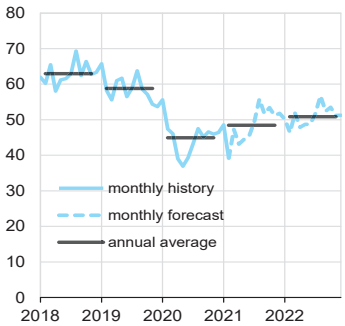


Percent deviation from 2016 - 2020 average

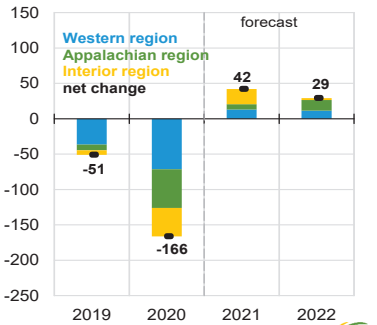


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

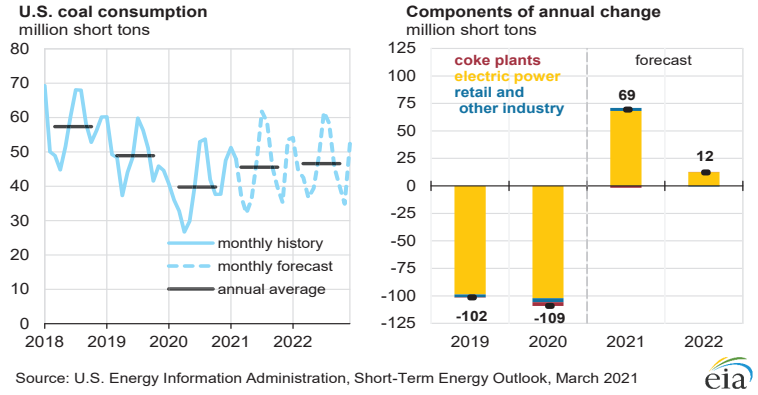
U.S. coal production
million short tons



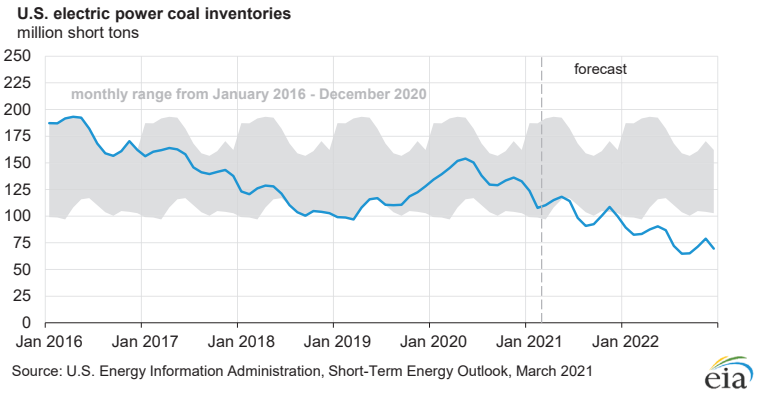
Components of annual change
million short tons



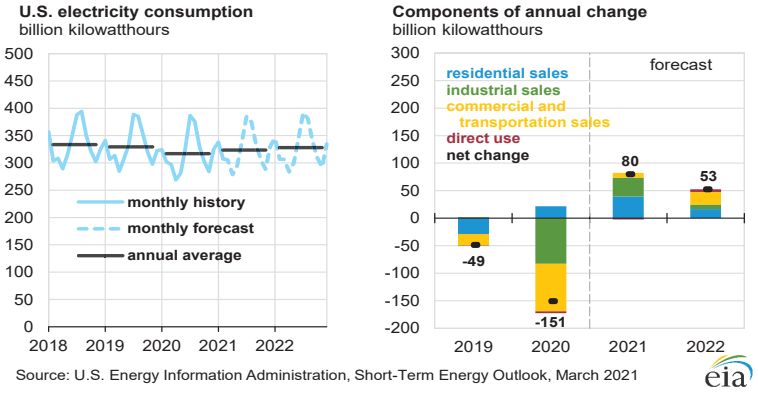
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



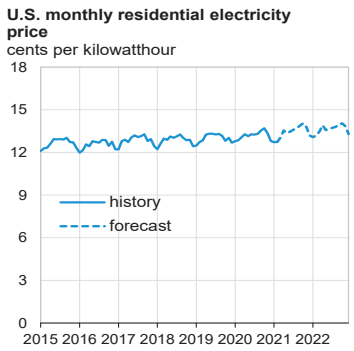
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

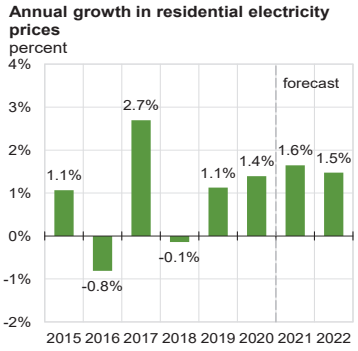


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

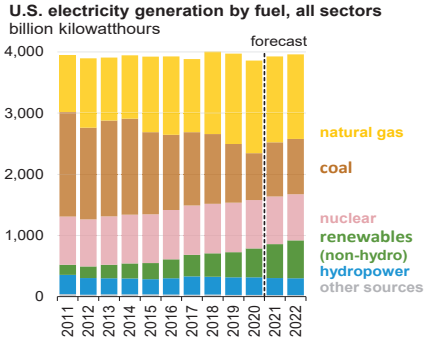


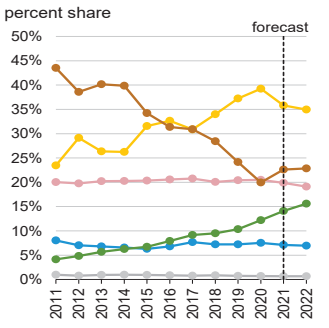
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021



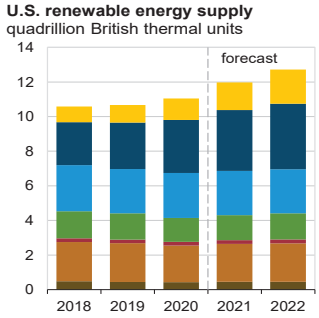


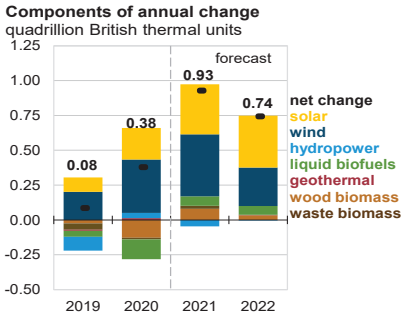
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

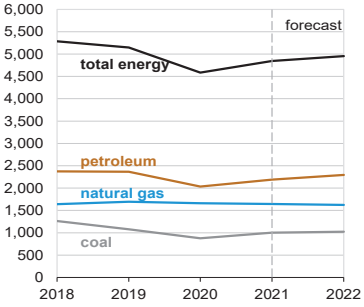




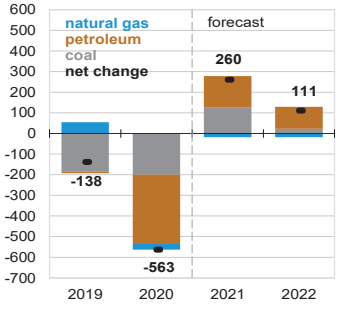
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

U.S. annual carbon emissions by source
million metric tons

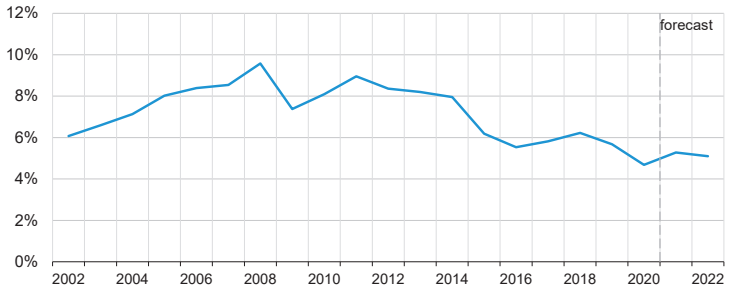


Components of annual change
million metric tons



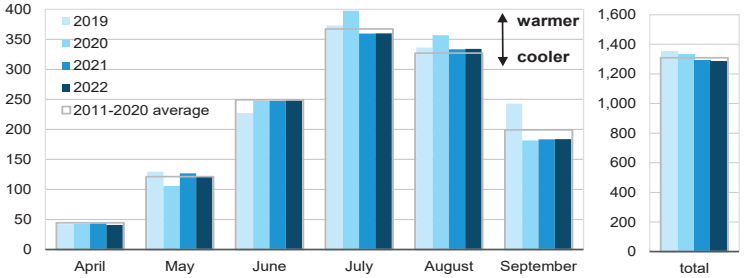
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

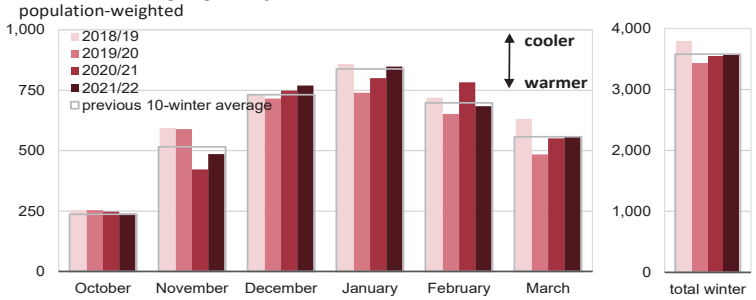
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

U.S. winter heating degree days
population-weighted

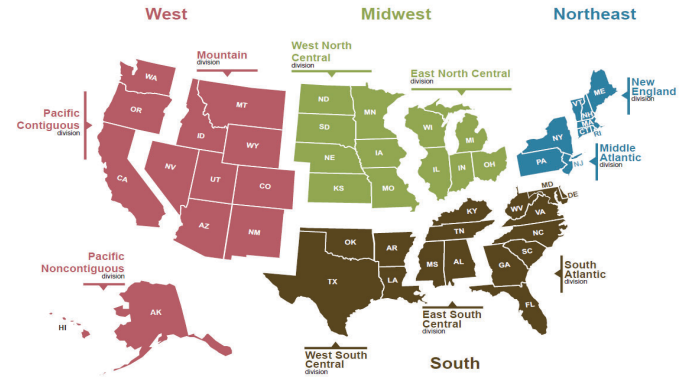


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2021

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

Fuel / Region	Winter of							Forecast	
	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	% Change
Natural Gas									
Northeast									
Consumption (Mcf**)	71.7	72.3	57.4	61.5	65.3	66.8	61.2	65.5	7.0
Price ($/mcf)	11.52	10.80	10.18	10.70	11.37	11.67	11.69	11.72	0.3
Expenditures ($)	826	780	584	659	742	779	715	767	7.3
Midwest									
Consumption (Mcf)	84.2	79.1	63.6	64.8	73.9	76.9	69.7	75.1	7.7
Price ($/mcf)	8.68	8.54	7.55	8.28	7.83	7.82	7.39	7.86	6.3
Expenditures ($)	731	676	480	536	578	601	515	590	14.4
South									
Consumption (Mcf)	52.7	50.9	40.3	37.9	45.5	45.9	41.4	47.0	13.3
Price ($/mcf)	10.71	10.75	10.72	12.04	11.23	10.61	11.10	11.10	-0.1
Expenditures ($)	564	547	432	457	512	488	460	521	13.2
West									
Consumption (Mcf)	45.2	40.1	44.7	45.6	43.8	48.8	47.5	47.0	-0.9
Price ($/mcf)	9.96	10.71	9.92	10.68	10.25	10.15	10.56	11.56	9.4
Expenditures ($)	450	430	443	487	449	495	501	544	8.4
U.S. Average									
Consumption (Mcf)	63.9	60.7	51.8	52.9	57.6	60.2	55.5	59.0	6.3
Price ($/mcf)	9.95	9.89	9.28	10.06	9.82	9.72	9.73	10.11	4.0
Expenditures ($)	636	600	481	533	565	586	540	597	10.5
Heating Oil									
U.S. Average									
Consumption (gallons)	547.5	548.2	436.6	468.3	495.6	512.0	468.3	501.0	7.0
Price ($/gallon)	3.87	3.04	2.06	2.41	2.78	3.07	2.89	2.53	-12.5
Expenditures ($)	2,122	1,668	900	1,128	1,376	1,570	1,354	1,267	-6.4
Electricity									
Northeast									
Consumption (kWh***)	8,879	8,927	7,705	8,050	8,346	8,481	8,020	8,479	5.7
Price ($/kwh)	0.163	0.168	0.164	0.165	0.169	0.169	0.171	0.172	0.1
Expenditures ($)	1,448	1,501	1,263	1,324	1,407	1,435	1,375	1,456	5.9
Midwest									
Consumption (kWh)	11,362	10,816	9,365	9,479	10,381	10,709	10,004	10,626	6.2
Price ($/kwh)	0.112	0.118	0.122	0.124	0.124	0.123	0.124	0.126	1.4
Expenditures ($)	1,275	1,274	1,138	1,172	1,289	1,319	1,245	1,342	7.8
South									
Consumption (kWh)	10,489	10,302	8,782	8,511	9,544	9,536	8,893	9,791	10.1
Price ($/kwh)	0.109	0.111	0.110	0.111	0.112	0.113	0.115	0.113	-1.1
Expenditures ($)	1,141	1,141	968	948	1,065	1,073	1,020	1,110	8.9
West									
Consumption (kWh)	8,488	7,831	8,442	8,561	8,330	8,989	8,818	8,873	0.6
Price ($/kwh)	0.123	0.127	0.130	0.132	0.136	0.136	0.138	0.146	6.0
Expenditures ($)	1,045	993	1,095	1,128	1,130	1,223	1,217	1,298	6.7
U.S. Average									
Consumption (kWh)	9,729	9,418	8,456	8,424	9,049	9,256	8,764	9,379	7.0
Price ($/kwh)	0.120	0.123	0.124	0.125	0.126	0.127	0.129	0.130	0.9
Expenditures ($)	1,163	1,158	1,044	1,055	1,142	1,173	1,128	1,218	8.0

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

Fuel / Region	Winter of							Forecast	
	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	% Change
Propane									
Northeast									
Consumption (gallons)	624.5	629.7	505.7	542.6	569.3	585.8	539.0	573.1	6.3
Price* ($/gallon)	3.56	3.00	2.71	3.06	3.26	3.22	2.61	2.68	2.7
Expenditures ($)	2,223	1,889	1,371	1,660	1,856	1,886	1,407	1,536	9.2
Midwest									
Consumption (gallons)	808.4	755.9	618.2	628.9	715.1	746.8	679.3	725.8	6.8
Price* ($/gallon)	2.61	1.91	1.47	1.73	1.95	1.83	1.58	1.62	2.8
Expenditures ($)	2,110	1,444	909	1,088	1,394	1,367	1,071	1,176	9.8
Number of households by primary space heating fuel (thousands)									
Northeast									
Natural gas	11,529	11,705	11,802	11,918	12,063	12,167	12,389	12,516	1.0
Heating oil	5,244	5,097	4,923	4,774	4,724	4,604	4,464	4,306	-3.5
Propane	846	856	884	933	977	1,018	1,042	1,042	0.0
Electricity	3,038	3,093	3,253	3,326	3,387	3,478	3,597	3,713	3.2
Wood	585	569	511	471	469	461	352	218	-37.9
Other/None	436	437	433	433	441	446	470	508	8.0
Midwest									
Natural gas	18,083	18,206	18,241	18,236	18,319	18,405	18,371	18,164	-1.1
Heating oil	336	319	301	286	278	273	264	249	-5.7
Propane	2,089	2,085	2,077	2,057	2,115	2,187	2,237	2,261	1.1
Electricity	5,425	5,514	5,747	5,871	5,978	6,036	6,273	6,545	4.3
Wood	632	617	587	552	527	508	476	429	-9.7
Other/None	353	351	354	359	361	349	366	397	8.7
South									
Natural gas	13,802	13,919	13,948	13,913	13,970	14,026	14,207	14,280	0.5
Heating oil	699	681	653	619	609	583	556	534	-4.0
Propane	1,944	1,925	1,899	1,858	1,852	1,861	1,899	1,903	0.2
Electricity	28,247	28,843	29,509	29,873	30,326	30,694	31,090	31,296	0.7
Wood	616	593	552	509	484	474	466	451	-3.2
Other/None	419	407	413	426	434	454	485	506	4.2
West									
Natural gas	15,068	15,227	15,312	15,427	15,570	15,653	15,738	15,636	-0.6
Heating oil	235	225	219	214	214	217	205	187	-8.6
Propane	930	915	923	935	963	988	973	944	-3.0
Electricity	8,759	8,927	9,228	9,351	9,490	9,648	9,905	10,118	2.1
Wood	744	749	719	700	689	677	670	667	-0.6
Other/None	1,016	1,075	1,087	1,058	1,089	1,091	1,128	1,226	8.6
U.S. Totals									
Natural gas	58,481	59,057	59,303	59,494	59,922	60,250	60,705	60,597	-0.2
Heating oil	6,513	6,322	6,095	5,893	5,825	5,678	5,489	5,276	-3.9
Propane	5,810	5,781	5,783	5,784	5,906	6,054	6,151	6,150	0.0
Electricity	45,470	46,377	47,737	48,420	49,180	49,857	50,865	51,672	1.6
Wood	2,578	2,528	2,369	2,232	2,170	2,122	1,964	1,765	-10.1
Other/None	2,223	2,271	2,287	2,277	2,326	2,340	2,449	2,637	7.6
Heating degree days									
Northeast	5,597	5,648	4,322	4,700	5,015	5,166	4,665	4,821	3.3
Midwest	6,451	6,002	4,688	4,792	5,577	5,845	5,227	5,430	3.9
South	2,784	2,690	2,013	1,881	2,350	2,357	2,070	2,312	11.7
West	2,992	2,569	2,957	3,041	2,888	3,298	3,191	3,026	-5.2
U.S. Average	4,111	3,882	3,202	3,255	3,611	3,788	3,434	3,551	3.4

Note: Winter covers the period October 1 through March 31. Fuel prices are nominal prices. Fuel consumption per household is based only on households that use that fuel as the primary space-heating fuel. Included in fuel consumption is consumption for water heating, appliances, electronics, and lighting (electricity). Per-household consumption based on EIA's 2015 Residential Energy Consumption Surveys corrected for actual and projected heating degree days. Number of households using heating oil includes kerosene.

* Prices exclude taxes
** thousand cubic feet
*** kilowatthour

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.75**	**10.81**	**10.81**	**10.87**	*10.79*	*11.06*	*11.27*	*11.46*	*11.67*	*11.84*	*12.16*	*12.41*	**11.31**	*11.15*	*12.02*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.68**	**89.82**	**91.08**	*90.50*	*91.04*	*91.71*	*92.13*	*91.87*	*92.25*	*93.28*	*93.90*	**91.34**	*91.35*	*92.83*
Coal Production															
(million short tons)	**149**	**115**	**136**	**139**	*135*	*133*	*157*	*156*	*148*	*145*	*161*	*156*	**539**	*581*	*610*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.71**	*18.72*	*19.37*	*19.98*	*20.02*	*20.07*	*20.56*	*20.81*	*20.69*	**18.12**	*19.53*	*20.53*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.84**	**76.84**	**86.05**	*102.60*	*70.25*	*71.96*	*85.57*	*99.29*	*69.25*	*72.67*	*85.46*	**83.25**	*82.52*	*81.60*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	*136*	*116*	*166*	*129*	*141*	*125*	*165*	*127*	**477**	*547*	*559*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.91**	*10.57*	*10.04*	*11.89*	*10.05*	*10.65*	*10.21*	*12.08*	*10.18*	**10.39**	*10.64*	*10.78*
Renewables (c)															
(quadrillion Btu)	**2.92**	**3.00**	**2.83**	**2.92**	*3.08*	*3.34*	*3.07*	*3.15*	*3.28*	*3.58*	*3.27*	*3.30*	**11.68**	*12.63*	*13.42*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.11**	**20.65**	**23.44**	**23.71**	*25.11*	*22.41*	*23.89*	*24.34*	*25.59*	*23.21*	*24.39*	*24.67*	**92.91**	*95.75*	*97.85*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	*58.53*	*60.96*	*55.18*	*54.50*	*54.50*	*54.50*	*55.00*	*55.00*	**39.17**	*57.24*	*54.75*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	*3.64*	*2.88*	*2.99*	*3.06*	*3.18*	*3.11*	*3.13*	*3.22*	**2.03**	*3.14*	*3.16*
Coal															
(dollars per million Btu)	**1.92**	**1.90**	**1.93**	**1.91**	*1.95*	*1.99*	*1.98*	*1.95*	*1.96*	*1.98*	*1.96*	*1.93*	**1.91**	*1.97*	*1.96*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,780**	*18,981*	*19,267*	*19,633*	*19,895*	*20,080*	*20,222*	*20,331*	*20,438*	**18,423**	*19,444*	*20,268*
Percent change from prior year	**0.3**	**-9.0**	**-2.8**	**-2.5**	*-0.2*	*11.4*	*5.6*	*5.9*	*5.8*	*5.0*	*3.6*	*2.7*	**-3.5**	*5.5*	*4.2*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	*115.0*	*115.4*	*115.9*	*116.4*	*116.8*	*117.5*	*118.1*	*118.8*	**113.6**	*115.6*	*117.8*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.3**	*1.4*	*2.2*	*1.8*	*1.7*	*1.6*	*1.8*	*2.0*	*2.1*	**1.2**	*1.8*	*1.9*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,905**	**15,512**	*16,284*	*16,973*	*15,771*	*15,533*	*15,634*	*15,691*	*15,767*	*15,856*	**15,777**	*16,140*	*15,737*
Percent change from prior year	**1.4**	**12.2**	**6.8**	**3.7**	*8.1*	*2.1*	*-0.8*	*0.1*	*-4.0*	*-7.6*	*0.0*	*2.1*	**6.0**	*2.3*	*-2.5*
Manufacturing Production Index															
(Index, 2012=100)	**104.4**	**89.3**	**100.1**	**103.2**	*105.3*	*105.4*	*107.0*	*108.5*	*110.0*	*111.2*	*111.8*	*112.2*	**99.2**	*106.6*	*111.3*
Percent change from prior year	**-2.0**	**-15.5**	**-5.5**	**-2.5**	*0.9*	*18.0*	*6.9*	*5.1*	*4.5*	*5.5*	*4.4*	*3.5*	**-6.3**	*7.4*	*4.4*
Weather															
U.S. Heating Degree-Days	**1,875**	**540**	**70**	**1,418**	*2,134*	*467*	*69*	*1,494*	*2,089*	*482*	*69*	*1,493*	**3,903**	*4,164*	*4,133*
U.S. Cooling Degree-Days	**71**	**396**	**936**	**122**	*46*	*418*	*877*	*100*	*46*	*410*	*878*	*100*	**1,525**	*1,441*	*1,434*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	*58.53*	*60.96*	*55.18*	*54.50*	*54.50*	*54.50*	*55.00*	*55.00*	**39.17**	*57.24*	*54.75*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	*61.72*	*64.46*	*58.68*	*58.00*	*58.00*	*58.00*	*59.00*	*59.00*	**41.69**	*60.67*	*58.51*
U.S. Imported Average	**43.76**	**26.33**	**39.90**	**40.41**	*55.10*	*58.87*	*53.19*	*52.50*	*52.25*	*52.25*	*52.50*	*52.50*	**37.20**	*54.77*	*52.38*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.88**	**40.79**	**41.96**	*56.84*	*59.93*	*54.18*	*53.50*	*53.25*	*53.25*	*53.50*	*53.50*	**39.72**	*56.03*	*53.38*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	*179*	*199*	*182*	*168*	*165*	*179*	*183*	*171*	**133**	*182*	*175*
Diesel Fuel	**160**	**97**	**124**	**133**	*178*	*191*	*181*	*181*	*179*	*180*	*184*	*184*	**129**	*183*	*182*
Fuel Oil	**160**	**87**	**113**	**121**	*167*	*182*	*174*	*177*	*175*	*170*	*172*	*175*	**125**	*174*	*173*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	*168*	*182*	*175*	*176*	*178*	*178*	*181*	*182*	**131**	*176*	*180*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**119**	*133*	*145*	*131*	*127*	*125*	*128*	*127*	*127*	**125**	*134*	*127*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	*253*	*280*	*262*	*247*	*240*	*259*	*262*	*253*	**218**	*261*	*254*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	*262*	*291*	*275*	*260*	*254*	*273*	*276*	*267*	**227**	*272*	*268*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	*281*	*293*	*288*	*289*	*286*	*282*	*289*	*291*	**255**	*288*	*287*
Heating Oil	**280**	**200**	**214**	**230**	*268*	*286*	*288*	*307*	*300*	*279*	*268*	*270*	**244**	*284*	*286*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	*3.79*	*2.99*	*3.11*	*3.18*	*3.30*	*3.23*	*3.26*	*3.34*	**2.11**	*3.27*	*3.28*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	*3.64*	*2.88*	*2.99*	*3.06*	*3.18*	*3.11*	*3.13*	*3.22*	**2.03**	*3.14*	*3.16*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.77**	*4.92*	*3.97*	*4.05*	*4.38*	*4.60*	*4.17*	*4.09*	*4.44*	**3.29**	*4.36*	*4.34*
Commercial Sector	**7.13**	**7.63**	**8.48**	**7.53**	*7.58*	*8.51*	*8.95*	*8.00*	*7.77*	*8.23*	*8.68*	*7.80*	**7.48**	*8.01*	*7.96*
Residential Sector	**9.46**	**11.89**	**17.63**	**10.56**	*9.63*	*13.01*	*17.39*	*10.72*	*9.72*	*12.65*	*17.47*	*10.78*	**10.82**	*10.94*	*11.01*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.92**	**1.90**	**1.93**	**1.91**	*1.95*	*1.99*	*1.98*	*1.95*	*1.96*	*1.98*	*1.96*	*1.93*	**1.91**	*1.97*	*1.96*
Natural Gas	**2.41**	**2.10**	**2.27**	**2.87**	*4.15*	*3.10*	*3.22*	*3.43*	*3.75*	*3.37*	*3.36*	*3.58*	**2.40**	*3.46*	*3.50*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.87**	*10.01*	*12.58*	*11.43*	*10.80*	*11.05*	*11.68*	*11.12*	*10.98*	**9.14**	*11.10*	*11.20*
Distillate Fuel Oil	**13.27**	**8.39**	**10.38**	**10.63**	*13.52*	*14.82*	*14.12*	*14.15*	*14.05*	*14.11*	*14.27*	*14.35*	**10.75**	*14.10*	*14.20*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	*6.61*	*6.70*	*7.09*	*6.54*	*6.45*	*6.71*	*7.10*	*6.55*	**6.66**	*6.74*	*6.71*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	*10.38*	*10.85*	*11.31*	*10.86*	*10.50*	*10.91*	*11.32*	*10.92*	**10.65**	*10.87*	*10.93*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	*12.82*	*13.45*	*13.72*	*13.62*	*13.22*	*13.69*	*13.81*	*13.69*	**13.20**	*13.41*	*13.61*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**32.93**	**29.42**	**29.97**	**30.74**	*30.43*	*31.13*	*31.78*	*32.15*	*32.28*	*32.62*	*32.95*	*33.47*	**30.76**	*31.38*	*32.83*
U.S. (50 States)	**20.22**	**17.58**	**18.30**	**18.28**	*17.76*	*18.77*	*19.24*	*19.46*	*19.57*	*20.07*	*20.52*	*20.84*	**18.60**	*18.81*	*20.25*
Canada	**5.65**	**4.92**	**4.95**	**5.66**	*5.77*	*5.59*	*5.77*	*5.80*	*5.83*	*5.80*	*5.83*	*5.85*	**5.30**	*5.73*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	*1.93*	*1.92*	*1.87*	*1.82*	*1.78*	*1.73*	*1.69*	*1.65*	**1.94**	*1.89*	*1.71*
Other OECD	**5.05**	**4.98**	**4.80**	**4.89**	*4.97*	*4.85*	*4.90*	*5.07*	*5.10*	*5.02*	*4.91*	*5.13*	**4.93**	*4.95*	*5.04*
Non-OECD	**67.79**	**63.00**	**60.95**	**62.04**	*62.96*	*65.30*	*67.24*	*67.33*	*67.06*	*68.57*	*68.99*	*68.82*	**63.43**	*65.72*	*68.37*
OPEC	**33.48**	**30.58**	**28.45**	**29.82**	*30.17*	*31.39*	*32.93*	*33.15*	*33.31*	*33.21*	*33.25*	*33.27*	**30.57**	*31.92*	*33.26*
Crude Oil Portion	**28.28**	**25.64**	**23.61**	**24.88**	*25.13*	*26.34*	*27.78*	*27.97*	*27.99*	*27.99*	*27.99*	*27.99*	**25.59**	*26.81*	*27.99*
Other Liquids (b)	**5.20**	**4.94**	**4.84**	**4.94**	*5.05*	*5.05*	*5.15*	*5.19*	*5.32*	*5.23*	*5.25*	*5.28*	**4.98**	*5.11*	*5.27*
Eurasia	**14.76**	**13.19**	**12.73**	**13.15**	*13.39*	*13.65*	*13.72*	*13.88*	*14.07*	*14.80*	*14.86*	*15.00*	**13.46**	*13.66*	*14.68*
China	**4.96**	**4.91**	**4.95**	**4.90**	*4.95*	*4.96*	*4.96*	*5.00*	*4.95*	*4.98*	*4.98*	*5.03*	**4.93**	*4.97*	*4.99*
Other Non-OECD	**14.59**	**14.32**	**14.81**	**14.17**	*14.45*	*15.31*	*15.63*	*15.30*	*14.73*	*15.58*	*15.90*	*15.53*	**14.47**	*15.17*	*15.44*
Total World Supply	**100.72**	**92.42**	**90.91**	**92.78**	*93.39*	*96.43*	*99.02*	*99.47*	*99.34*	*101.19*	*101.94*	*102.30*	**94.20**	*97.10*	*101.20*
Non-OPEC Supply	**67.24**	**61.85**	**62.46**	**62.96**	*63.22*	*65.04*	*66.09*	*66.32*	*66.03*	*67.98*	*68.70*	*69.03*	**63.62**	*65.18*	*67.94*
Consumption (million barrels per day) (c)															
OECD	**45.27**	**37.43**	**42.10**	**42.95**	*43.32*	*43.71*	*45.10*	*45.46*	*45.64*	*45.50*	*46.53*	*46.67*	**41.94**	*44.40*	*46.09*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.71**	*18.72*	*19.37*	*19.98*	*20.02*	*20.07*	*20.56*	*20.81*	*20.69*	**18.12**	*19.53*	*20.53*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	*0.18*	*0.16*	*0.16*	*0.17*	*0.18*	*0.16*	*0.16*	*0.17*	**0.16**	*0.17*	*0.17*
Canada	**2.33**	**1.88**	**2.16**	**2.10**	*2.17*	*2.17*	*2.27*	*2.27*	*2.28*	*2.23*	*2.33*	*2.32*	**2.12**	*2.22*	*2.29*
Europe	**13.34**	**11.03**	**12.85**	**12.62**	*12.59*	*12.96*	*13.50*	*13.32*	*13.19*	*13.42*	*13.98*	*13.76*	**12.46**	*13.10*	*13.59*
Japan	**3.69**	**2.89**	**3.03**	**3.44**	*3.55*	*2.97*	*3.07*	*3.40*	*3.63*	*2.98*	*3.06*	*3.38*	**3.26**	*3.24*	*3.26*
Other OECD	**6.41**	**5.41**	**5.55**	**5.93**	*6.12*	*6.09*	*6.12*	*6.28*	*6.29*	*6.15*	*6.20*	*6.36*	**5.82**	*6.15*	*6.25*
Non-OECD	**49.79**	**47.52**	**51.15**	**52.47**	*51.87*	*53.33*	*53.51*	*53.66*	*54.15*	*55.44*	*55.60*	*55.75*	**50.24**	*53.10*	*55.24*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	*4.91*	*5.00*	*5.39*	*5.24*	*5.07*	*5.14*	*5.54*	*5.40*	**4.95**	*5.13*	*5.29*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	*0.71*	*0.72*	*0.73*	*0.73*	*0.74*	*0.74*	*0.75*	*0.76*	**0.71**	*0.72*	*0.75*
China	**13.79**	**13.98**	**14.55**	**15.01**	*14.92*	*15.27*	*15.03*	*15.36*	*15.69*	*15.94*	*15.66*	*15.93*	**14.33**	*15.15*	*15.80*
Other Asia	**13.16**	**11.64**	**12.60**	**13.61**	*13.70*	*14.01*	*13.59*	*13.96*	*14.51*	*14.72*	*14.30*	*14.72*	**12.75**	*13.81*	*14.56*
Other Non-OECD	**17.29**	**16.72**	**18.01**	**17.96**	*17.63*	*18.34*	*18.77*	*18.36*	*18.15*	*18.90*	*19.35*	*18.93*	**17.50**	*18.28*	*18.84*
Total World Consumption	**95.06**	**84.95**	**93.25**	**95.42**	*95.19*	*97.04*	*98.61*	*99.12*	*99.79*	*100.94*	*102.13*	*102.42*	**92.18**	*97.50*	*101.33*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.89**	*0.93*	*-0.21*	*-0.07*	*0.41*	*0.05*	*-0.53*	*0.05*	*0.41*	**-0.18**	*0.26*	*0.00*
Other OECD	**-0.54**	**-1.15**	**0.06**	**0.62**	*0.29*	*0.25*	*-0.11*	*-0.25*	*0.13*	*0.09*	*0.04*	*-0.09*	**-0.25**	*0.04*	*0.04*
Other Stock Draws and Balance	**-4.69**	**-4.64**	**1.79**	**1.14**	*0.59*	*0.56*	*-0.23*	*-0.52*	*0.27*	*0.19*	*0.09*	*-0.20*	**-1.58**	*0.10*	*0.09*
Total Stock Draw	**-5.66**	**-7.48**	**2.33**	**2.64**	*1.80*	*0.61*	*-0.41*	*-0.35*	*0.45*	*-0.25*	*0.18*	*0.12*	**-2.01**	*0.40*	*0.13*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	*1,263*	*1,290*	*1,303*	*1,269*	*1,269*	*1,322*	*1,320*	*1,292*	**1,344**	*1,269*	*1,292*
OECD Commercial Inventory	**2,967**	**3,204**	**3,168**	**3,033**	*2,926*	*2,930*	*2,953*	*2,942*	*2,930*	*2,975*	*2,969*	*2,949*	**3,033**	*2,942*	*2,949*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.87**	**24.44**	**25.17**	**25.85**	*25.46*	*26.28*	*26.88*	*27.08*	*27.18*	*27.61*	*28.03*	*28.34*	**25.83**	*26.43*	*27.79*
Canada	**5.65**	**4.92**	**4.95**	**5.66**	*5.77*	*5.59*	*5.77*	*5.80*	*5.83*	*5.80*	*5.83*	*5.85*	**5.30**	*5.73*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	*1.93*	*1.92*	*1.87*	*1.82*	*1.78*	*1.73*	*1.69*	*1.65*	**1.94**	*1.89*	*1.71*
United States	**20.22**	**17.58**	**18.30**	**18.28**	*17.76*	*18.77*	*19.24*	*19.46*	*19.57*	*20.07*	*20.52*	*20.84*	**18.60**	*18.81*	*20.25*
Central and South America	**6.05**	**6.09**	**6.62**	**5.91**	*6.01*	*6.85*	*7.15*	*6.84*	*6.26*	*7.14*	*7.51*	*7.18*	**6.17**	*6.72*	*7.03*
Argentina	**0.69**	**0.58**	**0.57**	**0.54**	*0.69*	*0.71*	*0.72*	*0.71*	*0.73*	*0.74*	*0.74*	*0.73*	**0.60**	*0.71*	*0.73*
Brazil	**3.43**	**3.89**	**4.29**	**3.52**	*3.45*	*4.34*	*4.66*	*4.29*	*3.60*	*4.51*	*4.86*	*4.41*	**3.78**	*4.19*	*4.35*
Colombia	**0.91**	**0.78**	**0.77**	**0.83**	*0.88*	*0.78*	*0.75*	*0.81*	*0.84*	*0.75*	*0.72*	*0.77*	**0.82**	*0.80*	*0.77*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	*0.53*	*0.53*	*0.52*	*0.53*	*0.54*	*0.54*	*0.53*	*0.53*	**0.48**	*0.53*	*0.53*
Other Central and S. America	**0.48**	**0.47**	**0.47**	**0.50**	*0.47*	*0.50*	*0.50*	*0.51*	*0.55*	*0.61*	*0.68*	*0.73*	**0.48**	*0.50*	*0.64*
Europe	**4.40**	**4.32**	**4.14**	**4.27**	*4.43*	*4.29*	*4.33*	*4.51*	*4.54*	*4.46*	*4.36*	*4.59*	**4.28**	*4.39*	*4.49*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	*2.17*	*2.13*	*2.17*	*2.28*	*2.30*	*2.24*	*2.23*	*2.35*	**2.01**	*2.19*	*2.28*
United Kingdom	**1.17**	**1.16**	**1.00**	**1.08**	*1.09*	*1.00*	*1.00*	*1.06*	*1.07*	*1.05*	*0.95*	*1.04*	**1.10**	*1.04*	*1.03*
Eurasia	**14.76**	**13.19**	**12.73**	**13.15**	*13.39*	*13.65*	*13.72*	*13.88*	*14.07*	*14.80*	*14.86*	*15.00*	**13.46**	*13.66*	*14.68*
Azerbaijan	**0.77**	**0.70**	**0.67**	**0.69**	*0.75*	*0.76*	*0.77*	*0.79*	*0.81*	*0.82*	*0.81*	*0.83*	**0.71**	*0.77*	*0.82*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	*1.85*	*1.87*	*1.84*	*1.90*	*1.92*	*2.00*	*1.96*	*2.02*	**1.86**	*1.87*	*1.97*
Russia	**11.55**	**10.25**	**9.98**	**10.27**	*10.41*	*10.64*	*10.74*	*10.82*	*10.99*	*11.63*	*11.75*	*11.81*	**10.51**	*10.66*	*11.55*
Turkmenistan	**0.24**	**0.23**	**0.23**	**0.24**	*0.24*	*0.24*	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.23**	*0.24*	*0.23*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.14**	*0.13*	*0.13*	*0.13*	*0.13*	*0.12*	*0.12*	*0.12*	*0.12*	**0.15**	*0.13*	*0.12*
Middle East	**3.24**	**3.18**	**3.15**	**3.18**	*3.23*	*3.26*	*3.32*	*3.32*	*3.37*	*3.37*	*3.37*	*3.37*	**3.19**	*3.28*	*3.37*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	*0.96*	*0.98*	*1.04*	*1.04*	*1.05*	*1.05*	*1.05*	*1.05*	**0.96**	*1.01*	*1.05*
Qatar	**2.06**	**2.06**	**2.06**	**2.06**	*2.10*	*2.10*	*2.10*	*2.10*	*2.12*	*2.12*	*2.12*	*2.12*	**2.06**	*2.10*	*2.12*
Asia and Oceania	**9.45**	**9.17**	**9.24**	**9.20**	*9.26*	*9.27*	*9.25*	*9.26*	*9.22*	*9.22*	*9.19*	*9.19*	**9.27**	*9.26*	*9.21*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	*0.49*	*0.50*	*0.51*	*0.50*	*0.50*	*0.49*	*0.48*	*0.47*	**0.49**	*0.50*	*0.49*
China	**4.96**	**4.91**	**4.95**	**4.90**	*4.95*	*4.96*	*4.96*	*5.00*	*4.95*	*4.98*	*4.98*	*5.03*	**4.93**	*4.97*	*4.99*
India	**0.96**	**0.90**	**0.92**	**0.91**	*0.90*	*0.89*	*0.89*	*0.88*	*0.88*	*0.88*	*0.88*	*0.87*	**0.92**	*0.89*	*0.88*
Indonesia	**0.91**	**0.89**	**0.88**	**0.88**	*0.87*	*0.86*	*0.85*	*0.84*	*0.84*	*0.83*	*0.82*	*0.81*	**0.89**	*0.85*	*0.83*
Malaysia	**0.71**	**0.60**	**0.63**	**0.64**	*0.63*	*0.63*	*0.63*	*0.62*	*0.62*	*0.62*	*0.61*	*0.60*	**0.64**	*0.63*	*0.61*
Vietnam	**0.24**	**0.23**	**0.22**	**0.23**	*0.22*	*0.23*	*0.23*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	**0.23**	*0.22*	*0.21*
Africa	**1.46**	**1.45**	**1.42**	**1.40**	*1.45*	*1.44*	*1.44*	*1.44*	*1.39*	*1.38*	*1.37*	*1.36*	**1.43**	*1.44*	*1.37*
Egypt	**0.62**	**0.61**	**0.59**	**0.57**	*0.61*	*0.61*	*0.61*	*0.61*	*0.57*	*0.57*	*0.57*	*0.57*	**0.60**	*0.61*	*0.57*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.24**	**61.85**	**62.46**	**62.96**	*63.22*	*65.04*	*66.09*	*66.32*	*66.03*	*67.98*	*68.70*	*69.03*	**63.62**	*65.18*	*67.94*
OPEC non-crude liquids	**5.20**	**4.94**	**4.84**	**4.94**	*5.05*	*5.05*	*5.15*	*5.19*	*5.32*	*5.23*	*5.25*	*5.28*	**4.98**	*5.11*	*5.27*
Non-OPEC + OPEC non-crude	**72.44**	**66.79**	**67.31**	**67.90**	*68.27*	*70.09*	*71.24*	*71.51*	*71.34*	*73.21*	*73.95*	*74.30*	**68.60**	*70.29*	*73.21*
Unplanned non-OPEC Production Outages	**0.18**	**0.90**	**0.69**	**0.53**	-	-	-	-	-	-	-	-	**0.57**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

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Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	-	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.36**	**1.26**	**1.17**	**1.12**	-	-	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	-	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	-	-	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	-	-	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	-	-	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	-	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	-	-	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	-	-	-	-	-	-	-	-	**0.37**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	-	-	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	-	-	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	-	-	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	-	-	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.64**	**23.61**	**24.88**	*25.13*	*26.34*	*27.78*	*27.97*	*27.99*	*27.99*	*27.99*	*27.99*	**25.59**	*26.81*	*27.99*
Other Liquids (a)	**5.20**	**4.94**	**4.84**	**4.94**	*5.05*	*5.05*	*5.15*	*5.19*	*5.32*	*5.23*	*5.25*	*5.28*	**4.98**	*5.11*	*5.27*
Total OPEC Supply	**33.48**	**30.58**	**28.45**	**29.82**	*30.17*	*31.39*	*32.93*	*33.15*	*33.31*	*33.21*	*33.25*	*33.27*	**30.57**	*31.92*	*33.26*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	*26.51*	*26.59*	*26.58*	*26.58*	*26.68*	*26.69*	*26.69*	*26.69*	**25.98**	*26.57*	*26.69*
Other	**5.84**	**5.60**	**5.48**	**6.34**	*5.78*	*6.16*	*6.17*	*6.16*	*6.07*	*6.07*	*6.07*	*6.07*	**5.82**	*6.07*	*6.07*
OPEC Total	**31.45**	**31.63**	**31.54**	**32.56**	*32.29*	*32.75*	*32.75*	*32.74*	*32.76*	*32.75*	*32.76*	*32.77*	**31.80**	*32.63*	*32.76*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	*7.01*	*6.28*	*4.88*	*4.68*	*4.68*	*4.69*	*4.69*	*4.69*	**5.49**	*5.70*	*4.69*
Other	**0.02**	**0.72**	**1.04**	**1.07**	*0.16*	*0.13*	*0.09*	*0.09*	*0.08*	*0.08*	*0.08*	*0.08*	**0.71**	*0.12*	*0.08*
OPEC Total	**3.17**	**5.99**	**7.94**	**7.68**	*7.17*	*6.41*	*4.97*	*4.77*	*4.76*	*4.77*	*4.77*	*4.78*	**6.20**	*5.82*	*4.77*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	-	-	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.12**	**22.55**	*22.73*	*23.43*	*24.13*	*24.18*	*24.21*	*24.68*	*25.01*	*24.89*	**21.94**	*23.62*	*24.70*
Canada	**2.33**	**1.88**	**2.16**	**2.10**	*2.17*	*2.17*	*2.27*	*2.27*	*2.28*	*2.23*	*2.33*	*2.32*	**2.12**	*2.22*	*2.29*
Mexico	**1.97**	**1.48**	**1.59**	**1.74**	*1.83*	*1.88*	*1.87*	*1.88*	*1.86*	*1.88*	*1.87*	*1.88*	**1.69**	*1.87*	*1.87*
United States	**19.33**	**16.08**	**18.36**	**18.71**	*18.72*	*19.37*	*19.98*	*20.02*	*20.07*	*20.56*	*20.81*	*20.69*	**18.12**	*19.53*	*20.53*
Central and South America	**6.14**	**5.61**	**6.04**	**6.31**	*6.23*	*6.43*	*6.56*	*6.57*	*6.42*	*6.58*	*6.72*	*6.74*	**6.03**	*6.45*	*6.62*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	*2.95*	*3.06*	*3.16*	*3.16*	*3.03*	*3.12*	*3.22*	*3.23*	**2.90**	*3.08*	*3.15*
Europe	**14.05**	**11.73**	**13.56**	**13.34**	*13.31*	*13.68*	*14.23*	*14.05*	*13.93*	*14.16*	*14.73*	*14.52*	**13.17**	*13.82*	*14.34*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	*4.91*	*5.00*	*5.39*	*5.24*	*5.07*	*5.14*	*5.54*	*5.40*	**4.95**	*5.13*	*5.29*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	*3.70*	*3.81*	*4.13*	*3.98*	*3.82*	*3.93*	*4.26*	*4.11*	**3.74**	*3.91*	*4.03*
Middle East	**7.67**	**7.60**	**8.48**	**8.03**	*7.75*	*8.22*	*8.62*	*8.00*	*7.93*	*8.50*	*8.90*	*8.26*	**7.95**	*8.15*	*8.40*
Asia and Oceania	**34.54**	**32.04**	**33.69**	**35.73**	*35.95*	*35.93*	*35.41*	*36.62*	*37.76*	*37.40*	*36.82*	*38.01*	**34.00**	*35.98*	*37.50*
China	**13.79**	**13.98**	**14.55**	**15.01**	*14.92*	*15.27*	*15.03*	*15.36*	*15.69*	*15.94*	*15.66*	*15.93*	**14.33**	*15.15*	*15.80*
Japan	**3.69**	**2.89**	**3.03**	**3.44**	*3.55*	*2.97*	*3.07*	*3.40*	*3.63*	*2.98*	*3.06*	*3.38*	**3.26**	*3.24*	*3.26*
India	**4.63**	**3.77**	**4.17**	**4.93**	*4.95*	*5.01*	*4.66*	*4.92*	*5.14*	*5.21*	*4.86*	*5.18*	**4.37**	*4.89*	*5.10*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	*4.32*	*4.36*	*4.28*	*4.46*	*4.48*	*4.48*	*4.41*	*4.59*	**4.15**	*4.35*	*4.49*
Total OECD Liquid Fuels Consumption	**45.27**	**37.43**	**42.10**	**42.95**	*43.32*	*43.71*	*45.10*	*45.46*	*45.64*	*45.50*	*46.53*	*46.67*	**41.94**	*44.40*	*46.09*
Total non-OECD Liquid Fuels Consumption	**49.79**	**47.52**	**51.15**	**52.47**	*51.87*	*53.33*	*53.51*	*53.66*	*54.15*	*55.44*	*55.60*	*55.75*	**50.24**	*53.10*	*55.24*
Total World Liquid Fuels Consumption	**95.06**	**84.95**	**93.25**	**95.42**	*95.19*	*97.04*	*98.61*	*99.12*	*99.79*	*100.94*	*102.13*	*102.42*	**92.18**	*97.50*	*101.33*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**110.1**	**107.4**	**112.1**	**113.1**	*115.3*	*116.6*	*117.8*	*118.7*	*121.5*	*122.1*	*122.6*	*123.2*	**110.7**	*117.1*	*122.3*
Percent change from prior year	**-3.5**	**-6.2**	**-2.5**	**-2.0**	*4.7*	*8.5*	*5.1*	*5.0*	*5.4*	*4.7*	*4.1*	*3.7*	**-3.6**	*5.8*	*4.5*
OECD Index, 2015 = 100													**103.6**	*108.3*	*112.2*
Percent change from prior year													**-4.8**	*4.5*	*3.6*
Non-OECD Index, 2015 = 100													**115.7**	*123.3*	*129.6*
Percent change from prior year													**-2.4**	*6.6*	*5.1*
Real U.S. Dollar Exchange Rate (b)															
Index, 2015 Q1 = 100	**106.4**	**108.2**	**106.8**	**105.5**	*103.9*	*104.0*	*103.8*	*103.5*	*103.2*	*103.4*	*103.2*	*103.0*	**106.7**	*103.8*	*103.2*
Percent change from prior year	**0.9**	**2.0**	**0.3**	**-0.7**	*-2.3*	*-3.9*	*-2.9*	*-1.8*	*-0.7*	*-0.6*	*-0.6*	*-0.5*	**0.6**	*-2.7*	*-0.6*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. GDP data are from Oxford Economics.

(b) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. Exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on .

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.75**	**10.81**	**10.81**	**10.87**	*10.79*	*11.06*	*11.27*	*11.46*	*11.67*	*11.84*	*12.16*	*12.41*	**11.31**	*11.15*	*12.02*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	*0.46*	*0.38*	*0.41*	*0.43*	*0.43*	*0.36*	*0.40*	*0.40*	**0.45**	*0.42*	*0.40*
Federal Gulf of Mexico (b)	**1.96**	**1.69**	**1.45**	**1.51**	*1.71*	*1.77*	*1.69*	*1.69*	*1.75*	*1.74*	*1.77*	*1.84*	**1.65**	*1.71*	*1.77*
Lower 48 States (excl GOM)	**10.31**	**8.71**	**8.92**	**8.90**	*8.62*	*8.91*	*9.18*	*9.34*	*9.49*	*9.74*	*9.99*	*10.17*	**9.21**	*9.01*	*9.85*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.51**	*2.46*	*3.42*	*4.02*	*3.67*	*3.44*	*4.32*	*4.36*	*3.63*	**2.70**	*3.40*	*3.94*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	*0.02*	*0.10*	*0.07*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	*-0.04*	*0.14*	*0.24*	*0.00*	*-0.25*	*0.01*	*0.28*	*-0.01*	**-0.14**	*0.08*	*0.01*
Crude Oil Adjustment (d)	**0.67**	**0.03**	**0.38**	**0.34**	*0.22*	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.36**	*0.21*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.90**	*13.45*	*14.93*	*15.82*	*15.34*	*15.13*	*16.43*	*17.05*	*16.29*	**14.21**	*14.89*	*16.23*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	*0.97*	*1.06*	*1.07*	*1.05*	*1.06*	*1.08*	*1.14*	*1.14*	**0.92**	*1.04*	*1.11*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.23**	*4.82*	*5.40*	*5.60*	*5.64*	*5.56*	*5.83*	*5.88*	*5.94*	**5.16**	*5.37*	*5.81*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.07**	*0.99*	*1.05*	*1.10*	*1.09*	*1.08*	*1.10*	*1.11*	*1.12*	**1.01**	*1.06*	*1.10*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	*0.90*	*0.95*	*0.99*	*0.99*	*0.98*	*0.99*	*1.00*	*1.01*	**0.91**	*0.96*	*0.99*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	*0.20*	*0.20*	*0.21*	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.20*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.32**	*-2.65*	*-2.84*	*-3.44*	*-3.68*	*-3.21*	*-3.52*	*-4.35*	*-4.36*	**-3.35**	*-3.15*	*-3.86*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.03**	*-1.99*	*-2.15*	*-2.19*	*-2.23*	*-2.13*	*-2.29*	*-2.30*	*-2.31*	**-1.94**	*-2.14*	*-2.26*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.19**	*0.36*	*0.43*	*0.43*	*0.30*	*0.20*	*0.26*	*0.30*	*0.20*	**0.27**	*0.38*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.04**	*-0.10*	*-0.08*	*-0.08*	*-0.09*	*-0.09*	*-0.07*	*-0.07*	*-0.08*	**-0.06**	*-0.09*	*-0.08*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.43**	*0.36*	*0.68*	*0.51*	*0.15*	*0.53*	*0.75*	*0.43*	*0.22*	**0.42**	*0.42*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.78**	*-0.52*	*-0.75*	*-0.73*	*-0.63*	*-0.76*	*-0.66*	*-0.83*	*-0.78*	**-0.62**	*-0.66*	*-0.76*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.07**	*0.03*	*-0.04*	*0.01*	*0.00*	*0.07*	*0.12*	*0.12*	*0.17*	**0.05**	*0.00*	*0.12*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.74**	*-0.34*	*-0.47*	*-0.82*	*-0.59*	*-0.52*	*-0.94*	*-1.27*	*-1.16*	**-0.98**	*-0.55*	*-0.98*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.05**	*0.07*	*-0.02*	*-0.01*	*0.05*	*-0.03*	*-0.07*	*-0.06*	*0.04*	**0.02**	*0.03*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.48**	*-0.52*	*-0.45*	*-0.57*	*-0.65*	*-0.48*	*-0.60*	*-0.67*	*-0.66*	**-0.52**	*-0.55*	*-0.60*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.71**	*0.94*	*-0.44*	*-0.38*	*0.37*	*0.25*	*-0.59*	*-0.26*	*0.32*	**-0.03**	*0.12*	*-0.07*
Total Supply	**19.33**	**16.08**	**18.36**	**18.71**	*18.72*	*19.37*	*19.98*	*20.02*	*20.07*	*20.56*	*20.81*	*20.69*	**18.12**	*19.53*	*20.53*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.70**	*3.46*	*3.19*	*3.20*	*3.53*	*3.80*	*3.38*	*3.42*	*3.76*	**3.20**	*3.35*	*3.59*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.07**	*0.00*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.02**	*8.02*	*8.66*	*8.93*	*8.76*	*8.45*	*9.11*	*9.12*	*8.86*	**8.03**	*8.60*	*8.89*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.84**	*0.82*	*0.88*	*0.91*	*0.90*	*0.86*	*0.93*	*0.92*	*0.92*	**0.82**	*0.88*	*0.91*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	*1.20*	*1.39*	*1.52*	*1.50*	*1.60*	*1.73*	*1.79*	*1.79*	**1.08**	*1.40*	*1.73*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.92**	*4.10*	*3.98*	*3.98*	*4.17*	*4.24*	*4.16*	*4.09*	*4.16*	**3.78**	*4.06*	*4.16*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.23**	*0.25*	*0.23*	*0.28*	*0.25*	*0.23*	*0.21*	*0.25*	*0.26*	**0.22**	*0.25*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.71**	*1.69*	*1.92*	*2.06*	*1.81*	*1.75*	*1.98*	*2.13*	*1.85*	**1.75**	*1.87*	*1.93*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.71**	*18.72*	*19.37*	*19.98*	*20.02*	*20.07*	*20.56*	*20.81*	*20.69*	**18.12**	*19.53*	*20.53*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-0.81**	*-0.19*	*0.59*	*0.58*	*-0.01*	*0.23*	*0.81*	*0.02*	*-0.73*	**-0.65**	*0.24*	*0.08*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.3**	*488.5*	*476.1*	*454.3*	*454.3*	*476.6*	*475.6*	*450.3*	*451.6*	**485.3**	*454.3*	*451.6*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**229.2**	*158.8*	*199.5*	*242.5*	*204.4*	*164.4*	*213.6*	*252.1*	*211.6*	**229.2**	*204.4*	*211.6*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.2**	*92.4*	*91.0*	*90.2*	*83.0*	*93.0*	*91.0*	*90.0*	*83.2*	**78.2**	*83.0*	*83.2*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**29.9**	*27.1*	*26.0*	*25.8*	*26.1*	*28.2*	*26.9*	*26.6*	*26.9*	**29.9**	*26.1*	*26.9*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**243.2**	*232.1*	*231.9*	*226.3*	*234.2*	*241.7*	*245.0*	*233.0*	*249.3*	**243.2**	*234.2*	*249.3*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	*21.0*	*23.2*	*22.2*	*24.4*	*24.1*	*23.8*	*23.1*	*26.1*	**25.3**	*24.4*	*26.1*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**217.9**	*211.1*	*208.7*	*204.1*	*209.8*	*217.6*	*221.2*	*210.0*	*223.2*	**217.9**	*209.8*	*223.2*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.6**	*38.3*	*39.5*	*42.0*	*39.1*	*38.8*	*39.7*	*42.1*	*39.1*	**38.6**	*39.1*	*39.1*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**160.4**	*136.4*	*136.8*	*140.1*	*142.9*	*132.5*	*137.5*	*144.5*	*145.6*	**160.4**	*142.9*	*145.6*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	*32.0*	*33.4*	*31.4*	*32.6*	*32.2*	*32.9*	*31.1*	*32.6*	**30.2**	*32.6*	*32.6*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**49.3**	*57.0*	*56.0*	*50.4*	*52.7*	*61.8*	*59.6*	*50.3*	*51.8*	**49.3**	*52.7*	*51.8*
Total Commercial Inventory	**1320.8**	**1452.8**	**1422.0**	**1344.3**	*1262.7*	*1290.2*	*1303.1*	*1269.4*	*1269.2*	*1321.7*	*1320.1*	*1291.7*	**1344.3**	*1269.4*	*1291.7*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	*636.2*	*627.4*	*621.1*	*616.9*	*612.6*	*608.3*	*605.6*	*596.0*	**638.1**	*616.9*	*596.0*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" inludes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.06**	*1.84*	*2.24*	*2.35*	*2.42*	*2.45*	*2.59*	*2.60*	*2.68*	**2.01**	*2.21*	*2.58*
Propane	**1.72**	**1.61**	**1.68**	**1.70**	*1.64*	*1.69*	*1.72*	*1.72*	*1.67*	*1.72*	*1.74*	*1.75*	**1.68**	*1.69*	*1.72*
Butanes	**0.91**	**0.86**	**0.90**	**0.89**	*0.83*	*0.89*	*0.92*	*0.92*	*0.89*	*0.92*	*0.93*	*0.93*	**0.89**	*0.89*	*0.91*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.58**	*0.51*	*0.59*	*0.62*	*0.59*	*0.55*	*0.60*	*0.62*	*0.59*	**0.58**	*0.58*	*0.59*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	*0.00*	*0.00*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	*0.25*	*0.29*	*0.29*	*0.29*	*0.30*	*0.32*	*0.32*	*0.31*	**0.26**	*0.28*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	*0.26*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	*-0.09*	*0.26*	*0.18*	*-0.20*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.01**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.28**	*-0.36*	*-0.37*	*-0.38*	*-0.40*	*-0.44*	*-0.45*	*-0.45*	*-0.47*	**-0.28**	*-0.38*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.29**	*-1.01*	*-1.05*	*-1.08*	*-1.15*	*-1.01*	*-1.13*	*-1.13*	*-1.20*	**-1.14**	*-1.07*	*-1.12*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.33**	*-0.29*	*-0.39*	*-0.40*	*-0.34*	*-0.35*	*-0.40*	*-0.40*	*-0.34*	**-0.32**	*-0.36*	*-0.37*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	*-0.33*	*-0.34*	*-0.33*	*-0.33*	*-0.33*	*-0.31*	*-0.32*	*-0.30*	**-0.19**	*-0.33*	*-0.32*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	*0.42*	*0.27*	*0.31*	*0.49*	*0.39*	*0.28*	*0.32*	*0.50*	**0.37**	*0.37*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	*0.14*	*0.17*	*0.17*	*0.16*	*0.17*	*0.18*	*0.19*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.81**	*1.73*	*1.93*	*1.93*	*1.98*	*2.04*	*2.11*	*2.15*	*2.20*	**1.70**	*1.90*	*2.13*
Propane	**1.09**	**0.59**	**0.58**	**0.99**	*1.23*	*0.67*	*0.68*	*0.96*	*1.21*	*0.66*	*0.68*	*0.97*	**0.81**	*0.88*	*0.88*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.30**	*0.28*	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.29*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.24**	*0.15*	*0.22*	*0.20*	*0.20*	*0.18*	*0.23*	*0.20*	*0.20*	**0.20**	*0.19*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.35**	*0.06*	*0.07*	*0.10*	*0.09*	*0.07*	*0.07*	*0.09*	*0.10*	**0.21**	*0.08*	*0.08*
HGL Inventories (million barrels)															
Ethane	**52.6**	**49.5**	**62.5**	**74.9**	*51.5*	*43.5*	*45.1*	*51.1*	*48.5*	*52.0*	*51.5*	*54.4*	**59.9**	*47.8*	*51.6*
Propane	**60.3**	**75.3**	**100.7**	**70.4**	*36.9*	*58.8*	*80.3*	*69.4*	*44.5*	*65.1*	*85.6*	*73.9*	**70.4**	*69.4*	*73.9*
Propylene (at refineries only)	**1.4**	**1.5**	**1.5**	**1.5**	*1.5*	*1.7*	*2.0*	*2.0*	*1.8*	*1.9*	*2.1*	*2.0*	**1.5**	*2.0*	*2.0*
Butanes/Butylenes	**43.6**	**69.3**	**86.0**	**54.7**	*43.9*	*68.0*	*85.5*	*55.9*	*45.9*	*70.0*	*87.6*	*58.2*	**54.7**	*55.9*	*58.2*
Natural Gasoline (Pentanes Plus)	**24.0**	**35.7**	**38.6**	**32.9**	*29.4*	*28.6*	*27.9*	*26.3*	*23.4*	*24.1*	*24.5*	*23.4*	**32.9**	*26.3*	*23.4*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.90**	*13.45*	*14.93*	*15.82*	*15.34*	*15.13*	*16.43*	*17.05*	*16.29*	**14.21**	*14.89*	*16.23*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	*0.56*	*0.43*	*0.48*	*0.65*	*0.55*	*0.47*	*0.51*	*0.69*	**0.51**	*0.53*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	*1.06*	*1.13*	*1.17*	*1.15*	*1.13*	*1.19*	*1.19*	*1.18*	**1.06**	*1.13*	*1.17*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.20**	*0.20*	*0.45*	*0.44*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.37*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.46**	*0.56*	*0.84*	*0.66*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.58*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.23**	*15.83*	*17.78*	*18.57*	*17.77*	*17.47*	*19.18*	*19.72*	*18.73*	**16.57**	*17.50*	*18.78*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	*0.97*	*1.06*	*1.07*	*1.05*	*1.06*	*1.08*	*1.14*	*1.14*	**0.92**	*1.04*	*1.11*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	*0.43*	*0.84*	*0.76*	*0.37*	*0.50*	*0.87*	*0.79*	*0.40*	**0.55**	*0.60*	*0.64*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**8.98**	*8.57*	*9.56*	*9.74*	*9.58*	*9.30*	*9.84*	*10.00*	*9.85*	**8.74**	*9.37*	*9.75*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	*1.16*	*1.45*	*1.54*	*1.46*	*1.52*	*1.62*	*1.69*	*1.59*	**1.02**	*1.41*	*1.60*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.46**	*4.14*	*4.38*	*4.76*	*4.71*	*4.63*	*5.10*	*5.38*	*5.27*	**4.74**	*4.50*	*5.10*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.15**	*0.19*	*0.26*	*0.26*	*0.21*	*0.25*	*0.29*	*0.29*	*0.23*	**0.19**	*0.23*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	*2.29*	*2.35*	*2.58*	*2.49*	*2.33*	*2.56*	*2.70*	*2.53*	**2.26**	*2.43*	*2.53*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.15**	*16.79*	*18.84*	*19.64*	*18.82*	*18.53*	*20.27*	*20.86*	*19.87*	**17.49**	*18.53*	*19.89*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.32**	*13.93*	*15.34*	*16.20*	*15.72*	*15.49*	*16.65*	*17.27*	*16.55*	**14.72**	*15.30*	*16.49*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	*18.39*	**18.66**	*18.39*	*18.39*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	*0.76*	*0.83*	*0.88*	*0.85*	*0.84*	*0.91*	*0.94*	*0.90*	**0.79**	*0.83*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	*179*	*199*	*182*	*168*	*165*	*179*	*183*	*171*	**133**	*182*	*175*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	*249*	*271*	*258*	*242*	*233*	*247*	*255*	*245*	**214**	*255*	*245*
PADD 2	**226**	**179**	**207**	**202**	*244*	*271*	*247*	*230*	*218*	*247*	*248*	*234*	**204**	*248*	*237*
PADD 3	**210**	**162**	**186**	**183**	*225*	*249*	*231*	*216*	*213*	*227*	*230*	*220*	**187**	*230*	*223*
PADD 4	**247**	**201**	**233**	**221**	*239*	*278*	*268*	*251*	*242*	*264*	*270*	*256*	**226**	*260*	*258*
PADD 5	**311**	**258**	**283**	**278**	*309*	*341*	*327*	*314*	*316*	*333*	*327*	*335*	**284**	*323*	*328*
U.S. Average	**241**	**194**	**218**	**215**	*253*	*280*	*262*	*247*	*240*	*259*	*262*	*253*	**218**	*261*	*254*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	*262*	*291*	*275*	*260*	*254*	*273*	*276*	*267*	**227**	*272*	*268*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**68.5**	*63.3*	*61.8*	*58.2*	*59.6*	*65.5*	*67.9*	*62.8*	*68.8*	**68.5**	*59.6*	*68.8*
PADD 2	**60.2**	**52.6**	**46.2**	**50.9**	*51.2*	*53.2*	*50.7*	*50.3*	*53.3*	*52.7*	*51.0*	*51.2*	**50.9**	*50.3*	*51.2*
PADD 3	**84.8**	**90.5**	**79.7**	**83.7**	*79.0*	*79.8*	*80.5*	*85.3*	*85.0*	*87.2*	*82.2*	*89.4*	**83.7**	*85.3*	*89.4*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	*8.4*	*8.0*	*7.5*	*8.0*	*7.9*	*7.9*	*7.7*	*8.2*	**8.7**	*8.0*	*8.2*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	*30.1*	*29.1*	*29.4*	*31.0*	*30.0*	*29.3*	*29.3*	*31.6*	**31.4**	*31.0*	*31.6*
U.S. Total	**260.8**	**253.3**	**226.5**	**243.2**	*232.1*	*231.9*	*226.3*	*234.2*	*241.7*	*245.0*	*233.0*	*249.3*	**243.2**	*234.2*	*249.3*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	*21.0*	*23.2*	*22.2*	*24.4*	*24.1*	*23.8*	*23.1*	*26.1*	**25.3**	*24.4*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**217.9**	*211.1*	*208.7*	*204.1*	*209.8*	*217.6*	*221.2*	*210.0*	*223.2*	**217.9**	*209.8*	*223.2*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.64**	*97.97*	*98.58*	*99.36*	*99.86*	*99.58*	*100.01*	*101.12*	*101.79*	**98.82**	*98.95*	*100.63*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	*0.97*	*0.75*	*0.73*	*0.88*	*0.92*	*0.75*	*0.72*	*0.85*	**0.92**	*0.83*	*0.81*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.69**	*2.09*	*2.09*	*1.98*	*1.94*	*1.98*	*1.94*	*1.86*	*1.86*	**2.08**	*2.02*	*1.91*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**95.97**	*94.92*	*95.74*	*96.65*	*97.04*	*96.69*	*97.31*	*98.54*	*99.08*	**95.81**	*96.09*	*97.91*
Total Dry Gas Production	**94.79**	**89.68**	**89.82**	**91.08**	*90.50*	*91.04*	*91.71*	*92.13*	*91.87*	*92.25*	*93.28*	*93.90*	**91.34**	*91.35*	*92.83*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	*0.32*	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.22*	*0.22*
LNG Gross Exports	**7.92**	**5.51**	**3.91**	**8.78**	*8.67*	*7.59*	*7.66*	*9.26*	*9.96*	*8.83*	*8.33*	*9.78*	**6.53**	*8.29*	*9.22*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	*8.06*	*6.51*	*6.69*	*6.76*	*7.32*	*6.35*	*6.36*	*6.70*	**6.84**	*7.00*	*6.68*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.18**	*8.41*	*8.21*	*9.19*	*9.44*	*9.26*	*8.62*	*9.36*	*9.37*	**7.90**	*8.82*	*9.15*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.18**	*0.17*	*0.17*	*0.17*	*0.18*	*0.17*	*0.18*	*0.18*	*0.18*	**0.17**	*0.17*	*0.18*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	*19.44*	*-10.90*	*-9.01*	*5.11*	*18.87*	*-11.91*	*-9.55*	*4.16*	**-0.46**	*1.09*	*0.33*
Total Supply	**99.49**	**71.12**	**76.78**	**87.03**	*101.42*	*71.21*	*72.89*	*85.68*	*99.34*	*69.60*	*72.77*	*85.98*	**83.60**	*82.73*	*81.86*
Balancing Item (b)	**-0.18**	**-0.29**	**0.06**	**-0.97**	*1.18*	*-0.95*	*-0.93*	*-0.11*	*-0.04*	*-0.35*	*-0.10*	*-0.52*	**-0.35**	*-0.21*	*-0.26*
Total Primary Supply	**99.31**	**70.84**	**76.84**	**86.05**	*102.60*	*70.25*	*71.96*	*85.57*	*99.29*	*69.25*	*72.67*	*85.46*	**83.25**	*82.52*	*81.60*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.83**	**15.99**	*26.29*	*7.24*	*3.44*	*15.74*	*25.13*	*7.91*	*3.48*	*15.52*	**12.70**	*13.12*	*12.96*
Commercial	**13.93**	**5.82**	**4.36**	**10.30**	*15.22*	*6.53*	*4.74*	*10.75*	*14.83*	*6.22*	*4.66*	*10.77*	**8.60**	*9.29*	*9.10*
Industrial	**24.65**	**20.62**	**21.15**	**23.84**	*25.48*	*22.69*	*22.17*	*24.95*	*25.68*	*22.97*	*22.30*	*24.76*	**22.56**	*23.81*	*23.92*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	*27.62*	*26.41*	*34.16*	*26.17*	*25.37*	*24.49*	*34.54*	*26.25*	**31.74**	*28.60*	*27.68*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	*4.95*	*4.98*	*5.02*	*5.05*	*5.04*	*5.06*	*5.11*	*5.15*	**5.00**	*5.00*	*5.09*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.61**	*2.91*	*2.25*	*2.29*	*2.76*	*3.08*	*2.45*	*2.41*	*2.85*	**2.53**	*2.55*	*2.70*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	*0.14*	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.84**	**76.84**	**86.05**	*102.60*	*70.25*	*71.96*	*85.57*	*99.29*	*69.25*	*72.67*	*85.46*	**83.25**	*82.52*	*81.60*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,030**	**3,133**	**3,840**	**3,341**	*1,591*	*2,583*	*3,412*	*2,942*	*1,243*	*2,327*	*3,206*	*2,823*	**3,341**	*2,942*	*2,823*
East Region (d)	**385**	**655**	**890**	**763**	*261*	*538*	*816*	*615*	*93*	*396*	*667*	*488*	**763**	*615*	*488*
Midwest Region (d)	**472**	**747**	**1,053**	**918**	*360*	*620*	*990*	*841*	*206*	*506*	*883*	*765*	**918**	*841*	*765*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	*654*	*985*	*1,086*	*1,041*	*625*	*936*	*1,056*	*1,015*	**1,155**	*1,041*	*1,015*
Mountain Region (d)	**92**	**177**	**235**	**195**	*99*	*130*	*177*	*148*	*100*	*152*	*219*	*201*	**195**	*148*	*201*
Pacific Region (d)	**200**	**308**	**318**	**282**	*196*	*289*	*321*	*276*	*199*	*316*	*359*	*332*	**282**	*276*	*332*
Alaska	**23**	**25**	**31**	**28**	*21*	*21*	*21*	*21*	*21*	*21*	*21*	*21*	**28**	*21*	*21*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	*3.79*	*2.99*	*3.11*	*3.18*	*3.30*	*3.23*	*3.26*	*3.34*	**2.11**	*3.27*	*3.28*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**14.63**	*14.24*	*14.86*	*17.42*	*13.39*	*13.02*	*13.96*	*16.98*	*13.16*	**14.47**	*14.26*	*13.47*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.77**	*10.50*	*12.52*	*16.94*	*11.02*	*10.12*	*12.47*	*17.25*	*11.44*	**11.76**	*11.37*	*11.32*
E. N. Central	**6.99**	**9.50**	**18.15**	**7.87**	*7.53*	*11.13*	*16.77*	*8.52*	*7.80*	*10.75*	*16.50*	*8.30*	**8.34**	*8.80*	*8.88*
W. N. Central	**6.85**	**9.89**	**17.26**	**8.66**	*7.81*	*11.31*	*17.27*	*9.31*	*8.05*	*10.90*	*17.07*	*9.17*	**8.48**	*9.16*	*9.26*
S. Atlantic	**12.12**	**15.52**	**24.15**	**14.20**	*11.53*	*16.78*	*22.72*	*12.63*	*11.25*	*16.43*	*22.66*	*12.68*	**14.23**	*13.38*	*13.21*
E. S. Central	**9.69**	**13.34**	**20.85**	**10.63**	*9.31*	*15.26*	*22.15*	*13.52*	*10.58*	*15.05*	*22.21*	*13.55*	**11.15**	*11.63*	*12.72*
W. S. Central	**8.52**	**14.22**	**20.60**	**11.67**	*8.57*	*14.78*	*20.57*	*11.80*	*8.91*	*14.42*	*20.50*	*11.69*	**11.40**	*11.19*	*11.40*
Mountain	**7.55**	**9.37**	**12.60**	**8.14**	*7.67*	*9.94*	*13.58*	*8.34*	*7.90*	*9.76*	*13.70*	*8.62*	**8.43**	*8.66*	*8.85*
Pacific	**13.41**	**14.47**	**14.50**	**13.70**	*14.02*	*14.58*	*15.01*	*13.80*	*13.91*	*14.63*	*15.42*	*14.38*	**13.82**	*14.17*	*14.36*
U.S. Average	**9.46**	**11.89**	**17.63**	**10.56**	*9.63*	*13.01*	*17.39*	*10.72*	*9.72*	*12.65*	*17.47*	*10.78*	**10.82**	*10.94*	*11.01*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**10.06**	*10.08*	*10.47*	*10.79*	*10.20*	*10.53*	*10.63*	*10.39*	*10.22*	**10.16**	*10.25*	*10.43*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.53**	*7.91*	*7.69*	*7.06*	*7.53*	*7.90*	*7.71*	*7.28*	*7.81*	**7.50**	*7.65*	*7.76*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.21**	*6.34*	*8.23*	*9.51*	*7.24*	*6.93*	*7.71*	*8.76*	*6.63*	**6.28**	*7.12*	*7.08*
W. N. Central	**5.43**	**6.53**	**8.12**	**6.55**	*7.07*	*8.02*	*9.08*	*7.35*	*7.16*	*7.67*	*8.96*	*7.13*	**6.14**	*7.43*	*7.35*
S. Atlantic	**8.51**	**9.21**	**9.53**	**8.87**	*8.70*	*9.84*	*10.05*	*8.99*	*8.54*	*9.31*	*9.61*	*8.62*	**8.86**	*9.13*	*8.82*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	*8.18*	*9.65*	*10.35*	*9.15*	*8.48*	*9.48*	*10.08*	*8.99*	**8.78**	*8.93*	*8.96*
W. S. Central	**5.99**	**7.18**	**8.05**	**7.46**	*6.99*	*8.01*	*8.72*	*8.03*	*7.16*	*7.65*	*8.17*	*7.47*	**6.90**	*7.68*	*7.47*
Mountain	**6.09**	**6.85**	**7.42**	**6.45**	*6.71*	*7.29*	*8.23*	*7.17*	*6.95*	*7.35*	*8.24*	*7.11*	**6.46**	*7.11*	*7.20*
Pacific	**9.58**	**9.30**	**9.59**	**9.70**	*9.88*	*9.82*	*10.04*	*9.39*	*9.29*	*9.14*	*9.64*	*9.31*	**9.57**	*9.74*	*9.32*
U.S. Average	**7.13**	**7.63**	**8.48**	**7.53**	*7.58*	*8.51*	*8.95*	*8.00*	*7.77*	*8.23*	*8.68*	*7.80*	**7.48**	*8.01*	*7.96*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.67**	*8.53*	*7.82*	*6.84*	*7.79*	*8.22*	*7.68*	*6.78*	*7.80*	**7.54**	*7.88*	*7.74*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.61**	*8.07*	*7.56*	*7.40*	*7.54*	*8.05*	*7.82*	*7.74*	*8.15*	**7.28**	*7.75*	*7.99*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.10**	*6.08*	*5.97*	*5.81*	*5.69*	*5.96*	*5.79*	*5.73*	*5.71*	**4.86**	*5.91*	*5.83*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.13**	*5.17*	*4.59*	*4.53*	*5.01*	*5.25*	*4.66*	*4.56*	*5.06*	**3.68**	*4.86*	*4.92*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	*5.83*	*4.99*	*4.93*	*5.21*	*5.38*	*4.90*	*4.85*	*5.11*	**4.06**	*5.27*	*5.08*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.04**	*5.33*	*4.61*	*4.53*	*4.94*	*5.09*	*4.64*	*4.46*	*4.82*	**3.65**	*4.88*	*4.77*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.89**	*3.91*	*3.09*	*3.37*	*3.40*	*3.43*	*3.39*	*3.44*	*3.50*	**2.31**	*3.44*	*3.44*
Mountain	**4.40**	**4.59**	**4.67**	**4.91**	*5.43*	*5.65*	*6.03*	*5.96*	*5.89*	*5.62*	*5.77*	*5.61*	**4.64**	*5.75*	*5.73*
Pacific	**7.46**	**6.28**	**6.18**	**7.23**	*7.79*	*7.04*	*7.11*	*7.12*	*7.15*	*6.66*	*6.95*	*7.00*	**6.86**	*7.29*	*6.95*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.77**	*4.92*	*3.97*	*4.05*	*4.38*	*4.60*	*4.17*	*4.09*	*4.44*	**3.29**	*4.36*	*4.34*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.1**	**115.2**	**135.8**	**139.0**	*135.0*	*133.0*	*156.8*	*156.3*	*148.4*	*145.3*	*160.7*	*155.9*	**539.1**	*581.2*	*610.3*
Appalachia	**39.7**	**29.3**	**33.9**	**35.5**	*34.7*	*36.7*	*36.5*	*37.9*	*39.0*	*40.7*	*39.9*	*41.0*	**138.3**	*145.8*	*160.7*
Interior	**25.8**	**19.2**	**23.2**	**22.3**	*23.0*	*27.6*	*31.2*	*30.3*	*29.2*	*27.9*	*29.3*	*28.3*	**90.4**	*112.0*	*114.7*
Western	**83.6**	**66.7**	**78.8**	**81.2**	*77.4*	*68.7*	*89.2*	*88.1*	*80.2*	*76.6*	*91.5*	*86.6*	**310.3**	*323.3*	*334.9*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-0.9**	*0.5*	*2.0*	*2.6*	*-0.7*	*-0.7*	*-0.6*	*-0.5*	*-3.7*	**2.8**	*4.4*	*-5.4*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	*1.0*	*1.0*	*1.3*	*1.3*	*1.0*	*1.0*	*1.3*	*1.3*	**5.1**	*4.6*	*4.6*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	*25.1*	*17.8*	*18.5*	*23.1*	*26.1*	*19.1*	*19.5*	*23.8*	**69.1**	*84.5*	*88.6*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	*14.8*	*11.2*	*12.7*	*13.7*	*15.5*	*11.7*	*12.9*	*13.5*	**42.1**	*52.4*	*53.6*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	*10.4*	*6.7*	*5.7*	*9.4*	*10.6*	*7.4*	*6.6*	*10.3*	**27.0**	*32.2*	*35.0*
Total Primary Supply	**130.9**	**102.9**	**123.8**	**120.3**	*111.4*	*118.2*	*142.3*	*133.8*	*122.6*	*126.6*	*142.1*	*129.7*	**477.9**	*505.6*	*521.0*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-4.3**	*22.6*	*-4.2*	*21.7*	*-7.2*	*16.8*	*-3.6*	*21.5*	*-4.2*	**-4.5**	*33.0*	*30.4*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	*2.0*	*2.0*	*2.0*	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.2**	**99.4**	**147.3**	**118.3**	*136.0*	*116.1*	*165.9*	*128.6*	*141.2*	*124.8*	*165.4*	*127.4*	**481.1**	*546.6*	*558.8*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.7**	*2.8*	*2.6*	*3.0*	*4.5*	*2.9*	*2.6*	*3.0*	*4.5*	**14.5**	*12.8*	*12.9*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	*125.8*	*106.3*	*155.8*	*116.8*	*130.9*	*115.1*	*155.4*	*115.7*	**436.5**	*504.6*	*517.2*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.1**	*7.5*	*7.2*	*7.1*	*7.3*	*7.4*	*7.1*	*7.0*	*7.2*	**26.3**	*29.1*	*28.7*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	*0.3*	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.8*
Other Industrial	**7.1**	**5.6**	**5.9**	**6.9**	*7.2*	*7.0*	*6.9*	*7.1*	*7.2*	*7.0*	*6.8*	*7.0*	**25.5**	*28.2*	*27.9*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	*136.0*	*116.1*	*165.9*	*128.6*	*141.2*	*124.8*	*165.4*	*127.4*	**477.3**	*546.6*	*558.8*
Discrepancy (c)	**6.7**	**2.9**	**-1.3**	**-4.6**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**3.8**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	*28.0*	*26.0*	*23.4*	*24.1*	*24.8*	*25.4*	*25.8*	*29.5*	**28.5**	*24.1*	*29.5*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**138.5**	*115.8*	*120.0*	*98.3*	*105.5*	*88.7*	*92.3*	*70.9*	*75.1*	**138.5**	*105.5*	*75.1*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	*110.3*	*114.2*	*92.4*	*99.9*	*83.3*	*86.7*	*65.1*	*69.6*	**132.7**	*99.9*	*69.6*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**3.5**	*3.8*	*3.7*	*3.8*	*3.6*	*3.9*	*3.9*	*3.9*	*3.7*	**3.5**	*3.6*	*3.7*
Coke Plants	**2.1**	**2.0**	**2.0**	**2.1**	*1.5*	*1.8*	*1.9*	*1.8*	*1.3*	*1.6*	*1.7*	*1.6*	**2.1**	*1.8*	*1.6*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.1*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	*6.32*	*6.32*	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	*0.250*	*0.250*	*0.257*	*0.291*	*0.281*	*0.252*	*0.247*	*0.255*	**0.216**	*0.262*	*0.259*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.92**	**1.90**	**1.93**	**1.91**	*1.95*	*1.99*	*1.98*	*1.95*	*1.96*	*1.98*	*1.96*	*1.93*	**1.91**	*1.97*	*1.96*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	*1,001*	*968*	*1,138*	*968*	*993*	*985*	*1,156*	*980*	**4,009**	*4,075*	*4,114*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	*962*	*931*	*1,099*	*930*	*953*	*946*	*1,115*	*941*	**3,853**	*3,921*	*3,955*
Industrial Sector (b)	**38**	**34**	**36**	**36**	*36*	*34*	*35*	*35*	*36*	*35*	*38*	*37*	**143**	*141*	*146*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**13**	**14**	**15**	**12**	*12*	*13*	*15*	*11*	*12*	*12*	*14*	*11*	**54**	*51*	*50*
Total Supply	**980**	**947**	**1,163**	**973**	*1,013*	*981*	*1,152*	*979*	*1,005*	*998*	*1,171*	*991*	**4,063**	*4,126*	*4,165*
Losses and Unaccounted for (c)	**57**	**70**	**72**	**62**	*62*	*67*	*58*	*55*	*46*	*68*	*59*	*55*	**259**	*242*	*229*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	*916*	*881*	*1,060*	*889*	*924*	*895*	*1,075*	*899*	**3,664**	*3,746*	*3,794*
Residential Sector	**340**	**334**	**453**	**334**	*376*	*341*	*445*	*339*	*376*	*347*	*452*	*344*	**1,462**	*1,501*	*1,518*
Commercial Sector	**314**	**293**	**360**	**309**	*305*	*304*	*362*	*313*	*311*	*310*	*369*	*318*	**1,276**	*1,284*	*1,307*
Industrial Sector	**231**	**216**	**242**	**231**	*234*	*234*	*251*	*235*	*236*	*236*	*253*	*237*	**920**	*954*	*962*
Transportation Sector	**2**	**1**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*7*	*6*
Direct Use (d)	**36**	**33**	**35**	**36**	*34*	*33*	*35*	*35*	*35*	*34*	*37*	*37*	**140**	*137*	*142*
Total Consumption	**923**	**877**	**1,092**	**912**	*951*	*914*	*1,094*	*925*	*959*	*929*	*1,112*	*936*	**3,804**	*3,883*	*3,936*
Average residential electricity usage per customer (kWh)	**2,527**	**2,480**	**3,366**	**2,481**	*2,747*	*2,495*	*3,256*	*2,483*	*2,716*	*2,507*	*3,266*	*2,484*	**10,854**	*10,981*	*10,973*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	*110.3*	*114.2*	*92.4*	*99.9*	*83.3*	*86.7*	*65.1*	*69.6*	**132.7**	*99.9*	*69.6*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	*8.0*	*8.2*	*8.4*	*8.9*	*8.4*	*8.3*	*8.4*	*8.8*	**8.3**	*8.9*	*8.8*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	*16.8*	*16.7*	*16.6*	*16.8*	*16.7*	*16.5*	*16.5*	*16.8*	**16.8**	*16.8*	*16.8*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.92**	**1.90**	**1.93**	**1.91**	*1.95*	*1.99*	*1.98*	*1.95*	*1.96*	*1.98*	*1.96*	*1.93*	**1.91**	*1.97*	*1.96*
Natural Gas	**2.41**	**2.10**	**2.27**	**2.87**	*4.15*	*3.10*	*3.22*	*3.43*	*3.75*	*3.37*	*3.36*	*3.58*	**2.40**	*3.46*	*3.50*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.87**	*10.01*	*12.58*	*11.43*	*10.80*	*11.05*	*11.68*	*11.12*	*10.98*	**9.14**	*11.10*	*11.20*
Distillate Fuel Oil	**13.27**	**8.39**	**10.38**	**10.63**	*13.52*	*14.82*	*14.12*	*14.15*	*14.05*	*14.11*	*14.27*	*14.35*	**10.75**	*14.10*	*14.20*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	*12.82*	*13.45*	*13.72*	*13.62*	*13.22*	*13.69*	*13.81*	*13.69*	**13.20**	*13.41*	*13.61*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	*10.38*	*10.85*	*11.31*	*10.86*	*10.50*	*10.91*	*11.32*	*10.92*	**10.65**	*10.87*	*10.93*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	*6.61*	*6.70*	*7.09*	*6.54*	*6.45*	*6.71*	*7.10*	*6.55*	**6.66**	*6.74*	*6.71*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	*616.62*	*26.06*	*31.14*	*25.63*	*25.01*	*25.08*	*27.20*	*24.74*	**26.99**	*174.86*	*25.51*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	*46.18*	*33.86*	*43.24*	*35.87*	*36.25*	*33.53*	*45.09*	*35.59*	**38.15**	*39.79*	*37.61*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	*55.56*	*29.35*	*32.10*	*37.83*	*44.16*	*28.87*	*31.75*	*34.04*	**26.52**	*38.71*	*34.71*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	*43.08*	*26.07*	*29.01*	*28.49*	*30.71*	*27.36*	*29.66*	*26.90*	**22.85**	*31.66*	*28.66*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	*35.40*	*27.79*	*31.79*	*28.18*	*31.05*	*29.08*	*32.60*	*28.86*	**24.49**	*30.79*	*30.40*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	*45.86*	*28.07*	*30.59*	*28.16*	*29.98*	*29.62*	*32.01*	*29.45*	**25.43**	*33.17*	*30.27*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	*251.85*	*23.96*	*28.48*	*24.46*	*25.31*	*25.70*	*30.63*	*25.87*	**22.55**	*82.19*	*26.88*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	*25.43*	*24.43*	*27.78*	*25.69*	*25.74*	*25.69*	*27.76*	*26.07*	**22.62**	*25.83*	*26.32*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	*27.42*	*26.21*	*28.09*	*28.20*	*27.81*	*27.62*	*28.88*	*28.36*	**23.48**	*27.48*	*28.17*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	*33.65*	*23.77*	*30.17*	*27.47*	*26.59*	*23.09*	*30.64*	*27.16*	**25.46**	*28.77*	*26.87*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	*42.66*	*28.11*	*33.09*	*29.47*	*30.09*	*26.17*	*33.60*	*29.15*	**39.64**	*33.33*	*29.75*

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	*12.9*	*11.0*	*13.7*	*11.2*	*13.0*	*11.2*	*13.7*	*11.1*	**48.2**	*48.8*	*49.1*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	*35.8*	*30.5*	*40.5*	*31.4*	*36.0*	*30.9*	*40.6*	*31.4*	**137.1**	*138.2*	*138.9*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	*50.2*	*44.0*	*54.7*	*44.8*	*50.5*	*44.8*	*55.2*	*45.0*	**190.0**	*193.7*	*195.6*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	*29.9*	*24.3*	*30.4*	*26.0*	*32.3*	*27.0*	*33.0*	*27.5*	**105.8**	*110.6*	*119.7*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	*94.7*	*88.5*	*113.2*	*85.5*	*94.2*	*89.7*	*114.2*	*86.3*	**370.6**	*382.1*	*384.5*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	*33.6*	*27.2*	*38.1*	*27.3*	*33.0*	*27.6*	*38.5*	*27.5*	**118.8**	*126.2*	*126.6*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	*55.6*	*55.3*	*77.7*	*50.3*	*53.0*	*55.1*	*79.2*	*51.3*	**226.5**	*238.9*	*238.5*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	*23.2*	*25.8*	*34.2*	*24.0*	*23.3*	*26.0*	*34.6*	*24.3*	**108.4**	*107.2*	*108.3*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	*38.4*	*33.3*	*41.5*	*37.6*	*39.1*	*33.5*	*41.6*	*37.8*	**151.5**	*150.8*	*151.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	*375.6*	*341.2*	*445.2*	*339.4*	*375.7*	*346.9*	*451.9*	*343.6*	**1,462.0**	*1,501.5*	*1,518.1*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	*11.9*	*10.7*	*12.8*	*11.5*	*12.0*	*10.7*	*12.9*	*11.5*	**47.5**	*46.8*	*47.1*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	*34.2*	*33.4*	*38.5*	*34.0*	*35.4*	*34.5*	*39.6*	*34.8*	**138.9**	*140.1*	*144.3*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	*42.2*	*40.5*	*47.5*	*42.0*	*43.3*	*41.6*	*48.7*	*42.8*	**169.7**	*172.2*	*176.4*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	*24.6*	*22.0*	*26.7*	*23.8*	*25.2*	*22.7*	*27.6*	*24.5*	**96.0**	*97.0*	*100.1*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	*70.4*	*73.0*	*86.6*	*73.0*	*71.9*	*74.5*	*88.1*	*74.1*	**300.2**	*302.9*	*308.6*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	*20.4*	*20.4*	*25.8*	*20.7*	*20.6*	*20.6*	*26.2*	*20.9*	**85.8**	*87.3*	*88.3*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	*43.4*	*46.2*	*56.4*	*46.9*	*43.8*	*47.0*	*57.6*	*47.8*	**189.4**	*192.8*	*196.2*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	*21.7*	*22.9*	*27.1*	*23.0*	*22.2*	*23.5*	*27.8*	*23.6*	**94.7**	*94.7*	*97.1*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	*35.3*	*33.8*	*39.0*	*36.6*	*35.0*	*33.7*	*38.8*	*36.3*	**148.3**	*144.7*	*143.8*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	*1.3*	*1.4*	*1.5*	*1.5*	*1.4*	*1.4*	*1.4*	*1.4*	**5.2**	*5.6*	*5.7*
Total	**313.7**	**292.7**	**360.3**	**308.9**	*305.2*	*304.1*	*361.9*	*313.0*	*310.8*	*310.2*	*368.7*	*317.6*	**1,275.7**	*1,284.2*	*1,307.4*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	*3.6*	*3.6*	*4.0*	*3.7*	*3.6*	*3.6*	*3.9*	*3.6*	**14.8**	*14.9*	*14.6*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	*19.0*	*17.5*	*19.1*	*17.8*	*19.2*	*17.7*	*19.3*	*18.0*	**70.4**	*73.4*	*74.1*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	*45.2*	*41.4*	*46.8*	*43.3*	*45.5*	*41.8*	*47.0*	*43.4*	**168.7**	*176.7*	*177.6*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	*22.1*	*22.8*	*24.5*	*22.8*	*22.6*	*23.3*	*25.0*	*23.1*	**87.3**	*92.2*	*94.0*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	*33.3*	*33.4*	*35.5*	*34.0*	*33.2*	*33.5*	*35.4*	*33.9*	**131.7**	*136.2*	*135.9*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	*23.2*	*23.4*	*24.3*	*23.3*	*23.3*	*23.6*	*24.4*	*23.3*	**91.1**	*94.2*	*94.6*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	*47.5*	*48.8*	*49.9*	*50.0*	*48.5*	*50.0*	*51.1*	*51.0*	**188.1**	*196.2*	*200.6*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	*19.9*	*21.3*	*23.3*	*20.3*	*20.2*	*21.7*	*23.7*	*20.6*	**82.9**	*84.7*	*86.1*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	*18.9*	*20.4*	*22.4*	*18.9*	*18.7*	*20.2*	*22.1*	*18.7*	**80.1**	*80.6*	*79.7*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	*1.1*	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.6*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	*233.9*	*233.6*	*251.0*	*235.2*	*235.9*	*236.4*	*253.0*	*236.6*	**919.5**	*953.7*	*961.9*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	*28.6*	*25.4*	*30.6*	*26.4*	*28.7*	*25.6*	*30.6*	*26.4*	**111.0**	*111.0*	*111.3*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	*90.0*	*82.1*	*98.9*	*84.0*	*91.4*	*83.8*	*100.3*	*84.9*	**349.7**	*355.0*	*360.4*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	*137.8*	*126.0*	*149.2*	*130.2*	*139.4*	*128.3*	*151.0*	*131.3*	**528.8**	*543.2*	*550.1*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	*76.6*	*69.1*	*81.6*	*72.6*	*80.1*	*73.1*	*85.7*	*75.0*	**289.2**	*299.9*	*313.9*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	*198.7*	*195.2*	*235.6*	*192.8*	*199.6*	*197.9*	*238.0*	*194.5*	**803.7**	*822.3*	*830.1*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	*77.2*	*71.0*	*88.3*	*71.2*	*77.0*	*71.8*	*89.0*	*71.7*	**295.7**	*307.7*	*309.5*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	*146.4*	*150.4*	*184.1*	*147.3*	*145.4*	*152.2*	*187.9*	*150.2*	**604.2**	*628.2*	*635.6*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	*64.7*	*70.0*	*84.6*	*67.3*	*65.7*	*71.2*	*86.1*	*68.5*	**286.2**	*286.7*	*291.6*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	*92.8*	*87.7*	*103.0*	*93.3*	*93.0*	*87.5*	*102.7*	*93.0*	**380.6**	*376.9*	*376.1*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	*3.7*	*3.6*	*3.8*	*4.0*	*3.8*	*3.6*	*3.8*	*3.9*	**14.6**	*15.2*	*15.2*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	*916.5*	*880.5*	*1,059.7*	*889.2*	*924.1*	*895.0*	*1,075.1*	*899.4*	**3,663.7**	*3,745.9*	*3,793.7*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.33**	**20.96**	**20.79**	*21.53*	*21.72*	*21.97*	*22.29*	*23.38*	*23.56*	*23.63*	*23.64*	**21.20**	*21.87*	*23.55*
Middle Atlantic	**15.47**	**15.97**	**16.18**	**15.98**	*15.54*	*16.37*	*16.81*	*16.53*	*15.85*	*16.48*	*16.87*	*16.60*	**15.92**	*16.32*	*16.46*
E. N. Central	**13.13**	**13.76**	**13.34**	**13.74**	*13.20*	*13.99*	*13.69*	*14.03*	*13.51*	*14.22*	*13.86*	*14.21*	**13.48**	*13.71*	*13.93*
W. N. Central	**10.98**	**12.59**	**12.89**	**11.46**	*11.11*	*13.08*	*13.53*	*11.61*	*10.78*	*12.68*	*13.04*	*11.43*	**11.99**	*12.33*	*11.98*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	*11.53*	*11.74*	*12.19*	*12.08*	*11.90*	*12.07*	*12.45*	*12.23*	**11.88**	*11.90*	*12.18*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	*10.99*	*11.61*	*11.48*	*11.65*	*11.28*	*11.79*	*11.60*	*11.76*	**11.36**	*11.42*	*11.59*
W. S. Central	**11.04**	**11.42**	**11.30**	**11.38**	*10.72*	*11.59*	*11.88*	*12.05*	*11.17*	*11.39*	*11.45*	*11.65*	**11.29**	*11.58*	*11.42*
Mountain	**11.42**	**12.08**	**12.19**	**11.63**	*11.63*	*12.31*	*12.46*	*11.86*	*11.83*	*12.44*	*12.52*	*11.90*	**11.88**	*12.11*	*12.21*
Pacific	**15.69**	**16.18**	**17.78**	**16.79**	*16.32*	*17.05*	*18.36*	*17.17*	*17.00*	*18.01*	*19.01*	*17.45*	**16.67**	*17.25*	*17.88*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	*12.82*	*13.45*	*13.72*	*13.62*	*13.22*	*13.69*	*13.81*	*13.69*	**13.20**	*13.41*	*13.61*
Commercial Sector															
New England	**16.24**	**15.66**	**15.98**	**15.67**	*16.03*	*15.86*	*16.61*	*16.45*	*16.87*	*16.57*	*17.15*	*16.83*	**15.90**	*16.25*	*16.87*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.40**	*11.72*	*12.85*	*13.61*	*12.77*	*11.86*	*12.92*	*13.53*	*12.69*	**12.47**	*12.76*	*12.77*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	*10.06*	*10.63*	*10.52*	*10.60*	*10.22*	*10.69*	*10.57*	*10.67*	**10.19**	*10.46*	*10.54*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.11**	*9.36*	*10.76*	*11.14*	*9.47*	*9.08*	*10.28*	*10.61*	*9.25*	**9.66**	*10.19*	*9.82*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	*9.03*	*8.93*	*9.18*	*9.40*	*9.18*	*9.00*	*9.22*	*9.41*	**9.13**	*9.14*	*9.21*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	*10.73*	*10.85*	*10.79*	*10.92*	*10.93*	*10.99*	*10.92*	*11.06*	**10.70**	*10.82*	*10.97*
W. S. Central	**7.84**	**7.87**	**7.90**	**7.98**	*8.07*	*8.28*	*8.30*	*7.91*	*7.94*	*8.33*	*8.42*	*8.17*	**7.90**	*8.15*	*8.23*
Mountain	**9.01**	**9.82**	**10.09**	**9.30**	*9.16*	*10.02*	*10.33*	*9.39*	*9.15*	*9.95*	*10.21*	*9.36*	**9.58**	*9.76*	*9.70*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	*13.79*	*15.23*	*17.93*	*15.49*	*14.13*	*15.57*	*18.12*	*15.74*	**15.18**	*15.67*	*15.95*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	*10.38*	*10.85*	*11.31*	*10.86*	*10.50*	*10.91*	*11.32*	*10.92*	**10.65**	*10.87*	*10.93*
Industrial Sector															
New England	**12.30**	**12.23**	**12.40**	**12.00**	*11.91*	*12.26*	*12.63*	*12.28*	*12.18*	*12.47*	*12.77*	*12.40*	**12.23**	*12.28*	*12.46*
Middle Atlantic	**6.36**	**6.36**	**6.41**	**6.29**	*6.47*	*6.37*	*6.33*	*6.18*	*6.24*	*6.25*	*6.20*	*6.04*	**6.35**	*6.34*	*6.18*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	*6.72*	*6.92*	*6.82*	*6.71*	*6.68*	*6.99*	*6.89*	*6.77*	**6.66**	*6.79*	*6.83*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	*7.25*	*7.37*	*7.99*	*6.74*	*7.21*	*7.50*	*8.13*	*6.86*	**7.20**	*7.35*	*7.44*
S. Atlantic	**5.99**	**6.10**	**6.50**	**6.08**	*6.02*	*6.30*	*6.60*	*6.13*	*6.03*	*6.32*	*6.61*	*6.13*	**6.17**	*6.27*	*6.28*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	*5.48*	*5.60*	*5.74*	*5.51*	*5.47*	*5.60*	*5.73*	*5.51*	**5.54**	*5.59*	*5.58*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	*5.56*	*4.79*	*5.05*	*4.89*	*4.85*	*4.67*	*4.90*	*4.77*	**5.07**	*5.07*	*4.80*
Mountain	**5.73**	**6.16**	**6.91**	**5.94**	*5.84*	*6.29*	*6.84*	*5.95*	*5.84*	*6.31*	*6.88*	*5.98*	**6.21**	*6.25*	*6.28*
Pacific	**8.97**	**10.33**	**12.38**	**10.94**	*9.71*	*10.87*	*12.60*	*11.24*	*9.95*	*11.20*	*13.01*	*11.59*	**10.71**	*11.16*	*11.50*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	*6.61*	*6.70*	*7.09*	*6.54*	*6.45*	*6.71*	*7.10*	*6.55*	**6.66**	*6.74*	*6.71*
All Sectors (a)															
New England	**18.02**	**17.62**	**17.79**	**17.44**	*18.12*	*17.94*	*18.52*	*18.34*	*19.24*	*19.05*	*19.49*	*19.08*	**17.72**	*18.24*	*19.22*
Middle Atlantic	**11.97**	**12.58**	**13.23**	**12.43**	*12.13*	*12.78*	*13.51*	*12.78*	*12.25*	*12.82*	*13.47*	*12.74*	**12.58**	*12.82*	*12.84*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	*10.11*	*10.58*	*10.52*	*10.48*	*10.25*	*10.71*	*10.62*	*10.59*	**10.24**	*10.42*	*10.54*
W. N. Central	**9.16**	**10.15**	**10.58**	**9.15**	*9.43*	*10.46*	*11.09*	*9.38*	*9.24*	*10.28*	*10.82*	*9.31*	**9.77**	*10.11*	*9.93*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	*9.72*	*9.76*	*10.24*	*10.01*	*9.94*	*9.94*	*10.38*	*10.09*	**9.91**	*9.94*	*10.10*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	*9.27*	*9.41*	*9.70*	*9.44*	*9.43*	*9.52*	*9.79*	*9.53*	**9.38**	*9.46*	*9.58*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	*8.26*	*8.37*	*8.93*	*8.30*	*8.08*	*8.23*	*8.74*	*8.21*	**8.29**	*8.49*	*8.34*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	*9.03*	*9.73*	*10.23*	*9.24*	*9.09*	*9.75*	*10.22*	*9.25*	**9.48**	*9.60*	*9.62*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	*14.00*	*14.90*	*16.93*	*15.29*	*14.48*	*15.48*	*17.36*	*15.59*	**14.82**	*15.33*	*15.77*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.56**	*10.42*	*10.76*	*11.32*	*10.77*	*10.57*	*10.88*	*11.37*	*10.83*	**10.67**	*10.84*	*10.93*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	*338.9*	*323.2*	*418.0*	*323.5*	*316.7*	*308.3*	*427.2*	*330.1*	**1,512.2**	*1,403.6*	*1,382.3*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	*216.9*	*183.4*	*278.1*	*209.1*	*225.8*	*197.3*	*276.4*	*204.1*	**768.2**	*887.4*	*903.6*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	*197.9*	*187.7*	*205.3*	*188.1*	*188.9*	*185.2*	*196.8*	*184.7*	**789.9**	*779.0*	*755.6*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	*202.5*	*231.9*	*192.9*	*203.7*	*216.8*	*250.8*	*210.0*	*215.7*	**760.6**	*831.1*	*893.3*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	*73.1*	*81.6*	*65.1*	*58.7*	*69.6*	*81.3*	*65.5*	*59.2*	**289.9**	*278.3*	*275.7*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	*94.1*	*102.6*	*80.0*	*108.8*	*105.8*	*109.2*	*86.0*	*114.9*	**336.7**	*385.6*	*415.9*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	*21.9*	*35.1*	*36.2*	*24.7*	*28.7*	*45.8*	*46.4*	*29.7*	**90.1**	*117.9*	*150.7*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	*9.4*	*8.4*	*7.3*	*7.4*	*8.6*	*10.1*	*7.8*	*7.6*	**27.5**	*32.7*	*34.2*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	*4.0*	*4.2*	*4.2*	*4.2*	*4.1*	*4.3*	*4.3*	*4.3*	**16.5**	*16.6*	*16.9*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	*-1.2*	*-1.3*	*-2.1*	*-1.1*	*-0.9*	*-1.3*	*-2.2*	*-1.1*	**-5.3**	*-5.6*	*-5.5*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	*4.3*	*3.8*	*4.1*	*3.7*	*3.5*	*4.1*	*4.3*	*4.2*	**16.5**	*16.0*	*16.0*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	*1.1*	*0.3*	*0.6*	*0.9*	*1.0*	*0.3*	*0.7*	*0.9*	**3.1**	*2.9*	*2.8*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	*1.8*	*1.8*	*1.7*	*1.8*	*1.7*	*1.8*	*1.7*	*1.9*	**7.5**	*7.2*	*7.2*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	*962.2*	*930.8*	*1,098.6*	*929.7*	*953.5*	*946.5*	*1,114.8*	*940.5*	**3,852.8**	*3,921.4*	*3,955.3*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	*10.7*	*9.5*	*16.1*	*12.0*	*11.2*	*12.1*	*17.2*	*12.0*	**47.7**	*48.3*	*52.5*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	*0.3*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	**0.2**	*0.4*	*0.2*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	*7.1*	*7.1*	*7.2*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.0*	*27.6*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	*2.0*	*2.3*	*1.3*	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*7.4*	*7.4*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	*3.6*	*3.0*	*2.6*	*3.3*	*3.6*	*3.4*	*2.8*	*3.4*	**10.3**	*12.5*	*13.2*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	*0.8*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.4**	*1.9*	*1.6*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	*24.5*	*22.3*	*27.5*	*23.1*	*24.2*	*24.3*	*28.9*	*24.9*	**92.9**	*97.5*	*102.4*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	*30.1*	*27.0*	*31.9*	*28.2*	*29.7*	*27.2*	*32.1*	*28.4*	**113.0**	*117.2*	*117.4*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	*15.5*	*15.8*	*19.7*	*14.8*	*18.3*	*15.3*	*21.3*	*17.0*	**57.1**	*65.8*	*71.8*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	*9.3*	*7.5*	*7.1*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*30.7*	*27.2*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	*7.3*	*7.2*	*7.1*	*7.3*	*7.0*	*7.0*	*7.0*	*7.2*	**31.4**	*28.9*	*28.3*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	*2.3*	*2.1*	*1.8*	*2.3*	*2.4*	*2.3*	*2.1*	*2.9*	**7.6**	*8.6*	*9.7*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.2*	**0.6**	*0.6*	*0.6*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	*34.6*	*32.9*	*35.9*	*31.3*	*34.4*	*31.8*	*37.3*	*34.2*	**135.4**	*134.6*	*137.6*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	*37.5*	*35.4*	*42.5*	*36.2*	*37.4*	*36.0*	*43.1*	*36.7*	**145.3**	*151.6*	*153.2*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	*79.9*	*74.3*	*83.3*	*72.2*	*74.5*	*75.7*	*91.6*	*82.5*	**315.8**	*309.7*	*324.3*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	*45.6*	*39.0*	*57.7*	*47.7*	*52.5*	*41.6*	*53.8*	*38.8*	**148.3**	*190.0*	*186.6*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	*68.3*	*65.8*	*72.4*	*62.4*	*59.0*	*59.2*	*62.8*	*58.0*	**275.7**	*269.0*	*239.0*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	*2.6*	*2.7*	*1.6*	*2.1*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*9.0*	*9.1*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	*11.9*	*12.2*	*8.9*	*12.3*	*12.6*	*13.2*	*9.6*	*13.0*	**39.1**	*45.3*	*48.4*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	*0.6*	*0.3*	*0.1*	*0.9*	*0.7*	*0.4*	*0.3*	*0.9*	**2.2**	*1.9*	*2.3*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	*208.9*	*194.3*	*224.1*	*197.6*	*202.0*	*192.8*	*219.7*	*195.3*	**791.1**	*824.9*	*809.7*
Net energy for load (f)	**182.5**	**163.5**	**209.4**	**177.0**	*198.6*	*173.2*	*205.3*	*180.6*	*196.5*	*176.2*	*208.1*	*182.7*	**732.4**	*757.7*	*763.5*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	*61.7*	*56.5*	*68.4*	*55.3*	*61.2*	*54.3*	*68.3*	*51.3*	**254.2**	*241.9*	*235.1*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	*30.7*	*28.1*	*49.0*	*33.0*	*31.9*	*32.8*	*51.9*	*37.5*	**118.3**	*140.7*	*154.0*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	*53.2*	*52.3*	*55.3*	*53.5*	*54.0*	*55.1*	*58.2*	*55.8*	**210.1**	*214.3*	*223.1*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	*10.3*	*7.6*	*6.7*	*7.8*	*10.2*	*7.6*	*6.7*	*7.9*	**38.7**	*32.5*	*32.4*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	*4.3*	*5.8*	*5.8*	*4.4*	*4.7*	*7.3*	*7.7*	*5.4*	**17.4**	*20.4*	*25.1*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	*-0.1*	*-0.4*	*-0.6*	*-0.2*	*0.0*	*-0.5*	*-0.9*	*-0.2*	**-1.1**	*-1.4*	*-1.6*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	*160.1*	*149.9*	*184.6*	*153.9*	*161.9*	*156.6*	*191.9*	*157.6*	**637.6**	*648.5*	*668.1*
Net energy for load (f)	**156.8**	**152.5**	**186.5**	**153.0**	*162.0*	*155.3*	*186.0*	*155.4*	*163.0*	*160.0*	*190.1*	*158.2*	**648.7**	*658.8*	*671.5*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	*35.7*	*42.3*	*46.7*	*36.0*	*36.1*	*41.3*	*46.7*	*36.4*	**179.5**	*160.7*	*160.5*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	*4.2*	*5.4*	*5.4*	*4.4*	*3.6*	*5.0*	*5.4*	*3.8*	**15.9**	*19.5*	*17.8*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	*7.9*	*7.1*	*7.9*	*6.9*	*7.9*	*7.3*	*8.1*	*7.2*	**29.4**	*29.8*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	*2.8*	*4.2*	*3.0*	*2.6*	*3.3*	*6.0*	*3.4*	*2.7*	**8.4**	*12.6*	*15.4*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	*0.9*	*0.7*	*0.8*	*0.6*	*0.9*	*0.7*	*0.8*	*0.6*	**3.3**	*3.1*	*3.1*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	*51.5*	*59.8*	*63.9*	*50.6*	*51.9*	*60.3*	*64.3*	*50.8*	**236.7**	*225.9*	*227.3*
Net energy for load (f)	**49.9**	**54.2**	**72.0**	**56.2**	*49.0*	*58.0*	*66.8*	*52.3*	*48.2*	*58.5*	*67.3*	*52.7*	**232.4**	*226.0*	*226.7*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	*39.8*	*38.8*	*44.0*	*34.4*	*35.8*	*37.5*	*49.8*	*38.8*	**178.3**	*157.0*	*161.9*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	*64.8*	*50.5*	*78.0*	*57.6*	*67.5*	*54.0*	*77.3*	*54.8*	**218.4**	*250.9*	*253.6*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	*22.8*	*21.3*	*24.8*	*24.2*	*24.0*	*22.3*	*23.5*	*22.7*	**95.1**	*93.1*	*92.4*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	*2.8*	*3.0*	*2.4*	*2.2*	*2.4*	*2.8*	*2.3*	*2.2*	**11.8**	*10.4*	*9.7*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	*23.0*	*24.5*	*19.1*	*26.6*	*24.6*	*25.9*	*20.6*	*27.5*	**81.3**	*93.2*	*98.6*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	*1.3*	*1.2*	*1.0*	*0.9*	*0.8*	*1.5*	*1.1*	*1.3*	**5.2**	*4.4*	*4.7*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	*154.6*	*139.2*	*169.2*	*145.8*	*155.2*	*144.0*	*174.6*	*147.2*	**590.0**	*608.9*	*621.0*
Net energy for load (f)	**153.0**	**141.5**	**174.5**	**149.8**	*160.6*	*151.0*	*175.5*	*154.0*	*157.9*	*153.9*	*178.8*	*156.5*	**618.8**	*641.2*	*647.1*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	*15.7*	*13.0*	*20.9*	*14.4*	*15.4*	*12.6*	*22.7*	*14.7*	**71.6**	*64.1*	*65.4*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	*21.0*	*14.8*	*26.4*	*16.3*	*20.8*	*16.6*	*27.2*	*18.9*	**79.2**	*78.5*	*83.5*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	*4.0*	*3.3*	*4.4*	*4.4*	*4.3*	*4.4*	*3.9*	*2.8*	**16.8**	*16.1*	*15.4*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	*4.9*	*4.9*	*4.2*	*3.3*	*3.6*	*4.3*	*4.0*	*3.2*	**21.8**	*17.3*	*15.0*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	*21.4*	*26.0*	*20.5*	*26.4*	*24.0*	*28.2*	*22.8*	*28.5*	**80.6**	*94.3*	*103.6*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.5**	*0.4*	*0.5*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	*67.2*	*62.0*	*76.5*	*64.9*	*68.3*	*66.3*	*80.7*	*68.2*	**270.5**	*270.7*	*283.5*
Net energy for load (f)	**62.6**	**63.6**	**74.9**	**60.7**	*63.6*	*60.5*	*73.8*	*60.5*	*65.0*	*64.2*	*77.9*	*63.1*	**261.8**	*258.5*	*270.2*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	*34.1*	*34.6*	*46.5*	*29.0*	*23.5*	*26.5*	*39.8*	*23.5*	**174.6**	*144.2*	*113.4*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	*18.1*	*20.5*	*26.7*	*18.2*	*17.2*	*20.5*	*25.9*	*19.0*	**67.2**	*83.5*	*82.6*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	*10.8*	*9.9*	*10.3*	*9.6*	*10.7*	*10.0*	*11.0*	*10.0*	**41.4**	*40.6*	*41.7*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.7*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	*24.8*	*31.5*	*28.5*	*30.8*	*32.6*	*38.1*	*34.6*	*34.0*	**92.6**	*115.6*	*139.3*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.5**	*1.6*	*1.5*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	*88.5*	*97.0*	*112.6*	*88.1*	*84.6*	*95.6*	*111.8*	*87.1*	**378.4**	*386.2*	*379.1*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	*88.5*	*97.0*	*112.6*	*88.1*	*84.6*	*95.6*	*111.8*	*87.1*	**378.4**	*386.2*	*379.1*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	*20.5*	*14.9*	*28.4*	*21.1*	*17.2*	*12.2*	*27.1*	*20.6*	**89.6**	*85.0*	*77.1*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	*23.7*	*17.8*	*24.5*	*23.2*	*24.6*	*19.0*	*25.2*	*23.6*	**86.1**	*89.2*	*92.4*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	*2.5*	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.6*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	*36.8*	*42.9*	*31.4*	*28.1*	*34.2*	*42.6*	*31.5*	*28.2*	**136.0**	*139.2*	*136.4*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	*16.4*	*16.5*	*14.5*	*17.2*	*18.6*	*18.3*	*15.9*	*18.4*	**55.6**	*64.5*	*71.2*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	**0.6**	*0.6*	*0.5*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	*100.1*	*93.4*	*101.4*	*92.2*	*97.0*	*94.6*	*102.3*	*93.4*	**377.4**	*387.1*	*387.3*
Net energy for load (f)	**91.0**	**82.1**	**92.5**	**87.7**	*91.2*	*84.5*	*94.6*	*89.3*	*90.4*	*85.2*	*95.2*	*89.8*	**353.4**	*359.6*	*360.6*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	*9.7*	*11.2*	*19.8*	*12.3*	*7.8*	*8.8*	*19.2*	*11.8*	**61.7**	*52.9*	*47.6*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	*6.5*	*5.2*	*7.9*	*6.7*	*6.0*	*5.9*	*7.1*	*5.7*	**25.9**	*26.3*	*24.8*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	*8.5*	*7.6*	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.7*	**31.6**	*32.4*	*32.2*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	*2.7*	*3.9*	*3.8*	*2.6*	*2.9*	*4.0*	*3.9*	*2.6*	**12.8**	*13.0*	*13.5*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	*3.4*	*3.8*	*3.2*	*3.3*	*4.4*	*4.8*	*4.1*	*4.2*	**10.5**	*13.7*	*17.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	*30.7*	*31.8*	*43.4*	*32.5*	*29.6*	*31.1*	*43.1*	*32.0*	**142.7**	*138.4*	*135.8*
Net energy for load (f)	**19.7**	**23.8**	**32.5**	**21.1**	*19.6*	*24.1*	*31.3*	*20.8*	*19.4*	*24.3*	*31.6*	*20.9*	**97.2**	*95.8*	*96.3*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	*14.9*	*11.6*	*23.4*	*21.1*	*14.8*	*11.4*	*22.8*	*20.8*	**79.9**	*71.1*	*69.8*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	*1.5*	*1.6*	*2.1*	*1.5*	*1.4*	*1.5*	*2.1*	*1.5*	**6.7**	*6.7*	*6.4*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	*3.4*	*4.6*	*4.7*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*17.4*	*16.8*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	*2.9*	*6.5*	*5.8*	*3.0*	*4.0*	*7.3*	*6.6*	*3.5*	**16.8**	*18.2*	*21.5*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	*15.3*	*20.2*	*19.4*	*15.4*	*16.0*	*21.4*	*20.4*	*16.0*	**65.8**	*70.4*	*73.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	*-0.1*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.2*	**0.2**	*0.1*	*0.4*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	*37.9*	*44.6*	*55.6*	*45.7*	*40.7*	*45.5*	*56.4*	*45.9*	**185.8**	*183.9*	*188.6*
Net energy for load (f)	**57.6**	**60.5**	**75.9**	**61.4**	*58.0*	*61.2*	*74.5*	*60.3*	*57.5*	*61.7*	*75.0*	*60.6*	**255.4**	*254.0*	*254.8*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

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The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	*0.036*	*0.037*	*0.038*	*0.037*	*0.036*	*0.038*	*0.038*	*0.038*	**0.147**	*0.148*	*0.150*
Hydroelectric Power (a)	**0.667**	**0.724**	**0.631**	**0.568**	*0.691*	*0.694*	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.590**	*2.543*	*2.538*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	*0.200*	*0.319*	*0.330*	*0.224*	*0.261*	*0.417*	*0.423*	*0.270*	**0.820**	*1.073*	*1.372*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	*0.073*	*0.064*	*0.060*	*0.062*	*0.068*	*0.066*	*0.063*	*0.063*	**0.238**	*0.259*	*0.260*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	*0.073*	*0.067*	*0.054*	*0.053*	*0.065*	*0.092*	*0.059*	*0.054*	**0.185**	*0.246*	*0.270*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	*0.856*	*0.934*	*0.729*	*0.991*	*0.963*	*0.995*	*0.783*	*1.046*	**3.065**	*3.510*	*3.786*
Subtotal	**1.761**	**1.904**	**1.641**	**1.740**	*1.929*	*2.116*	*1.809*	*1.926*	*2.085*	*2.301*	*1.962*	*2.027*	**7.045**	*7.780*	*8.376*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	*0.171*	*0.182*	*0.192*	*0.191*	*0.185*	*0.191*	*0.193*	*0.196*	**0.698**	*0.736*	*0.765*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	*0.003*	*0.003*	*0.002*	*0.002*	*0.003*	*0.003*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	*0.007*	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	*0.040*	*0.038*	*0.037*	*0.040*	*0.040*	*0.039*	*0.038*	*0.039*	**0.156**	*0.155*	*0.155*
Wood Biomass	**0.350**	**0.341**	**0.337**	**0.353**	*0.347*	*0.343*	*0.354*	*0.357*	*0.348*	*0.345*	*0.357*	*0.360*	**1.381**	*1.401*	*1.410*
Subtotal	**0.596**	**0.522**	**0.559**	**0.589**	*0.565*	*0.570*	*0.591*	*0.596*	*0.581*	*0.583*	*0.596*	*0.603*	**2.267**	*2.323*	*2.362*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	*0.029*	*0.043*	*0.044*	*0.030*	*0.035*	*0.050*	*0.050*	*0.035*	**0.123**	*0.147*	*0.170*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	*0.020*	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	*0.071*	*0.084*	*0.086*	*0.073*	*0.076*	*0.092*	*0.093*	*0.077*	**0.290**	*0.314*	*0.338*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.087**	**0.087**	**0.062**	*0.068*	*0.103*	*0.104*	*0.072*	*0.077*	*0.117*	*0.118*	*0.081*	**0.293**	*0.347*	*0.393*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.122**	*0.114*	*0.114*	*0.115*	*0.122*	*0.114*	*0.114*	*0.115*	*0.122*	**0.465**	*0.465*	*0.465*
Subtotal	**0.181**	**0.210**	**0.212**	**0.194**	*0.191*	*0.227*	*0.229*	*0.204*	*0.201*	*0.241*	*0.243*	*0.213*	**0.797**	*0.851*	*0.897*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	*0.073*	*0.074*	*0.073*	*0.079*	*0.081*	*0.084*	*0.089*	*0.092*	**0.275**	*0.300*	*0.345*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.258**	*0.247*	*0.266*	*0.280*	*0.274*	*0.257*	*0.282*	*0.283*	*0.282*	**1.002**	*1.067*	*1.105*
Subtotal	**0.318**	**0.284**	**0.340**	**0.334**	*0.320*	*0.340*	*0.353*	*0.353*	*0.338*	*0.366*	*0.372*	*0.375*	**1.277**	*1.367*	*1.450*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	*0.073*	*0.074*	*0.073*	*0.079*	*0.081*	*0.084*	*0.089*	*0.092*	**0.275**	*0.300*	*0.345*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	*0.171*	*0.182*	*0.192*	*0.191*	*0.185*	*0.191*	*0.193*	*0.196*	**0.698**	*0.736*	*0.765*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.268**	*0.256*	*0.276*	*0.291*	*0.285*	*0.267*	*0.293*	*0.294*	*0.293*	**1.041**	*1.108*	*1.148*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	*0.052*	*0.054*	*0.054*	*0.054*	*0.053*	*0.055*	*0.055*	*0.055*	**0.214**	*0.215*	*0.218*
Hydroelectric Power (a)	**0.670**	**0.727**	**0.634**	**0.570**	*0.694*	*0.697*	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.601**	*2.554*	*2.549*
Solar (b)(e)	**0.238**	**0.373**	**0.376**	**0.258**	*0.304*	*0.477*	*0.489*	*0.334*	*0.382*	*0.597*	*0.603*	*0.395*	**1.245**	*1.604*	*1.976*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	*0.122*	*0.111*	*0.106*	*0.111*	*0.117*	*0.113*	*0.110*	*0.111*	**0.430**	*0.450*	*0.451*
Wood Biomass	**0.534**	**0.519**	**0.520**	**0.542**	*0.554*	*0.543*	*0.544*	*0.554*	*0.547*	*0.571*	*0.552*	*0.558*	**2.115**	*2.194*	*2.228*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	*0.856*	*0.934*	*0.729*	*0.991*	*0.963*	*0.995*	*0.783*	*1.046*	**3.065**	*3.510*	*3.786*
Total Consumption	**2.924**	**2.997**	**2.831**	**2.924**	*3.076*	*3.337*	*3.069*	*3.152*	*3.281*	*3.582*	*3.265*	*3.295*	**11.676**	*12.635*	*13.424*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,632**	**6,615**	**6,589**	**6,591**	*6,591*	*6,485*	*6,485*	*6,495*	*6,540*	*6,541*	*6,541*	*6,541*	**6,591**	*6,495*	*6,541*
Waste	**3,943**	**3,926**	**3,863**	**3,864**	*3,865*	*3,901*	*3,901*	*3,911*	*3,914*	*3,916*	*3,916*	*3,916*	**3,864**	*3,911*	*3,916*
Wood	**2,689**	**2,689**	**2,727**	**2,727**	*2,727*	*2,584*	*2,584*	*2,584*	*2,626*	*2,626*	*2,626*	*2,626*	**2,727**	*2,584*	*2,626*
Conventional Hydroelectric	**79,494**	**79,498**	**79,652**	**79,658**	*79,740*	*79,738*	*79,744*	*79,783*	*79,794*	*79,799*	*79,834*	*79,837*	**79,658**	*79,783*	*79,837*
Geothermal	**2,506**	**2,538**	**2,538**	**2,538**	*2,538*	*2,538*	*2,538*	*2,576*	*2,576*	*2,576*	*2,576*	*2,576*	**2,538**	*2,576*	*2,576*
Large-Scale Solar (b)	**39,045**	**41,294**	**42,921**	**47,385**	*50,564*	*53,120*	*56,200*	*63,950*	*65,393*	*70,423*	*71,753*	*77,750*	**47,385**	*63,950*	*77,750*
Wind	**105,772**	**107,336**	**108,872**	**117,391**	*125,503*	*127,054*	*128,326*	*133,345*	*134,407*	*136,278*	*136,358*	*139,055*	**117,391**	*133,345*	*139,055*
Other Sectors (c)															
Biomass	**6,443**	**6,443**	**6,443**	**6,458**	*6,460*	*6,440*	*6,440*	*6,440*	*6,440*	*6,444*	*6,444*	*6,444*	**6,458**	*6,440*	*6,444*
Waste	**786**	**786**	**786**	**802**	*804*	*804*	*804*	*804*	*804*	*804*	*804*	*804*	**802**	*804*	*804*
Wood	**5,656**	**5,656**	**5,656**	**5,656**	*5,656*	*5,636*	*5,636*	*5,636*	*5,636*	*5,641*	*5,641*	*5,641*	**5,656**	*5,636*	*5,641*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	*289*	*292*	*290*	*290*	*290*	*290*	*290*	*290*	**289**	*290*	*290*
Large-Scale Solar (b)	**441**	**453**	**458**	**459**	*471*	*471*	*471*	*486*	*486*	*486*	*486*	*486*	**459**	*486*	*486*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	*28,994*	*30,213*	*31,348*	*32,527*	*33,687*	*34,875*	*36,065*	*37,296*	**27,724**	*32,527*	*37,296*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	*18,061*	*18,849*	*19,535*	*20,246*	*20,984*	*21,749*	*22,541*	*23,362*	**17,238**	*20,246*	*23,362*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	*8,812*	*9,180*	*9,563*	*9,964*	*10,323*	*10,683*	*11,019*	*11,366*	**8,430**	*9,964*	*11,366*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	*2,121*	*2,185*	*2,250*	*2,317*	*2,380*	*2,443*	*2,505*	*2,568*	**2,056**	*2,317*	*2,568*
Wind	**118**	**344**	**353**	**353**	*353*	*353*	*353*	*353*	*353*	*353*	*353*	*353*	**353**	*353*	*353*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	*9.4*	*8.4*	*7.3*	*7.4*	*8.6*	*10.1*	*7.8*	*7.6*	**27.5**	*32.7*	*34.2*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	*4.9*	*4.3*	*4.0*	*4.2*	*4.6*	*4.4*	*4.2*	*4.2*	**16.1**	*17.5*	*17.5*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	*4.5*	*4.1*	*3.3*	*3.2*	*4.0*	*5.7*	*3.6*	*3.3*	**11.4**	*15.2*	*16.6*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	*73.1*	*81.6*	*65.1*	*58.7*	*69.6*	*81.3*	*65.5*	*59.2*	**289.9**	*278.3*	*275.7*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	*4.0*	*4.2*	*4.2*	*4.2*	*4.1*	*4.3*	*4.3*	*4.3*	**16.5**	*16.6*	*16.9*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	*21.9*	*35.1*	*36.2*	*24.7*	*28.7*	*45.8*	*46.4*	*29.7*	**90.1**	*117.9*	*150.7*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	*94.1*	*102.6*	*80.0*	*108.8*	*105.8*	*109.2*	*86.0*	*114.9*	**336.7**	*385.6*	*415.9*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	*7.3*	*7.1*	*7.0*	*7.1*	*7.3*	*7.1*	*7.0*	*7.1*	**28.6**	*28.5*	*28.5*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	*6.6*	*6.4*	*6.4*	*6.4*	*6.6*	*6.4*	*6.4*	*6.4*	**25.8**	*25.8*	*25.8*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.7*	*0.8*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	*9.9*	*14.9*	*15.0*	*10.4*	*11.6*	*17.2*	*17.3*	*11.9*	**41.7**	*50.1*	*58.0*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	*6.0*	*9.1*	*9.2*	*6.3*	*7.0*	*10.6*	*10.6*	*7.3*	**25.4**	*30.7*	*35.6*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	*3.1*	*4.6*	*4.6*	*3.2*	*3.7*	*5.3*	*5.3*	*3.7*	**12.9**	*15.5*	*18.0*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	*0.8*	*1.2*	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*4.0*	*4.5*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*1.0*	*0.9*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,780**	*18,981*	*19,267*	*19,633*	*19,895*	*20,080*	*20,222*	*20,331*	*20,438*	**18,423**	*19,444*	*20,268*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,925**	**13,005**	*13,231*	*13,336*	*13,551*	*13,745*	*13,895*	*14,022*	*14,110*	*14,207*	**12,727**	*13,466*	*14,058*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,315**	**3,458**	*3,539*	*3,562*	*3,606*	*3,642*	*3,670*	*3,696*	*3,721*	*3,742*	**3,311**	*3,587*	*3,707*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-1**	**43**	*-19*	*64*	*132*	*176*	*201*	*188*	*166*	*145*	**-77**	*88*	*175*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,317**	*3,337*	*3,442*	*3,497*	*3,505*	*3,468*	*3,423*	*3,395*	*3,383*	**3,340**	*3,445*	*3,417*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,167**	**2,277**	*2,370*	*2,419*	*2,468*	*2,528*	*2,585*	*2,636*	*2,677*	*2,714*	**2,217**	*2,446*	*2,653*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,398**	*3,581*	*3,657*	*3,714*	*3,792*	*3,818*	*3,811*	*3,797*	*3,808*	**3,142**	*3,686*	*3,809*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,905**	**15,512**	*16,284*	*16,973*	*15,771*	*15,533*	*15,634*	*15,691*	*15,767*	*15,856*	**15,777**	*16,140*	*15,737*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	*142.8*	*144.0*	*145.6*	*147.2*	*148.7*	*150.0*	*151.0*	*151.8*	**142.3**	*144.9*	*150.4*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	*6.3*	*5.9*	*5.5*	*5.0*	*4.6*	*4.2*	*4.0*	*3.8*	**8.1**	*5.7*	*4.1*
Housing Starts															
(millions - SAAR)	**1.48**	**1.08**	**1.43**	**1.59**	*1.55*	*1.49*	*1.45*	*1.42*	*1.39*	*1.37*	*1.34*	*1.30*	**1.40**	*1.48*	*1.35*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**107.7**	**93.7**	**102.5**	**105.0**	*107.2*	*107.8*	*109.4*	*110.7*	*112.2*	*113.5*	*114.2*	*114.6*	**102.2**	*108.8*	*113.6*
Manufacturing	**104.4**	**89.3**	**100.1**	**103.2**	*105.3*	*105.4*	*107.0*	*108.5*	*110.0*	*111.2*	*111.8*	*112.2*	**99.2**	*106.6*	*111.3*
Food	**116.5**	**107.9**	**113.5**	**115.8**	*117.8*	*117.7*	*117.8*	*117.9*	*118.0*	*118.5*	*118.9*	*119.4*	**113.5**	*117.8*	*118.7*
Paper	**94.7**	**87.2**	**87.0**	**91.8**	*92.7*	*93.0*	*93.6*	*94.0*	*94.7*	*95.2*	*95.5*	*95.6*	**90.2**	*93.3*	*95.2*
Petroleum and Coal Products	**105.0**	**82.7**	**89.8**	**92.9**	*95.2*	*95.7*	*97.1*	*98.5*	*99.4*	*99.9*	*100.0*	*100.0*	**92.6**	*96.6*	*99.8*
Chemicals	**99.8**	**93.7**	**96.4**	**99.5**	*104.0*	*108.5*	*112.6*	*114.3*	*114.8*	*115.1*	*115.2*	*115.7*	**97.3**	*109.8*	*115.2*
Nonmetallic Mineral Products	**122.2**	**106.3**	**113.7**	**118.1**	*121.1*	*122.2*	*122.6*	*122.5*	*122.6*	*122.4*	*122.2*	*122.0*	**115.1**	*122.1*	*122.3*
Primary Metals	**94.4**	**69.6**	**79.3**	**87.7**	*91.0*	*89.2*	*90.3*	*90.4*	*91.4*	*92.1*	*92.1*	*91.8*	**82.8**	*90.2*	*91.8*
Coal-weighted Manufacturing (a)	**106.5**	**94.1**	**100.9**	**105.4**	*107.5*	*107.5*	*108.8*	*109.5*	*110.4*	*111.2*	*111.5*	*111.8*	**101.7**	*108.3*	*111.2*
Distillate-weighted Manufacturing (a)	**98.8**	**85.6**	**92.5**	**95.8**	*97.9*	*98.4*	*99.2*	*99.8*	*100.3*	*100.5*	*100.6*	*100.5*	**93.2**	*98.8*	*100.5*
Electricity-weighted Manufacturing (a)	**105.1**	**89.4**	**98.4**	**103.1**	*105.4*	*105.4*	*106.6*	*107.3*	*108.3*	*109.1*	*109.3*	*109.5*	**99.0**	*106.2*	*109.1*
Natural Gas-weighted Manufacturing (a)	**107.8**	**94.0**	**100.3**	**105.4**	*107.5*	*107.3*	*108.8*	*109.6*	*110.6*	*111.4*	*111.8*	*112.1*	**101.9**	*108.3*	*111.5*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	*2.63*	*2.64*	*2.65*	*2.66*	*2.67*	*2.69*	*2.71*	*2.72*	**2.59**	*2.65*	*2.70*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.98**	*2.05*	*2.06*	*2.06*	*2.05*	*2.06*	*2.08*	*2.08*	*2.08*	**1.94**	*2.05*	*2.08*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.50**	*1.81*	*2.00*	*1.86*	*1.78*	*1.76*	*1.83*	*1.86*	*1.81*	**1.43**	*1.87*	*1.81*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	*115.0*	*115.4*	*115.9*	*116.4*	*116.8*	*117.5*	*118.1*	*118.8*	**113.6**	*115.6*	*117.8*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,766**	**6,879**	**8,261**	**8,012**	*7,599*	*8,500*	*8,789*	*8,737*	*8,099*	*9,123*	*9,118*	*8,909*	**7,731**	*8,410*	*8,815*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**628**	**362**	**475**	**566**	*597*	*579*	*609*	*651*	*649*	*707*	*723*	*695*	**508**	*609*	*694*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**269**	*303*	*308*	*354*	*382*	*404*	*450*	*458*	*435*	**239**	*337*	*437*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	*194.6*	*191.0*	*184.3*	*192.8*	*191.7*	*212.4*	*218.6*	*234.8*	**217.5**	*190.7*	*214.4*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	*0.250*	*0.250*	*0.257*	*0.291*	*0.281*	*0.252*	*0.247*	*0.255*	**0.216**	*0.262*	*0.259*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**552**	**442**	**518**	**522**	*520*	*540*	*562*	*566*	*555*	*574*	*583*	*582*	**2,034**	*2,187*	*2,293*
Natural Gas	**493**	**351**	**385**	**432**	*504*	*349*	*361*	*430*	*488*	*344*	*365*	*429*	**1,662**	*1,643*	*1,625*
Coal	**202**	**177**	**271**	**225**	*251*	*213*	*300*	*238*	*261*	*229*	*299*	*235*	**876**	*1,001*	*1,024*
Total Energy (c)	**1,250**	**973**	**1,177**	**1,182**	*1,277*	*1,104*	*1,226*	*1,236*	*1,306*	*1,149*	*1,250*	*1,249*	**4,583**	*4,843*	*4,954*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2009)															
New England	**993**	**901**	**969**	**977**	*986*	*1,000*	*1,018*	*1,032*	*1,041*	*1,047*	*1,053*	*1,057*	**960**	*1,009*	*1,049*
Middle Atlantic	**2,774**	**2,486**	**2,669**	**2,706**	*2,732*	*2,781*	*2,836*	*2,881*	*2,915*	*2,940*	*2,961*	*2,978*	**2,659**	*2,807*	*2,948*
E. N. Central	**2,502**	**2,266**	**2,458**	**2,474**	*2,496*	*2,534*	*2,580*	*2,613*	*2,632*	*2,648*	*2,659*	*2,667*	**2,425**	*2,556*	*2,652*
W. N. Central	**1,188**	**1,084**	**1,168**	**1,174**	*1,185*	*1,199*	*1,220*	*1,235*	*1,244*	*1,252*	*1,259*	*1,264*	**1,154**	*1,210*	*1,255*
S. Atlantic	**3,388**	**3,114**	**3,337**	**3,366**	*3,399*	*3,447*	*3,512*	*3,553*	*3,584*	*3,606*	*3,622*	*3,641*	**3,301**	*3,478*	*3,613*
E. S. Central	**828**	**742**	**809**	**816**	*825*	*837*	*852*	*863*	*870*	*876*	*880*	*884*	**799**	*844*	*878*
W. S. Central	**2,317**	**2,125**	**2,267**	**2,300**	*2,332*	*2,361*	*2,407*	*2,439*	*2,462*	*2,482*	*2,498*	*2,514*	**2,252**	*2,385*	*2,489*
Mountain	**1,283**	**1,177**	**1,265**	**1,278**	*1,291*	*1,309*	*1,335*	*1,350*	*1,362*	*1,369*	*1,375*	*1,383*	**1,251**	*1,321*	*1,372*
Pacific	**3,769**	**3,436**	**3,684**	**3,721**	*3,767*	*3,830*	*3,906*	*3,962*	*4,004*	*4,035*	*4,059*	*4,085*	**3,653**	*3,866*	*4,046*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**97.6**	**83.5**	**92.7**	**96.2**	*98.0*	*98.3*	*99.9*	*101.2*	*102.4*	*103.4*	*103.8*	*104.1*	**92.5**	*99.4*	*103.4*
Middle Atlantic	**97.1**	**80.3**	**91.2**	**93.5**	*95.4*	*95.8*	*97.4*	*99.0*	*100.6*	*102.0*	*102.7*	*103.4*	**90.5**	*96.9*	*102.2*
E. N. Central	**105.1**	**86.1**	**99.5**	**102.3**	*104.3*	*104.7*	*106.3*	*108.2*	*109.7*	*111.0*	*111.6*	*112.1*	**98.2**	*105.9*	*111.1*
W. N. Central	**103.7**	**90.3**	**100.6**	**103.6**	*105.8*	*105.9*	*107.2*	*108.6*	*110.0*	*110.9*	*111.6*	*112.0*	**99.6**	*106.9*	*111.1*
S. Atlantic	**109.2**	**94.4**	**105.2**	**108.9**	*111.2*	*111.2*	*113.0*	*114.4*	*116.0*	*117.1*	*117.6*	*118.0*	**104.4**	*112.5*	*117.2*
E. S. Central	**109.0**	**90.1**	**104.4**	**108.0**	*110.6*	*110.6*	*112.1*	*113.5*	*114.6*	*115.8*	*116.3*	*116.4*	**102.9**	*111.7*	*115.8*
W. S. Central	**99.8**	**87.8**	**95.7**	**98.6**	*100.5*	*100.5*	*102.1*	*103.6*	*105.3*	*106.7*	*107.4*	*107.8*	**95.5**	*101.7*	*106.8*
Mountain	**114.7**	**102.7**	**114.2**	**118.1**	*120.4*	*120.3*	*121.9*	*123.2*	*124.7*	*125.7*	*126.2*	*126.6*	**112.4**	*121.5*	*125.8*
Pacific	**102.4**	**86.8**	**95.7**	**97.9**	*99.5*	*99.6*	*101.4*	*102.8*	*104.7*	*106.2*	*106.9*	*107.7*	**95.7**	*100.8*	*106.4*
Real Personal Income (Billion $2009)															
New England	**890**	**978**	**937**	**905**	*944*	*985*	*919*	*908*	*914*	*918*	*923*	*928*	**927**	*939*	*921*
Middle Atlantic	**2,305**	**2,509**	**2,426**	**2,347**	*2,445*	*2,544*	*2,375*	*2,347*	*2,366*	*2,377*	*2,391*	*2,403*	**2,397**	*2,428*	*2,384*
E. N. Central	**2,453**	**2,695**	**2,577**	**2,509**	*2,628*	*2,751*	*2,553*	*2,515*	*2,529*	*2,540*	*2,551*	*2,563*	**2,558**	*2,612*	*2,546*
W. N. Central	**1,158**	**1,259**	**1,190**	**1,179**	*1,229*	*1,273*	*1,200*	*1,184*	*1,189*	*1,192*	*1,197*	*1,203*	**1,196**	*1,221*	*1,195*
S. Atlantic	**3,272**	**3,511**	**3,416**	**3,358**	*3,507*	*3,647*	*3,433*	*3,391*	*3,411*	*3,422*	*3,439*	*3,461*	**3,389**	*3,495*	*3,433*
E. S. Central	**909**	**989**	**937**	**924**	*973*	*1,017*	*951*	*937*	*942*	*944*	*948*	*953*	**940**	*970*	*947*
W. S. Central	**2,037**	**2,201**	**2,115**	**2,078**	*2,173*	*2,260*	*2,122*	*2,096*	*2,114*	*2,124*	*2,137*	*2,153*	**2,108**	*2,163*	*2,132*
Mountain	**1,216**	**1,322**	**1,267**	**1,242**	*1,297*	*1,353*	*1,269*	*1,253*	*1,260*	*1,265*	*1,271*	*1,279*	**1,262**	*1,293*	*1,269*
Pacific	**2,833**	**3,042**	**2,988**	**2,942**	*3,068*	*3,148*	*2,964*	*2,929*	*2,950*	*2,964*	*2,982*	*3,002*	**2,951**	*3,027*	*2,975*
Households (Thousands)															
New England	**5,896**	**5,877**	**5,900**	**5,924**	*5,938*	*5,950*	*5,961*	*5,970*	*5,981*	*5,993*	*6,005*	*6,016*	**5,924**	*5,970*	*6,016*
Middle Atlantic	**16,161**	**16,102**	**16,164**	**16,234**	*16,277*	*16,313*	*16,338*	*16,364*	*16,396*	*16,423*	*16,450*	*16,477*	**16,234**	*16,364*	*16,477*
E. N. Central	**18,864**	**18,814**	**18,901**	**18,988**	*19,045*	*19,097*	*19,137*	*19,176*	*19,217*	*19,248*	*19,278*	*19,312*	**18,988**	*19,176*	*19,312*
W. N. Central	**8,646**	**8,631**	**8,677**	**8,732**	*8,766*	*8,795*	*8,818*	*8,839*	*8,861*	*8,885*	*8,909*	*8,929*	**8,732**	*8,839*	*8,929*
S. Atlantic	**25,669**	**25,649**	**25,815**	**26,000**	*26,131*	*26,244*	*26,341*	*26,435*	*26,531*	*26,633*	*26,729*	*26,822*	**26,000**	*26,435*	*26,822*
E. S. Central	**7,659**	**7,647**	**7,689**	**7,738**	*7,769*	*7,796*	*7,817*	*7,838*	*7,858*	*7,881*	*7,902*	*7,921*	**7,738**	*7,838*	*7,921*
W. S. Central	**14,887**	**14,880**	**14,981**	**15,097**	*15,177*	*15,246*	*15,308*	*15,366*	*15,428*	*15,490*	*15,552*	*15,609*	**15,097**	*15,366*	*15,609*
Mountain	**9,464**	**9,470**	**9,544**	**9,628**	*9,690*	*9,746*	*9,796*	*9,844*	*9,893*	*9,939*	*9,985*	*10,026*	**9,628**	*9,844*	*10,026*
Pacific	**18,779**	**18,739**	**18,838**	**18,950**	*19,016*	*19,069*	*19,113*	*19,157*	*19,208*	*19,256*	*19,305*	*19,344*	**18,950**	*19,157*	*19,344*
Total Non-farm Employment (Millions)															
New England	**7.5**	**6.4**	**6.8**	**6.9**	*6.9*	*7.0*	*7.1*	*7.2*	*7.2*	*7.3*	*7.4*	*7.4*	**6.9**	*7.0*	*7.3*
Middle Atlantic	**20.1**	**16.8**	**18.0**	**18.3**	*18.3*	*18.5*	*18.7*	*19.0*	*19.3*	*19.5*	*19.7*	*19.8*	**18.3**	*18.6*	*19.6*
E. N. Central	**22.3**	**19.3**	**20.6**	**20.8**	*20.8*	*21.0*	*21.2*	*21.4*	*21.7*	*21.9*	*22.0*	*22.1*	**20.7**	*21.1*	*21.9*
W. N. Central	**10.8**	**9.8**	**10.2**	**10.3**	*10.3*	*10.3*	*10.4*	*10.5*	*10.6*	*10.7*	*10.7*	*10.8*	**10.3**	*10.4*	*10.7*
S. Atlantic	**29.4**	**26.4**	**27.6**	**28.0**	*28.1*	*28.3*	*28.6*	*28.9*	*29.1*	*29.3*	*29.5*	*29.6*	**27.8**	*28.5*	*29.4*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	*8.1*	*8.1*	*8.2*	*8.2*	*8.3*	*8.3*	*8.3*	*8.4*	**8.0**	*8.1*	*8.3*
W. S. Central	**17.9**	**16.4**	**16.9**	**17.2**	*17.2*	*17.3*	*17.5*	*17.7*	*17.9*	*18.0*	*18.1*	*18.2*	**17.1**	*17.4*	*18.0*
Mountain	**11.2**	**10.2**	**10.6**	**10.8**	*10.8*	*10.8*	*11.0*	*11.1*	*11.2*	*11.2*	*11.3*	*11.4*	**10.7**	*10.9*	*11.3*
Pacific	**24.0**	**20.9**	**21.8**	**22.1**	*22.2*	*22.4*	*22.7*	*23.0*	*23.3*	*23.5*	*23.7*	*23.9*	**22.2**	*22.6*	*23.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,735**	**971**	**115**	**1,998**	*3,077*	*855*	*124*	*2,097*	*3,074*	*859*	*124*	*2,097*	**5,819**	*6,153*	*6,154*
Middle Atlantic	**2,473**	**837**	**85**	**1,835**	*2,893*	*677*	*75*	*1,918*	*2,868*	*687*	*75*	*1,918*	**5,230**	*5,563*	*5,548*
E. N. Central	**2,787**	**846**	**125**	**2,098**	*3,221*	*699*	*112*	*2,232*	*3,145*	*729*	*112*	*2,232*	**5,856**	*6,263*	*6,219*
W. N. Central	**3,037**	**799**	**168**	**2,311**	*3,362*	*657*	*152*	*2,451*	*3,248*	*701*	*152*	*2,452*	**6,315**	*6,622*	*6,553*
South Atlantic	**1,106**	**251**	**17**	**873**	*1,380*	*185*	*10*	*907*	*1,367*	*191*	*10*	*905*	**2,246**	*2,482*	*2,473*
E. S. Central	**1,483**	**337**	**20**	**1,226**	*1,870*	*232*	*17*	*1,257*	*1,805*	*248*	*17*	*1,257*	**3,065**	*3,375*	*3,327*
W. S. Central	**973**	**102**	**8**	**737**	*1,307*	*67*	*4*	*773*	*1,158*	*83*	*4*	*772*	**1,820**	*2,151*	*2,017*
Mountain	**2,215**	**673**	**127**	**1,771**	*2,232*	*644*	*144*	*1,824*	*2,187*	*670*	*143*	*1,823*	**4,785**	*4,844*	*4,823*
Pacific	**1,540**	**525**	**65**	**1,088**	*1,474*	*581*	*85*	*1,198*	*1,518*	*587*	*85*	*1,198*	**3,218**	*3,338*	*3,389*
U.S. Average	**1,875**	**540**	**70**	**1,418**	*2,134*	*467*	*69*	*1,494*	*2,089*	*482*	*69*	*1,493*	**3,903**	*4,164*	*4,133*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**823**	**105**	**2,128**	*3,133*	*856*	*107*	*2,100*	*3,107*	*860*	*111*	*2,121*	**6,207**	*6,196*	*6,199*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	*2,913*	*677*	*72*	*1,912*	*2,895*	*685*	*73*	*1,928*	**5,606**	*5,574*	*5,581*
E. N. Central	**3,197**	**698**	**102**	**2,197**	*3,157*	*731*	*104*	*2,170*	*3,146*	*727*	*101*	*2,196*	**6,194**	*6,161*	*6,170*
W. N. Central	**3,287**	**702**	**132**	**2,379**	*3,247*	*728*	*133*	*2,367*	*3,232*	*719*	*131*	*2,398*	**6,500**	*6,475*	*6,481*
South Atlantic	**1,459**	**169**	**10**	**952**	*1,393*	*180*	*11*	*914*	*1,381*	*184*	*11*	*914*	**2,589**	*2,498*	*2,490*
E. S. Central	**1,850**	**214**	**15**	**1,277**	*1,772*	*231*	*16*	*1,249*	*1,771*	*235*	*14*	*1,250*	**3,356**	*3,268*	*3,271*
W. S. Central	**1,199**	**83**	**3**	**794**	*1,140*	*86*	*3*	*786*	*1,146*	*88*	*3*	*782*	**2,078**	*2,015*	*2,019*
Mountain	**2,192**	**718**	**135**	**1,844**	*2,182*	*701*	*134*	*1,843*	*2,167*	*680*	*135*	*1,829*	**4,889**	*4,859*	*4,812*
Pacific	**1,456**	**580**	**85**	**1,162**	*1,462*	*553*	*81*	*1,148*	*1,447*	*532*	*80*	*1,136*	**3,284**	*3,243*	*3,195*
U.S. Average	**2,149**	**472**	**64**	**1,509**	*2,108*	*481*	*65*	*1,484*	*2,094*	*477*	*64*	*1,488*	**4,194**	*4,138*	*4,123*
Cooling Degree Days															
New England	**0**	**102**	**542**	**0**	*0*	*88*	*422*	*2*	*0*	*87*	*422*	*2*	**644**	*512*	*511*
Middle Atlantic	**0**	**157**	**679**	**4**	*0*	*158*	*555*	*5*	*0*	*156*	*556*	*5*	**841**	*719*	*717*
E. N. Central	**2**	**217**	**610**	**2**	*0*	*231*	*562*	*7*	*0*	*223*	*562*	*7*	**831**	*801*	*792*
W. N. Central	**6**	**295**	**663**	**3**	*3*	*290*	*696*	*10*	*3*	*278*	*696*	*10*	**966**	*999*	*987*
South Atlantic	**196**	**619**	**1,235**	**302**	*138*	*662*	*1,187*	*250*	*133*	*663*	*1,188*	*251*	**2,352**	*2,236*	*2,234*
E. S. Central	**73**	**423**	**1,061**	**82**	*26*	*532*	*1,088*	*75*	*28*	*520*	*1,088*	*75*	**1,638**	*1,721*	*1,711*
W. S. Central	**172**	**838**	**1,499**	**211**	*88*	*925*	*1,537*	*214*	*87*	*881*	*1,538*	*214*	**2,721**	*2,764*	*2,720*
Mountain	**9**	**467**	**1,083**	**117**	*16*	*449*	*945*	*79*	*20*	*447*	*946*	*79*	**1,677**	*1,490*	*1,492*
Pacific	**24**	**198**	**719**	**125**	*28*	*169*	*588*	*60*	*27*	*168*	*588*	*59*	**1,067**	*844*	*842*
U.S. Average	**71**	**396**	**936**	**122**	*46*	*418*	*877*	*100*	*46*	*410*	*878*	*100*	**1,525**	*1,441*	*1,434*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	*0*	*80*	*474*	*1*	*0*	*82*	*468*	*1*	**554**	*555*	*551*
Middle Atlantic	**0**	**170**	**609**	**6**	*0*	*163*	*609*	*6*	*0*	*160*	*601*	*7*	**785**	*779*	*767*
E. N. Central	**3**	**240**	**579**	**8**	*3*	*234*	*572*	*7*	*3*	*236*	*565*	*7*	**829**	*816*	*810*
W. N. Central	**7**	**296**	**696**	**11**	*7*	*294*	*686*	*10*	*7*	*297*	*676*	*10*	**1,010**	*998*	*990*
South Atlantic	**127**	**696**	**1,202**	**247**	*143*	*680*	*1,196*	*261*	*146*	*673*	*1,192*	*266*	**2,272**	*2,279*	*2,277*
E. S. Central	**36**	**557**	**1,082**	**72**	*42*	*532*	*1,065*	*74*	*42*	*528*	*1,064*	*79*	**1,747**	*1,713*	*1,713*
W. S. Central	**100**	**892**	**1,576**	**207**	*114*	*880*	*1,567*	*210*	*113*	*868*	*1,542*	*213*	**2,774**	*2,771*	*2,736*
Mountain	**24**	**432**	**939**	**81**	*24*	*445*	*954*	*86*	*24*	*454*	*949*	*86*	**1,476**	*1,508*	*1,512*
Pacific	**31**	**185**	**624**	**78**	*31*	*193*	*647*	*85*	*31*	*199*	*652*	*85*	**917**	*957*	*968*
U.S. Average	**47**	**420**	**892**	**100**	*52*	*415*	*894*	*105*	*53*	*415*	*889*	*107*	**1,459**	*1,466*	*1,463*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday March 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

April 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The April *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy demand and supply during the past year and will continue to affect these patterns in the future. U.S. gross domestic product (GDP) declined by 3.5% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 5.6% in 2021 and by 4.2% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit.

- For the 2021 summer driving season (April–September), the U.S. Energy Information Administration (EIA) forecasts U.S. regular gasoline retail prices will average $2.78 per gallon (gal), up from an average of $2.07/gal last summer (*Summer Fuels Outlook*). Higher forecast gasoline prices reflect higher forecast crude oil prices, higher wholesale gasoline refining margins, and higher U.S. consumption of motor gasoline. For all of 2021, we expect U.S. retail prices of regular-grade gasoline to average $2.66/gal and retail prices for all grades to average $2.78/gal, which would result in the average U.S. household spending about $480 (31%) more on motor fuel in 2021 compared with 2020.

- EIA expects U.S. gasoline consumption to rise in response to growing levels of GDP and employment. In addition, as COVID-19 vaccines are more widely distributed, we expect that driving will increase, causing gasoline consumption to rise. We forecast that U.S. gasoline consumption in 2021 will average 8.6 million barrels per day (b/d), which is up from consumption in 2020 of 8.0 million b/d but down from consumption in 2019 of 9.3 million b/d.

- Brent crude oil spot prices averaged $65 per barrel (b) in March, up $3/b from February and up $33/b from March 2020, the onset of the COVID-19 pandemic in the United States. Rising Brent prices in March continued to reflect expectations of rising oil demand as both COVID-19 vaccination rates and global economic activity have increased, combined with ongoing crude oil production limits from members of the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+). EIA forecasts that Brent prices will average $65/b in the second quarter of 2021, $61/b during the second half of 2021, and $60/b in 2022.

- EIA expects global oil inventories to fall by 1.8 million b/d in the first half of 2021. Forecast increases in global oil supply will contribute to a mostly balanced market during the second half of 2021. However, the forecast depends heavily on future production decisions by OPEC+, the responsiveness of U.S. tight oil production to oil prices, and the pace of oil demand growth, among other factors.

- EIA expects OPEC crude oil production will rise from an average of 25.1 million b/d in the first quarter of 2021 to 25.8 million b/d in the second quarter. The increase is the result of the April 1 OPEC+ announcement to begin raising production targets in May. It also reflects Saudi Arabia unwinding voluntary cuts of 1.0 million b/d between May and July. We expect OPEC crude oil production will rise to almost 27.9 million b/d in the second half of 2021.

- EIA estimates that the world consumed 96.0 million b/d of petroleum and liquid fuels in March, an increase of 4.7 million b/d from March 2020. We forecast that global consumption of petroleum and liquid fuels will average 97.7 million b/d for all of 2021, which is up by 5.5 million b/d from 2020. We forecast that consumption will increase by 3.7 million b/d in 2022 to average 101.3 million b/d. We revised growth in global liquid fuels consumption in 2021 higher from last STEO. The higher forecast is primarily a result of higher global GDP growth forecasts from Oxford Economics, which increased 0.4 percentage points from the March STEO to 6.2% for 2021.

- According to EIA's most recent data, U.S. domestic crude oil production averaged 11.1 million b/d in January 2021. We estimate that U.S. domestic crude oil production declined by 0.8 million b/d in February, mostly because of cold temperatures that affected much of the country, particularly Texas. We forecast crude oil production will average 10.9 million b/d in the second quarter of 2021 and increase to almost 11.4 million b/d by the fourth quarter of 2021. We expect U.S. crude oil production will average 11.9 million b/d in 2022. The forecast of rising U.S. crude oil production is the result of our expectation that West Texas Intermediate crude oil prices will remain above $55/b through the forecast period.

Natural Gas

- In March, the U.S. benchmark Henry Hub natural gas spot price averaged $2.62 per million British thermal units (MMBtu), which is down from the February average of $5.35/MMBtu. The Henry Hub price declined primarily because the cold weather and related high demand and market disruptions that drove prices to recent highs in February abated in March. EIA expects Henry Hub spot prices will average $2.73/MMBtu in the second quarter of 2021 and will average $3.04/MMBtu for all of 2021, which is up from the 2020 average of $2.03/MMBtu. We expect that continued growth in liquefied natural gas (LNG) exports, with only a slight corresponding increase in dry natural gas

production, will contribute to the average Henry Hub spot price rising to $3.11/MMBtu in 2022.

- EIA expects that U.S. consumption of natural gas will average 82.9 billion cubic feet per day (Bcf/d) in 2021, down 0.4% from 2020. The decline in U.S. natural gas consumption is a result of less natural gas consumed for electric power generation because of higher natural gas prices compared with last year. In 2021, we expect residential and commercial natural gas consumption will rise by a total of 1.1 Bcf/d from 2020 and industrial consumption will rise by 1.4 Bcf/d from 2020. Rising consumption outside of the power sector results from expanding economic activity and colder temperatures in 2021 compared with 2020. We expect U.S. natural gas consumption will average 82.1 Bcf/d in 2022.

- EIA estimates that natural gas inventories ended March 2021 at nearly 1.8 Tcf, which is 2% lower than the five-year (2016–20) average. The winter of 2020–21 had more natural gas withdrawn from storage than the five-year average largely as a result of the cold February temperatures that occurred amid low natural gas production. We expect that rising natural gas production and lower natural gas consumption for power generation than in the past two summers will contribute to storage injections outpacing the five-year average in 2021. We forecast that natural gas inventories will end the 2021 injection season (end of October) at more than 3.7 Tcf, which is equal to the five-year average.

- EIA forecasts that U.S. production of dry natural gas will average 91.4 Bcf/d in 2021, which is about the same as the 2020 average. In our forecast, dry natural gas production falls to a low point of 90.8 Bcf/d in May 2021 before steadily increasing through most of the remainder of 2021, reaching a high of 92.4 Bcf/d in November 2021. The increase in production in 2021 reflects higher forecast natural gas prices as well as higher forecast crude oil prices, which we expect will contribute to more associated natural gas production, especially in the Permian region.

Electricity, coal, renewables, and emissions

- EIA forecasts that electricity consumption in the United States will increase by 2.1% in 2021 after falling 3.8% in 2020. We forecast electricity sales to the industrial sector will grow by 4.2% in 2021. We forecast that retail electricity sales to the residential sector will grow by 2.3% in 2021. This increase is primarily a result of colder temperatures in the first quarter of 2021 compared with the same period in 2020. We expect retail sales of electricity to the commercial sector will increase by 0.7% in 2021. Much of the increased electricity consumption across the sectors reflects improving economic conditions in 2021. For 2022, we forecast that U.S. electricity consumption will grow by another 1.3%.

- EIA expects that the share of electric power generated with natural gas in the United States will average 36% in 2021 and 35% in 2022, down from 39% in 2020. The forecast share for natural gas declines in response to a 39% increase in the price of natural gas delivered to electricity generators from an average of $2.39/MMBtu in 2020 to $3.31/MMBtu in 2021. The higher expected natural gas prices cause the forecast share of generation from coal to rise from 20% in 2020 to 22% this year, and to 23% next year. New additions of solar and wind generating capacity contribute to our forecast that the share of U.S. generation from renewable energy sources will rise from 20% in 2020 to 21% in 2021 and to 22% in 2022. The nuclear share of U.S. generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022, reflecting the retirement of capacity at some nuclear power plants.

- EIA forecasts that planned additions to generating capacity from wind and solar energy in 2021 and 2022 will contribute to increasing electricity generation from those sources. We estimate that the U.S. electric power sector added 14.5 gigawatts (GW) of new wind capacity in 2020. We expect 16.1 GW of new capacity will be added in 2021 and 5.8 GW in 2022. U.S. utility-scale solar capacity rose by an estimated 10.4 GW in 2020. Our forecast for added utility-scale solar capacity is 15.8 GW in 2021 and 14.9 GW in 2022. In addition, about 5 GW of small-scale solar (projects with less than 1 megawatt of capacity) are added annually over the 2021–22 STEO forecast.

- EIA expects U.S. coal production to total 585 MMst in 2021, 46 MMst (9%) more than in 2020. In 2022, we expect coal production to grow by an additional 16 MMst (3%). We expect that coal used to generate electric power will increase by 13% to 495 MMst in 2021 and by 4% to 514 MMst in 2022. The increase in coal production in 2021 will be the largest on a percentage basis in the Interior region, owing to increased domestic electricity generation. In 2022, EIA expects it will be largest in the Appalachia region, partly as a result of metallurgical coal exports rising to 54 MMst next year, up 27% from 2020 levels.

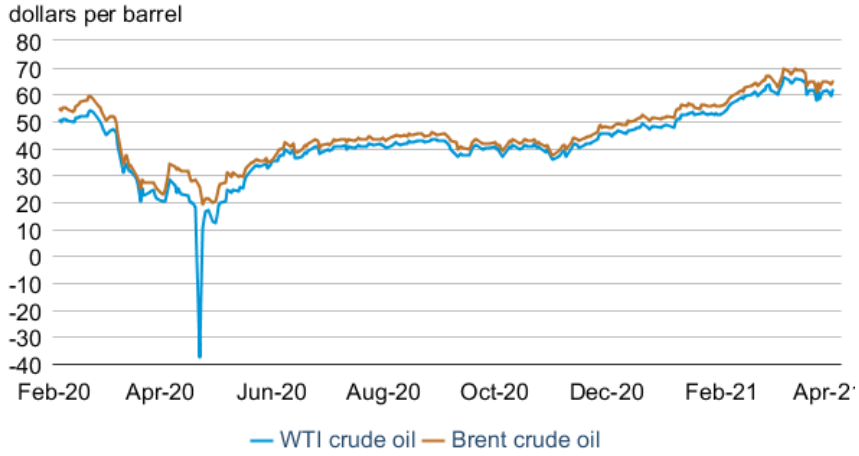
- EIA estimates that U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020. This decline in emissions was the result of less energy consumption related to the economic contraction resulting from the COVID-19 pandemic. In 2021, we forecast energy-related CO_2 emissions will increase by about 5% from the 2020 level as economic activity increases and leads to rising energy use. We also expect energy-related CO_2 emissions to rise in 2022, but by a slower rate of 2%. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 13% in 2021 and by 4% in 2022.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $64.86 per barrel (b) on April 1, 2021, down from an intraday high of $71.38/b on March 8 but up from $63.69/b from March 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by 81 cents/b during the same period, settling at $61.45/b on April 1 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Sources: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

Monthly average Brent crude oil prices in March were the highest since late 2019. Crude oil prices in early March reached $70/b following OPEC+'s March 4 announcement that it was extending production limits through April. However, prices subsequently declined, which partly reflected slowing global oil demand growth as COVID-19 cases increased, notably in Europe.

On April 1, OPEC+ announced it would ease existing limits on production beginning in May. This announcement was generally consistent with EIA's assumption in last month's STEO. However, Saudi Arabia also announced they would gradually relax its voluntary 1.0 million barrel per day (b/d) cut over the May–July period. If implemented as announced, Saudi Arabia's increase would occur more slowly than we had previously assumed. We revised our forecast for second quarter 2021 OPEC crude oil production down by 0.5 million b/d from the March STEO.

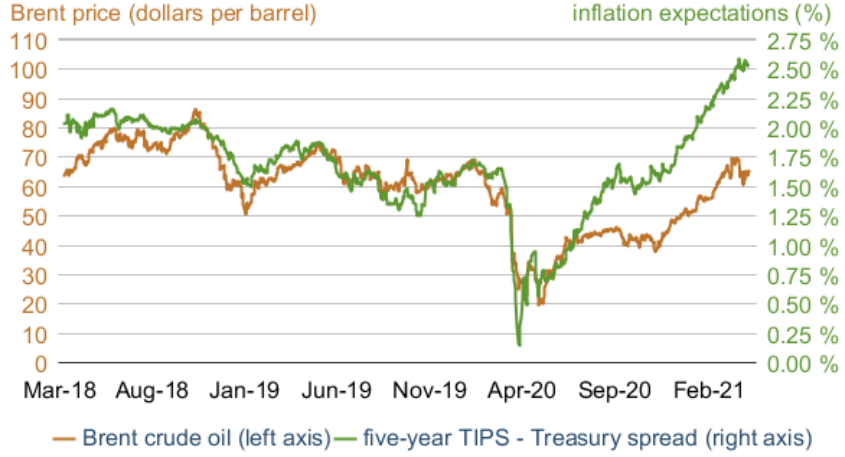
With lower production from OPEC than in the March STEO, EIA expects markets will be somewhat tighter in the second quarter than previously forecast, contributing to some upward price pressures. We forecast that the Brent crude oil price will average $65/b in the second quarter, when quarterly stock draws average 1.5 million b/d. Although that rate represents a significant draw in stocks, it is down slightly from the first quarter of 2021, when we estimated stock draws averaged 2.1 million b/d.

In the second half of 2021, EIA expects global oil markets to become much more balanced, with forecast global stock draws averaging 0.2 million b/d. From the second quarter to the third quarter, our forecast for global liquid fuels production grows by 3.2 million b/d. Of this increase, 1.9 million b/d is from OPEC. Additional supply growth in the forecast comes from Brazil, Canada, and the United States. We forecast global growth in oil demand between the second and third quarters will be 1.9 million b/d.

As global stock draws moderate, EIA expects upward price pressure on crude oil to ease. The higher crude oil price forecast reflects tighter markets through the second quarter, resulting from a slower relaxation of Saudi Arabia's voluntary cuts than we had forecast. Stronger second-quarter inventory draws will leave global oil inventories during the second half of the year lower than previously expected. We forecast that the price of Brent crude oil will average $61/b in the second half of the year, which is $3/b higher than forecast in the March STEO. However, as recent increases in price volatility indicate, significant uncertainty remains both in market expectations and in our forecasts.

Crude oil and inflation expectations: The percentage difference in yields for five-year Treasury Inflation-Protected Securities (TIPS) compared with U.S. treasury bonds is often used to measure market expectations of inflation. Economic responses to the COVID-19 pandemic resulted in a dramatic decline in demand for goods, significantly reducing petroleum and other commodity prices in early 2020. Because crude oil and other commodity prices are inputs to other sectors of the economy, changes in crude oil prices can also affect inflation expectations. The TIPS-Treasury spread decreased to a monthly average of 0.7% in March 2020, reflecting low inflation expectations as a result of lower prices and economic contraction **(Figure 2)**.

Figure 2. Crude oil and inflation expectations



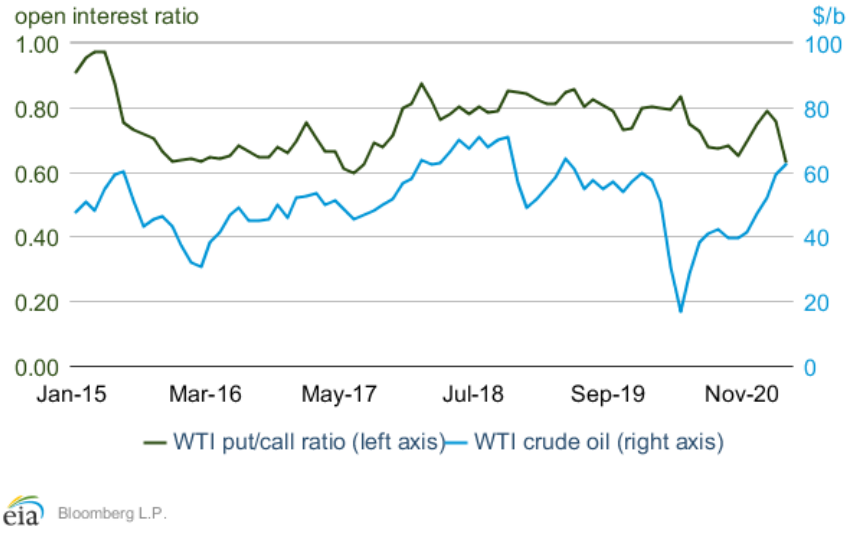
Source: Bloomberg L.P., Federal Reserve Bank of St. Louis
Note: TIPS=Treasury Inflation Protected Securities

Increasing crude oil and other commodity prices over the summer of 2020 contributed to increasing inflation expectations through the end of August, and the TIPS-Treasury spread

increased from 0.8% in May to 1.6% in August. Since then, however, inflation expectations have increased at a faster pace than crude oil prices. Rising prices of non-energy commodities, combined with fiscal and monetary stimulus in response to the COVID-19 pandemic increased inflation expectations more rapidly than crude oil prices over the summer. In addition, reports of supply bottlenecks for various goods may have also contributed to higher inflation expectations. By December 2020, the TIPS-Treasury spread increased to 1.9%, before increasing higher than 2% in January 2021, averaging 2.3% in February and 2.5% in March. On March 16, the TIPS-treasury spread reached its widest point since July 2008. Improved demand outlooks because of the distribution of the COVID-19 vaccine as well as continued fiscal and monetary stimulus has further contributed to rising prices across most commodities and higher inflation expectations.

WTI options open interest ratio: The put-to-call WTI open interest ratio decreased in March, suggesting a change in market expectations around future crude oil prices, and potentially hedging against future crude oil price increases. The monthly aggregate put-to-call open interest ratio for WTI crude oil options decreased in March to 0.63, down from 0.75 in February and the lowest for any month since July 2017 **(Figure 3)**. The decrease was driven by an increase in call option open interest compared with small changes in put options from February. The total number of call option contracts increased from 0.96 million contracts in February to 1.17 million contracts in March, while the number of put option contracts increased from 0.72 million in February to 0.75 million in March.

Figure 3. Monthly average aggregate WTI option open interest ratio

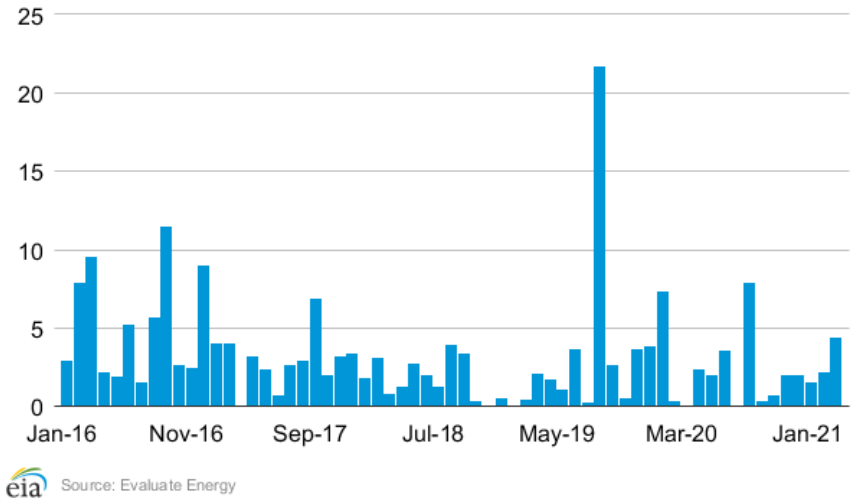


eia Bloomberg L.P.

U.S. oil company debt and equity issuance: Since September 2020, debt and equity issuance has increased in all but one month, suggesting that increasing crude oil prices are encouraging U.S. crude oil producers to raise money to refinance debts, resume drilling activities, or purchase acreage. In March 2021, debt and equity issuance announcements among publicly traded independent U.S. exploration and production companies totaled $4.4 billion, the highest since

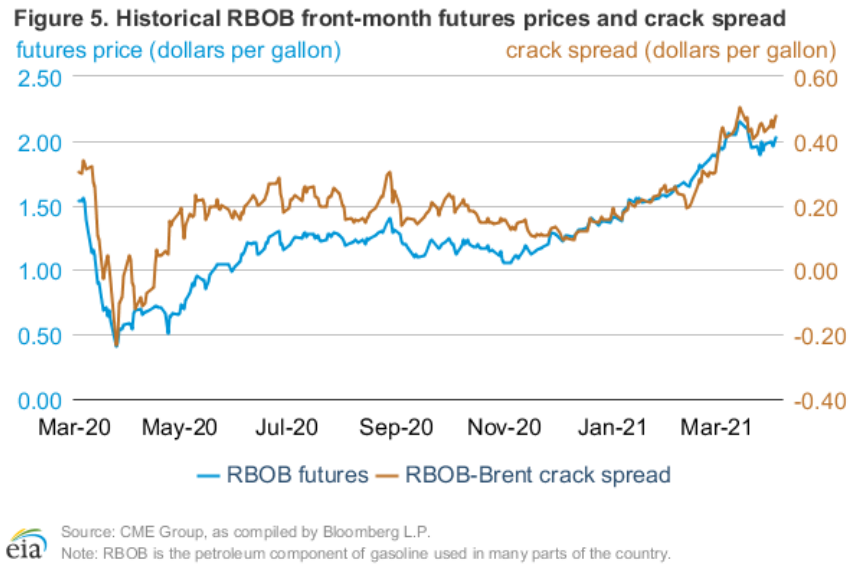
August 2020 and higher than the five-year (2016–20) median of $2.4 billion **(Figure 4)**. In addition, low interest rates have lowered the cost of issuing debt and have likely contributed to the recent growth in debt and equity issuance. The federal funds rate, which affects interest rates across the market, has been held at a target of 0.00%–0.25% since March 2020, according to the Federal Open Market Committee. In addition, the Moody's seasoned AAA corporate bond yield, which represents average bond yields for investment grade companies, averaged 2.70% in February, which is less than the 2011–20 average of 3.78%. Lastly, energy sector corporate bond yields for companies with a rating lower than investment grade are also at multi-year lows. Although primarily a result of higher crude oil prices, high capital availability for U.S. producers also supports EIA's forecast for U.S. crude oil production to increase from 10.7 million b/d in first-quarter 2021 to 12.2 million b/d by fourth-quarter 2022.

Figure 4. Announced debt and equity issuance among U.S. oil companies



Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.02 per gallon (gal) on April 1, up 8 cents/gal from March 1 **(Figure 5)**.



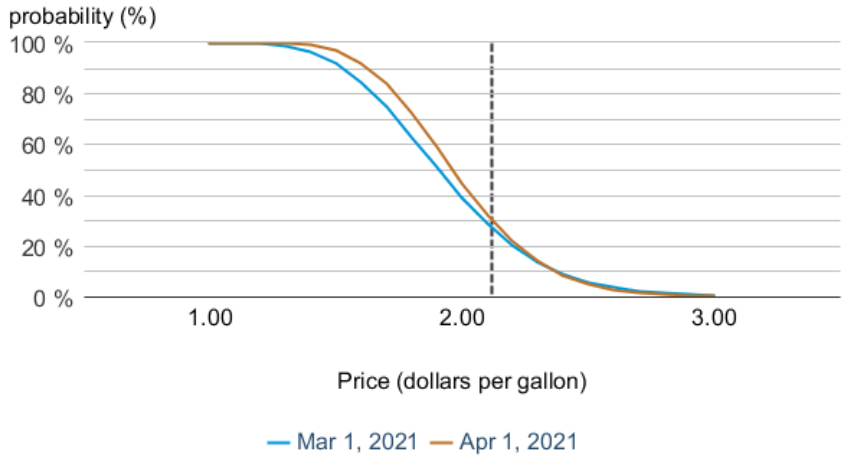
The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 5 cents/gal to settle at 48 cents/gal during the same period. On March 12, the crack spread closed at 50 cents/gal, the highest since August 31, 2017. The average RBOB–Brent crack spread increased by 19 cents/gal from February to reach 44 cents/gal in March. The increase reflected a decline in refinery production of gasoline, stemming from refinery shutdowns on the U.S. Gulf Coast early in the month as a result of severely cold weather. The drop in refinery production caused gasoline inventories to end March at the lowest March level since 2014. In addition, higher gasoline crack spreads were the result of the seasonal shift to producing summer-grade gasoline, which is more expensive to produce.

EIA estimates that gasoline inventories decreased to 228.2 million barrels, a 3.4 million barrel draw from February (1.4%). The draw was a result of a combination of a decrease in production resulting from unplanned refinery outages that began during February's cold spell in Texas and an increase in consumption. We estimate gasoline production of 9.2 million barrels per day (b/d) in March, 5% less than the five-year (2016–20) average for March. Meanwhile, we estimate gasoline consumption increased 0.5 million b/d (7%) from February. We forecast gasoline inventories to remain lower than the five-year average for the remainder of the year, which may support continued higher-than-usual crack spreads. We forecast that gasoline refining margins will average 45 cents/gal from April through September, the summer driving season, which is 5 cents/gal higher than the five-year average over this period.

Market-derived probabilities: Based on futures and options prices, the market-derived probability of the June 2021 RBOB futures contract expiring higher than $2.00/gal was 45% on April 1, and the probability of it expiring higher than $2.10/gal was 32% **(Figure 6)**. At the beginning of March, the market-derived probability of the June 2021 RBOB contract expiring at more than $2.00/gal was 39%, and the probability of the same contract expiring at more than $2.10/gal was 29%. In recent years, RBOB futures contracts have averaged about 90 cents/gal

less than the U.S. average regular retail gasoline price because the price of retail gasoline includes taxes, distribution, and marketing costs. Therefore, futures and options prices as of April 1 suggest about a 32% probability U.S. average retail gasoline prices could be at $3.00/gal or higher following the expiry of the June RBOB contract.

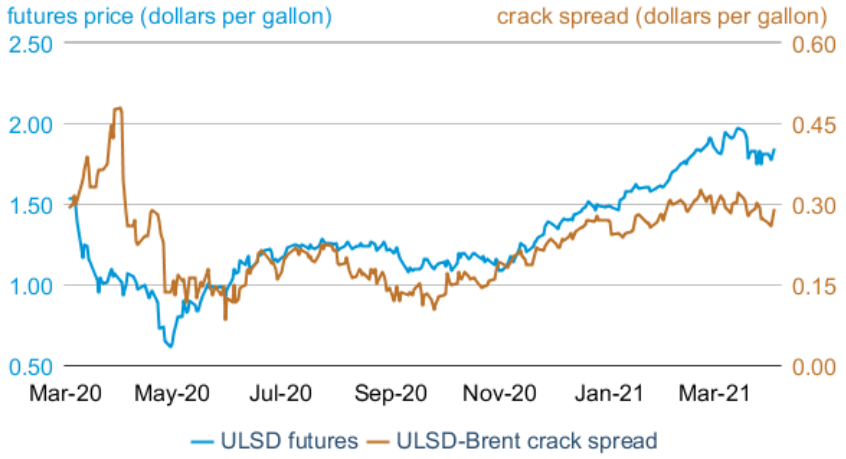
Figure 6. Probability of June 2021 RBOB expiring above different price levels



eia U.S. Energy Information Administration, CME Group, Bloomberg L.P.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $1.83/gal on April 1, up 1 cent/gal from March 1 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased 2 cents/gal and settled at 29 cents/gal during the same period.

Figure 7. Historical ULSD front-month futures price and crack spread



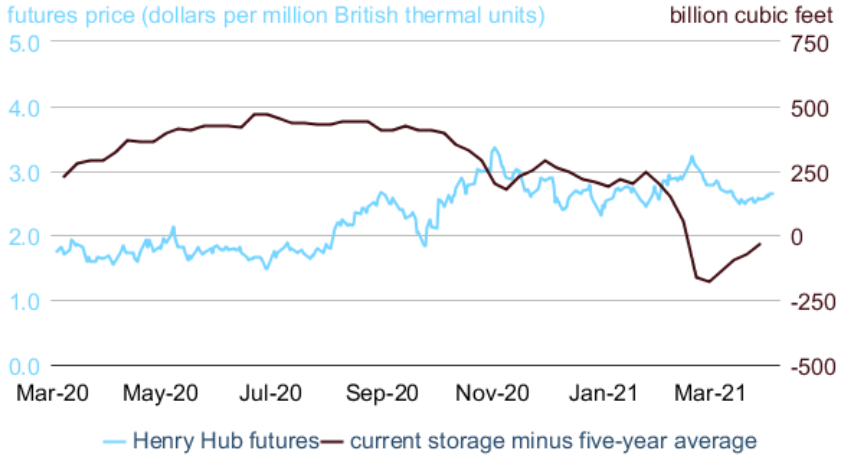
eia Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

The continuation of below-average ULSD–Brent crack spreads was likely a result of higher production and the lowest U.S. distillate net exports since January 2010. The higher production and lower net exports contributed to our estimate that U.S. distillate inventories increased by 5.5 million barrels (4%) from February, and likely provided downward pressure on the crack spread. The average daily crack spread decreased to 29 cents/gal in March, 1 cent/gal lower than in February, and the lowest average daily crack spread for March since 2017.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.64 per million British thermal units (MMBtu) on April 1, 2021, which was down 14 cents/MMBtu from March 1, 2021 **(Figure 8)**.

Figure 8. U.S. natural gas front-month futures prices and storage



Source: U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

Natural gas futures prices averaged $2.62/MMBtu in March, a decrease of 29 cents/MMBtu from the February average, which was the highest monthly average since January 2019. EIA estimates March natural gas withdrawals were 62.3 Bcf, 65% less than the five-year (2016–20) average for March. The low March withdrawals partly reflected a decrease in natural gas demand. We estimate that natural gas consumption in March decreased to 84.4 billion cubic feet per day (Bcf/d), down 24.6 Bcf/d (23%) from February's record levels and the lowest consumption for March since 2017. We expect prices will rise from March levels and the Henry Hub spot price will average $2.86/MMBtu for the final three quarters of 2021. We forecast higher prices will result from relatively low, albeit rising, U.S. natural gas production compared with previous years amid increases in U.S. natural gas exports.

Notable forecast changes

- EIA forecasts that Brent crude oil prices will average $62/b in 2021 and $60/b in 2022. The forecast for both years is $2/b higher than in the March STEO. The higher forecast reflects larger draws from global oil inventories in 2021, particularly in the second quarter, than previously expected, which will reduce global oil inventory levels through the forecast period. The larger draws are the result of lower expected OPEC crude oil production in the second quarter of 2021.

- EIA forecasts U.S. crude oil production will average 11.0 million b/d in 2021 and 11.9 million b/d in 2022. Compared with the March STEO, those forecasts are 0.1 million b/d and 0.2 million b/d lower, respectively. We are forecasting lower production despite higher expected crude oil prices (about $2/b higher in both 2021 and 2022) because we now forecast that rig activity in producing areas outside the Permian—such as Bakken, Eagle Ford, and Anadarko—will be lower than previously expected.

- This STEO incorporates EIA's changes to its reporting of biofuels data. In STEO Table 4a, renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning with January 2021 data, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel. Additionally, we are now reporting product supplied (a proxy for consumption) of renewable fuels excluding fuel ethanol. In STEO Table 4a consumption data, these data will be included in the "other oils" category.

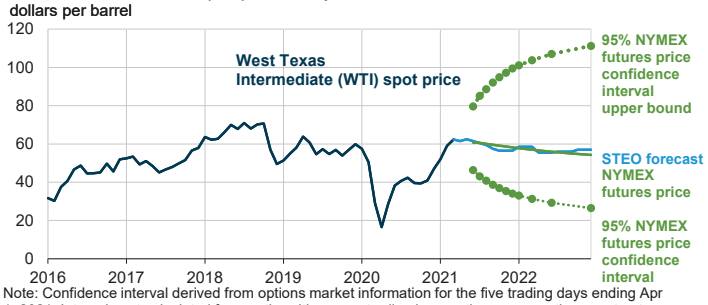
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook Chart Gallery

April 6, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

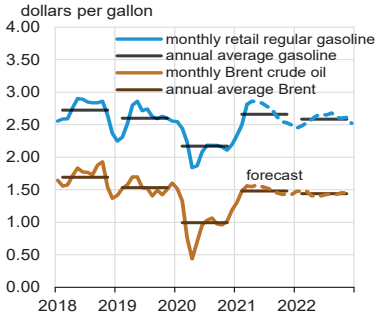


Note: Confidence interval derived from options market information for the five trading days ending Apr 1, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

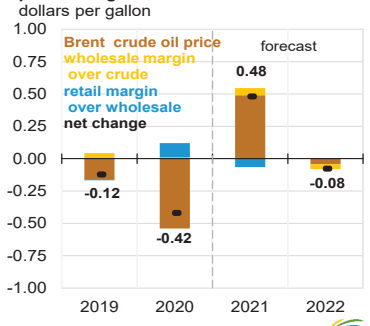
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021, CME Group, and Bloomberg, L.P.

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U.S. gasoline and crude oil prices
dollars per gallon



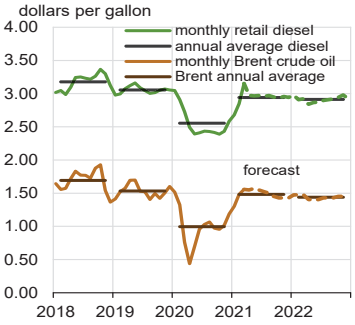
Components of annual gasoline price changes
dollars per gallon



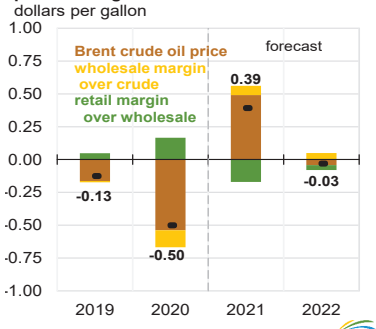
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

eia

U.S. diesel and crude oil prices



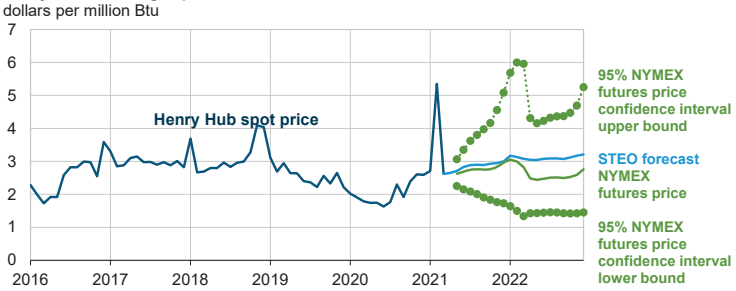
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

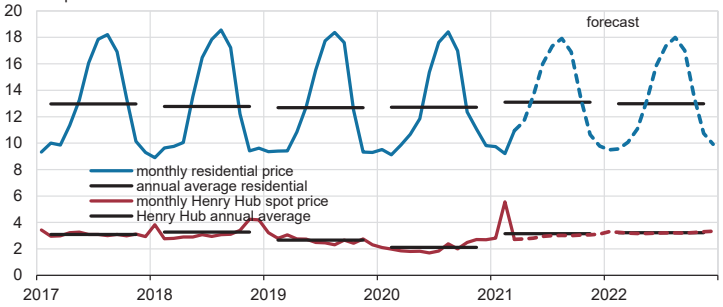


Note: Confidence interval derived from options market information for the five trading days ending Apr 1, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

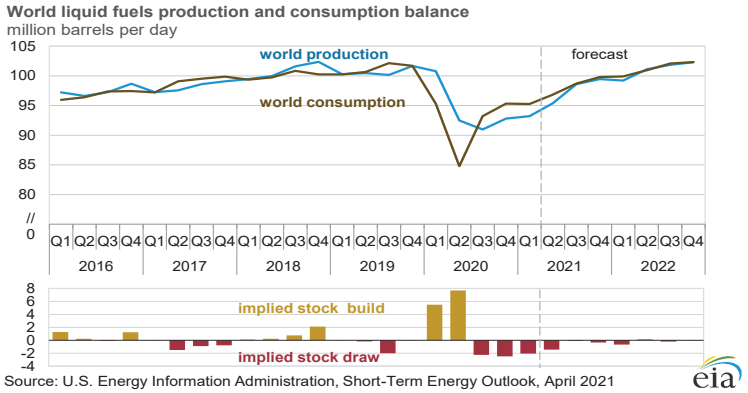
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021, and CME Group

U.S. natural gas prices

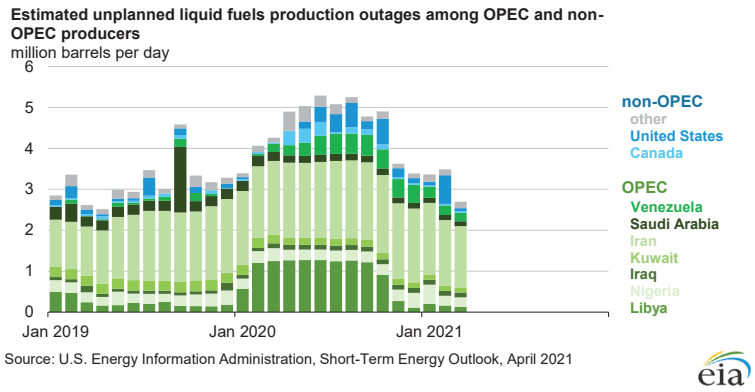
dollars per thousand cubic feet



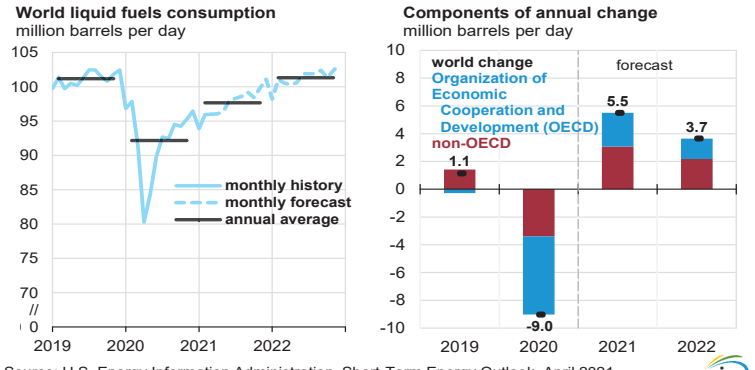
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021, and Refinitiv



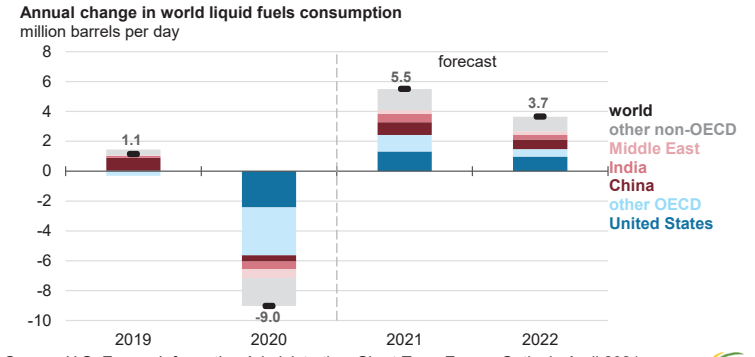
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



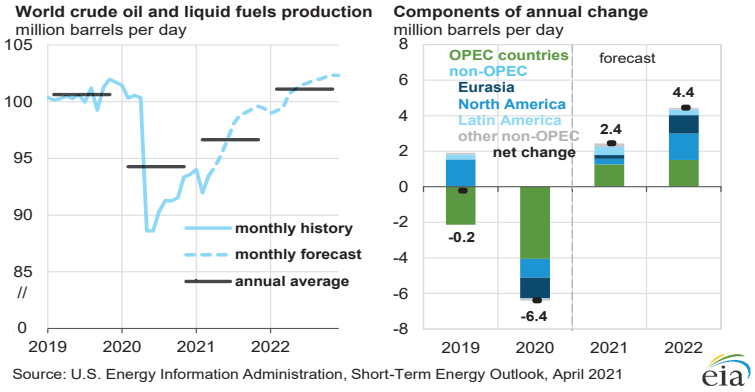
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



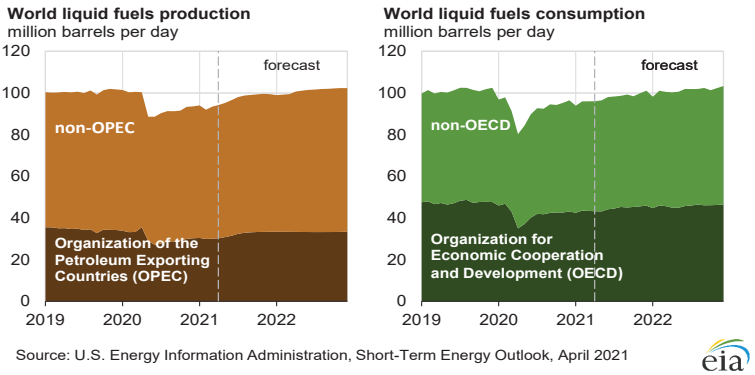
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

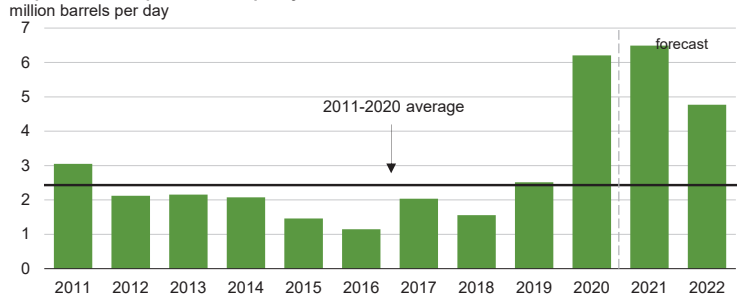


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



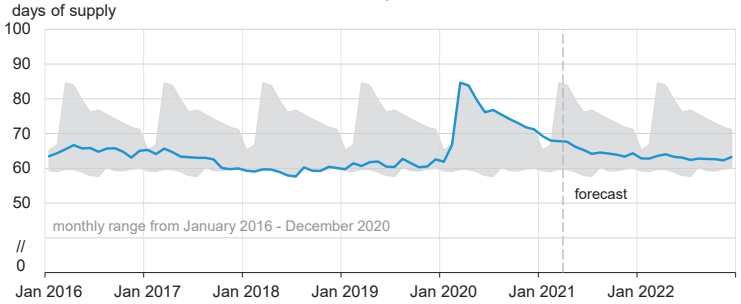
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



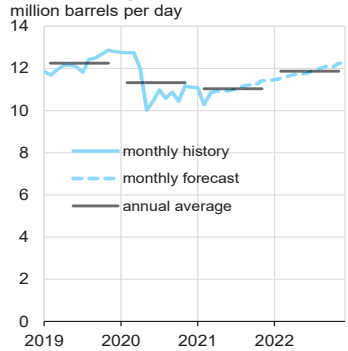
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

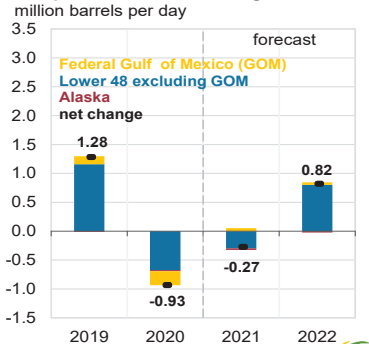


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. crude oil production
million barrels per day

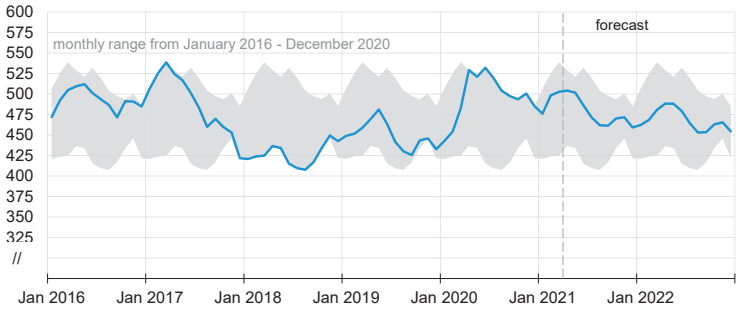


Components of annual change
million barrels per day



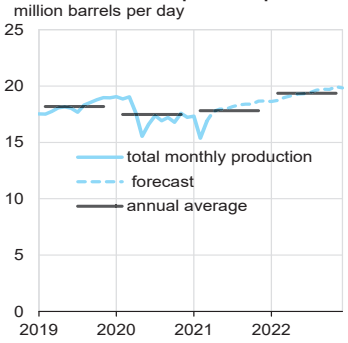
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. commercial crude oil inventories
million barrels

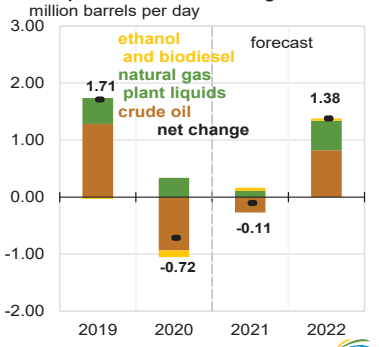


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. crude oil and liquid fuels production
million barrels per day

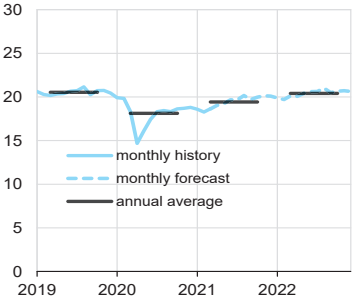


Components of annual change
million barrels per day

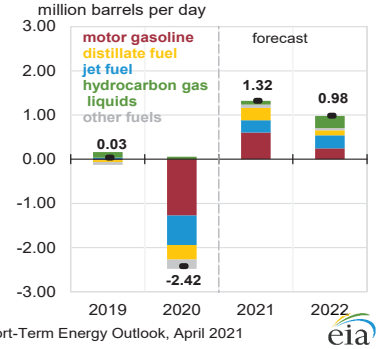


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. liquid fuels product supplied (consumption)
million barrels per day

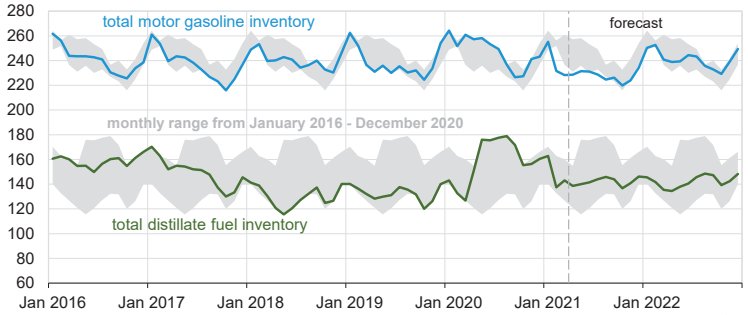


Components of annual change
million barrels per day



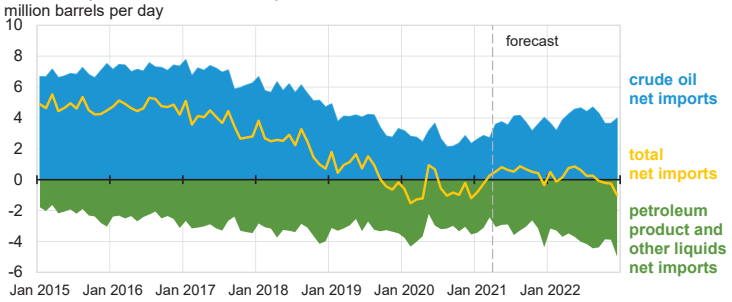
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. gasoline and distillate inventories
million barrels



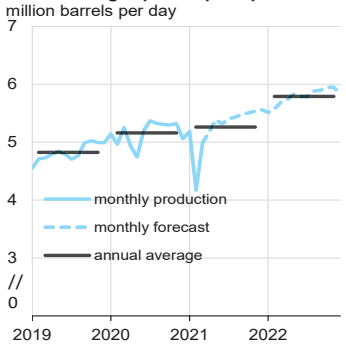
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

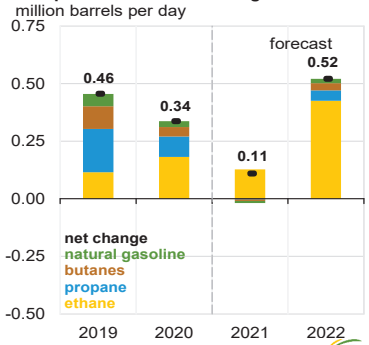


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

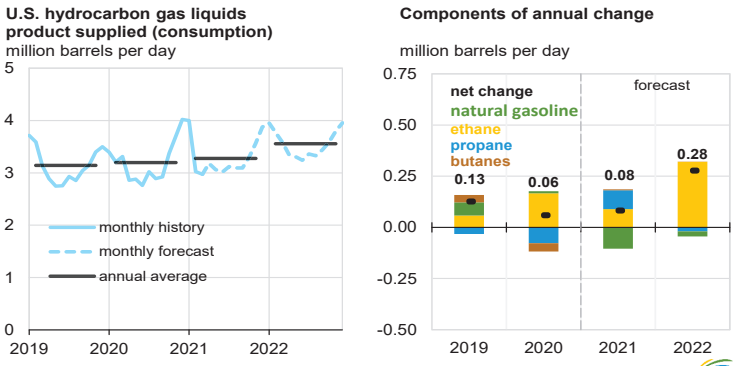
U.S. natural gas plant liquids production
million barrels per day



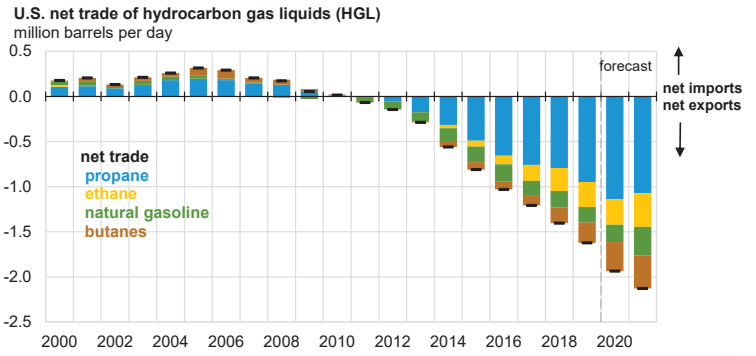
Components of annual change
million barrels per day



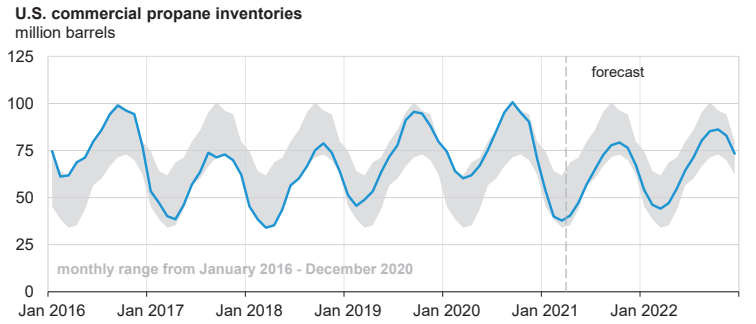
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



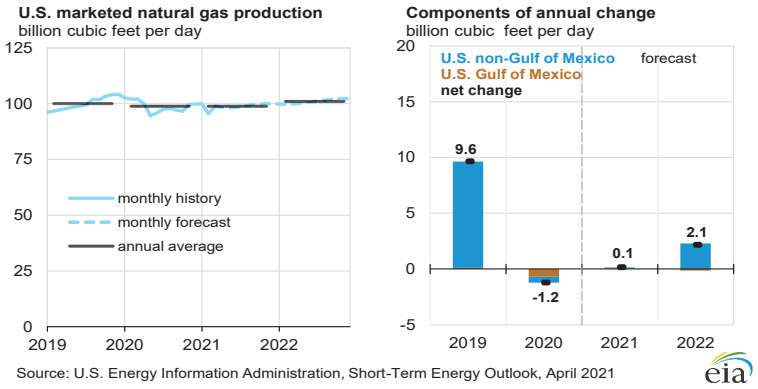
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



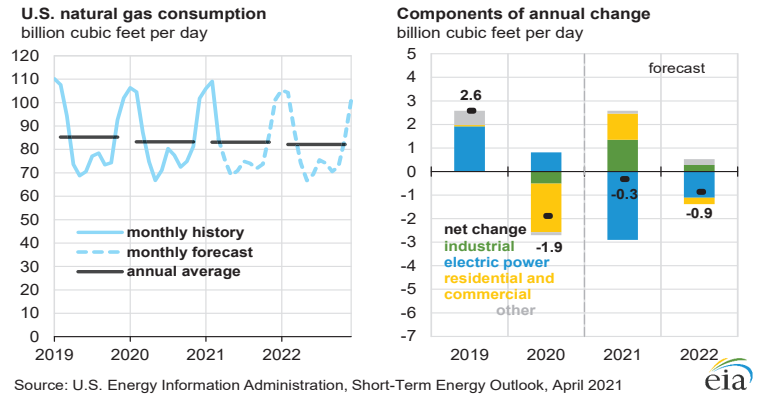
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



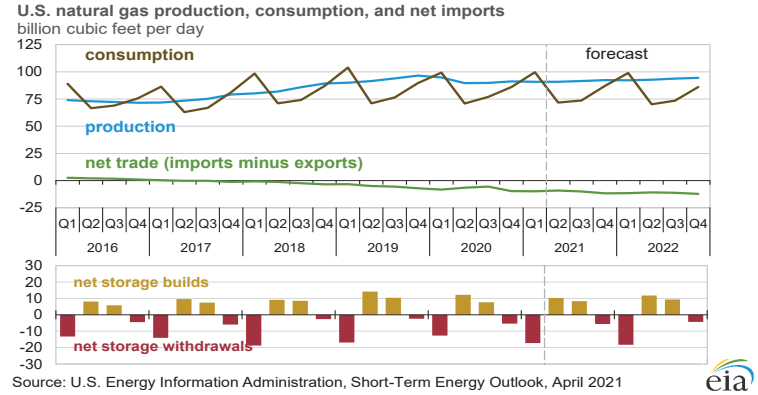
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

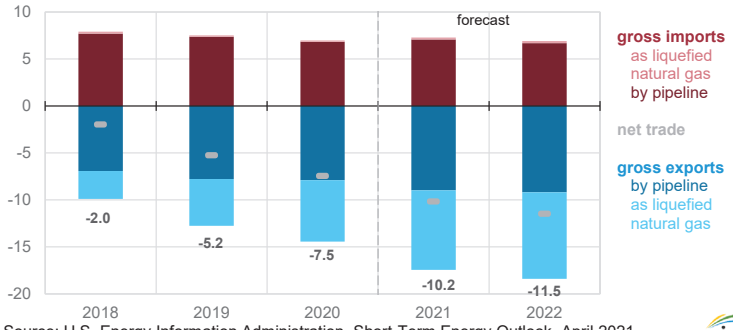


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



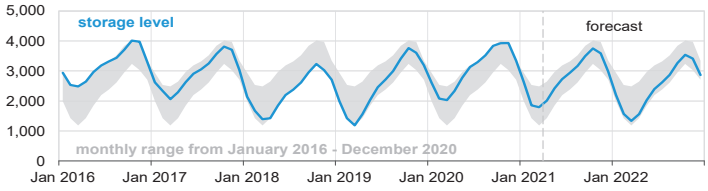
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. annual natural gas trade
billion cubic feet per day

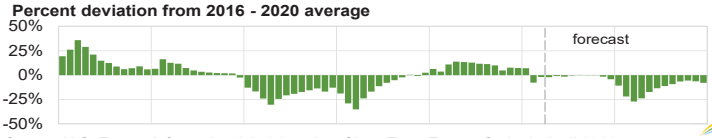


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. working natural gas in storage
billion cubic feet

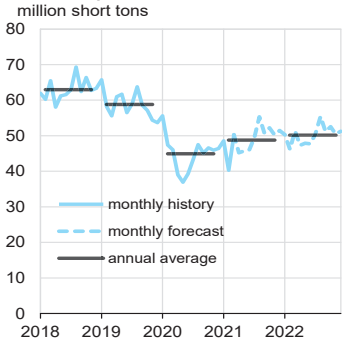


Percent deviation from 2016 - 2020 average

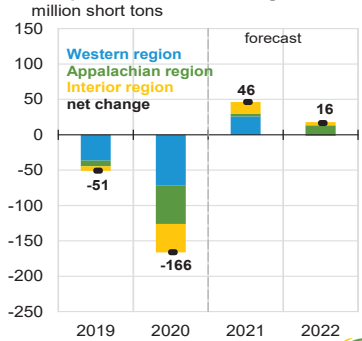


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

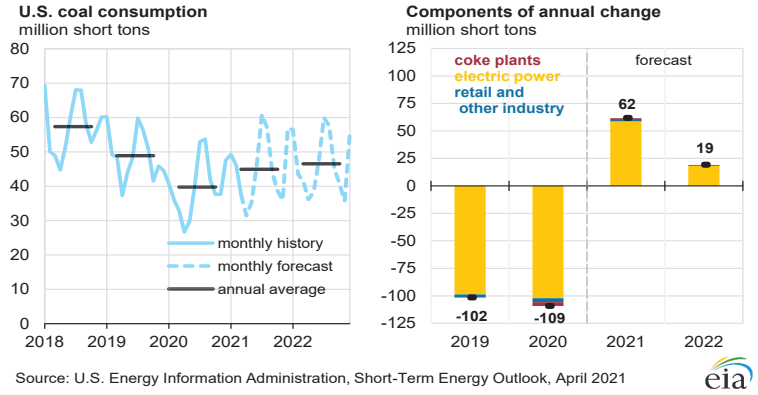
U.S. coal production
million short tons



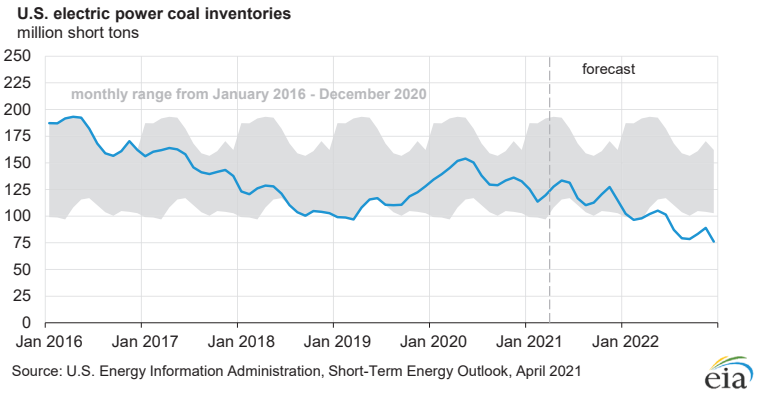
Components of annual change
million short tons



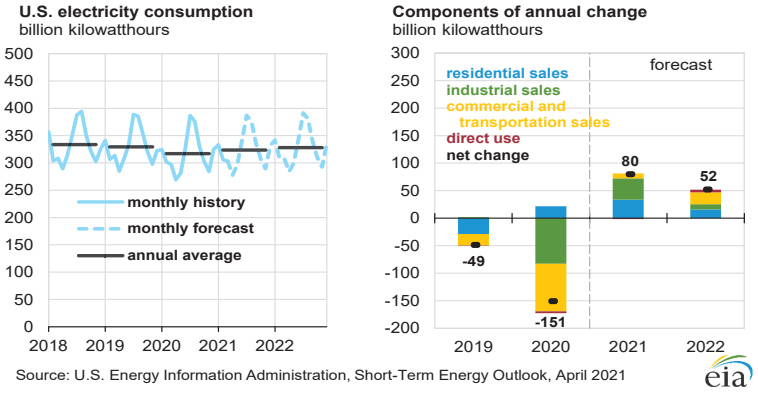
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



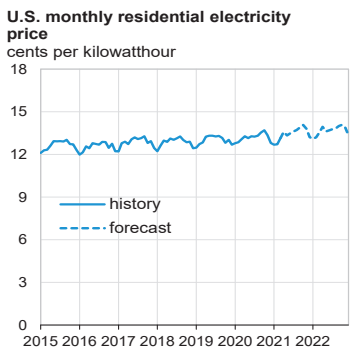
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

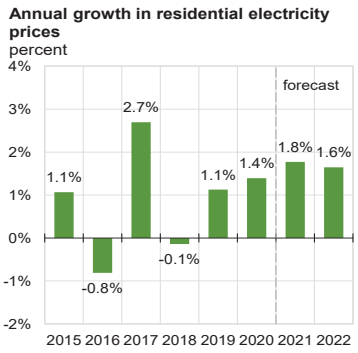


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

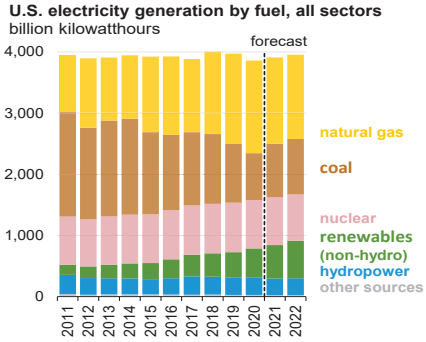


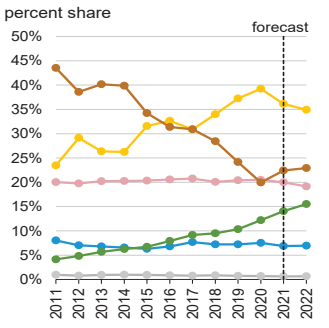
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021



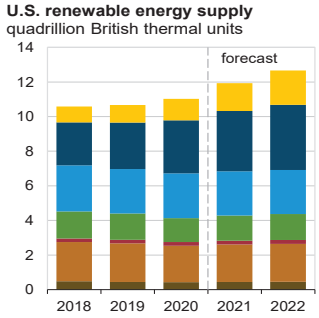


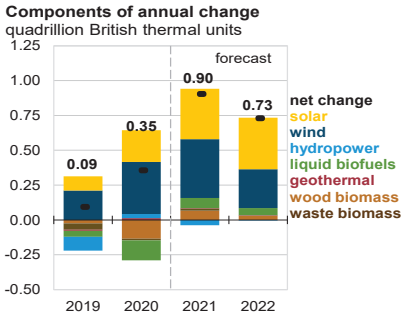
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

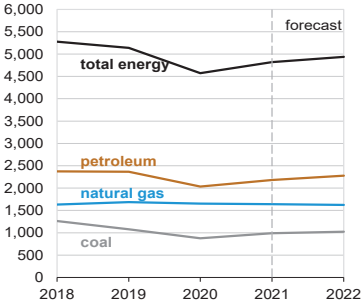




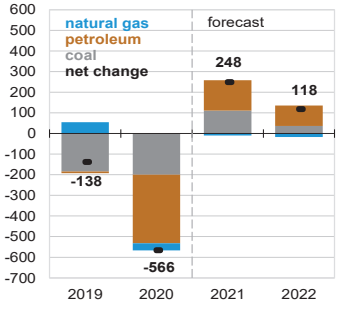
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. annual carbon emissions by source
million metric tons

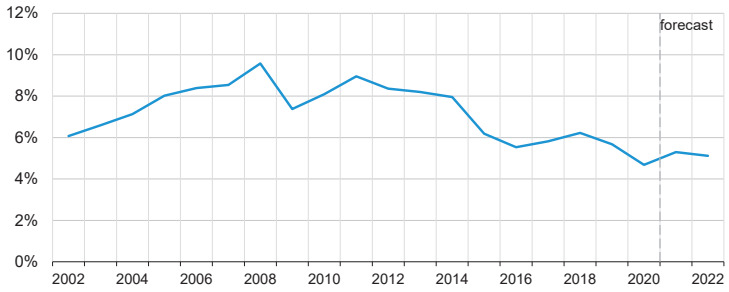


Components of annual change
million metric tons



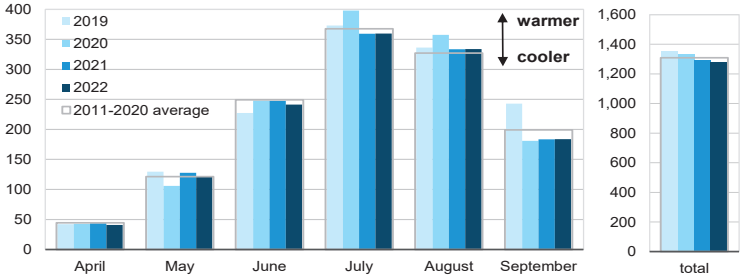
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

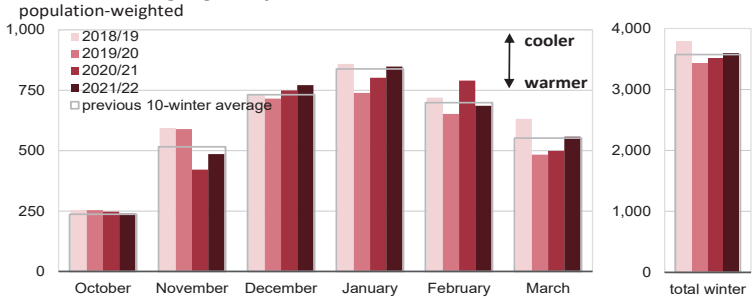
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

U.S. winter heating degree days
population-weighted

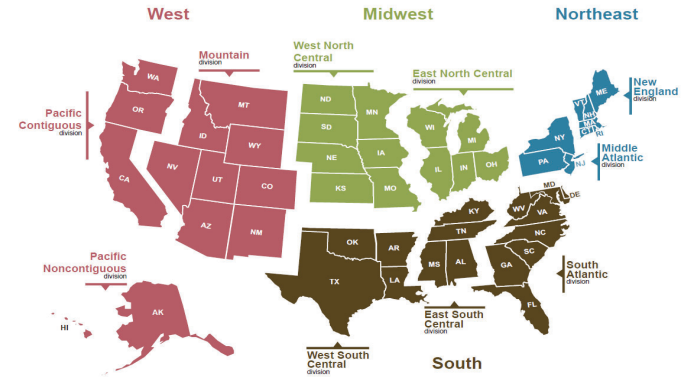


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2021

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table SF01. U.S. Motor Gasoline Summer Outlook

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020			2021			Year-over-year Change (percent)		
	Q2	Q3	Season	Q2	Q3	Season	Q2	Q3	Season
Nominal Prices (dollars per gallon)									
WTI Crude Oil (Spot) [a]	**0.67**	**0.97**	**0.82**	**1.47**	*1.41*	*1.44*	*121.1*	*44.8*	*75.8*
Brent Crude Oil Price (Spot)	**0.70**	**1.02**	**0.86**	**1.56**	*1.49*	*1.52*	*121.3*	*45.9*	*76.6*
U.S. Refiner Average Crude Oil Cost	**0.64**	**0.97**	**0.81**	**1.45**	*1.39*	*1.42*	*126.3*	*42.7*	*75.9*
Wholesale Gasoline Price [b]	**1.04**	**1.37**	**1.22**	**2.04**	*1.91*	*1.97*	*95.8*	*39.2*	*61.4*
Wholesale Diesel Fuel Price [b]	**0.97**	**1.24**	**1.11**	**1.91**	*1.89*	*1.90*	*96.5*	*52.4*	*70.9*
Regular Gasoline Retail Price [c]	**1.94**	**2.18**	**2.07**	**2.85**	*2.72*	*2.78*	*46.5*	*24.5*	*34.0*
Diesel Fuel Retail Price [c]	**2.43**	**2.43**	**2.43**	**2.97**	*2.96*	*2.96*	*22.2*	*22.0*	*22.1*
Gasoline Consumption/Supply (million barrels per day)									
Total Consumption	**7.110**	**8.504**	**7.811**	**8.749**	*8.939*	*8.844*	*23.1*	*5.1*	*13.2*
Total Refinery and Blender Net Supply [d]	**6.346**	**7.442**	**6.897**	**7.946**	*8.143*	*8.045*	*25.2*	*9.4*	*16.6*
Fuel Ethanol Blending	**0.722**	**0.872**	**0.797**	**0.882**	*0.913*	*0.898*	*22.2*	*4.7*	*12.6*
Total Stock Withdrawal [e]	**0.083**	**0.290**	**0.187**	**-0.032**	*0.054*	*0.011*			
Net Imports [e]	**-0.042**	**-0.101**	**-0.071**	**-0.047**	*-0.172*	*-0.110*			
Refinery Utilization (percent)	**72.8**	**78.5**	**75.7**	**85.3**	*88.6*	*87.0*			
Total Gasoline Stocks (million barrels)									
Beginning	**260.8**	**253.3**	**260.8**	**228.2**	*231.2*	*228.2*			
Ending	**253.3**	**226.5**	**226.5**	**231.2**	*226.2*	*226.2*			
Economic Indicators									
Real GDP (annualized billion 2012 dollars)	**17,303**	**18,597**	**17,950**	**19,321**	*19,645*	*19,483*	*11.7*	*5.6*	*8.5*
Real Income (annualized billion 2012 dollars)	**16,630**	**15,851**	**16,241**	**17,254**	*15,691*	*16,472*	*3.8*	*-1.0*	*1.4*
Non-Farm Employment (million jobs)	**133.7**	**140.9**	**137.3**	**145.0**	*146.5*	*145.8*	*8.5*	*4.0*	*6.2*

[a] Spot Price of West Texas Intermediate (WTI) crude oil.

[b] Price product sold by refiners to resellers.

[c] Average retail price including taxes.

[d] Finished gasoline net production minus gasoline blend components net inputs minus fuel ethanol blending and supply adjustment.

[e] Total stock withdrawal and net imports includes both finished gasoline and gasoline blend components.

GDP = gross domestic product.

Notes: Minor discrepancies with other Energy Information Administration (EIA) published historical data are due to rounding. Historical data are printed in bold. Forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: latest data available from: EIA, *Petroleum Supply Monthly* , DOE/EIA-0109; Monthly Energy Review, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis (GDP and income); Refinitiv (WTI and Brent crude oil spot prices). Macroeconomic projections are based on IHS Markit Macroeconomic Forecast Model.

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.75**	**10.81**	**10.81**	**10.90**	**10.75**	*10.93*	*11.13*	*11.35*	*11.54*	*11.74*	*11.99*	*12.18*	**11.31**	*11.04*	*11.86*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.68**	**89.83**	**91.18**	**90.82**	*90.90*	*91.59*	*92.31*	*92.23*	*92.75*	*93.76*	*94.39*	**91.36**	*91.41*	*93.29*
Coal Production															
(million short tons)	**149**	**115**	**136**	**139**	**139**	*137*	*155*	*154*	*148*	*143*	*157*	*154*	**539**	*585*	*602*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.71**	**18.51**	*19.32*	*19.84*	*20.07*	*19.92*	*20.37*	*20.72*	*20.66*	**18.12**	*19.44*	*20.42*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.84**	**76.83**	**86.08**	**99.53**	*71.78*	*73.61*	*87.05*	*98.96*	*70.09*	*73.43*	*86.03*	**83.26**	*82.93*	*82.07*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**133**	*113*	*162*	*132*	*141*	*122*	*163*	*132*	**477**	*539*	*558*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.91**	**10.47**	*10.06*	*11.94*	*10.08*	*10.63*	*10.21*	*12.09*	*10.19*	**10.39**	*10.64*	*10.78*
Renewables (c)															
(quadrillion Btu)	**2.92**	**2.99**	**2.83**	**2.91**	**3.03**	*3.33*	*3.08*	*3.15*	*3.26*	*3.56*	*3.27*	*3.29*	**11.65**	*12.58*	*13.37*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.11**	**20.64**	**23.43**	**23.80**	**24.65**	*22.48*	*23.91*	*24.54*	*25.44*	*23.12*	*24.37*	*24.79*	**92.97**	*95.58*	*97.71*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	*61.82*	*59.19*	*56.50*	*58.50*	*55.50*	*56.00*	*57.00*	**39.17**	*58.89*	*56.74*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	*2.73*	*2.89*	*2.96*	*3.13*	*3.06*	*3.08*	*3.17*	**2.03**	*3.04*	*3.11*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.91**	**1.92**	*1.95*	*1.93*	*1.90*	*1.92*	*1.93*	*1.92*	*1.89*	**1.92**	*1.92*	*1.92*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,784**	**18,998**	*19,321*	*19,645*	*19,883*	*20,076*	*20,228*	*20,355*	*20,471*	**18,423**	*19,462*	*20,283*
Percent change from prior year	**0.3**	**-9.0**	**-2.8**	**-2.4**	**-0.1**	*11.7*	*5.6*	*5.9*	*5.7*	*4.7*	*3.6*	*3.0*	**-3.5**	*5.6*	*4.2*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.3**	*115.8*	*116.4*	*117.0*	*117.4*	*118.1*	*118.8*	*119.5*	**113.6**	*116.1*	*118.4*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.3**	**1.7**	*2.6*	*2.2*	*2.2*	*1.8*	*1.9*	*2.1*	*2.1*	**1.2**	*2.2*	*2.0*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,437**	**16,641**	*17,254*	*15,691*	*15,544*	*15,722*	*15,839*	*15,956*	*16,042*	**15,745**	*16,282*	*15,890*
Percent change from prior year	**1.4**	**12.2**	**6.4**	**3.2**	**10.5**	*3.8*	*-1.0*	*0.7*	*-5.5*	*-8.2*	*1.7*	*3.2*	**5.8**	*3.4*	*-2.4*
Manufacturing Production Index															
(Index, 2012=100)	**104.4**	**89.3**	**100.1**	**103.0**	**104.4**	*107.0*	*109.0*	*110.4*	*111.4*	*112.2*	*112.7*	*113.0*	**99.2**	*107.7*	*112.3*
Percent change from prior year	**-2.0**	**-15.5**	**-5.5**	**-2.6**	**0.1**	*19.8*	*8.9*	*7.1*	*6.6*	*4.9*	*3.4*	*2.3*	**-6.4**	*8.6*	*4.3*
Weather															
U.S. Heating Degree-Days	**1,874**	**540**	**70**	**1,418**	**2,091**	*460*	*69*	*1,496*	*2,091*	*483*	*69*	*1,494*	**3,902**	*4,116*	*4,137*
U.S. Cooling Degree-Days	**71**	**397**	**937**	**122**	**47**	*419*	*876*	*100*	*46*	*404*	*877*	*100*	**1,526**	*1,441*	*1,428*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	*61.82*	*59.19*	*56.50*	*58.50*	*55.50*	*56.00*	*57.00*	**39.17**	*58.89*	*56.74*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	*65.32*	*62.69*	*60.00*	*62.00*	*59.00*	*60.00*	*61.00*	**41.69**	*62.28*	*60.49*
U.S. Imported Average	**43.76**	**26.33**	**39.90**	**40.61**	**55.97**	*59.85*	*57.24*	*54.50*	*56.25*	*53.25*	*53.50*	*54.50*	**37.25**	*56.96*	*54.26*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.88**	**40.79**	**42.07**	**56.75**	*60.84*	*58.21*	*55.50*	*57.25*	*54.25*	*54.50*	*55.50*	**39.75**	*57.85*	*55.32*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**182**	*204*	*191*	*173*	*174*	*182*	*186*	*176*	**133**	*188*	*179*
Diesel Fuel	**160**	**97**	**124**	**133**	**175**	*191*	*189*	*185*	*187*	*183*	*186*	*188*	**129**	*185*	*186*
Fuel Oil	**160**	**87**	**113**	**121**	**166**	*181*	*182*	*181*	*183*	*172*	*174*	*179*	**125**	*178*	*179*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**164**	*179*	*180*	*178*	*185*	*180*	*183*	*186*	**131**	*176*	*184*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**119**	**147**	*146*	*140*	*133*	*134*	*132*	*129*	*131*	**125**	*141*	*132*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	*285*	*272*	*252*	*249*	*263*	*265*	*258*	**218**	*266*	*259*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	*296*	*284*	*266*	*262*	*276*	*278*	*272*	**227**	*278*	*272*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	**290**	*297*	*296*	*294*	*294*	*286*	*291*	*295*	**255**	*294*	*291*
Heating Oil	**280**	**200**	**214**	**230**	**269**	*286*	*295*	*312*	*308*	*283*	*270*	*274*	**244**	*287*	*291*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	*2.84*	*3.01*	*3.08*	*3.25*	*3.18*	*3.20*	*3.29*	**2.11**	*3.15*	*3.23*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	*2.73*	*2.89*	*2.96*	*3.13*	*3.06*	*3.08*	*3.17*	**2.03**	*3.04*	*3.11*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.77**	**4.82**	*3.81*	*3.95*	*4.28*	*4.54*	*4.11*	*4.04*	*4.39*	**3.29**	*4.23*	*4.29*
Commercial Sector	**7.13**	**7.63**	**8.49**	**7.53**	**7.60**	*8.45*	*8.89*	*7.91*	*7.70*	*8.17*	*8.63*	*7.75*	**7.48**	*7.98*	*7.89*
Residential Sector	**9.46**	**11.89**	**17.65**	**10.60**	**9.81**	*13.10*	*17.36*	*10.61*	*9.67*	*12.65*	*17.42*	*10.71*	**10.83**	*11.04*	*11.00*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.91**	**1.92**	*1.95*	*1.93*	*1.90*	*1.92*	*1.93*	*1.92*	*1.89*	**1.92**	*1.92*	*1.92*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**4.01**	*2.93*	*3.09*	*3.31*	*3.69*	*3.31*	*3.29*	*3.53*	**2.39**	*3.31*	*3.44*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**10.04**	*12.47*	*11.90*	*11.22*	*11.52*	*12.05*	*11.29*	*11.21*	**9.15**	*11.36*	*11.50*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.34**	*14.86*	*14.72*	*14.47*	*14.65*	*14.32*	*14.41*	*14.66*	**10.73**	*14.33*	*14.52*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**6.64**	*6.72*	*7.09*	*6.56*	*6.48*	*6.74*	*7.12*	*6.56*	**6.66**	*6.76*	*6.73*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**10.43**	*10.88*	*11.34*	*10.91*	*10.60*	*10.98*	*11.36*	*10.96*	**10.65**	*10.91*	*10.99*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**12.83**	*13.46*	*13.73*	*13.66*	*13.26*	*13.74*	*13.85*	*13.73*	**13.20**	*13.43*	*13.65*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**33.02**	**29.52**	**30.05**	**30.86**	**30.37**	*30.64*	*31.49*	*31.94*	*32.19*	*32.51*	*32.79*	*33.32*	**30.86**	*31.12*	*32.71*
U.S. (50 States)	**20.22**	**17.58**	**18.30**	**18.31**	**17.71**	*18.56*	*18.94*	*19.23*	*19.47*	*19.93*	*20.30*	*20.57*	**18.60**	*18.61*	*20.07*
Canada	**5.65**	**4.92**	**4.95**	**5.64**	**5.75**	*5.27*	*5.76*	*5.79*	*5.83*	*5.80*	*5.83*	*5.85*	**5.29**	*5.65*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	*1.92*	*1.87*	*1.82*	*1.78*	*1.73*	*1.69*	*1.71*	**1.94**	*1.89*	*1.73*
Other OECD	**5.15**	**5.08**	**4.89**	**5.01**	**4.98**	*4.88*	*4.92*	*5.10*	*5.11*	*5.04*	*4.96*	*5.19*	**5.03**	*4.97*	*5.08*
Non-OECD	**67.75**	**62.96**	**60.90**	**61.95**	**62.82**	*64.74*	*67.12*	*67.50*	*67.02*	*68.59*	*69.06*	*68.96*	**63.38**	*65.56*	*68.42*
OPEC	**33.48**	**30.58**	**28.45**	**29.82**	**30.18**	*30.91*	*32.84*	*33.36*	*33.42*	*33.28*	*33.32*	*33.35*	**30.57**	*31.83*	*33.34*
Crude Oil Portion	**28.28**	**25.64**	**23.61**	**24.87**	**25.08**	*25.81*	*27.63*	*28.11*	*28.03*	*28.03*	*28.03*	*28.03*	**25.59**	*26.67*	*28.03*
Other Liquids (b)	**5.20**	**4.94**	**4.84**	**4.95**	**5.10**	*5.10*	*5.20*	*5.25*	*5.38*	*5.25*	*5.29*	*5.32*	**4.98**	*5.16*	*5.31*
Eurasia	**14.73**	**13.17**	**12.71**	**13.13**	**13.38**	*13.61*	*13.69*	*13.86*	*14.04*	*14.79*	*14.84*	*14.99*	**13.43**	*13.63*	*14.67*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.00**	*4.96*	*4.96*	*5.01*	*4.96*	*4.99*	*4.99*	*5.03*	**4.93**	*4.98*	*4.99*
Other Non-OECD	**14.58**	**14.30**	**14.80**	**14.11**	**14.27**	*15.26*	*15.64*	*15.28*	*14.60*	*15.54*	*15.91*	*15.59*	**14.44**	*15.12*	*15.41*
Total World Supply	**100.78**	**92.48**	**90.96**	**92.81**	**93.19**	*95.38*	*98.62*	*99.45*	*99.21*	*101.10*	*101.84*	*102.29*	**94.24**	*96.68*	*101.12*
Non-OPEC Supply	**67.29**	**61.90**	**62.51**	**62.99**	**63.02**	*64.47*	*65.78*	*66.09*	*65.80*	*67.82*	*68.53*	*68.93*	**63.67**	*64.85*	*67.78*
Consumption (million barrels per day) (c)															
OECD	**45.27**	**37.43**	**42.11**	**42.83**	**43.16**	*43.53*	*44.98*	*45.63*	*45.47*	*45.23*	*46.20*	*46.33*	**41.91**	*44.33*	*45.81*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.71**	**18.51**	*19.32*	*19.84*	*20.07*	*19.92*	*20.37*	*20.72*	*20.66*	**18.12**	*19.44*	*20.42*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	*0.18*	*0.18*	*0.19*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.33**	**1.88**	**2.16**	**2.03**	**2.19**	*2.19*	*2.29*	*2.29*	*2.28*	*2.24*	*2.34*	*2.32*	**2.10**	*2.24*	*2.30*
Europe	**13.34**	**11.03**	**12.85**	**12.55**	**12.58**	*12.86*	*13.50*	*13.36*	*13.16*	*13.34*	*13.74*	*13.44*	**12.44**	*13.08*	*13.42*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.55**	*2.94*	*3.06*	*3.41*	*3.63*	*2.97*	*3.05*	*3.37*	**3.27**	*3.24*	*3.25*
Other OECD	**6.41**	**5.41**	**5.55**	**5.88**	**6.13**	*6.04*	*6.10*	*6.31*	*6.28*	*6.13*	*6.17*	*6.34*	**5.81**	*6.14*	*6.23*
Non-OECD	**50.03**	**47.35**	**51.11**	**52.49**	**52.10**	*53.31*	*53.73*	*54.16*	*54.43*	*55.71*	*55.86*	*56.01*	**50.25**	*53.34*	*55.51*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	*5.01*	*5.40*	*5.26*	*5.09*	*5.16*	*5.57*	*5.43*	**4.95**	*5.15*	*5.31*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.72**	*0.72*	*0.74*	*0.74*	*0.74*	*0.74*	*0.75*	*0.76*	**0.71**	*0.73*	*0.75*
China	**13.79**	**13.98**	**14.55**	**15.01**	**14.95**	*15.33*	*15.07*	*15.40*	*15.71*	*15.97*	*15.68*	*15.95*	**14.33**	*15.19*	*15.83*
Other Asia	**13.16**	**11.64**	**12.60**	**13.61**	**13.89**	*14.14*	*13.76*	*14.20*	*14.73*	*14.93*	*14.52*	*14.94*	**12.75**	*14.00*	*14.78*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.61**	*18.11*	*18.77*	*18.56*	*18.16*	*18.90*	*19.35*	*18.94*	**17.51**	*18.27*	*18.84*
Total World Consumption	**95.30**	**84.78**	**93.21**	**95.32**	**95.26**	*96.84*	*98.71*	*99.79*	*99.90*	*100.93*	*102.06*	*102.34*	**92.17**	*97.67*	*101.32*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.89**	**0.57**	*-0.11*	*-0.01*	*0.49*	*0.03*	*-0.53*	*0.05*	*0.43*	**-0.18**	*0.23*	*0.00*
Other OECD	**-0.51**	**-1.16**	**0.06**	**0.67**	**0.48**	*0.49*	*0.03*	*-0.05*	*0.21*	*0.11*	*0.05*	*-0.12*	**-0.23**	*0.24*	*0.06*
Other Stock Draws and Balance	**-4.55**	**-4.85**	**1.72**	**0.95**	**1.01**	*1.08*	*0.07*	*-0.10*	*0.44*	*0.25*	*0.12*	*-0.26*	**-1.67**	*0.51*	*0.13*
Total Stock Draw	**-5.48**	**-7.70**	**2.26**	**2.51**	**2.07**	*1.46*	*0.09*	*0.34*	*0.69*	*-0.17*	*0.22*	*0.05*	**-2.08**	*0.98*	*0.20*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	**1,293**	*1,316*	*1,323*	*1,282*	*1,283*	*1,335*	*1,333*	*1,304*	**1,344**	*1,282*	*1,304*
OECD Commercial Inventory	**2,964**	**3,202**	**3,166**	**3,026**	**2,932**	*2,909*	*2,913*	*2,877*	*2,859*	*2,901*	*2,894*	*2,876*	**3,026**	*2,877*	*2,876*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.87**	**24.44**	**25.17**	**25.85**	**25.39**	*25.76*	*26.57*	*26.84*	*27.08*	*27.47*	*27.82*	*28.13*	**25.83**	*26.15*	*27.63*
Canada	**5.65**	**4.92**	**4.95**	**5.64**	**5.75**	*5.27*	*5.76*	*5.79*	*5.83*	*5.80*	*5.83*	*5.85*	**5.29**	*5.65*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	*1.92*	*1.87*	*1.82*	*1.78*	*1.73*	*1.69*	*1.71*	**1.94**	*1.89*	*1.73*
United States	**20.22**	**17.58**	**18.30**	**18.31**	**17.71**	*18.56*	*18.94*	*19.23*	*19.47*	*19.93*	*20.30*	*20.57*	**18.60**	*18.61*	*20.07*
Central and South America	**6.05**	**6.08**	**6.61**	**5.90**	**5.83**	*6.82*	*7.14*	*6.81*	*6.11*	*7.08*	*7.49*	*7.19*	**6.16**	*6.65*	*6.97*
Argentina	**0.69**	**0.58**	**0.57**	**0.54**	**0.65**	*0.71*	*0.70*	*0.69*	*0.74*	*0.76*	*0.75*	*0.73*	**0.60**	*0.69*	*0.75*
Brazil	**3.43**	**3.89**	**4.29**	**3.52**	**3.31**	*4.33*	*4.67*	*4.29*	*3.50*	*4.54*	*4.90*	*4.46*	**3.78**	*4.16*	*4.35*
Colombia	**0.91**	**0.79**	**0.78**	**0.84**	**0.88**	*0.78*	*0.75*	*0.81*	*0.84*	*0.75*	*0.72*	*0.78*	**0.83**	*0.80*	*0.77*
Ecuador	**0.54**	**0.36**	**0.52**	**0.52**	**0.52**	*0.53*	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.52*	*0.53*
Other Central and S. America	**0.47**	**0.46**	**0.46**	**0.49**	**0.47**	*0.48*	*0.49*	*0.50*	*0.49*	*0.50*	*0.59*	*0.69*	**0.47**	*0.49*	*0.57*
Europe	**4.51**	**4.43**	**4.23**	**4.37**	**4.42**	*4.30*	*4.33*	*4.51*	*4.53*	*4.46*	*4.39*	*4.63*	**4.38**	*4.39*	*4.50*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.15**	*2.11*	*2.15*	*2.26*	*2.27*	*2.22*	*2.24*	*2.36*	**2.01**	*2.17*	*2.28*
United Kingdom	**1.19**	**1.18**	**1.00**	**1.08**	**1.08**	*1.00*	*1.00*	*1.05*	*1.06*	*1.04*	*0.94*	*1.04*	**1.11**	*1.03*	*1.02*
Eurasia	**14.73**	**13.17**	**12.71**	**13.13**	**13.38**	*13.61*	*13.69*	*13.86*	*14.04*	*14.79*	*14.84*	*14.99*	**13.43**	*13.63*	*14.67*
Azerbaijan	**0.77**	**0.70**	**0.67**	**0.69**	**0.75**	*0.73*	*0.73*	*0.77*	*0.79*	*0.80*	*0.78*	*0.81*	**0.71**	*0.75*	*0.80*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.86**	*1.87*	*1.85*	*1.90*	*1.92*	*2.00*	*1.96*	*2.02*	**1.86**	*1.87*	*1.98*
Russia	**11.54**	**10.24**	**9.97**	**10.26**	**10.41**	*10.65*	*10.74*	*10.82*	*10.99*	*11.64*	*11.75*	*11.82*	**10.50**	*10.66*	*11.55*
Turkmenistan	**0.23**	**0.23**	**0.23**	**0.23**	**0.24**	*0.24*	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.23**	*0.24*	*0.23*
Other Eurasia	**0.14**	**0.14**	**0.14**	**0.14**	**0.12**	*0.12*	*0.12*	*0.12*	*0.12*	*0.12*	*0.12*	*0.11*	**0.14**	*0.12*	*0.12*
Middle East	**3.24**	**3.18**	**3.15**	**3.18**	**3.23**	*3.23*	*3.32*	*3.32*	*3.37*	*3.37*	*3.37*	*3.37*	**3.19**	*3.28*	*3.37*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	*0.95*	*1.04*	*1.04*	*1.05*	*1.05*	*1.05*	*1.05*	**0.96**	*1.00*	*1.05*
Qatar	**2.06**	**2.06**	**2.06**	**2.06**	**2.10**	*2.10*	*2.10*	*2.10*	*2.12*	*2.12*	*2.12*	*2.12*	**2.06**	*2.10*	*2.12*
Asia and Oceania	**9.44**	**9.15**	**9.22**	**9.18**	**9.34**	*9.31*	*9.30*	*9.31*	*9.28*	*9.28*	*9.25*	*9.26*	**9.25**	*9.32*	*9.27*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.49**	*0.51*	*0.51*	*0.50*	*0.49*	*0.49*	*0.48*	*0.47*	**0.49**	*0.50*	*0.48*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.00**	*4.96*	*4.96*	*5.01*	*4.96*	*4.99*	*4.99*	*5.03*	**4.93**	*4.98*	*4.99*
India	**0.96**	**0.90**	**0.92**	**0.92**	**0.91**	*0.90*	*0.90*	*0.89*	*0.90*	*0.89*	*0.89*	*0.88*	**0.92**	*0.90*	*0.89*
Indonesia	**0.91**	**0.89**	**0.88**	**0.89**	**0.86**	*0.85*	*0.85*	*0.83*	*0.84*	*0.83*	*0.82*	*0.81*	**0.89**	*0.85*	*0.83*
Malaysia	**0.71**	**0.60**	**0.63**	**0.64**	**0.65**	*0.65*	*0.64*	*0.63*	*0.64*	*0.63*	*0.63*	*0.62*	**0.65**	*0.64*	*0.63*
Vietnam	**0.25**	**0.24**	**0.23**	**0.23**	**0.23**	*0.23*	*0.23*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	**0.23**	*0.23*	*0.21*
Africa	**1.46**	**1.44**	**1.42**	**1.39**	**1.42**	*1.44*	*1.43*	*1.43*	*1.37*	*1.37*	*1.37*	*1.37*	**1.43**	*1.43*	*1.37*
Egypt	**0.62**	**0.61**	**0.59**	**0.57**	**0.60**	*0.61*	*0.61*	*0.61*	*0.57*	*0.57*	*0.57*	*0.57*	**0.60**	*0.61*	*0.57*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.29**	**61.90**	**62.51**	**62.99**	**63.02**	*64.47*	*65.78*	*66.09*	*65.80*	*67.82*	*68.53*	*68.93*	**63.67**	*64.85*	*67.78*
OPEC non-crude liquids	**5.20**	**4.94**	**4.84**	**4.95**	**5.10**	*5.10*	*5.20*	*5.25*	*5.38*	*5.25*	*5.29*	*5.32*	**4.98**	*5.16*	*5.31*
Non-OPEC + OPEC non-crude	**72.49**	**66.84**	**67.35**	**67.94**	**68.11**	*69.57*	*70.99*	*71.34*	*71.18*	*73.08*	*73.81*	*74.26*	**68.65**	*70.01*	*73.09*
Unplanned non-OPEC Production Outages	**0.18**	**0.90**	**0.69**	**0.53**	**0.47**	-	-	-	-	-	-	-	**0.57**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.36**	**1.26**	**1.17**	**1.12**	**1.09**	-	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.27**	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	-	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	-	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	-	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	-	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.19**	-	-	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	-	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	-	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	-	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.53**	-	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.64**	**23.61**	**24.87**	**25.08**	*25.81*	*27.63*	*28.11*	*28.03*	*28.03*	*28.03*	*28.03*	**25.59**	*26.67*	*28.03*
Other Liquids (a)	**5.20**	**4.94**	**4.84**	**4.95**	**5.10**	*5.10*	*5.20*	*5.25*	*5.38*	*5.25*	*5.29*	*5.32*	**4.98**	*5.16*	*5.31*
Total OPEC Supply	**33.48**	**30.58**	**28.45**	**29.82**	**30.18**	*30.91*	*32.84*	*33.36*	*33.42*	*33.28*	*33.32*	*33.35*	**30.57**	*31.83*	*33.34*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	*26.69*	*26.68*	*26.68*	*26.68*	*26.69*	*26.69*	*26.69*	**25.98**	*26.65*	*26.69*
Other	**5.84**	**5.60**	**5.48**	**6.33**	**6.74**	*6.56*	*6.53*	*6.20*	*6.11*	*6.11*	*6.11*	*6.11*	**5.82**	*6.51*	*6.11*
OPEC Total	**31.45**	**31.63**	**31.54**	**32.56**	**33.29**	*33.25*	*33.21*	*32.88*	*32.80*	*32.79*	*32.80*	*32.81*	**31.79**	*33.15*	*32.80*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	*6.66*	*5.03*	*4.68*	*4.68*	*4.69*	*4.69*	*4.69*	**5.49**	*5.83*	*4.69*
Other	**0.02**	**0.72**	**1.04**	**1.07**	**1.21**	*0.78*	*0.55*	*0.09*	*0.08*	*0.08*	*0.08*	*0.08*	**0.71**	*0.65*	*0.08*
OPEC Total	**3.17**	**5.99**	**7.94**	**7.68**	**8.21**	*7.44*	*5.58*	*4.77*	*4.76*	*4.77*	*4.77*	*4.78*	**6.20**	*6.49*	*4.77*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.70**	-	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.12**	**22.43**	**22.54**	*23.40*	*24.01*	*24.25*	*24.03*	*24.45*	*24.90*	*24.84*	**21.91**	*23.56*	*24.56*
Canada	**2.33**	**1.88**	**2.16**	**2.03**	**2.19**	*2.19*	*2.29*	*2.29*	*2.28*	*2.24*	*2.34*	*2.32*	**2.10**	*2.24*	*2.30*
Mexico	**1.97**	**1.48**	**1.59**	**1.68**	**1.83**	*1.88*	*1.87*	*1.89*	*1.82*	*1.84*	*1.83*	*1.84*	**1.68**	*1.87*	*1.83*
United States	**19.33**	**16.08**	**18.36**	**18.71**	**18.51**	*19.32*	*19.84*	*20.07*	*19.92*	*20.37*	*20.72*	*20.66*	**18.12**	*19.44*	*20.42*
Central and South America	**6.14**	**5.61**	**6.04**	**6.33**	**6.14**	*6.37*	*6.51*	*6.53*	*6.37*	*6.54*	*6.68*	*6.69*	**6.03**	*6.39*	*6.57*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.92**	*3.07*	*3.17*	*3.17*	*3.04*	*3.13*	*3.23*	*3.24*	**2.90**	*3.08*	*3.16*
Europe	**14.04**	**11.73**	**13.57**	**13.27**	**13.30**	*13.58*	*14.23*	*14.10*	*13.90*	*14.08*	*14.49*	*14.19*	**13.15**	*13.81*	*14.17*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	*5.01*	*5.40*	*5.26*	*5.09*	*5.16*	*5.57*	*5.43*	**4.95**	*5.15*	*5.31*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.71**	*3.82*	*4.15*	*4.00*	*3.85*	*3.95*	*4.29*	*4.14*	**3.74**	*3.92*	*4.06*
Middle East	**7.91**	**7.43**	**8.44**	**8.06**	**7.84**	*8.07*	*8.69*	*8.25*	*8.00*	*8.57*	*8.96*	*8.33*	**7.96**	*8.22*	*8.47*
Asia and Oceania	**34.54**	**32.04**	**33.70**	**35.77**	**36.22**	*36.08*	*35.61*	*36.95*	*38.04*	*37.67*	*37.08*	*38.27*	**34.01**	*36.21*	*37.76*
China	**13.79**	**13.98**	**14.55**	**15.01**	**14.95**	*15.33*	*15.07*	*15.40*	*15.71*	*15.97*	*15.68*	*15.95*	**14.33**	*15.19*	*15.83*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.55**	*2.94*	*3.06*	*3.41*	*3.63*	*2.97*	*3.05*	*3.37*	**3.27**	*3.24*	*3.25*
India	**4.63**	**3.77**	**4.17**	**4.93**	**5.04**	*5.05*	*4.70*	*4.97*	*5.28*	*5.35*	*5.00*	*5.33*	**4.37**	*4.94*	*5.24*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.30**	*4.33*	*4.25*	*4.45*	*4.46*	*4.47*	*4.39*	*4.58*	**4.15**	*4.33*	*4.47*
Total OECD Liquid Fuels Consumption	**45.27**	**37.43**	**42.11**	**42.83**	**43.16**	*43.53*	*44.98*	*45.63*	*45.47*	*45.23*	*46.20*	*46.33*	**41.91**	*44.33*	*45.81*
Total non-OECD Liquid Fuels Consumption	**50.03**	**47.35**	**51.11**	**52.49**	**52.10**	*53.31*	*53.73*	*54.16*	*54.43*	*55.71*	*55.86*	*56.01*	**50.25**	*53.34*	*55.51*
Total World Liquid Fuels Consumption	**95.30**	**84.78**	**93.21**	**95.32**	**95.26**	*96.84*	*98.71*	*99.79*	*99.90*	*100.93*	*102.06*	*102.34*	**92.17**	*97.67*	*101.32*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**110.2**	**107.5**	**112.2**	**113.3**	**115.8**	*117.1*	*118.4*	*119.3*	*122.0*	*122.6*	*123.2*	*123.7*	**110.8**	*117.6*	*122.9*
Percent change from prior year	**-3.4**	**-6.2**	**-2.5**	**-1.9**	**5.1**	*9.0*	*5.5*	*5.3*	*5.4*	*4.7*	*4.1*	*3.7*	**-3.5**	*6.2*	*4.5*
OECD Index, 2015 = 100													**103.7**	*109.0*	*112.8*
Percent change from prior year													**-4.7**	*5.1*	*3.6*
Non-OECD Index, 2015 = 100													**115.8**	*123.7*	*130.0*
Percent change from prior year													**-2.3**	*6.9*	*5.1*
Real U.S. Dollar Exchange Rate (b)															
Index, 2015 Q1 = 100	**106.4**	**108.3**	**106.8**	**105.5**	**104.3**	*104.6*	*104.3*	*104.1*	*103.8*	*103.7*	*103.5*	*103.3*	**106.7**	*104.3*	*103.6*
Percent change from prior year	**0.9**	**2.0**	**0.3**	**-0.7**	**-2.0**	*-3.3*	*-2.3*	*-1.3*	*-0.4*	*-0.9*	*-0.8*	*-0.8*	**0.6**	*-2.3*	*-0.7*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. GDP data are from Oxford Economics.

(b) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. Exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

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Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.75**	**10.81**	**10.81**	**10.90**	**10.75**	*10.93*	*11.13*	*11.35*	*11.54*	*11.74*	*11.99*	*12.18*	**11.31**	*11.04*	*11.86*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	*0.38*	*0.41*	*0.43*	*0.43*	*0.36*	*0.40*	*0.40*	**0.45**	*0.42*	*0.40*
Federal Gulf of Mexico (b)	**1.96**	**1.69**	**1.45**	**1.52**	**1.72**	*1.76*	*1.68*	*1.68*	*1.74*	*1.76*	*1.74*	*1.77*	**1.66**	*1.71*	*1.75*
Lower 48 States (excl GOM)	**10.31**	**8.71**	**8.92**	**8.91**	**8.57**	*8.79*	*9.05*	*9.24*	*9.37*	*9.63*	*9.86*	*10.01*	**9.21**	*8.91*	*9.72*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.51**	**2.72**	*3.62*	*4.00*	*3.59*	*3.58*	*4.48*	*4.47*	*3.75*	**2.70**	*3.49*	*4.07*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.01**	*0.13*	*0.06*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	**-0.19**	*0.18*	*0.27*	*0.02*	*-0.24*	*0.01*	*0.28*	*-0.01*	**-0.14**	*0.07*	*0.01*
Crude Oil Adjustment (d)	**0.67**	**0.03**	**0.38**	**0.31**	**0.50**	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.35**	*0.28*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.90**	**13.79**	*15.08*	*15.68*	*15.17*	*15.15*	*16.49*	*16.99*	*16.20*	**14.21**	*14.94*	*16.21*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.94**	*1.07*	*1.06*	*1.04*	*1.06*	*1.09*	*1.13*	*1.14*	**0.92**	*1.03*	*1.10*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.23**	**4.80**	*5.29*	*5.44*	*5.53*	*5.60*	*5.79*	*5.86*	*5.91*	**5.16**	*5.27*	*5.79*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.07**	**1.01**	*1.06*	*1.09*	*1.09*	*1.07*	*1.10*	*1.10*	*1.11*	**1.01**	*1.06*	*1.10*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.91**	*0.95*	*0.99*	*0.98*	*0.97*	*0.99*	*0.99*	*1.00*	**0.91**	*0.96*	*0.99*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.20**	*0.21*	*0.21*	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.32**	**-2.99**	*-2.96*	*-3.31*	*-3.40*	*-3.39*	*-3.73*	*-4.33*	*-4.25*	**-3.35**	*-3.17*	*-3.93*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.03**	**-1.99**	*-2.18*	*-2.19*	*-2.15*	*-2.16*	*-2.34*	*-2.33*	*-2.28*	**-1.94**	*-2.13*	*-2.28*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.19**	**0.24**	*0.43*	*0.43*	*0.30*	*0.21*	*0.26*	*0.30*	*0.20*	**0.27**	*0.35*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.04**	**-0.11**	*-0.08*	*-0.07*	*-0.08*	*-0.09*	*-0.07*	*-0.07*	*-0.08*	**-0.06**	*-0.08*	*-0.07*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.43**	**0.44**	*0.71*	*0.52*	*0.15*	*0.52*	*0.75*	*0.44*	*0.22*	**0.42**	*0.46*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.78**	**-0.61**	*-0.76*	*-0.69*	*-0.57*	*-0.76*	*-0.69*	*-0.81*	*-0.77*	**-0.62**	*-0.66*	*-0.76*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.07**	**0.03**	*0.05*	*0.03*	*0.05*	*-0.05*	*0.00*	*0.10*	*0.16*	**0.05**	*0.04*	*0.05*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.74**	**-0.43**	*-0.62*	*-0.78*	*-0.52*	*-0.53*	*-0.95*	*-1.25*	*-1.10*	**-0.98**	*-0.59*	*-0.96*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.05**	**0.09**	*-0.02*	*0.00*	*0.05*	*-0.03*	*-0.07*	*-0.06*	*0.05*	**0.02**	*0.03*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.48**	**-0.66**	*-0.49*	*-0.55*	*-0.63*	*-0.50*	*-0.62*	*-0.65*	*-0.64*	**-0.52**	*-0.58*	*-0.60*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.71**	**0.76**	*-0.43*	*-0.34*	*0.42*	*0.22*	*-0.59*	*-0.26*	*0.33*	**-0.03**	*0.10*	*-0.07*
Total Supply	**19.33**	**16.08**	**18.36**	**18.71**	**18.51**	*19.32*	*19.84*	*20.07*	*19.92*	*20.37*	*20.72*	*20.66*	**18.12**	*19.44*	*20.42*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.70**	**3.34**	*3.09*	*3.10*	*3.58*	*3.77*	*3.30*	*3.37*	*3.78*	**3.20**	*3.28*	*3.55*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**0.03**	**-0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.07**	*-0.01*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.02**	**8.08**	*8.75*	*8.94*	*8.78*	*8.47*	*9.11*	*9.12*	*8.84*	**8.03**	*8.64*	*8.89*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.84**	**0.83**	*0.88*	*0.91*	*0.90*	*0.86*	*0.93*	*0.92*	*0.92*	**0.82**	*0.88*	*0.91*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	*1.33*	*1.47*	*1.49*	*1.47*	*1.61*	*1.76*	*1.77*	**1.08**	*1.36*	*1.65*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.92**	**4.04**	*4.01*	*3.99*	*4.18*	*4.24*	*4.16*	*4.09*	*4.17*	**3.78**	*4.05*	*4.17*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.23**	**0.26**	*0.23*	*0.28*	*0.25*	*0.23*	*0.21*	*0.25*	*0.26*	**0.22**	*0.25*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.71**	**1.69**	*1.92*	*2.06*	*1.80*	*1.74*	*1.98*	*2.13*	*1.85*	**1.75**	*1.87*	*1.92*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.71**	**18.51**	*19.32*	*19.84*	*20.07*	*19.92*	*20.37*	*20.72*	*20.66*	**18.12**	*19.44*	*20.42*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-0.81**	**-0.27**	*0.66*	*0.69*	*0.19*	*0.19*	*0.75*	*0.14*	*-0.49*	**-0.65**	*0.32*	*0.14*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.3**	**502.8**	*486.1*	*461.4*	*459.3*	*480.6*	*479.3*	*453.5*	*454.4*	**485.3**	*459.3*	*454.4*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**229.2**	**171.9**	*211.2*	*251.7*	*209.4*	*172.7*	*221.6*	*259.9*	*218.8*	**229.2**	*209.4*	*218.8*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.2**	**93.3**	*91.2*	*90.2*	*83.1*	*93.5*	*91.2*	*90.1*	*83.2*	**78.2**	*83.1*	*83.2*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**29.9**	**27.3**	*26.1*	*25.9*	*26.2*	*28.3*	*27.1*	*26.8*	*27.0*	**29.9**	*26.2*	*27.0*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**243.2**	**228.2**	*231.2*	*226.2*	*234.2*	*240.7*	*244.3*	*232.8*	*249.3*	**243.2**	*234.2*	*249.3*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	**19.7**	*23.2*	*22.2*	*24.4*	*24.0*	*23.7*	*23.0*	*26.1*	**25.3**	*24.4*	*26.1*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**217.9**	**208.6**	*208.0*	*204.0*	*209.8*	*216.7*	*220.6*	*209.8*	*223.1*	**217.9**	*209.8*	*223.1*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.6**	**39.0**	*40.1*	*42.4*	*39.5*	*39.1*	*40.0*	*42.4*	*39.3*	**38.6**	*39.5*	*39.3*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**160.4**	**143.0**	*141.5*	*144.0*	*146.2*	*135.4*	*140.4*	*147.3*	*148.2*	**160.4**	*146.2*	*148.2*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	**32.4**	*33.6*	*31.6*	*32.7*	*32.2*	*32.9*	*31.1*	*32.6*	**30.2**	*32.7*	*32.6*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**49.3**	**55.5**	*54.6*	*49.2*	*51.6*	*60.8*	*58.6*	*49.4*	*50.9*	**49.3**	*51.6*	*50.9*
Total Commercial Inventory	**1320.8**	**1452.8**	**1422.0**	**1344.3**	**1293.4**	*1315.7*	*1322.6*	*1282.1*	*1283.3*	*1335.4*	*1333.3*	*1303.8*	**1344.3**	*1282.1*	*1303.8*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.5**	*625.5*	*619.9*	*615.6*	*611.3*	*607.1*	*604.4*	*594.7*	**638.1**	*615.6*	*594.7*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.06**	**1.82**	*2.17*	*2.23*	*2.33*	*2.50*	*2.55*	*2.56*	*2.64*	**2.01**	*2.14*	*2.56*
Propane	**1.72**	**1.61**	**1.68**	**1.70**	**1.63**	*1.67*	*1.69*	*1.71*	*1.67*	*1.72*	*1.74*	*1.75*	**1.68**	*1.67*	*1.72*
Butanes	**0.91**	**0.86**	**0.90**	**0.89**	**0.84**	*0.88*	*0.91*	*0.91*	*0.88*	*0.92*	*0.93*	*0.93*	**0.89**	*0.88*	*0.92*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.58**	**0.52**	*0.58*	*0.61*	*0.58*	*0.55*	*0.60*	*0.62*	*0.59*	**0.58**	*0.57*	*0.59*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	*0.00*	*0.01*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.24**	*0.31*	*0.31*	*0.30*	*0.30*	*0.32*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	*0.29*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.08**	*0.27*	*0.20*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.28**	**-0.35**	*-0.36*	*-0.37*	*-0.40*	*-0.44*	*-0.45*	*-0.45*	*-0.46*	**-0.28**	*-0.37*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.29**	**-1.04**	*-1.10*	*-1.08*	*-1.07*	*-1.04*	*-1.18*	*-1.15*	*-1.16*	**-1.14**	*-1.07*	*-1.13*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.33**	**-0.33**	*-0.38*	*-0.40*	*-0.35*	*-0.35*	*-0.40*	*-0.40*	*-0.35*	**-0.32**	*-0.37*	*-0.38*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.27**	*-0.34*	*-0.33*	*-0.33*	*-0.33*	*-0.31*	*-0.33*	*-0.31*	**-0.19**	*-0.32*	*-0.32*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	*0.27*	*0.31*	*0.49*	*0.39*	*0.28*	*0.32*	*0.50*	**0.37**	*0.36*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	*0.16*	*0.17*	*0.16*	*0.17*	*0.18*	*0.19*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.81**	**1.52**	*1.86*	*1.84*	*1.95*	*2.07*	*2.08*	*2.13*	*2.17*	**1.70**	*1.79*	*2.11*
Propane	**1.09**	**0.59**	**0.58**	**0.99**	**1.18**	*0.64*	*0.68*	*1.05*	*1.16*	*0.62*	*0.66*	*1.01*	**0.81**	*0.89*	*0.86*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.30**	**0.29**	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.29*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.24**	**0.19**	*0.22*	*0.20*	*0.20*	*0.18*	*0.23*	*0.20*	*0.20*	**0.20**	*0.20*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.35**	**0.16**	*0.07*	*0.09*	*0.09*	*0.06*	*0.07*	*0.09*	*0.09*	**0.21**	*0.10*	*0.08*
HGL Inventories (million barrels)															
Ethane	**52.6**	**49.5**	**62.5**	**74.9**	**64.3**	*61.7*	*60.6*	*63.4*	*59.9*	*63.4*	*62.0*	*64.1*	**59.9**	*62.5*	*62.3*
Propane	**60.3**	**75.3**	**100.7**	**70.4**	**37.8**	*56.9*	*77.8*	*67.2*	*44.1*	*64.6*	*85.3*	*73.4*	**70.4**	*67.2*	*73.4*
Propylene (at refineries only)	**1.4**	**1.5**	**1.5**	**1.5**	**1.3**	*1.7*	*2.0*	*1.9*	*1.7*	*1.9*	*2.1*	*2.0*	**1.5**	*1.9*	*2.0*
Butanes/Butylenes	**43.6**	**69.3**	**86.0**	**54.7**	**41.1**	*65.6*	*83.7*	*54.9*	*45.0*	*69.4*	*87.2*	*58.1*	**54.7**	*54.9*	*58.1*
Natural Gasoline (Pentanes Plus)	**24.0**	**35.7**	**38.6**	**32.9**	**26.7**	*26.2*	*25.6*	*24.2*	*21.4*	*22.3*	*22.9*	*22.0*	**32.9**	*24.2*	*22.0*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.90**	**13.79**	*15.08*	*15.68*	*15.17*	*15.15*	*16.49*	*16.99*	*16.20*	**14.21**	*14.94*	*16.21*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	*0.44*	*0.48*	*0.65*	*0.55*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.06**	*1.14*	*1.17*	*1.15*	*1.13*	*1.19*	*1.19*	*1.17*	**1.06**	*1.13*	*1.17*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.20**	**0.10**	*0.45*	*0.44*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.34*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.46**	**0.69**	*0.86*	*0.67*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.62*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.23**	**16.17**	*17.97*	*18.44*	*17.60*	*17.49*	*19.24*	*19.65*	*18.63*	**16.57**	*17.55*	*18.76*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.94**	*1.07*	*1.06*	*1.04*	*1.06*	*1.09*	*1.13*	*1.14*	**0.92**	*1.03*	*1.10*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	*0.86*	*0.79*	*0.40*	*0.50*	*0.87*	*0.80*	*0.40*	**0.55**	*0.62*	*0.64*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**8.98**	**8.74**	*9.68*	*9.71*	*9.53*	*9.31*	*9.86*	*9.98*	*9.82*	**8.74**	*9.42*	*9.74*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	*1.29*	*1.47*	*1.41*	*1.52*	*1.62*	*1.69*	*1.58*	**1.02**	*1.32*	*1.60*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.46**	**4.24**	*4.55*	*4.72*	*4.65*	*4.63*	*5.11*	*5.35*	*5.23*	**4.74**	*4.54*	*5.08*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.15**	**0.19**	*0.26*	*0.26*	*0.20*	*0.25*	*0.29*	*0.29*	*0.23*	**0.19**	*0.23*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.39**	*2.40*	*2.55*	*2.45*	*2.34*	*2.57*	*2.68*	*2.51*	**2.26**	*2.45*	*2.53*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.15**	**17.11**	*19.04*	*19.50*	*18.65*	*18.55*	*20.33*	*20.79*	*19.76*	**17.49**	*18.58*	*19.86*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.32**	**14.14**	*15.48*	*16.08*	*15.57*	*15.50*	*16.70*	*17.21*	*16.46*	**14.72**	*15.32*	*16.47*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.14**	*18.14*	*18.14*	*18.14*	*18.14*	*18.14*	*18.14*	*18.14*	**18.66**	*18.14*	*18.14*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.78**	*0.85*	*0.89*	*0.86*	*0.85*	*0.92*	*0.95*	*0.91*	**0.79**	*0.84*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**182**	*204*	*191*	*173*	*174*	*182*	*186*	*176*	**133**	*188*	*179*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	*277*	*267*	*247*	*242*	*251*	*258*	*249*	**214**	*261*	*250*
PADD 2	**226**	**179**	**207**	**202**	**246**	*276*	*256*	*236*	*227*	*250*	*251*	*239*	**204**	*254*	*242*
PADD 3	**210**	**162**	**186**	**183**	**229**	*253*	*241*	*222*	*221*	*230*	*233*	*224*	**187**	*236*	*227*
PADD 4	**247**	**201**	**233**	**221**	**246**	*285*	*277*	*257*	*250*	*268*	*273*	*260*	**226**	*267*	*263*
PADD 5	**311**	**258**	**283**	**278**	**312**	*344*	*334*	*319*	*324*	*337*	*330*	*339*	**284**	*328*	*333*
U.S. Average	**241**	**194**	**218**	**215**	**256**	*285*	*272*	*252*	*249*	*263*	*265*	*258*	**218**	*266*	*259*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	*296*	*284*	*266*	*262*	*276*	*278*	*272*	**227**	*278*	*272*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**68.5**	**59.7**	*61.0*	*58.1*	*59.6*	*64.8*	*67.3*	*62.6*	*68.7*	**68.5**	*59.6*	*68.7*
PADD 2	**60.2**	**52.6**	**46.2**	**50.9**	**49.4**	*52.8*	*50.6*	*50.2*	*53.3*	*52.5*	*50.9*	*51.2*	**50.9**	*50.2*	*51.2*
PADD 3	**84.8**	**90.5**	**79.7**	**83.7**	**79.5**	*79.9*	*80.5*	*85.3*	*84.8*	*87.2*	*82.2*	*89.4*	**83.7**	*85.3*	*89.4*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.5**	*8.0*	*7.5*	*8.0*	*7.9*	*7.9*	*7.7*	*8.2*	**8.7**	*8.0*	*8.2*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	**31.1**	*29.5*	*29.5*	*31.1*	*30.0*	*29.4*	*29.3*	*31.7*	**31.4**	*31.1*	*31.7*
U.S. Total	**260.8**	**253.3**	**226.5**	**243.2**	**228.2**	*231.2*	*226.2*	*234.2*	*240.7*	*244.3*	*232.8*	*249.3*	**243.2**	*234.2*	*249.3*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	**19.7**	*23.2*	*22.2*	*24.4*	*24.0*	*23.7*	*23.0*	*26.1*	**25.3**	*24.4*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**217.9**	**208.6**	*208.0*	*204.0*	*209.8*	*216.7*	*220.6*	*209.8*	*223.1*	**217.9**	*209.8*	*223.1*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.73**	**98.18**	*98.32*	*99.12*	*99.95*	*99.87*	*100.43*	*101.53*	*102.21*	**98.84**	*98.90*	*101.02*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.00**	*0.75*	*0.73*	*0.88*	*0.92*	*0.75*	*0.72*	*0.85*	**0.92**	*0.84*	*0.81*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.73**	**2.20**	*2.22*	*2.08*	*2.03*	*2.07*	*2.02*	*1.94*	*1.93*	**2.09**	*2.13*	*1.99*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**96.02**	**94.99**	*95.34*	*96.31*	*97.04*	*96.89*	*97.65*	*98.87*	*99.43*	**95.82**	*95.93*	*98.22*
Total Dry Gas Production	**94.79**	**89.68**	**89.83**	**91.18**	**90.82**	*90.90*	*91.59*	*92.31*	*92.23*	*92.75*	*93.76*	*94.39*	**91.36**	*91.41*	*93.29*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.23**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.20*	*0.22*
LNG Gross Exports	**7.92**	**5.51**	**3.91**	**8.78**	**9.33**	*7.59*	*7.66*	*9.26*	*9.96*	*8.83*	*8.33*	*9.78*	**6.53**	*8.46*	*9.22*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.35**	*6.48*	*6.68*	*6.82*	*7.38*	*6.36*	*6.36*	*6.69*	**6.84**	*7.08*	*6.69*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.18**	**9.09**	*8.21*	*9.19*	*9.44*	*9.30*	*8.64*	*9.37*	*9.38*	**7.90**	*8.98*	*9.17*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.18**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	**0.17**	*0.17*	*0.18*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.21**	*-10.31*	*-8.31*	*5.60*	*18.28*	*-11.71*	*-9.37*	*4.30*	**-0.46**	*0.99*	*0.31*
Total Supply	**99.49**	**71.13**	**76.78**	**87.12**	**98.37**	*71.63*	*73.46*	*86.41*	*99.13*	*70.28*	*73.41*	*86.60*	**83.62**	*82.41*	*82.30*
Balancing Item (b)	**-0.18**	**-0.29**	**0.05**	**-1.04**	**1.16**	*0.15*	*0.14*	*0.65*	*-0.17*	*-0.19*	*0.02*	*-0.58*	**-0.37**	*0.52*	*-0.23*
Total Primary Supply	**99.31**	**70.84**	**76.83**	**86.08**	**99.53**	*71.78*	*73.61*	*87.05*	*98.96*	*70.09*	*73.43*	*86.03*	**83.26**	*82.93*	*82.07*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.82**	**16.00**	**25.40**	*7.41*	*3.59*	*16.72*	*24.17*	*8.08*	*3.59*	*16.40*	**12.70**	*13.23*	*13.01*
Commercial	**13.93**	**5.82**	**4.36**	**10.31**	**14.76**	*6.48*	*4.71*	*10.87*	*14.92*	*6.23*	*4.64*	*10.80*	**8.60**	*9.18*	*9.12*
Industrial	**24.65**	**20.62**	**21.15**	**23.83**	**24.52**	*23.14*	*22.62*	*25.37*	*25.98*	*23.26*	*22.56*	*24.99*	**22.56**	*23.91*	*24.19*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.71**	*27.32*	*35.17*	*26.07*	*25.54*	*24.77*	*34.88*	*25.60*	**31.74**	*28.83*	*27.72*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	**4.96**	*4.97*	*5.01*	*5.05*	*5.05*	*5.08*	*5.13*	*5.17*	**5.00**	*5.00*	*5.11*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.61**	**3.03**	*2.32*	*2.36*	*2.83*	*3.13*	*2.51*	*2.47*	*2.91*	**2.53**	*2.63*	*2.75*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	**0.14**	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.84**	**76.83**	**86.08**	**99.53**	*71.78*	*73.61*	*87.05*	*98.96*	*70.09*	*73.43*	*86.03*	**83.26**	*82.93*	*82.07*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,030**	**3,133**	**3,840**	**3,341**	**1,792**	*2,730*	*3,495*	*2,980*	*1,334*	*2,400*	*3,262*	*2,866*	**3,341**	*2,980*	*2,866*
East Region (d)	**385**	**655**	**890**	**763**	**303**	*559*	*821*	*608*	*102*	*403*	*673*	*490*	**763**	*608*	*490*
Midwest Region (d)	**472**	**747**	**1,053**	**918**	**396**	*638*	*992*	*835*	*224*	*518*	*892*	*771*	**918**	*835*	*771*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**762**	*1,062*	*1,134*	*1,071*	*675*	*978*	*1,089*	*1,044*	**1,155**	*1,071*	*1,044*
Mountain Region (d)	**92**	**177**	**235**	**195**	**111**	*159*	*203*	*167*	*113*	*162*	*227*	*207*	**195**	*167*	*207*
Pacific Region (d)	**200**	**308**	**318**	**282**	**198**	*291*	*323*	*276*	*199*	*316*	*360*	*333*	**282**	*276*	*333*
Alaska	**23**	**25**	**31**	**28**	**22**	*22*	*22*	*22*	*22*	*22*	*22*	*22*	**28**	*22*	*22*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	*2.84*	*3.01*	*3.08*	*3.25*	*3.18*	*3.20*	*3.29*	**2.11**	*3.15*	*3.23*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**14.64**	**14.79**	*15.13*	*17.49*	*13.38*	*12.98*	*13.92*	*16.93*	*13.11*	**14.47**	*14.58*	*13.42*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.77**	**10.41**	*12.54*	*16.85*	*10.90*	*10.01*	*12.39*	*17.18*	*11.35*	**11.76**	*11.25*	*11.22*
E. N. Central	**6.99**	**9.50**	**18.15**	**8.02**	**7.60**	*11.10*	*16.68*	*8.41*	*7.73*	*10.70*	*16.46*	*8.25*	**8.39**	*8.76*	*8.81*
W. N. Central	**6.85**	**9.89**	**17.26**	**8.66**	**7.49**	*11.16*	*17.12*	*9.18*	*7.95*	*10.83*	*17.01*	*9.11*	**8.48**	*8.89*	*9.18*
S. Atlantic	**12.12**	**15.52**	**24.15**	**14.20**	**11.53**	*16.78*	*22.64*	*12.54*	*11.15*	*16.35*	*22.60*	*12.62*	**14.23**	*13.30*	*13.12*
E. S. Central	**9.69**	**13.34**	**20.85**	**10.63**	**9.81**	*15.58*	*22.17*	*13.47*	*10.55*	*15.05*	*22.23*	*13.53*	**11.15**	*11.86*	*12.67*
W. S. Central	**8.52**	**14.22**	**20.83**	**11.67**	**9.39**	*15.01*	*20.64*	*11.84*	*8.99*	*14.46*	*20.51*	*11.72*	**11.40**	*11.85*	*11.55*
Mountain	**7.55**	**9.37**	**12.60**	**8.15**	**7.77**	*9.92*	*13.62*	*8.42*	*7.96*	*9.79*	*13.69*	*8.61*	**8.43**	*8.68*	*8.88*
Pacific	**13.41**	**14.47**	**14.50**	**13.70**	**14.55**	*14.77*	*15.03*	*13.75*	*13.85*	*14.57*	*15.37*	*14.32*	**13.82**	*14.40*	*14.30*
U.S. Average	**9.46**	**11.89**	**17.65**	**10.60**	**9.81**	*13.10*	*17.36*	*10.61*	*9.67*	*12.65*	*17.42*	*10.71*	**10.83**	*11.04*	*11.00*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**10.06**	**10.15**	*10.41*	*10.68*	*10.09*	*10.43*	*10.55*	*10.33*	*10.16*	**10.16**	*10.22*	*10.35*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.53**	**7.93**	*7.65*	*6.98*	*7.43*	*7.81*	*7.64*	*7.22*	*7.74*	**7.50**	*7.61*	*7.68*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.21**	**6.22**	*7.97*	*9.36*	*7.12*	*6.85*	*7.66*	*8.73*	*6.59*	**6.28**	*6.98*	*7.02*
W. N. Central	**5.43**	**6.53**	**8.12**	**6.55**	**6.67**	*7.76*	*8.92*	*7.23*	*7.07*	*7.61*	*8.91*	*7.08*	**6.14**	*7.15*	*7.28*
S. Atlantic	**8.51**	**9.21**	**9.55**	**8.88**	**8.72**	*9.78*	*9.98*	*8.89*	*8.46*	*9.26*	*9.56*	*8.56*	**8.87**	*9.09*	*8.75*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	**8.77**	*9.87*	*10.36*	*9.08*	*8.40*	*9.41*	*10.02*	*8.93*	**8.78**	*9.19*	*8.88*
W. S. Central	**5.99**	**7.18**	**8.13**	**7.46**	**7.24**	*8.05*	*8.69*	*7.98*	*7.11*	*7.62*	*8.13*	*7.43*	**6.92**	*7.77*	*7.44*
Mountain	**6.09**	**6.85**	**7.42**	**6.45**	**6.47**	*7.04*	*8.05*	*7.04*	*6.85*	*7.26*	*8.16*	*7.05*	**6.46**	*6.90*	*7.12*
Pacific	**9.58**	**9.30**	**9.59**	**9.70**	**10.61**	*10.17*	*10.18*	*9.41*	*9.26*	*9.10*	*9.59*	*9.24*	**9.57**	*10.08*	*9.27*
U.S. Average	**7.13**	**7.63**	**8.49**	**7.53**	**7.60**	*8.45*	*8.89*	*7.91*	*7.70*	*8.17*	*8.63*	*7.75*	**7.48**	*7.98*	*7.89*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.67**	**8.58**	*7.72*	*6.75*	*7.69*	*8.14*	*7.62*	*6.73*	*7.75*	**7.54**	*7.82*	*7.68*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.61**	**8.08**	*7.44*	*7.25*	*7.41*	*7.95*	*7.75*	*7.68*	*8.09*	**7.28**	*7.66*	*7.91*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.10**	**5.79**	*5.81*	*5.70*	*5.58*	*5.88*	*5.74*	*5.68*	*5.66*	**4.86**	*5.72*	*5.77*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.13**	**4.80**	*4.39*	*4.39*	*4.90*	*5.18*	*4.60*	*4.50*	*5.01*	**3.68**	*4.65*	*4.85*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	**5.60**	*4.82*	*4.83*	*5.11*	*5.31*	*4.85*	*4.80*	*5.06*	**4.06**	*5.12*	*5.03*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.04**	**5.21**	*4.46*	*4.45*	*4.85*	*5.03*	*4.60*	*4.42*	*4.77*	**3.65**	*4.77*	*4.73*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.89**	**3.87**	*2.89*	*3.26*	*3.29*	*3.37*	*3.34*	*3.38*	*3.45*	**2.31**	*3.33*	*3.38*
Mountain	**4.40**	**4.59**	**4.67**	**4.91**	**5.06**	*5.36*	*5.83*	*5.80*	*5.77*	*5.53*	*5.70*	*5.54*	**4.64**	*5.48*	*5.64*
Pacific	**7.46**	**6.28**	**6.18**	**7.23**	**8.24**	*7.13*	*7.08*	*7.04*	*7.06*	*6.59*	*6.88*	*6.94*	**6.86**	*7.38*	*6.88*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.77**	**4.82**	*3.81*	*3.95*	*4.28*	*4.54*	*4.11*	*4.04*	*4.39*	**3.29**	*4.23*	*4.29*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.1**	**115.2**	**135.8**	**139.0**	**139.1**	*136.8*	*155.4*	*153.9*	*147.8*	*142.9*	*156.9*	*154.2*	**539.1**	*585.3*	*601.7*
Appalachia	**39.7**	**29.3**	**33.9**	**35.5**	**34.9**	*36.1*	*35.1*	*36.4*	*38.2*	*39.5*	*38.3*	*40.0*	**138.3**	*142.6*	*155.9*
Interior	**25.8**	**19.2**	**23.2**	**22.3**	**22.4**	*25.9*	*29.4*	*28.9*	*28.4*	*27.0*	*28.1*	*27.6*	**90.4**	*106.6*	*111.0*
Western	**83.6**	**66.7**	**78.8**	**81.2**	**81.7**	*74.8*	*90.9*	*88.6*	*81.2*	*76.4*	*90.5*	*86.6*	**310.3**	*336.1*	*334.8*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-0.9**	**0.4**	*2.1*	*2.6*	*-0.7*	*-0.7*	*-0.6*	*-0.4*	*-3.7*	**2.8**	*4.4*	*-5.4*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.2**	*1.1*	*1.3*	*1.3*	*1.0*	*1.0*	*1.3*	*1.3*	**5.1**	*4.9*	*4.6*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.6**	*16.8*	*18.1*	*22.9*	*26.1*	*19.3*	*19.7*	*24.0*	**69.1**	*78.5*	*89.1*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**11.8**	*10.7*	*12.5*	*13.6*	*15.4*	*11.7*	*12.9*	*13.6*	**42.1**	*48.5*	*53.7*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**8.8**	*6.2*	*5.7*	*9.4*	*10.7*	*7.5*	*6.7*	*10.4*	**27.0**	*30.0*	*35.4*
Total Primary Supply	**130.9**	**102.9**	**123.8**	**120.3**	**120.1**	*123.1*	*141.2*	*131.5*	*122.1*	*124.0*	*138.1*	*127.8*	**477.9**	*516.0*	*511.9*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-4.3**	**13.2**	*-12.0*	*18.5*	*-2.0*	*17.2*	*-3.8*	*22.8*	*2.7*	**-4.5**	*17.8*	*38.9*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	*2.0*	*2.0*	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.2**	**99.4**	**147.3**	**118.3**	**135.4**	*113.2*	*161.8*	*131.5*	*141.1*	*122.1*	*162.7*	*132.3*	**481.1**	*541.8*	*558.2*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.7**	**2.6**	*3.2*	*3.9*	*5.6*	*3.5*	*3.3*	*3.8*	*5.4*	**14.5**	*15.3*	*16.0*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**122.9**	*102.9*	*150.9*	*118.6*	*130.3*	*111.7*	*151.9*	*119.8*	**436.5**	*495.3*	*513.7*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.1**	**7.1**	*7.0*	*7.0*	*7.3*	*7.3*	*7.1*	*6.9*	*7.1*	**26.3**	*28.4*	*28.4*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.7*
Other Industrial	**7.1**	**5.6**	**5.9**	**6.9**	**6.9**	*6.8*	*6.8*	*7.1*	*7.1*	*6.9*	*6.8*	*6.9*	**25.5**	*27.6*	*27.7*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	**132.6**	*113.2*	*161.8*	*131.5*	*141.1*	*122.1*	*162.7*	*132.3*	**477.3**	*539.0*	*558.2*
Discrepancy (c)	**6.7**	**2.9**	**-1.3**	**-4.6**	**2.8**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**3.8**	*2.8*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	**28.1**	*26.0*	*23.4*	*24.1*	*24.8*	*25.4*	*25.8*	*29.5*	**28.5**	*24.1*	*29.5*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**138.5**	**125.2**	*137.2*	*118.7*	*120.7*	*103.5*	*107.3*	*84.5*	*81.8*	**138.5**	*120.7*	*81.8*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**119.7**	*131.4*	*112.8*	*115.0*	*97.9*	*101.5*	*78.6*	*76.1*	**132.7**	*115.0*	*76.1*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**3.5**	**3.8**	*3.7*	*3.8*	*3.6*	*3.9*	*3.9*	*3.9*	*3.7*	**3.5**	*3.6*	*3.7*
Coke Plants	**2.1**	**2.0**	**2.0**	**2.1**	**1.5**	*1.9*	*2.0*	*1.9*	*1.5*	*1.8*	*1.9*	*1.9*	**2.1**	*1.9*	*1.9*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.1*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	*6.32*	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.245**	*0.252*	*0.269*	*0.306*	*0.295*	*0.264*	*0.259*	*0.267*	**0.216**	*0.268*	*0.271*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.91**	**1.92**	*1.95*	*1.93*	*1.90*	*1.92*	*1.93*	*1.92*	*1.89*	**1.92**	*1.92*	*1.92*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**978**	*971*	*1,140*	*970*	*990*	*983*	*1,155*	*981*	**4,009**	*4,059*	*4,110*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**939**	*932*	*1,101*	*932*	*951*	*944*	*1,113*	*941*	**3,853**	*3,904*	*3,949*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**35**	*35*	*36*	*36*	*36*	*36*	*38*	*37*	**143**	*141*	*147*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**10**	**11**	**15**	**11**	**12**	*13*	*15*	*11*	*12*	*12*	*14*	*11*	**47**	*51*	*50*
Total Supply	**976**	**944**	**1,163**	**973**	**990**	*983*	*1,155*	*981*	*1,002*	*996*	*1,170*	*992*	**4,056**	*4,109*	*4,160*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**61**	**47**	*68*	*57*	*54*	*45*	*67*	*58*	*54*	**252**	*226*	*225*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**908**	*881*	*1,063*	*892*	*922*	*894*	*1,075*	*900*	**3,664**	*3,745*	*3,792*
Residential Sector	**340**	**334**	**453**	**334**	**372**	*340*	*445*	*339*	*373*	*345*	*450*	*343*	**1,462**	*1,496*	*1,511*
Commercial Sector	**314**	**293**	**360**	**309**	**303**	*305*	*363*	*314*	*309*	*310*	*369*	*318*	**1,276**	*1,285*	*1,306*
Industrial Sector	**231**	**216**	**242**	**231**	**233**	*235*	*253*	*237*	*238*	*238*	*254*	*238*	**920**	*958*	*968*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**36**	**34**	*34*	*35*	*36*	*35*	*35*	*37*	*37*	**140**	*138*	*143*
Total Consumption	**923**	**877**	**1,092**	**912**	**942**	*915*	*1,098*	*928*	*957*	*929*	*1,112*	*937*	**3,804**	*3,883*	*3,935*
Average residential electricity usage per customer (kWh)	**2,527**	**2,480**	**3,366**	**2,481**	**2,717**	*2,483*	*3,255*	*2,480*	*2,699*	*2,494*	*3,252*	*2,478*	**10,854**	*10,935*	*10,923*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**119.7**	*131.4*	*112.8*	*115.0*	*97.9*	*101.5*	*78.6*	*76.1*	**132.7**	*115.0*	*76.1*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.3**	*8.5*	*8.6*	*9.0*	*8.4*	*8.3*	*8.4*	*8.8*	**8.3**	*9.0*	*8.8*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**16.7**	*16.6*	*16.5*	*16.8*	*16.6*	*16.4*	*16.4*	*16.7*	**16.8**	*16.8*	*16.7*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.91**	**1.92**	*1.95*	*1.93*	*1.90*	*1.92*	*1.93*	*1.92*	*1.89*	**1.92**	*1.92*	*1.92*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**4.01**	*2.93*	*3.09*	*3.31*	*3.69*	*3.31*	*3.29*	*3.53*	**2.39**	*3.31*	*3.44*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**10.04**	*12.47*	*11.90*	*11.22*	*11.52*	*12.05*	*11.29*	*11.21*	**9.15**	*11.36*	*11.50*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.34**	*14.86*	*14.72*	*14.47*	*14.65*	*14.32*	*14.41*	*14.66*	**10.73**	*14.33*	*14.52*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**12.83**	*13.46*	*13.73*	*13.66*	*13.26*	*13.74*	*13.85*	*13.73*	**13.20**	*13.43*	*13.65*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**10.43**	*10.88*	*11.34*	*10.91*	*10.60*	*10.98*	*11.36*	*10.96*	**10.65**	*10.91*	*10.99*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**6.64**	*6.72*	*7.09*	*6.56*	*6.48*	*6.74*	*7.12*	*6.56*	**6.66**	*6.76*	*6.73*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	*25.91*	*30.08*	*27.97*	*28.02*	*27.17*	*29.43*	*26.72*	**26.99**	*175.07*	*27.83*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	*35.01*	*40.32*	*35.95*	*36.15*	*33.09*	*45.51*	*35.68*	**38.15**	*39.00*	*37.61*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	*28.53*	*31.77*	*38.33*	*46.99*	*29.11*	*31.12*	*33.66*	**26.52**	*38.47*	*35.22*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	*25.86*	*31.04*	*32.14*	*35.18*	*30.05*	*32.55*	*29.96*	**22.85**	*33.44*	*31.94*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	*28.01*	*32.35*	*28.86*	*31.80*	*29.66*	*33.12*	*29.56*	**24.49**	*31.08*	*31.03*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	*28.25*	*30.90*	*28.53*	*30.24*	*30.06*	*32.38*	*29.43*	**25.43**	*33.16*	*30.53*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	*24.65*	*29.94*	*26.30*	*26.73*	*27.19*	*32.55*	*27.32*	**22.55**	*82.80*	*28.45*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	*26.68*	*29.38*	*27.71*	*28.16*	*28.07*	*30.17*	*27.76*	**22.62**	*31.22*	*28.54*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	*26.04*	*27.70*	*28.61*	*28.21*	*27.50*	*28.84*	*28.73*	**23.48**	*27.52*	*28.32*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	*25.18*	*26.46*	*27.55*	*26.61*	*23.01*	*30.46*	*27.20*	**25.46**	*28.44*	*26.82*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	*28.99*	*30.12*	*29.05*	*29.51*	*26.41*	*33.52*	*29.04*	**39.64**	*32.47*	*29.62*

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**12.8**	*10.9*	*13.7*	*11.2*	*13.1*	*11.2*	*13.6*	*11.1*	**48.2**	*48.6*	*48.9*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**35.7**	*30.3*	*40.5*	*31.4*	*36.1*	*30.8*	*40.5*	*31.4*	**137.1**	*137.9*	*138.7*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**49.5**	*43.7*	*54.9*	*44.7*	*50.4*	*44.5*	*55.1*	*44.9*	**190.0**	*192.8*	*194.9*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.1**	*24.2*	*30.7*	*25.9*	*31.8*	*26.5*	*32.6*	*27.0*	**105.8**	*109.9*	*117.9*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**93.9**	*88.0*	*113.1*	*85.4*	*93.5*	*89.4*	*113.8*	*86.3*	**370.6**	*380.4*	*382.9*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.1**	*26.8*	*38.1*	*27.3*	*33.1*	*27.5*	*38.4*	*27.5*	**118.8**	*125.3*	*126.5*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**55.5**	*55.2*	*77.5*	*50.3*	*53.2*	*54.8*	*78.7*	*51.3*	**226.5**	*238.5*	*237.9*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.5**	*25.9*	*34.3*	*24.0*	*23.4*	*25.9*	*34.7*	*24.4*	**108.4**	*107.7*	*108.5*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**37.3**	*33.4*	*41.3*	*37.7*	*37.7*	*33.5*	*41.4*	*37.8*	**151.5**	*149.6*	*150.4*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.2**	*1.1*	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**371.6**	*339.6*	*445.2*	*339.2*	*373.5*	*345.1*	*450.0*	*342.8*	**1,462.0**	*1,495.6*	*1,511.4*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.9**	*10.7*	*12.8*	*11.5*	*12.0*	*10.7*	*12.9*	*11.5*	**47.5**	*46.9*	*47.1*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.2**	*33.6*	*38.8*	*34.2*	*35.5*	*34.6*	*39.8*	*35.0*	**138.9**	*140.8*	*144.9*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.4**	*40.6*	*47.8*	*42.1*	*42.6*	*41.5*	*48.8*	*42.9*	**169.7**	*172.0*	*175.8*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**23.9**	*22.0*	*26.8*	*23.8*	*24.6*	*22.6*	*27.6*	*24.4*	**96.0**	*96.5*	*99.2*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.4**	*73.4*	*87.1*	*73.4*	*72.2*	*74.8*	*88.4*	*74.4*	**300.2**	*304.4*	*309.8*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.4**	*20.3*	*25.9*	*20.7*	*20.7*	*20.5*	*26.1*	*20.9*	**85.8**	*87.3*	*88.2*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.8**	*45.9*	*56.5*	*47.0*	*43.4*	*46.5*	*57.5*	*47.8*	**189.4**	*192.2*	*195.1*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	*23.0*	*27.2*	*23.1*	*22.5*	*23.5*	*27.8*	*23.6*	**94.7**	*95.3*	*97.4*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**34.3**	*33.9*	*39.0*	*36.7*	*34.1*	*33.7*	*38.7*	*36.3*	**148.3**	*143.9*	*142.9*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	*1.4*	*1.5*	*1.5*	*1.4*	*1.4*	*1.4*	*1.4*	**5.2**	*5.6*	*5.6*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**302.6**	*304.7*	*363.4*	*314.0*	*309.0*	*309.8*	*369.1*	*318.2*	**1,275.7**	*1,284.8*	*1,306.1*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.7**	*3.6*	*4.0*	*3.7*	*3.7*	*3.6*	*3.9*	*3.6*	**14.8**	*15.1*	*14.8*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**18.1**	*17.7*	*19.2*	*17.9*	*18.4*	*17.8*	*19.4*	*18.0*	**70.4**	*72.9*	*73.6*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.4**	*41.8*	*47.3*	*43.8*	*45.6*	*42.1*	*47.3*	*43.6*	**168.7**	*177.2*	*178.6*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**22.8**	*23.4*	*24.9*	*23.0*	*23.8*	*23.9*	*25.2*	*23.3*	**87.3**	*94.1*	*96.1*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.0**	*33.6*	*35.7*	*34.2*	*33.3*	*33.6*	*35.6*	*34.0*	**131.7**	*136.6*	*136.5*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.5**	*23.9*	*24.7*	*23.5*	*24.1*	*24.0*	*24.7*	*23.5*	**91.1**	*95.6*	*96.2*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**48.1**	*48.8*	*50.3*	*50.4*	*49.9*	*49.9*	*51.3*	*51.3*	**188.1**	*197.6*	*202.3*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.4**	*21.3*	*23.4*	*20.3*	*19.8*	*21.7*	*23.7*	*20.6*	**82.9**	*84.4*	*85.9*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.6**	*20.3*	*22.4*	*19.0*	*18.4*	*20.1*	*22.1*	*18.7*	**80.1**	*80.3*	*79.3*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.5*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**232.6**	*235.4*	*253.1*	*237.1*	*238.2*	*237.8*	*254.3*	*237.8*	**919.5**	*958.3*	*968.1*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	*25.4*	*30.7*	*26.5*	*28.8*	*25.6*	*30.5*	*26.3*	**111.0**	*111.0*	*111.3*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**88.9**	*82.3*	*99.3*	*84.3*	*90.9*	*84.0*	*100.4*	*85.1*	**349.7**	*354.8*	*360.4*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**135.4**	*126.2*	*150.1*	*130.8*	*138.9*	*128.2*	*151.3*	*131.5*	**528.8**	*542.5*	*549.9*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**75.9**	*69.6*	*82.4*	*72.7*	*80.2*	*73.0*	*85.5*	*74.6*	**289.2**	*300.5*	*313.3*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**197.5**	*195.3*	*236.2*	*193.4*	*199.3*	*198.0*	*238.1*	*194.9*	**803.7**	*822.4*	*830.4*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**77.0**	*71.0*	*88.6*	*71.6*	*77.8*	*72.0*	*89.2*	*71.9*	**295.7**	*308.2*	*310.9*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**146.5**	*149.9*	*184.3*	*147.8*	*146.4*	*151.2*	*187.5*	*150.4*	**604.2**	*628.5*	*635.6*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	*70.3*	*84.9*	*67.5*	*65.8*	*71.2*	*86.3*	*68.6*	**286.2**	*287.5*	*291.8*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**90.3**	*87.8*	*102.9*	*93.5*	*90.5*	*87.4*	*102.4*	*93.0*	**380.6**	*374.6*	*373.3*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	*3.6*	*3.8*	*4.0*	*3.7*	*3.6*	*3.8*	*3.9*	**14.6**	*15.0*	*15.1*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**908.5**	*881.3*	*1,063.3*	*891.9*	*922.3*	*894.3*	*1,075.0*	*900.4*	**3,663.7**	*3,745.1*	*3,791.9*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.36**	*21.64*	*21.92*	*22.26*	*23.18*	*23.49*	*23.62*	*23.67*	**21.20**	*21.79*	*23.48*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.63**	*16.40*	*16.83*	*16.58*	*16.00*	*16.59*	*16.99*	*16.71*	**15.92**	*16.37*	*16.58*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.26**	*14.01*	*13.68*	*14.04*	*13.55*	*14.24*	*13.87*	*14.23*	**13.48**	*13.73*	*13.95*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**11.02**	*13.07*	*13.49*	*11.65*	*10.74*	*12.74*	*13.13*	*11.53*	**11.99**	*12.31*	*12.03*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.52**	*11.80*	*12.27*	*12.18*	*11.98*	*12.16*	*12.53*	*12.24*	**11.88**	*11.96*	*12.25*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.04**	*11.67*	*11.53*	*11.71*	*11.32*	*11.80*	*11.58*	*11.78*	**11.36**	*11.47*	*11.61*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.38**	**10.79**	*11.60*	*11.87*	*12.04*	*11.26*	*11.47*	*11.55*	*11.75*	**11.29**	*11.59*	*11.51*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.48**	*12.21*	*12.38*	*11.81*	*11.65*	*12.30*	*12.41*	*11.84*	**11.88**	*12.02*	*12.09*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.40**	*17.02*	*18.34*	*17.17*	*17.08*	*18.00*	*18.99*	*17.45*	**16.67**	*17.26*	*17.90*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**12.83**	*13.46*	*13.73*	*13.66*	*13.26*	*13.74*	*13.85*	*13.73*	**13.20**	*13.43*	*13.65*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.03**	*15.85*	*16.59*	*16.43*	*16.85*	*16.57*	*17.16*	*16.85*	**15.90**	*16.24*	*16.87*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.40**	**12.05**	*12.93*	*13.65*	*12.84*	*12.30*	*13.11*	*13.69*	*12.86*	**12.47**	*12.89*	*13.01*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.11**	*10.63*	*10.51*	*10.60*	*10.28*	*10.70*	*10.58*	*10.68*	**10.19**	*10.47*	*10.56*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.11**	**9.27**	*10.73*	*11.12*	*9.50*	*9.06*	*10.35*	*10.68*	*9.32*	**9.66**	*10.17*	*9.87*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.07**	*9.01*	*9.30*	*9.54*	*9.34*	*9.11*	*9.29*	*9.50*	**9.13**	*9.24*	*9.31*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.77**	*10.95*	*10.89*	*11.00*	*10.97*	*11.06*	*10.98*	*11.11*	**10.70**	*10.90*	*11.03*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**8.06**	*8.28*	*8.29*	*7.92*	*7.94*	*8.34*	*8.41*	*8.13*	**7.90**	*8.15*	*8.22*
Mountain	**9.00**	**9.82**	**10.09**	**9.30**	**9.06**	*9.97*	*10.30*	*9.37*	*9.04*	*9.89*	*10.18*	*9.34*	**9.58**	*9.71*	*9.65*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**13.99**	*15.26*	*17.91*	*15.48*	*14.32*	*15.59*	*18.11*	*15.74*	**15.18**	*15.73*	*16.01*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**10.43**	*10.88*	*11.34*	*10.91*	*10.60*	*10.98*	*11.36*	*10.96*	**10.65**	*10.91*	*10.99*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.00**	**12.79**	*12.60*	*12.77*	*12.33*	*13.11*	*12.82*	*12.93*	*12.46*	**12.23**	*12.63*	*12.83*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.29**	**6.44**	*6.36*	*6.35*	*6.20*	*6.24*	*6.26*	*6.22*	*6.06*	**6.35**	*6.34*	*6.20*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.71**	*6.91*	*6.83*	*6.71*	*6.68*	*6.99*	*6.90*	*6.78*	**6.66**	*6.79*	*6.83*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**7.07**	*7.34*	*7.97*	*6.73*	*7.03*	*7.48*	*8.13*	*6.86*	**7.20**	*7.30*	*7.39*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.06**	*6.30*	*6.60*	*6.15*	*6.04*	*6.32*	*6.62*	*6.14*	**6.17**	*6.28*	*6.29*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.62**	*5.63*	*5.77*	*5.54*	*5.52*	*5.64*	*5.76*	*5.53*	**5.54**	*5.64*	*5.61*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**5.64**	*4.84*	*5.05*	*4.91*	*4.94*	*4.74*	*4.94*	*4.80*	**5.07**	*5.10*	*4.85*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**5.98**	*6.37*	*6.87*	*5.96*	*6.00*	*6.39*	*6.92*	*6.00*	**6.21**	*6.32*	*6.35*
Pacific	**8.97**	**10.33**	**12.38**	**10.94**	**9.62**	*10.86*	*12.57*	*11.24*	*9.87*	*11.18*	*13.00*	*11.59*	**10.71**	*11.14*	*11.48*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**6.64**	*6.72*	*7.09*	*6.56*	*6.48*	*6.74*	*7.12*	*6.56*	**6.66**	*6.76*	*6.73*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.43**	**17.97**	*17.84*	*18.44*	*18.28*	*19.21*	*19.03*	*19.47*	*19.08*	**17.72**	*18.15*	*19.21*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.43**	**12.34**	*12.80*	*13.53*	*12.82*	*12.54*	*12.93*	*13.58*	*12.84*	**12.58**	*12.89*	*12.99*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.14**	*10.56*	*10.51*	*10.47*	*10.28*	*10.71*	*10.62*	*10.59*	**10.24**	*10.42*	*10.55*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.28**	*10.41*	*11.06*	*9.39*	*9.12*	*10.28*	*10.86*	*9.35*	**9.77**	*10.05*	*9.92*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.73**	*9.80*	*10.31*	*10.10*	*10.03*	*10.02*	*10.44*	*10.13*	**9.92**	*10.00*	*10.17*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.31**	*9.44*	*9.74*	*9.47*	*9.44*	*9.53*	*9.79*	*9.54*	**9.38**	*9.50*	*9.59*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.13**	**8.30**	*8.38*	*8.91*	*8.30*	*8.12*	*8.29*	*8.78*	*8.23*	**8.29**	*8.50*	*8.38*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.02**	*9.70*	*10.19*	*9.21*	*9.05*	*9.70*	*10.18*	*9.23*	**9.48**	*9.58*	*9.59*
Pacific	**13.41**	**14.30**	**16.41**	**14.93**	**14.08**	*14.90*	*16.90*	*15.28*	*14.55*	*15.48*	*17.35*	*15.59*	**14.82**	*15.35*	*15.79*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.56**	**10.44**	*10.77*	*11.33*	*10.80*	*10.61*	*10.92*	*11.40*	*10.85*	**10.67**	*10.85*	*10.96*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**325.1**	*333.8*	*429.3*	*322.1*	*312.7*	*311.6*	*431.3*	*322.8*	**1,512.2**	*1,410.3*	*1,378.3*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**215.1**	*179.3*	*269.5*	*211.6*	*230.0*	*193.8*	*270.9*	*211.3*	**768.2**	*875.5*	*905.9*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**199.2**	*188.5*	*205.4*	*188.2*	*189.0*	*185.3*	*197.0*	*184.6*	**789.9**	*781.2*	*755.9*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**195.0**	*226.2*	*192.4*	*203.8*	*213.8*	*248.9*	*209.8*	*215.8*	**760.6**	*817.5*	*888.3*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.8**	*76.3*	*64.0*	*58.3*	*69.4*	*81.3*	*65.4*	*59.2*	**289.9**	*268.3*	*275.3*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**90.6**	*102.7*	*80.3*	*109.5*	*103.3*	*109.1*	*85.9*	*115.3*	**336.7**	*383.1*	*413.7*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.5**	*35.2*	*36.5*	*24.6*	*28.5*	*45.5*	*46.3*	*29.6*	**90.1**	*117.7*	*149.8*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**9.0**	*7.8*	*7.5*	*7.3*	*8.3*	*8.8*	*7.8*	*7.5*	**27.5**	*31.6*	*32.5*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**4.1**	*4.2*	*4.2*	*4.2*	*4.3*	*4.3*	*4.3*	*4.2*	**16.5**	*16.7*	*17.0*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.2**	*-1.2*	*-2.1*	*-1.1*	*-0.9*	*-1.3*	*-2.2*	*-1.1*	**-5.3**	*-5.6*	*-5.4*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**3.6**	*3.8*	*4.0*	*4.2*	*3.6*	*4.1*	*4.3*	*4.3*	**16.5**	*15.5*	*16.3*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.8**	*0.3*	*0.7*	*0.9*	*0.9*	*0.3*	*0.7*	*0.9*	**3.1**	*2.7*	*2.7*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.8**	*1.8*	*1.7*	*1.8*	*1.8*	*1.8*	*1.7*	*1.9*	**7.5**	*7.1*	*7.1*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**939.4**	*932.4*	*1,100.8*	*931.6*	*950.8*	*944.5*	*1,113.4*	*940.5*	**3,852.8**	*3,904.2*	*3,949.3*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**10.9**	*9.8*	*16.5*	*12.1*	*10.9*	*11.9*	*17.6*	*11.9*	**47.7**	*49.3*	*52.3*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	*0.0*	*0.0*	*0.1*	*0.5*	*0.0*	*0.0*	*0.1*	**0.2**	*0.6*	*0.6*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.2**	*7.1*	*7.2*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.1*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**2.0**	*2.3*	*1.3*	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*7.3*	*7.4*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**3.2**	*3.1*	*2.6*	*3.2*	*3.4*	*3.3*	*2.8*	*3.3*	**10.3**	*12.1*	*12.8*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.5**	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.4**	*1.6*	*1.6*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.3**	*22.6*	*27.9*	*23.2*	*24.2*	*24.1*	*29.3*	*24.8*	**92.9**	*98.0*	*102.3*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.1**	*26.9*	*31.8*	*28.2*	*29.8*	*27.1*	*32.0*	*28.4*	**113.0**	*116.0*	*117.4*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**13.3**	*16.1*	*20.7*	*13.5*	*17.4*	*15.9*	*21.8*	*15.4*	**57.1**	*63.6*	*70.5*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.4**	*7.5*	*7.1*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*30.8*	*27.2*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.7**	*7.5*	*7.4*	*7.4*	*7.2*	*7.1*	*7.1*	*7.2*	**31.4**	*30.0*	*28.5*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**2.2**	*2.2*	*1.8*	*2.2*	*2.3*	*2.4*	*2.1*	*2.7*	**7.6**	*8.3*	*9.5*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.3**	*0.2*	*0.1*	*0.1*	*0.3*	*0.1*	*0.1*	*0.1*	**0.6**	*0.7*	*0.7*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**33.0**	*33.4*	*37.1*	*30.0*	*33.7*	*32.5*	*37.8*	*32.4*	**135.4**	*133.5*	*136.4*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.3**	*35.2*	*42.4*	*36.2*	*37.3*	*36.0*	*43.1*	*36.7*	**145.3**	*150.3*	*153.2*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**73.2**	*78.5*	*89.3*	*69.0*	*74.0*	*77.4*	*95.0*	*76.7*	**315.8**	*309.9*	*323.0*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**44.5**	*33.7*	*50.0*	*47.2*	*53.2*	*40.2*	*50.7*	*42.0*	**148.3**	*175.4*	*186.2*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.2**	*65.9*	*72.5*	*62.4*	*59.1*	*59.3*	*62.9*	*57.8*	**275.7**	*268.9*	*239.1*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	*2.7*	*1.6*	*2.1*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*9.1*	*9.1*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.5**	*12.2*	*8.9*	*12.2*	*12.3*	*13.1*	*9.5*	*12.9*	**39.1**	*44.7*	*47.8*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**0.5**	*0.2*	*0.1*	*0.8*	*0.7*	*0.4*	*0.3*	*1.0*	**2.2**	*1.7*	*2.3*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**200.5**	*193.2*	*222.4*	*193.6*	*201.8*	*193.0*	*220.1*	*192.5*	**791.1**	*809.8*	*807.4*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.1**	**190.3**	*172.3*	*205.4*	*181.0*	*196.2*	*176.0*	*208.2*	*183.1*	**732.4**	*748.9*	*763.4*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**63.0**	*58.7*	*70.7*	*59.1*	*60.9*	*55.8*	*69.0*	*54.2*	**254.2**	*251.5*	*239.9*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**31.1**	*28.9*	*49.8*	*32.1*	*37.8*	*32.8*	*52.3*	*36.9*	**118.3**	*142.0*	*159.8*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**54.2**	*52.3*	*55.4*	*53.6*	*54.1*	*55.2*	*58.4*	*55.7*	**210.1**	*215.4*	*223.4*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.2**	*7.3*	*6.6*	*7.8*	*10.1*	*7.6*	*6.7*	*7.8*	**38.7**	*30.9*	*32.2*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.4**	*5.9*	*6.0*	*4.5*	*4.9*	*7.3*	*7.8*	*5.4*	**17.4**	*20.7*	*25.4*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**-0.1**	*-0.3*	*-0.6*	*-0.2*	*-0.1*	*-0.4*	*-0.8*	*-0.2*	**-1.1**	*-1.3*	*-1.5*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.8**	*152.7*	*187.8*	*156.9*	*167.8*	*158.2*	*193.4*	*159.8*	**637.6**	*659.2*	*679.2*
Net energy for load (f)	**157.5**	**152.6**	**186.1**	**153.6**	**159.9**	*158.8*	*188.6*	*157.5*	*164.4*	*160.6*	*190.4*	*158.9*	**649.8**	*664.8*	*674.3*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**32.9**	*40.8*	*45.8*	*35.7*	*33.1*	*40.5*	*45.3*	*35.5*	**179.5**	*155.2*	*154.5*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.4**	*7.1*	*6.2*	*5.1*	*4.0*	*7.0*	*6.6*	*5.0*	**15.9**	*22.9*	*22.6*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.9**	*7.1*	*7.9*	*6.9*	*7.9*	*7.3*	*8.1*	*7.2*	**29.4**	*29.7*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.8**	*3.5*	*3.0*	*2.6*	*3.2*	*4.7*	*3.4*	*2.7*	**8.4**	*11.9*	*14.0*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.9**	*0.7*	*0.8*	*0.6*	*0.8*	*0.7*	*0.8*	*0.6*	**3.3**	*3.0*	*3.0*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**48.9**	*59.3*	*63.8*	*50.9*	*49.0*	*60.3*	*64.2*	*51.1*	**236.7**	*222.9*	*224.6*
Net energy for load (f)	**50.1**	**54.3**	**71.9**	**56.4**	**49.0**	*57.6*	*66.6*	*52.2*	*48.3*	*58.6*	*67.2*	*52.7*	**232.7**	*225.3*	*226.8*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**33.4**	*39.0*	*45.3*	*34.8*	*34.0*	*37.5*	*50.8*	*38.3*	**178.3**	*152.4*	*160.6*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**66.0**	*51.5*	*78.5*	*61.9*	*69.2*	*53.3*	*75.1*	*59.0*	**218.4**	*258.0*	*256.6*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	*21.9*	*24.8*	*24.2*	*23.9*	*22.3*	*23.5*	*22.7*	**95.1**	*94.4*	*92.4*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**3.0**	*3.1*	*2.4*	*2.2*	*2.4*	*2.8*	*2.3*	*2.2*	**11.8**	*10.7*	*9.8*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**22.4**	*24.5*	*19.1*	*27.6*	*24.0*	*25.8*	*20.4*	*28.5*	**81.3**	*93.6*	*98.7*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**0.8**	*1.2*	*0.9*	*1.4*	*1.0*	*1.4*	*1.1*	*1.4*	**5.2**	*4.3*	*4.9*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**149.1**	*141.2*	*171.1*	*152.0*	*154.6*	*143.0*	*173.2*	*152.1*	**590.0**	*613.4*	*622.9*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**156.2**	*153.0*	*178.0*	*156.1*	*159.4*	*154.7*	*180.0*	*157.6*	**618.8**	*643.3*	*651.8*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**13.8**	*11.9*	*21.2*	*12.7*	*13.6*	*12.2*	*22.0*	*12.9*	**71.6**	*59.6*	*60.7*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**22.7**	*15.3*	*26.3*	*18.1*	*23.4*	*16.8*	*27.7*	*20.3*	**79.2**	*82.5*	*88.1*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.2**	*3.2*	*4.4*	*4.4*	*4.3*	*4.4*	*4.1*	*2.7*	**16.8**	*16.2*	*15.4*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	*5.1*	*4.3*	*3.3*	*3.6*	*4.3*	*4.0*	*3.2*	**21.8**	*18.0*	*15.0*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**21.6**	*26.2*	*20.7*	*26.5*	*24.4*	*28.2*	*22.9*	*28.5*	**80.6**	*95.0*	*104.0*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.5**	*0.4*	*0.5*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**67.7**	*61.8*	*77.1*	*65.2*	*69.4*	*66.0*	*80.7*	*67.6*	**270.5**	*271.7*	*283.7*
Net energy for load (f)	**62.8**	**63.7**	**74.8**	**60.9**	**63.0**	*60.5*	*74.4*	*60.6*	*65.1*	*64.1*	*77.8*	*62.7*	**262.2**	*258.4*	*269.7*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**35.4**	*34.3*	*47.1*	*27.1*	*24.8*	*26.3*	*41.1*	*23.4*	**174.6**	*143.9*	*115.5*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.2**	*18.2*	*22.9*	*17.4*	*14.9*	*18.3*	*22.9*	*17.3*	**67.2**	*74.6*	*73.4*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	*10.2*	*10.3*	*9.6*	*10.7*	*10.0*	*10.6*	*10.3*	**41.4**	*40.6*	*41.6*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.7*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**22.8**	*31.2*	*28.6*	*30.6*	*31.2*	*37.7*	*34.4*	*33.7*	**92.6**	*113.3*	*137.0*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.4**	*0.3*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	**1.5**	*1.5*	*1.4*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	*94.4*	*109.5*	*85.2*	*82.1*	*92.9*	*109.5*	*85.1*	**378.4**	*374.7*	*369.6*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	*94.4*	*109.5*	*85.2*	*82.1*	*92.9*	*109.5*	*85.1*	**378.4**	*374.7*	*369.6*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**22.4**	*18.8*	*28.6*	*22.5*	*18.4*	*12.7*	*25.6*	*20.5*	**89.6**	*92.2*	*77.3*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**21.8**	*17.4*	*25.5*	*21.8*	*20.3*	*18.4*	*26.3*	*23.4*	**86.1**	*86.5*	*88.3*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.6*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.1**	*37.9*	*30.5*	*27.8*	*34.1*	*42.6*	*31.5*	*28.2*	**136.0**	*130.2*	*136.5*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.7**	*16.5*	*14.5*	*17.1*	*17.7*	*18.2*	*15.9*	*18.3*	**55.6**	*63.8*	*70.2*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.1**	*0.2*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.6**	*0.6*	*0.5*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**96.5**	*91.8*	*101.7*	*91.9*	*93.0*	*94.6*	*101.9*	*93.0*	**377.4**	*381.9*	*382.5*
Net energy for load (f)	**91.0**	**82.1**	**92.5**	**87.7**	**89.3**	*84.8*	*94.6*	*89.4*	*88.9*	*85.1*	*95.1*	*89.8*	**353.4**	*358.1*	*358.9*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**10.6**	*13.2*	*20.0*	*14.4*	*9.2*	*9.1*	*19.6*	*12.7*	**61.7**	*58.2*	*50.6*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**6.1**	*5.3*	*7.5*	*5.5*	*5.2*	*5.2*	*6.7*	*4.9*	**25.9**	*24.4*	*22.0*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.6**	*7.6*	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.7*	**31.6**	*32.4*	*32.2*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.7**	*3.9*	*3.8*	*2.6*	*2.9*	*4.0*	*3.9*	*2.6*	**12.8**	*13.0*	*13.5*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.2**	*4.0*	*3.2*	*3.4*	*4.6*	*4.8*	*4.1*	*4.1*	**10.5**	*13.8*	*17.6*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**31.1**	*34.1*	*43.4*	*33.5*	*30.2*	*30.8*	*43.1*	*32.0*	**142.7**	*142.0*	*136.1*
Net energy for load (f)	**19.7**	**23.9**	**32.5**	**21.1**	**19.3**	*24.2*	*31.4*	*20.8*	*19.1*	*24.2*	*31.6*	*20.9*	**97.1**	*95.8*	*95.9*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**15.8**	*12.0*	*23.5*	*20.5*	*15.6*	*11.6*	*22.8*	*20.7*	**79.9**	*71.8*	*70.8*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.4**	*1.4*	*2.1*	*1.9*	*1.2*	*1.3*	*2.1*	*1.9*	**6.7**	*6.9*	*6.6*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**3.0**	*4.7*	*4.7*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*17.0*	*16.8*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.4**	*6.0*	*5.5*	*2.7*	*3.8*	*7.2*	*6.4*	*3.4*	**16.8**	*16.6*	*20.9*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.1**	*20.2*	*19.4*	*15.3*	*16.1*	*21.5*	*20.5*	*16.1*	**65.8**	*70.1*	*74.2*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**-0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	**0.2**	*0.2*	*0.5*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**37.6**	*44.5*	*55.3*	*45.2*	*41.4*	*45.6*	*56.5*	*46.3*	**185.8**	*182.6*	*189.8*
Net energy for load (f)	**57.6**	**60.5**	**75.9**	**61.4**	**56.6**	*61.3*	*74.3*	*60.4*	*56.5*	*61.6*	*74.7*	*60.6*	**255.3**	*252.6*	*253.4*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.036**	*0.038*	*0.038*	*0.037*	*0.038*	*0.038*	*0.038*	*0.037*	**0.147**	*0.149*	*0.152*
Hydroelectric Power (a)	**0.667**	**0.724**	**0.629**	**0.561**	**0.691**	*0.694*	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.581**	*2.543*	*2.538*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.196**	*0.320*	*0.332*	*0.224*	*0.259*	*0.414*	*0.421*	*0.269*	**0.820**	*1.072*	*1.364*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.069**	*0.063*	*0.061*	*0.061*	*0.066*	*0.065*	*0.063*	*0.063*	**0.238**	*0.254*	*0.257*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.070**	*0.057*	*0.056*	*0.052*	*0.062*	*0.071*	*0.058*	*0.054*	**0.185**	*0.234*	*0.245*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.825**	*0.935*	*0.731*	*0.997*	*0.940*	*0.993*	*0.782*	*1.050*	**3.065**	*3.487*	*3.766*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.887**	*2.106*	*1.816*	*1.930*	*2.057*	*2.276*	*1.960*	*2.029*	**7.037**	*7.739*	*8.322*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.172**	*0.182*	*0.191*	*0.190*	*0.184*	*0.189*	*0.192*	*0.194*	**0.698**	*0.735*	*0.759*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.003**	*0.003*	*0.002*	*0.002*	*0.003*	*0.003*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.040**	*0.039*	*0.038*	*0.040*	*0.040*	*0.039*	*0.038*	*0.040*	**0.156**	*0.157*	*0.156*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.341**	*0.341*	*0.355*	*0.358*	*0.349*	*0.346*	*0.358*	*0.360*	**1.376**	*1.394*	*1.412*
Subtotal	**0.594**	**0.520**	**0.558**	**0.588**	**0.561**	*0.570*	*0.591*	*0.596*	*0.581*	*0.582*	*0.595*	*0.602*	**2.261**	*2.317*	*2.359*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.030**	*0.044*	*0.044*	*0.031*	*0.035*	*0.051*	*0.051*	*0.035*	**0.123**	*0.149*	*0.173*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.071**	*0.085*	*0.087*	*0.073*	*0.077*	*0.093*	*0.094*	*0.078*	**0.290**	*0.316*	*0.341*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.069**	*0.104*	*0.105*	*0.072*	*0.078*	*0.119*	*0.120*	*0.082*	**0.291**	*0.351*	*0.399*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.114**	*0.114*	*0.115*	*0.115*	*0.114*	*0.114*	*0.115*	*0.115*	**0.458**	*0.458*	*0.458*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.192**	*0.228*	*0.230*	*0.197*	*0.202*	*0.242*	*0.244*	*0.207*	**0.788**	*0.848*	*0.896*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.067**	*0.074*	*0.073*	*0.079*	*0.081*	*0.084*	*0.089*	*0.092*	**0.275**	*0.293*	*0.346*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.258**	**0.249**	*0.268*	*0.280*	*0.275*	*0.258*	*0.282*	*0.283*	*0.282*	**1.002**	*1.072*	*1.105*
Subtotal	**0.318**	**0.284**	**0.340**	**0.334**	**0.316**	*0.342*	*0.354*	*0.354*	*0.339*	*0.366*	*0.372*	*0.374*	**1.277**	*1.365*	*1.451*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.067**	*0.074*	*0.073*	*0.079*	*0.081*	*0.084*	*0.089*	*0.092*	**0.275**	*0.293*	*0.346*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.172**	*0.182*	*0.191*	*0.190*	*0.184*	*0.189*	*0.192*	*0.194*	**0.698**	*0.735*	*0.759*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.268**	**0.259**	*0.278*	*0.291*	*0.285*	*0.268*	*0.293*	*0.294*	*0.293*	**1.041**	*1.113*	*1.147*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.053**	*0.055*	*0.054*	*0.054*	*0.055*	*0.055*	*0.055*	*0.054*	**0.214**	*0.216*	*0.219*
Hydroelectric Power (a)	**0.670**	**0.727**	**0.631**	**0.563**	**0.694**	*0.697*	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.592**	*2.554*	*2.549*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.302**	*0.479*	*0.493*	*0.335*	*0.381*	*0.596*	*0.604*	*0.395*	**1.246**	*1.608*	*1.977*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.119**	*0.110*	*0.107*	*0.110*	*0.115*	*0.113*	*0.110*	*0.111*	**0.430**	*0.446*	*0.449*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.545**	*0.531*	*0.546*	*0.546*	*0.545*	*0.551*	*0.552*	*0.549*	**2.101**	*2.168*	*2.197*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.825**	*0.935*	*0.731*	*0.997*	*0.940*	*0.993*	*0.782*	*1.050*	**3.065**	*3.487*	*3.766*
Total Consumption	**2.923**	**2.995**	**2.826**	**2.907**	**3.027**	*3.330*	*3.077*	*3.150*	*3.255*	*3.559*	*3.265*	*3.289*	**11.652**	*12.584*	*13.368*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,616**	**6,611**	**6,575**	**6,574**	**6,572**	*6,430*	*6,430*	*6,474*	*6,477*	*6,478*	*6,478*	*6,478*	**6,574**	*6,474*	*6,478*
Waste	**3,943**	**3,938**	**3,864**	**3,863**	**3,861**	*3,862*	*3,862*	*3,906*	*3,909*	*3,910*	*3,910*	*3,910*	**3,863**	*3,906*	*3,910*
Wood	**2,673**	**2,673**	**2,711**	**2,711**	**2,711**	*2,568*	*2,568*	*2,568*	*2,568*	*2,568*	*2,568*	*2,568*	**2,711**	*2,568*	*2,568*
Conventional Hydroelectric	**79,506**	**79,510**	**79,663**	**79,668**	**79,730**	*79,737*	*79,740*	*79,790*	*79,804*	*79,819*	*79,859*	*79,863*	**79,668**	*79,790*	*79,863*
Geothermal	**2,502**	**2,534**	**2,534**	**2,534**	**2,534**	*2,534*	*2,534*	*2,576*	*2,576*	*2,576*	*2,576*	*2,576*	**2,534**	*2,576*	*2,576*
Large-Scale Solar (b)	**39,082**	**41,311**	**42,957**	**47,457**	**50,346**	*53,209*	*56,650*	*63,306*	*64,846*	*70,140*	*71,943*	*78,194*	**47,457**	*63,306*	*78,194*
Wind	**106,052**	**107,615**	**109,142**	**117,948**	**125,227**	*127,875*	*129,146*	*134,056*	*135,117*	*136,989*	*137,069*	*139,838*	**117,948**	*134,056*	*139,838*
Other Sectors (c)															
Biomass	**6,405**	**6,405**	**6,404**	**6,418**	**6,410**	*6,391*	*6,391*	*6,391*	*6,391*	*6,391*	*6,384*	*6,384*	**6,418**	*6,391*	*6,384*
Waste	**788**	**788**	**787**	**801**	**801**	*803*	*803*	*803*	*803*	*803*	*803*	*803*	**801**	*803*	*803*
Wood	**5,616**	**5,616**	**5,616**	**5,616**	**5,609**	*5,589*	*5,589*	*5,589*	*5,589*	*5,589*	*5,581*	*5,581*	**5,616**	*5,589*	*5,581*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	*289*	*287*	*287*	*287*	*287*	*287*	*287*	**289**	*287*	*287*
Large-Scale Solar (b)	**436**	**448**	**453**	**460**	**475**	*479*	*494*	*512*	*514*	*514*	*514*	*514*	**460**	*512*	*514*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**29,111**	*30,418*	*31,689*	*32,942*	*34,205*	*35,411*	*36,620*	*37,870*	**27,724**	*32,942*	*37,870*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,110**	*18,938*	*19,743*	*20,524*	*21,335*	*22,111*	*22,917*	*23,752*	**17,238**	*20,524*	*23,752*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,895**	*9,310*	*9,711*	*10,119*	*10,508*	*10,875*	*11,218*	*11,572*	**8,430**	*10,119*	*11,572*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,106**	*2,171*	*2,235*	*2,300*	*2,363*	*2,425*	*2,485*	*2,546*	**2,056**	*2,300*	*2,546*
Wind	**113**	**339**	**348**	**348**	**348**	*348*	*348*	*598*	*598*	*598*	*598*	*598*	**348**	*598*	*598*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**9.0**	*7.8*	*7.5*	*7.3*	*8.3*	*8.8*	*7.8*	*7.5*	**27.5**	*31.6*	*32.5*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.7**	*4.3*	*4.1*	*4.1*	*4.4*	*4.4*	*4.3*	*4.2*	**16.1**	*17.2*	*17.3*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**4.3**	*3.5*	*3.4*	*3.2*	*3.8*	*4.4*	*3.6*	*3.3*	**11.4**	*14.5*	*15.1*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.8**	*76.3*	*64.0*	*58.3*	*69.4*	*81.3*	*65.4*	*59.2*	**289.9**	*268.3*	*275.3*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**4.1**	*4.2*	*4.2*	*4.2*	*4.3*	*4.3*	*4.3*	*4.2*	**16.5**	*16.7*	*17.0*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.5**	*35.2*	*36.5*	*24.6*	*28.5*	*45.5*	*46.3*	*29.6*	**90.1**	*117.7*	*149.8*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**90.6**	*102.7*	*80.3*	*109.5*	*103.3*	*109.1*	*85.9*	*115.3*	**336.7**	*383.1*	*413.7*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.2**	*7.1*	*7.0*	*7.1*	*7.2*	*7.1*	*7.0*	*7.1*	**28.6**	*28.4*	*28.4*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.5**	*6.4*	*6.4*	*6.4*	*6.5*	*6.4*	*6.4*	*6.4*	**25.8**	*25.7*	*25.7*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.8*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**10.0**	*15.0*	*15.2*	*10.5*	*11.8*	*17.5*	*17.6*	*12.1*	**41.7**	*50.7*	*58.9*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**6.1**	*9.2*	*9.3*	*6.4*	*7.1*	*10.8*	*10.8*	*7.5*	**25.4**	*31.1*	*36.2*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	*4.6*	*4.7*	*3.2*	*3.7*	*5.4*	*5.4*	*3.7*	**12.9**	*15.7*	*18.3*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	*1.2*	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	*0.2*	*0.2*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	**0.8**	*1.0*	*1.5*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,784**	**18,998**	*19,321*	*19,645*	*19,883*	*20,076*	*20,228*	*20,355*	*20,471*	**18,423**	*19,462*	*20,283*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,925**	**13,000**	**13,170**	*13,349*	*13,569*	*13,772*	*13,932*	*14,082*	*14,193*	*14,304*	**12,726**	*13,465*	*14,128*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,315**	**3,463**	**3,548**	*3,597*	*3,643*	*3,669*	*3,688*	*3,704*	*3,723*	*3,741*	**3,312**	*3,614*	*3,714*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-1**	**46**	**7**	*50*	*142*	*185*	*192*	*180*	*163*	*143*	**-76**	*96*	*170*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,318**	**3,387**	*3,445*	*3,446*	*3,440*	*3,446*	*3,426*	*3,426*	*3,420*	**3,340**	*3,430*	*3,429*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,167**	**2,276**	**2,312**	*2,358*	*2,403*	*2,459*	*2,508*	*2,548*	*2,582*	*2,614*	**2,216**	*2,383*	*2,563*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,399**	**3,492**	*3,571*	*3,641*	*3,724*	*3,770*	*3,789*	*3,807*	*3,827*	**3,143**	*3,607*	*3,798*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,437**	**16,641**	*17,254*	*15,691*	*15,544*	*15,722*	*15,839*	*15,956*	*16,042*	**15,745**	*16,282*	*15,890*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.1**	*145.0*	*146.5*	*147.8*	*149.1*	*150.2*	*151.2*	*152.0*	**142.3**	*145.6*	*150.6*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	*5.7*	*5.3*	*4.9*	*4.5*	*4.2*	*3.9*	*3.7*	**8.1**	*5.5*	*4.1*
Housing Starts															
(millions - SAAR)	**1.48**	**1.08**	**1.43**	**1.58**	**1.54**	*1.61*	*1.54*	*1.48*	*1.43*	*1.39*	*1.36*	*1.32*	**1.40**	*1.54*	*1.38*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**107.7**	**93.7**	**102.5**	**104.8**	**106.5**	*108.7*	*110.7*	*112.2*	*113.4*	*114.4*	*115.0*	*115.4*	**102.2**	*109.5*	*114.6*
Manufacturing	**104.4**	**89.3**	**100.1**	**103.0**	**104.4**	*107.0*	*109.0*	*110.4*	*111.4*	*112.2*	*112.7*	*113.0*	**99.2**	*107.7*	*112.3*
Food	**116.5**	**107.9**	**113.6**	**116.0**	**118.2**	*119.9*	*120.1*	*120.1*	*120.2*	*120.5*	*120.8*	*121.2*	**113.5**	*119.6*	*120.7*
Paper	**94.7**	**87.2**	**87.0**	**91.8**	**92.4**	*93.9*	*95.0*	*95.6*	*96.0*	*96.5*	*96.7*	*96.8*	**90.2**	*94.2*	*96.5*
Petroleum and Coal Products	**105.0**	**82.7**	**89.9**	**93.2**	**94.0**	*95.8*	*97.3*	*98.1*	*98.7*	*99.2*	*99.3*	*99.2*	**92.7**	*96.3*	*99.1*
Chemicals	**99.8**	**93.7**	**96.4**	**99.6**	**100.1**	*108.9*	*113.4*	*115.1*	*115.6*	*115.8*	*115.9*	*116.2*	**97.4**	*109.4*	*115.9*
Nonmetallic Mineral Products	**122.2**	**106.3**	**113.7**	**117.8**	**117.7**	*120.9*	*122.4*	*123.0*	*123.0*	*122.8*	*122.5*	*122.2*	**115.0**	*121.0*	*122.6*
Primary Metals	**94.4**	**69.6**	**79.3**	**87.7**	**90.9**	*93.7*	*95.1*	*94.9*	*95.0*	*95.5*	*95.1*	*94.5*	**82.7**	*93.7*	*95.0*
Coal-weighted Manufacturing (a)	**106.5**	**94.1**	**100.9**	**105.2**	**104.9**	*108.5*	*110.1*	*110.9*	*111.5*	*112.1*	*112.3*	*112.5*	**101.7**	*108.6*	*112.1*
Distillate-weighted Manufacturing (a)	**98.8**	**85.6**	**92.5**	**95.9**	**97.3**	*99.6*	*100.9*	*101.4*	*101.7*	*101.9*	*101.8*	*101.5*	**93.2**	*99.8*	*101.7*
Electricity-weighted Manufacturing (a)	**105.1**	**89.4**	**98.4**	**103.0**	**103.5**	*107.1*	*108.6*	*109.2*	*109.8*	*110.5*	*110.6*	*110.6*	**99.0**	*107.1*	*110.4*
Natural Gas-weighted Manufacturing (a)	**107.8**	**94.0**	**100.3**	**105.3**	**104.2**	*108.8*	*110.4*	*111.0*	*111.7*	*112.5*	*112.7*	*112.8*	**101.9**	*108.6*	*112.4*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	*2.65*	*2.65*	*2.66*	*2.67*	*2.68*	*2.70*	*2.71*	**2.59**	*2.65*	*2.69*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.98**	**2.06**	*2.08*	*2.08*	*2.07*	*2.08*	*2.09*	*2.09*	*2.09*	**1.94**	*2.07*	*2.09*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.50**	**1.85**	*2.02*	*1.95*	*1.84*	*1.84*	*1.87*	*1.88*	*1.85*	**1.43**	*1.92*	*1.86*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.3**	*115.8*	*116.4*	*117.0*	*117.4*	*118.1*	*118.8*	*119.5*	**113.6**	*116.1*	*118.4*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,760**	**6,881**	**8,263**	**8,006**	**7,633**	*8,592*	*8,801*	*8,749*	*8,112*	*9,117*	*9,118*	*8,902*	**7,730**	*8,448*	*8,815*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**628**	**362**	**475**	**533**	**603**	*580*	*609*	*651*	*648*	*706*	*723*	*695*	**500**	*611*	*693*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**238**	**285**	*304*	*354*	*382*	*404*	*451*	*459*	*436*	**231**	*331*	*437*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**195.0**	*183.5*	*173.7*	*183.9*	*187.8*	*204.5*	*209.2*	*226.9*	**217.5**	*184.1*	*207.1*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.245**	*0.252*	*0.269*	*0.306*	*0.295*	*0.264*	*0.259*	*0.267*	**0.216**	*0.268*	*0.271*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**552**	**442**	**518**	**521**	**516**	*540*	*559*	*565*	*549*	*568*	*581*	*580*	**2,033**	*2,180*	*2,279*
Natural Gas	**490**	**349**	**383**	**429**	**486**	*354*	*367*	*434*	*484*	*346*	*366*	*429*	**1,651**	*1,641*	*1,624*
Coal	**202**	**178**	**272**	**225**	**242**	*207*	*296*	*243*	*258*	*224*	*298*	*244*	**876**	*988*	*1,024*
Total Energy (c)	**1,247**	**971**	**1,175**	**1,178**	**1,246**	*1,104*	*1,224*	*1,245*	*1,294*	*1,141*	*1,247*	*1,256*	**4,571**	*4,820*	*4,938*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2009)															
New England	**993**	**901**	**969**	**977**	**987**	*1,003*	*1,019*	*1,030*	*1,040*	*1,047*	*1,054*	*1,059*	**960**	*1,010*	*1,050*
Middle Atlantic	**2,774**	**2,486**	**2,669**	**2,707**	**2,734**	*2,788*	*2,835*	*2,878*	*2,913*	*2,940*	*2,963*	*2,981*	**2,659**	*2,809*	*2,949*
E. N. Central	**2,502**	**2,266**	**2,458**	**2,475**	**2,498**	*2,541*	*2,580*	*2,609*	*2,628*	*2,645*	*2,658*	*2,668*	**2,425**	*2,557*	*2,650*
W. N. Central	**1,188**	**1,084**	**1,168**	**1,175**	**1,185**	*1,202*	*1,221*	*1,233*	*1,243*	*1,252*	*1,259*	*1,264*	**1,154**	*1,210*	*1,254*
S. Atlantic	**3,388**	**3,114**	**3,337**	**3,367**	**3,404**	*3,458*	*3,513*	*3,551*	*3,584*	*3,608*	*3,628*	*3,649*	**3,301**	*3,481*	*3,617*
E. S. Central	**828**	**742**	**809**	**816**	**827**	*840*	*853*	*862*	*869*	*875*	*879*	*883*	**799**	*845*	*876*
W. S. Central	**2,317**	**2,125**	**2,267**	**2,300**	**2,331**	*2,370*	*2,412*	*2,441*	*2,464*	*2,483*	*2,501*	*2,518*	**2,252**	*2,388*	*2,492*
Mountain	**1,283**	**1,177**	**1,265**	**1,278**	**1,293**	*1,314*	*1,336*	*1,351*	*1,364*	*1,372*	*1,380*	*1,388*	**1,251**	*1,323*	*1,376*
Pacific	**3,769**	**3,436**	**3,684**	**3,722**	**3,770**	*3,838*	*3,909*	*3,961*	*4,005*	*4,040*	*4,068*	*4,096*	**3,653**	*3,870*	*4,052*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**97.6**	**83.5**	**92.7**	**96.0**	**97.3**	*99.9*	*101.9*	*103.1*	*103.7*	*104.4*	*104.6*	*104.8*	**92.5**	*100.5*	*104.4*
Middle Atlantic	**97.1**	**80.3**	**91.2**	**93.4**	**94.6**	*97.0*	*99.0*	*100.6*	*101.7*	*102.9*	*103.4*	*103.9*	**90.5**	*97.8*	*103.0*
E. N. Central	**105.1**	**86.1**	**99.5**	**102.2**	**103.5**	*106.4*	*108.3*	*109.9*	*111.0*	*111.9*	*112.4*	*112.8*	**98.2**	*107.0*	*112.0*
W. N. Central	**103.7**	**90.3**	**100.7**	**103.5**	**104.9**	*107.4*	*109.1*	*110.5*	*111.3*	*111.9*	*112.4*	*112.7*	**99.5**	*108.0*	*112.1*
S. Atlantic	**109.2**	**94.4**	**105.2**	**108.7**	**110.3**	*112.8*	*115.0*	*116.5*	*117.5*	*118.4*	*118.7*	*118.9*	**104.4**	*113.6*	*118.4*
E. S. Central	**109.0**	**90.1**	**104.4**	**107.8**	**109.5**	*112.0*	*113.9*	*115.2*	*115.7*	*116.6*	*117.0*	*117.1*	**102.8**	*112.6*	*116.6*
W. S. Central	**99.8**	**87.8**	**95.7**	**98.4**	**99.8**	*102.1*	*104.2*	*105.7*	*106.9*	*108.0*	*108.5*	*108.9*	**95.4**	*103.0*	*108.1*
Mountain	**114.7**	**102.7**	**114.2**	**117.9**	**119.4**	*122.2*	*124.2*	*125.4*	*126.3*	*126.9*	*127.2*	*127.4*	**112.4**	*122.8*	*127.0*
Pacific	**102.4**	**86.8**	**95.7**	**97.7**	**98.8**	*101.2*	*103.4*	*104.8*	*106.1*	*107.3*	*107.9*	*108.5*	**95.6**	*102.0*	*107.4*
Real Personal Income (Billion $2009)															
New England	**890**	**978**	**934**	**901**	**961**	*996*	*914*	*907*	*918*	*926*	*932*	*937*	**926**	*945*	*928*
Middle Atlantic	**2,305**	**2,509**	**2,418**	**2,338**	**2,493**	*2,589*	*2,361*	*2,345*	*2,376*	*2,397*	*2,416*	*2,428*	**2,392**	*2,447*	*2,404*
E. N. Central	**2,453**	**2,695**	**2,569**	**2,499**	**2,680**	*2,796*	*2,540*	*2,515*	*2,540*	*2,559*	*2,576*	*2,588*	**2,554**	*2,633*	*2,566*
W. N. Central	**1,158**	**1,259**	**1,186**	**1,174**	**1,247**	*1,289*	*1,193*	*1,183*	*1,193*	*1,200*	*1,208*	*1,213*	**1,194**	*1,228*	*1,204*
S. Atlantic	**3,272**	**3,511**	**3,406**	**3,345**	**3,575**	*3,698*	*3,416*	*3,393*	*3,429*	*3,453*	*3,479*	*3,500*	**3,383**	*3,520*	*3,465*
E. S. Central	**909**	**989**	**934**	**921**	**994**	*1,036*	*947*	*938*	*947*	*953*	*959*	*963*	**938**	*979*	*955*
W. S. Central	**2,037**	**2,201**	**2,109**	**2,071**	**2,214**	*2,291*	*2,113*	*2,099*	*2,127*	*2,145*	*2,163*	*2,179*	**2,104**	*2,179*	*2,153*
Mountain	**1,216**	**1,322**	**1,263**	**1,238**	**1,321**	*1,370*	*1,263*	*1,254*	*1,268*	*1,277*	*1,287*	*1,295*	**1,260**	*1,302*	*1,282*
Pacific	**2,833**	**3,042**	**2,979**	**2,931**	**3,119**	*3,179*	*2,951*	*2,930*	*2,966*	*2,992*	*3,018*	*3,038*	**2,946**	*3,045*	*3,004*
Households (Thousands)															
New England	**5,896**	**5,877**	**5,900**	**5,924**	**5,938**	*5,952*	*5,964*	*5,973*	*5,984*	*5,995*	*6,006*	*6,016*	**5,924**	*5,973*	*6,016*
Middle Atlantic	**16,161**	**16,102**	**16,164**	**16,234**	**16,278**	*16,318*	*16,347*	*16,368*	*16,395*	*16,423*	*16,449*	*16,477*	**16,234**	*16,368*	*16,477*
E. N. Central	**18,864**	**18,814**	**18,901**	**18,988**	**19,045**	*19,102*	*19,147*	*19,184*	*19,224*	*19,253*	*19,281*	*19,312*	**18,988**	*19,184*	*19,312*
W. N. Central	**8,646**	**8,631**	**8,677**	**8,732**	**8,766**	*8,798*	*8,822*	*8,843*	*8,864*	*8,888*	*8,910*	*8,929*	**8,732**	*8,843*	*8,929*
S. Atlantic	**25,669**	**25,649**	**25,815**	**26,000**	**26,131**	*26,252*	*26,355*	*26,448*	*26,543*	*26,643*	*26,736*	*26,825*	**26,000**	*26,448*	*26,825*
E. S. Central	**7,659**	**7,647**	**7,689**	**7,738**	**7,769**	*7,798*	*7,821*	*7,841*	*7,861*	*7,883*	*7,903*	*7,921*	**7,738**	*7,841*	*7,921*
W. S. Central	**14,887**	**14,880**	**14,981**	**15,097**	**15,177**	*15,251*	*15,316*	*15,372*	*15,432*	*15,493*	*15,553*	*15,609*	**15,097**	*15,372*	*15,609*
Mountain	**9,464**	**9,470**	**9,544**	**9,628**	**9,690**	*9,749*	*9,801*	*9,849*	*9,897*	*9,943*	*9,987*	*10,026*	**9,628**	*9,849*	*10,026*
Pacific	**18,779**	**18,739**	**18,838**	**18,950**	**19,017**	*19,076*	*19,124*	*19,164*	*19,211*	*19,256*	*19,304*	*19,344*	**18,950**	*19,164*	*19,344*
Total Non-farm Employment (Millions)															
New England	**7.5**	**6.4**	**6.8**	**6.9**	**6.9**	*7.0*	*7.1*	*7.2*	*7.3*	*7.3*	*7.4*	*7.4*	**6.9**	*7.1*	*7.4*
Middle Atlantic	**20.1**	**16.8**	**18.0**	**18.3**	**18.3**	*18.6*	*18.9*	*19.1*	*19.3*	*19.6*	*19.7*	*19.9*	**18.3**	*18.7*	*19.6*
E. N. Central	**22.3**	**19.3**	**20.6**	**20.8**	**20.8**	*21.1*	*21.3*	*21.5*	*21.7*	*21.9*	*22.0*	*22.1*	**20.7**	*21.2*	*21.9*
W. N. Central	**10.8**	**9.8**	**10.2**	**10.3**	**10.3**	*10.4*	*10.5*	*10.5*	*10.6*	*10.7*	*10.7*	*10.8*	**10.3**	*10.4*	*10.7*
S. Atlantic	**29.4**	**26.4**	**27.6**	**28.0**	**28.2**	*28.5*	*28.8*	*29.0*	*29.2*	*29.4*	*29.5*	*29.7*	**27.8**	*28.6*	*29.4*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	**8.1**	*8.2*	*8.2*	*8.2*	*8.3*	*8.3*	*8.3*	*8.4*	**8.0**	*8.2*	*8.3*
W. S. Central	**17.9**	**16.4**	**16.9**	**17.2**	**17.3**	*17.5*	*17.7*	*17.8*	*17.9*	*18.0*	*18.1*	*18.2*	**17.1**	*17.6*	*18.1*
Mountain	**11.2**	**10.2**	**10.6**	**10.8**	**10.8**	*10.9*	*11.0*	*11.1*	*11.2*	*11.3*	*11.3*	*11.4*	**10.7**	*11.0*	*11.3*
Pacific	**24.0**	**20.9**	**21.8**	**22.1**	**22.2**	*22.6*	*22.9*	*23.1*	*23.4*	*23.6*	*23.8*	*24.0*	**22.2**	*22.7*	*23.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,732**	**973**	**115**	**1,996**	**2,997**	*841*	*126*	*2,100*	*3,076*	*859*	*126*	*2,100*	**5,815**	*6,063*	*6,160*
Middle Atlantic	**2,472**	**837**	**85**	**1,835**	**2,820**	*662*	*77*	*1,927*	*2,873*	*686*	*77*	*1,927*	**5,229**	*5,486*	*5,563*
E. N. Central	**2,787**	**847**	**125**	**2,099**	**3,084**	*685*	*109*	*2,232*	*3,151*	*729*	*109*	*2,232*	**5,858**	*6,110*	*6,221*
W. N. Central	**3,038**	**799**	**167**	**2,314**	**3,215**	*645*	*143*	*2,433*	*3,247*	*706*	*143*	*2,433*	**6,318**	*6,435*	*6,529*
South Atlantic	**1,107**	**251**	**17**	**874**	**1,348**	*181*	*10*	*913*	*1,370*	*189*	*10*	*911*	**2,249**	*2,452*	*2,481*
E. S. Central	**1,482**	**338**	**20**	**1,228**	**1,783**	*228*	*16*	*1,262*	*1,812*	*246*	*16*	*1,262*	**3,068**	*3,289*	*3,337*
W. S. Central	**968**	**102**	**8**	**736**	**1,282**	*66*	*4*	*764*	*1,147*	*81*	*4*	*763*	**1,814**	*2,116*	*1,996*
Mountain	**2,207**	**671**	**126**	**1,768**	**2,292**	*635*	*138*	*1,818*	*2,188*	*680*	*138*	*1,817*	**4,771**	*4,884*	*4,824*
Pacific	**1,540**	**525**	**65**	**1,085**	**1,530**	*582*	*89*	*1,209*	*1,524*	*594*	*90*	*1,210*	**3,214**	*3,411*	*3,417*
U.S. Average	**1,874**	**540**	**70**	**1,418**	**2,091**	*460*	*69*	*1,496*	*2,091*	*483*	*69*	*1,494*	**3,902**	*4,116*	*4,137*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**823**	**105**	**2,128**	**3,133**	*856*	*107*	*2,099*	*3,099*	*859*	*112*	*2,121*	**6,207**	*6,195*	*6,190*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,913**	*677*	*72*	*1,912*	*2,887*	*684*	*73*	*1,929*	**5,606**	*5,573*	*5,574*
E. N. Central	**3,197**	**698**	**102**	**2,197**	**3,157**	*731*	*104*	*2,170*	*3,133*	*725*	*101*	*2,196*	**6,194**	*6,162*	*6,155*
W. N. Central	**3,287**	**702**	**132**	**2,379**	**3,247**	*728*	*133*	*2,367*	*3,217*	*718*	*130*	*2,397*	**6,500**	*6,475*	*6,462*
South Atlantic	**1,459**	**169**	**10**	**952**	**1,393**	*180*	*11*	*914*	*1,378*	*184*	*11*	*915*	**2,589**	*2,498*	*2,487*
E. S. Central	**1,850**	**214**	**15**	**1,277**	**1,772**	*232*	*16*	*1,249*	*1,763*	*235*	*14*	*1,251*	**3,356**	*3,268*	*3,263*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	*86*	*3*	*786*	*1,143*	*88*	*3*	*781*	**2,078**	*2,015*	*2,015*
Mountain	**2,192**	**718**	**135**	**1,844**	**2,181**	*701*	*134*	*1,843*	*2,172*	*679*	*134*	*1,828*	**4,889**	*4,858*	*4,814*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	*553*	*81*	*1,147*	*1,452*	*532*	*80*	*1,137*	**3,284**	*3,243*	*3,202*
U.S. Average	**2,149**	**472**	**64**	**1,509**	**2,108**	*482*	*65*	*1,484*	*2,090*	*476*	*64*	*1,488*	**4,194**	*4,138*	*4,119*
Cooling Degree Days															
New England	**0**	**102**	**543**	**0**	**0**	*89*	*421*	*2*	*0*	*82*	*421*	*2*	**645**	*513*	*506*
Middle Atlantic	**0**	**156**	**680**	**4**	**0**	*161*	*556*	*5*	*0*	*152*	*556*	*5*	**841**	*723*	*714*
E. N. Central	**2**	**217**	**610**	**2**	**0**	*234*	*567*	*7*	*0*	*215*	*567*	*7*	**831**	*808*	*790*
W. N. Central	**6**	**295**	**662**	**3**	**0**	*290*	*711*	*11*	*3*	*263*	*711*	*11*	**967**	*1,013*	*988*
South Atlantic	**197**	**620**	**1,234**	**302**	**150**	*663*	*1,184*	*249*	*133*	*665*	*1,185*	*249*	**2,352**	*2,246*	*2,232*
E. S. Central	**72**	**422**	**1,059**	**79**	**21**	*534*	*1,086*	*75*	*28*	*515*	*1,086*	*74*	**1,632**	*1,715*	*1,704*
W. S. Central	**175**	**843**	**1,501**	**210**	**81**	*926*	*1,533*	*215*	*89*	*870*	*1,533*	*215*	**2,730**	*2,755*	*2,707*
Mountain	**10**	**468**	**1,085**	**117**	**14**	*450*	*948*	*79*	*20*	*434*	*949*	*79*	**1,680**	*1,491*	*1,482*
Pacific	**24**	**197**	**721**	**127**	**25**	*167*	*579*	*59*	*27*	*165*	*579*	*59*	**1,069**	*830*	*829*
U.S. Average	**71**	**397**	**937**	**122**	**47**	*419*	*876*	*100*	*46*	*404*	*877*	*100*	**1,526**	*1,441*	*1,428*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	*80*	*474*	*1*	*0*	*82*	*468*	*1*	**554**	*555*	*551*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	*163*	*609*	*6*	*0*	*160*	*601*	*7*	**785**	*779*	*767*
E. N. Central	**3**	**240**	**579**	**8**	**3**	*234*	*572*	*7*	*3*	*236*	*565*	*7*	**829**	*816*	*811*
W. N. Central	**7**	**296**	**696**	**11**	**7**	*294*	*686*	*10*	*7*	*297*	*678*	*10*	**1,010**	*998*	*992*
South Atlantic	**127**	**696**	**1,202**	**247**	**143**	*680*	*1,196*	*261*	*147*	*673*	*1,191*	*266*	**2,272**	*2,280*	*2,278*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	*532*	*1,064*	*74*	*42*	*528*	*1,064*	*78*	**1,747**	*1,713*	*1,711*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	*881*	*1,567*	*210*	*112*	*869*	*1,542*	*213*	**2,774**	*2,772*	*2,736*
Mountain	**24**	**432**	**939**	**81**	**24**	*445*	*954*	*86*	*24*	*454*	*949*	*86*	**1,476**	*1,509*	*1,513*
Pacific	**31**	**185**	**624**	**78**	**31**	*193*	*647*	*86*	*31*	*199*	*651*	*85*	**917**	*957*	*966*
U.S. Average	**47**	**420**	**892**	**100**	**52**	*415*	*894*	*105*	*53*	*415*	*889*	*107*	**1,459**	*1,466*	*1,463*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday April 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the April 2021 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Feb-21	Mar-21	Feb 2021 - Mar 2021 Average	Feb 2020 - Mar 2020 Average	2018 - 2020 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	92.0	93.5	92.8	100.4	98.6
Global Petroleum and Other Liquids Consumption (b)	96.0	96.0	96.0	94.5	97.8
Biofuels Production (c)	1.9	2.0	1.9	2.0	2.5
Biofuels Consumption (c)	2.2	2.2	2.2	2.2	2.3
Iran Liquid Fuels Production	3.1	3.1	3.1	3.0	3.5
Iran Liquid Fuels Consumption	1.9	1.9	1.9	2.0	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	87.0	88.3	87.7	95.4	92.6
Consumption (d)	91.9	91.9	91.9	90.3	93.7
Production minus Consumption	-4.9	-3.6	-4.2	5.1	-1.1
World Inventory Net Withdrawals Including Iran	4.0	2.5	3.2	-5.9	-0.8
Estimated OECD Inventory Level (e) (million barrels)	2,951	2,932	2,941	2,918	2,942
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	8.5	8.5	8.5	3.2	3.4

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	February 2021	March 2021	February 2021-March 2021 Average	February 2020-March 2020 Average	2018–2020 Average
Brent Front Month Futures Price ($ per barrel)	62.28	65.70	64.15	42.05	59.69
WTI Front Month Futures Price ($ per barrel)	59.06	62.36	60.87	50.54	53.76
Dubai Front Month Futures Price ($ per barrel)	61.11	64.39	62.91	43.32	59.01
Brent 1st - 13th Month Futures Spread ($ per barrel)	5.13	5.23	5.18	20.63	1.01
WTI 1st - 13th Month Futures Spread ($ per barrel)	5.15	5.29	5.23	-0.19	0.57
RBOB Front Month Futures Price ($ per gallon)	1.74	2.01	1.89	1.54	1.61
Heating Oil Front Month Futures Price ($ per gallon)	1.79	1.86	1.82	1.62	1.76
RBOB - Brent Futures Crack Spread ($ per gallon)	0.26	0.44	0.36	0.54	0.19
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.30	0.29	0.30	0.62	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

May 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The May *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. Economic activity has increased significantly after reaching multiyear lows in the second quarter of 2020. The increase in economic activity and easing of COVID-19-related restrictions have contributed to rising energy use. U.S. gross domestic product (GDP) declined by 3.5% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 6.2% in 2021 and by 4.3% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. Our forecast assumes continuing economic growth and increasing mobility with easing COVID-19-related restrictions, and any developments that would cause deviations from these assumptions would likely cause energy consumption and prices to deviate from our forecast.

- We completed modeling and analysis for this report before the temporary closure of the Colonial Pipeline on May 7 as a result of a cyberattack. Although effects of the outage are not reflected in this report, we are closely following supply and price developments related to the outage. Updates related to the outage will be reflected in *Today in Energy*, *This Week in Petroleum*, and the *Weekly Petroleum Status Report* as they become available.

- Brent crude oil spot prices averaged $65 per barrel (b) in April, unchanged from the average in March. Brent prices were steady in April as market participants considered diverging trends in global COVID-19 cases. In some regions, notably the United States, oil demand is rising as both COVID-19 vaccination rates and economic activity increase. In other regions, notably India, oil demand is declining because of a sharp rise in COVID-19 cases. EIA forecasts that Brent prices will average $65/b in the second quarter of 2021, $61/b during the second half of 2021, and $61/b in 2022.

- We estimate that the world consumed 96.2 million barrels per day (b/d) of petroleum and liquid fuels in April, an increase of 15.8 million b/d from April 2020 but 4.0 million b/d less than April 2019 levels. We forecast that global consumption of petroleum and liquid fuels will average 97.7 million b/d for all of 2021, which is a 5.4 million b/d increase from 2020. We forecast that consumption of petroleum and liquid fuels will increase by 3.7 million b/d in 2022 to average 101.4 million b/d.

- We expect that gasoline consumption in the United States will average almost 9.0 million b/d this summer (April–September), which is 1.2 million b/d more than last summer but almost 0.6 million b/d less than summer 2019. We increased our summer gasoline consumption forecast by 0.1 million b/d from last month based on weekly data that suggested more gasoline consumption than we had previously forecast. The increase also reflects IHS Markit's increased employment forecast. For all of 2021, we forecast that U.S. gasoline consumption will average 8.7 million b/d, which is up from 2020 (8.0 million b/d) but down from 2019 (9.3 million b/d).

- According to our most recent data, U.S. crude oil production averaged 9.9 million b/d in February 2021, which was down by 1.2 million b/d from January. In February, cold temperatures caused significant declines in crude oil production in Texas, as well as smaller declines in other states. We estimate that production outages were generally limited to February and that U.S. crude oil production rose to 10.9 million b/d in March and to almost 11.0 million b/d in April. Because the average price of West Texas Intermediate crude oil remains above $55/b in our forecast, we expect producers will drill and complete enough wells in the coming months to offset declines at existing wells. In addition, new projects in the Federal Offshore Gulf of Mexico contribute to rising production in the forecast. U.S. crude oil production in the forecast averages 11.3 million b/d in the fourth quarter of 2021 and then rises to average 11.8 million b/d in 2022.

Natural Gas

- In April, the natural gas spot price at Henry Hub averaged $2.66 per million British thermal units (MMBtu), which is slightly higher than the March average of $2.62/MMBtu. We expect the Henry Hub spot price will average $2.78/MMBtu in the second quarter of 2021 and will average $3.05/MMBtu for all of 2021, which is up from the 2020 average of $2.03/MMBtu. We expect natural gas prices will rise this year, primarily as a result of two factors: growth in liquefied natural gas (LNG) exports and rising domestic natural gas consumption in the residential, commercial, and industrial sectors. In 2022, we expect the Henry Hub price will fall to an average $3.02/MMBtu amid slowing growth in LNG exports and rising production.

- We expect that U.S. consumption of natural gas will average 82.6 billion cubic feet per day (Bcf/d) in 2021, down 0.7% from 2020. U.S. natural gas consumption declines in the forecast, in part, because electric power generators switch to coal from natural as a result of rising natural gas prices. In 2021, we expect residential and commercial natural gas consumption together will rise by 1.0 Bcf/d from 2020 and industrial consumption will rise by 0.8 Bcf/d from 2020. Rising consumption outside of the power sector results from expanding economic activity and colder temperatures in 2021 compared with 2020. We expect U.S. natural gas consumption will average 82.5 Bcf/d in 2022.

- We estimate that natural gas inventories ended April 2021 at almost 2.0 trillion cubic feet (Tcf), which is 3% lower than the five-year (2016–20) average. Natural gas withdrawals from storage during the winter of 2020–21 were higher than the five-year average, largely as a result of the cold February temperatures that contributed to a drop in natural gas production. We forecast that natural gas inventories will end the 2021 injection season (end of October) at more than 3.6 Tcf, which is 3% below the five-year average.

- We forecast that U.S. production of dry natural gas will average 91.1 Bcf/d in 2021, which is down 0.3% from 2020. Dry natural gas production fell by 6.0 Bcf/d in February to 86.3 Bcf/d because of cold weather that largely affected Texas. We estimate production increased to 91.3 Bcf/d in March. We expect relatively flat dry natural gas production in May ahead of production beginning to rise in mid-2021. We forecast dry natural gas production will reach 92.0 Bcf/d in the fourth quarter of 2021 and average 93.1 Bcf/d in 2022. The increase in production reflects sustained higher forecast prices for natural gas and crude oil compared with 2020.

- U.S. LNG exports set an all-time record in March 2021 at 10.5 Bcf/d and averaged 9.2 Bcf/d in April—the most exported LNG for those months since the United States began exporting it in 2016. Throughout 2020 and in January 2021, more than half of U.S. LNG exports went to Asia. However, in February and March 2021, more than half of U.S. LNG exports went to Europe as a result of spot natural gas prices in Europe reaching levels similar to spot natural gas prices in Asia. For May, we forecast a decline in U.S. LNG exports to 8.6 Bcf/d (more than 90% of baseload export capacity utilization) before exports rise above 9.0 Bcf/d in the summer months to meet summer peak demand in Europe and Asia. We expect LNG exports will average 9.2 Bcf/d in both 2021 and 2022, up from 6.5 Bcf/d in 2020. Flat LNG exports in 2022 reflect our expectation that limited new export capacity will come online during the forecast period.

Electricity, coal, renewables, and emissions

- We forecast that electricity consumption in the United States will increase by 2.2% in 2021 after falling 3.9% in 2020. We forecast electricity sales to the industrial sector will grow by 3.3% in 2021. We forecast that retail electricity sales to the residential sector will grow by 2.9% in 2021, which is primarily a result of colder temperatures in the first quarter of 2021 compared with the same period in 2020. We expect retail electricity sales to the commercial sector will increase by 1.4% in 2021. Much of the increased electricity consumption across the sectors reflects improving economic conditions in 2021. For 2022, we forecast that U.S. electricity consumption will grow by another 1.0%.

- We expect the share of electric power generated from natural gas in the United States will average 35% in both 2021 and 2022, down from 39% in 2020. The forecast share for natural gas as a generation fuel declines in response to an 85% increase in the average

delivered natural gas price for electricity generators, from an average $2.39/MMBtu in 2020 to an average $4.41/MMBtu in 2021. As a result of the higher expected natural gas prices, the forecast share of generation from coal rises from 20% in 2020 to 24% this year and to 23% next year. New additions of solar and wind generating capacity contribute to our expectation that the renewables share of U.S. generation will rise from 20% in 2020 to 21% in 2021 and to 22% in 2022. The nuclear share of U.S. generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022 as a result of retiring capacity at some nuclear power plants.

- We forecast that planned additions to U.S. wind and solar generating capacity in 2021 and 2022 will contribute to rising electricity generation from those sources. We estimate that the U.S. electric power sector added 14.8 gigawatts (GW) of new wind capacity in 2020. We expect 15.9 GW of new wind capacity will come online in 2021 and 5.2 GW in 2022. Utility-scale solar capacity rose by an estimated 10.5 GW in 2020. Our forecast for added utility-scale solar capacity is 15.7 GW and 15.9 GW for 2021 and 2022, respectively. We expect significant solar capacity additions in Texas during the forecast period. In addition, about 5 GW of small-scale solar (systems less than 1 megawatt) will come online each year during the 2021–22 STEO forecast.

- We expect U.S. coal production to total 582 million short tons (MMst) in 2021, 43 MMst (8%) more than in 2020. The increase in coal production is primarily driven by rising use of coal for electricity generation in response to rising natural gas prices. Recent strikes in Appalachia metallurgical coal mines likely limited production increases in April, but we do not expect them to significantly affect production through the rest of 2021. In 2022, we expect coal production to grow by an additional 23 MMst (4%).

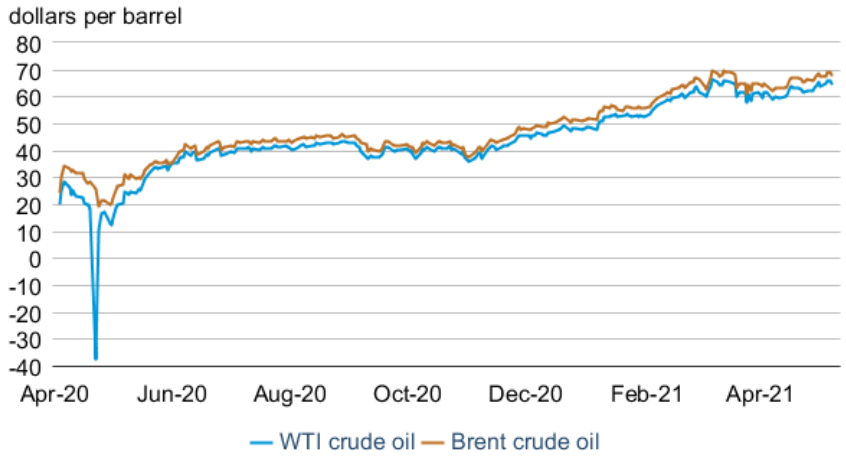
- We estimate that U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption related to reduced economic activity and responses to COVID-19. In 2021, we forecast energy-related CO_2 emissions will increase about 6% from the 2020 level as economic activity increases and leads to rising energy use. We also expect energy-related CO_2 emissions to rise in 2022, but by a slower rate of 2%. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 17% in 2021 and then fall by 1% in 2022.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $68.09 per barrel (b) on May 6, 2021, up $3.23/b from April 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $3.26/b during the same period, settling at $64.71 on May 6 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Sources: CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate.

After approaching a 2021 high in early March of almost $70/b, Brent crude oil prices declined to between $60/b and $65/b in mid-March through the first half of April. However, in the second half of April and into early May, crude oil prices began to rise, likely as a result of crude oil and petroleum product inventory draws and higher expectations for summer gasoline demand, particularly in the United States. The rise in oil prices was likely reinforced by macroeconomic indicators that pointed to continued economic recovery and led to price increases across a broad range of commodities, discussed in detail below. News of rising COVID-19 cases in India offset some of the expectation of rising demand globally, but India's increase in cases has not prevented crude oil prices from rising; they climbed to their monthly highs of $68.56/b for Brent and $65.01/b for WTI as of April 29. Oil market developments during the past month occurred against a backdrop of continuing production restraint from OPEC+, which likely contributed to some upward price pressure. However, we expect OPEC+ to begin increasing production in May, which is consistent with the production targets announced at its early April meeting. OPEC+ plans to revisit its production targets at the next meeting, scheduled for June 1.

In the May STEO, we expect upward pressure on the Brent price to ease and the Brent price to decrease to average $65/b in the second quarter. This decrease comes as OPEC+ crude oil production rises to meet gradually increasing crude oil demand. We expect global consumption

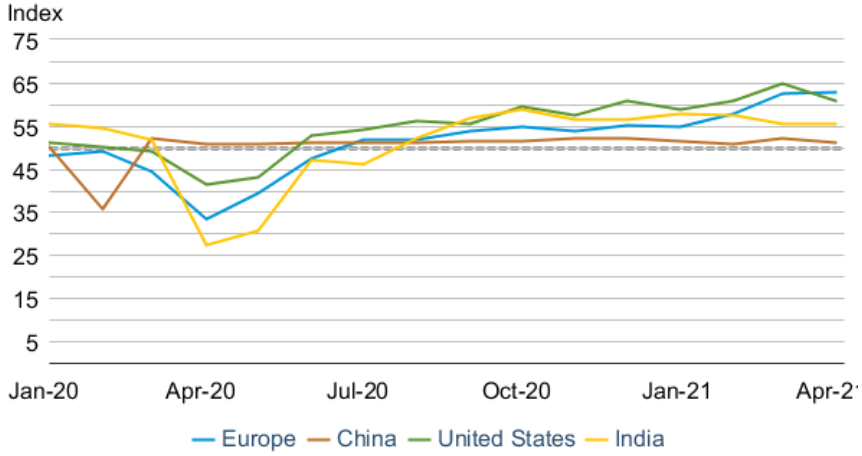
to average almost 97.0 million b/d in the second quarter, a 2.2 million b/d increase from the first quarter, before increasing to 98.9 million b/d in the third quarter and to 100.0 million b/d in the fourth quarter, which is largely unchanged from the April STEO.

Oil demand in Asia presents a downside risk to the forecast. India, the world's third largest consumer of oil, has rising COVID-19 cases. The degree to which the increase in cases will affect oil demand is currently unclear. We reduced oil consumption in India by 0.3 million b/d on average during the second quarter of 2021 from the April STEO. This forecast is highly uncertain, as future case counts and their effect on mobility is unclear.

We expect global oil production to continue to increase in the second half of the year to keep pace with rising demand. Increased production puts downward pressure on crude oil prices: the Brent price falls to $63/b in the third quarter and $60/b in the fourth quarter of 2021.

Commodity prices and manufacturing indexes: Purchasing managers' indexes (PMIs) for regional manufacturing in the United States and Europe remained firmly expansionary in April, suggesting increasing overall economic activity. PMIs are based on surveys sent to managerial staff of industry participants in the relevant country or region, in this case, within manufacturing sector companies. A PMI reading below 50 represents net expectations of a contraction in manufacturing activity, and a rating above 50 represents net expectations of manufacturing expansion. The PMI of the United States (data compiled by the Institute for Supply Management) decreased to 60.7 in April, down from its March high of 64.7, while Europe's PMI (data compiled by IHS Markit) increased to 62.9 in April from 62.5 in March **(Figure 2)**. The March 2021 PMI for the United States and the April 2021 PMI for Europe were the highest PMI index values for their respective regions since the pandemic began in early 2020, reflecting increased expectations for growing manufacturing activity in those regions.

Figure 2. Regional Manufacturing Purchasing Managers' Index (PMI)

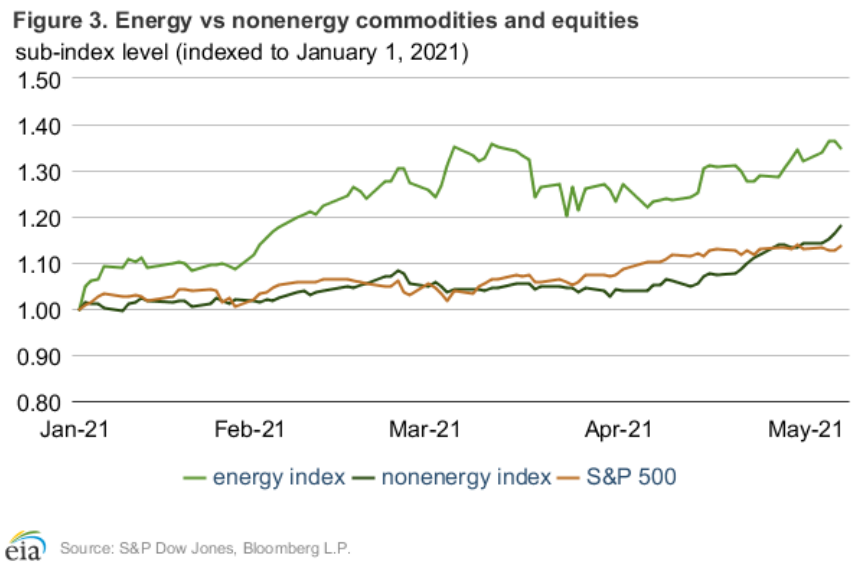


eia Bloomberg L.P., IHS Markit, Institute for Supply Management

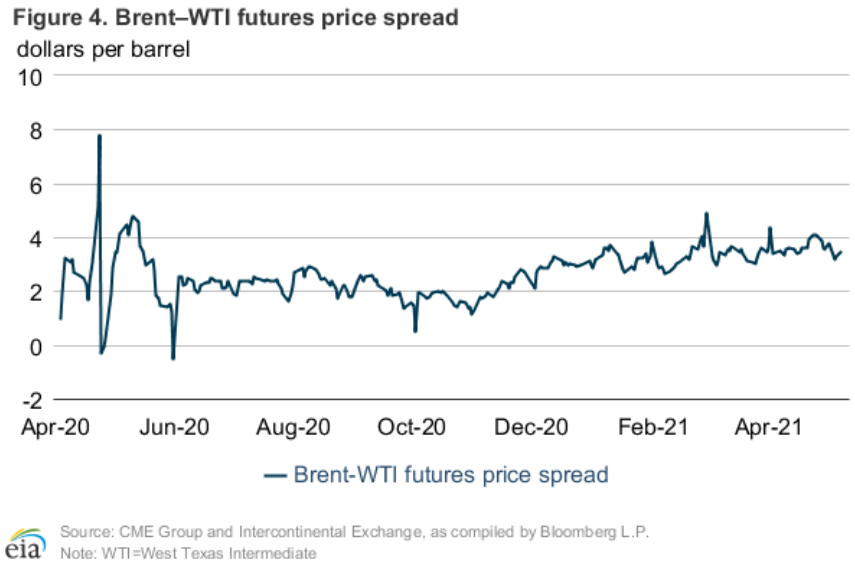
In Europe, the manufacturing PMI was less than 50 from January through June in 2020, and the United States' manufacturing PMI was less than 50 from March through May 2020. At 51.1 in April 2021, China's PMI was less than its November 2020 level (52.1) and was down from its March 2021 value of 51.9. China's PMI has historically trended closer to 50 than other regional PMIs. The increasing PMIs for the United States and Europe in March and April 2021 coincided with rising numbers of vaccinated persons, which has increased the available workforce who can return to work and leisure activities, stimulating demand for goods and services. The rising PMIs lend support to our expectation of rising oil consumption in the coming months.

Similar to higher PMI manufacturing surveys, increases in non-energy commodity prices in April 2021 also suggest increases in economic growth. Commodity prices, including copper, lumber, grains, and agricultural goods, have all increased in response to increasing economic activity. In addition to rising demand, commodity prices are also affected by a lower supply because low demand in 2020 led wholesalers and retailers to adjust inventory levels to changing demand. As demand increases, prices will face upward pressure as long as supply chains are strained to meet higher levels of demand.

The renewed demands and strain on supply chains is also reflected in recent upward pressure on broad commodity price indexes. The S&P GSCI (formerly the Goldman Sachs Commodity Index) is an index of commodity prices, based on weighted indexes for energy, agricultural commodities, livestock, precious metals, and industrial metals. As of May 6, the S&P GSCI non-energy index, increased 18% from January 1, 2021 **(Figure 3)**. The majority of that growth occurred in April, as the sub-index started the month at just 4% above January 1. The upward pressure on non-energy commodities reflects more recent increases in economic activity, even as equities have shown steadier increases since the start of the year. Total returns on the S&P 500 have been showing steady growth since the start of 2021, posting record highs in April 2021. The S&P GSCI energy index has been increasing since mid-April, and during the first week of May, surpassed its previous highs from early March. The S&P GSCI energy index is largely weighted toward crude oil and petroleum products, although it also includes natural gas.



Brent–WTI spread: The difference between Brent and WTI crude oil futures prices has been increasing on a monthly average basis since November 2020. In the past two months, the reduction in and subsequent return of U.S. crude oil production following outages resulting from widespread cold weather in February and lower Brent volumes resulting from production platform maintenance in the North Sea introduced increased volatility into the spread that has been gradually stabilizing at a wider level since March **(Figure 4)**.



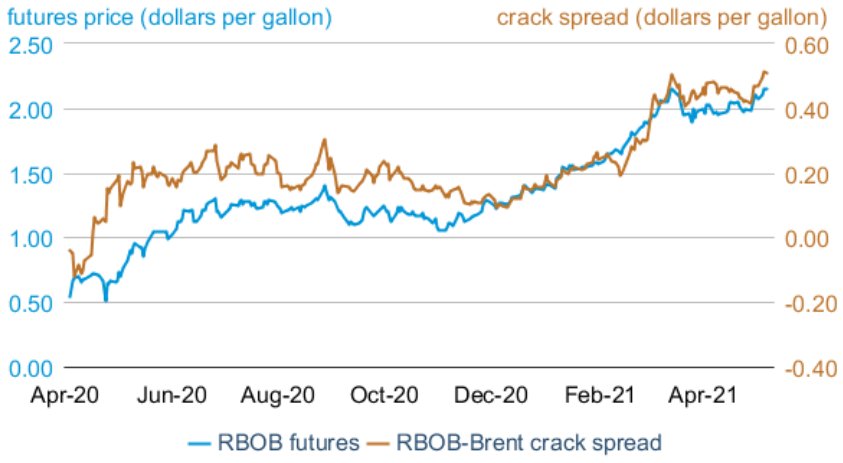
The Brent–WTI spread can reflect a wide range of factors, including the relative supply compared with demand for crude oils in their local markets—the U.S. Gulf Coast and Midwest for WTI and Northwest Europe for Brent. The spread also reflects the relative economics of shipping the two crude oils to refining markets around the world. The spread increased to more than $3/b on a monthly average basis beginning in January 2021. After averaging $3.38/b in

March, the April 2021 average Brent–WTI spread was $3.63/b, a $0.25/b monthly increase. Although the February weather events in U.S. producing regions appear to have increased volatility in the spread, the widening of the spread in March and April reflects both rising U.S. crude oil production and a longer-term widening of the spread since the fourth quarter of 2020. The spread between grades has widened each month, on average, since October 2020, after it narrowed to a monthly average of $1.68/b in October 2020, its lowest point since the pandemic began in early 2020.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.11 per gallon (gal) on May 6, up 9 cents/gal from April 1 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 1 cent/gal to settle at 49 cents/gal during the same period.

Figure 5. Historical RBOB front-month futures prices and crack spreads



Source: CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

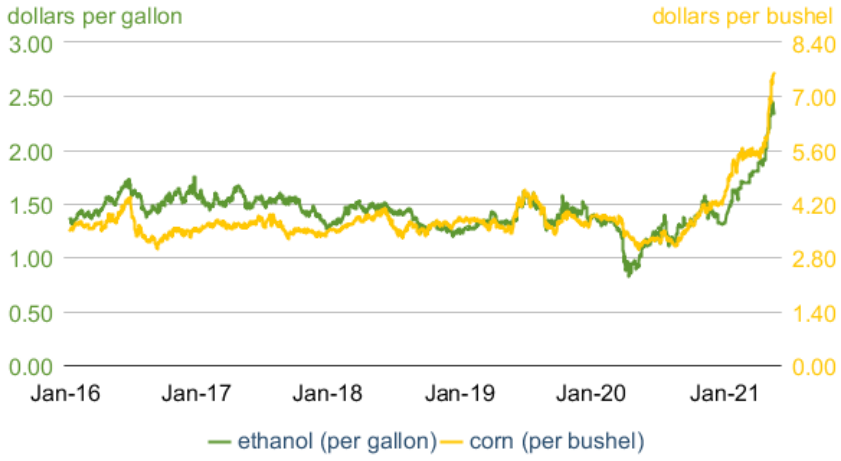
The RBOB–Brent crack spread remains higher than average for this time of year, likely as a result of higher demand expectations, relatively low gasoline stocks, and higher ethanol costs. Gasoline stocks were relatively unchanged in April as the increase in consumption offset increases in production and net imports. We estimate the combined net imports of motor gasoline blending components and finished motor gasoline to be 173,000 b/d, which is higher than the five-year (2016–20) average, and we estimate production of 9.6 million b/d, the most on a monthly basis since February 2020. However, we also estimate that U.S. gasoline consumption increased to 8.8 million b/d in April, a 0.2 million b/d (2.3%) increase from March and the most gasoline consumption since February 2020. April's gasoline stocks ended the month 3% below the month's five-year (2016–20) average. We forecast that gasoline stocks will remain low through the rest of 2021 because of increased driving in upcoming months as a

result of typical summer travel, higher numbers of people who are willing to travel as a result of increasing vaccination rates, and continued increases in employment.

Recently, record-high prices for Renewable Identification Number (RIN) credits have been another contributing factor to higher-than-average RBOB prices. RINs are the compliance mechanisms used for the Renewable Fuel Standard (RFS) program, which the U.S. Environmental Protection Agency (EPA) administers. In recent years, RIN prices have typically been at a level that only minimally affected RBOB prices. In recent months, however, RIN prices have increased sharply, resulting, in part, from uncertainty concerning Renewable Volume Obligations (RVO) for 2021 and increasing ethanol feedstock costs, which have led to higher ethanol prices relative to gasoline. The higher cost of RFS compliance for gasoline producers and importers as a result of higher RIN prices may pass through to affect RBOB prices.

Fuel ethanol and corn prices: The front-month futures price of fuel ethanol closed higher than $2.00/gal on April 14, 2021, for the first time since December 3, 2014. Fuel ethanol prices increased further throughout the remainder of April and settled at $2.34 on May 6, 2021, 23 cents/gal higher than the front-month RBOB contract **(Figure 6)**.

Figure 6. Corn and fuel ethanol futures prices



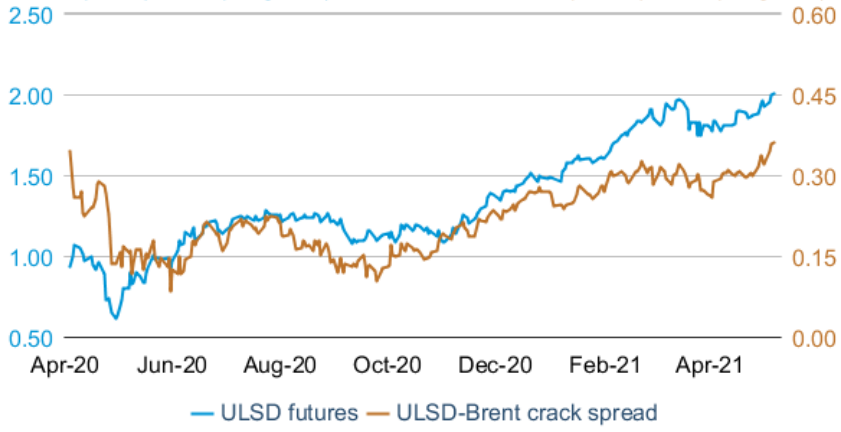
Source: CME Group, as compiled by Bloomberg L.P.
Note: About 2.8 bushels of corn go into each gallon of ethanol.

These higher fuel ethanol prices, which have contributed to higher RIN prices, are mostly the result of higher prices for corn, which is the feedstock for fuel ethanol. On May 6, the front-month futures price of corn closed at $7.60 per bushel, a 144% increase from $3.12 per bushel on the same day a year ago and its highest price since November 2012. Corn prices have been increasing, in part, because of factors unique to corn and grains, such as high demand in China, concerns of reduced supply in the United States as a result of cold weather in the Midwest, and lower production in Brazil as a result of hot and dry weather. Corn prices may also be increasing because of rising gasoline demand contributing to more demand for fuel ethanol blending and, therefore, more demand for corn as a feedstock.

Nevertheless, because some of the factors contributing to increased corn prices are separate from fuel ethanol demand, the fuel ethanol–corn crush spread (the difference between the price of fuel ethanol and the price of its corn inputs) has decreased and has been largely negative since November 2020. Before late 2020, the last time corn sold at a more-than 10 cent premium to fuel ethanol for at least 10 consecutive days was during the demand shock in March and April 2020. During that time, fuel ethanol production was disproportionately affected, falling by more than 45% in April 2020 compared with the previous year, but largely tracking decreases in motor gasoline demand. Whereas the negative economics of blending corn ethanol likely contributed to a decrease in fuel ethanol production in April 2020, RIN prices at that time were low. In 2021 however, some portion of the currently high RIN values is likely being captured by fuel ethanol producers to offset the high operating costs and support fuel ethanol production closer to typical seasonal levels compared with last year.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $1.99/gal on May 6, up 16 cents/gal from April 1 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 8 cents/gal, settling at 37 cents/gal during the same period.

Figure 7. Historical ULSD front-month futures prices and crack spreads



Source: CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

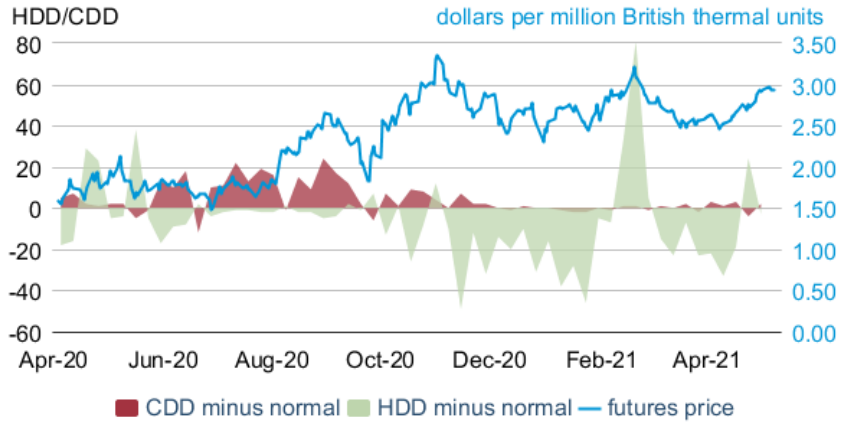
The ULSD–Brent crack spread increased in the first week of May to its highest level in more than a year because of increases in consumption and exports. We estimate that U.S. distillate consumption increased to almost 4.1 million b/d in April, which, if confirmed by monthly data, is the most U.S. distillate consumption since November 2019. The increase in demand is likely related to high freight demand, which we expect to continue as economic activity increases with improved vaccination and employment rates. We also estimate an increase in net exports during April to more than 0.8 million b/d, the most since September 2020, if confirmed by monthly data. The increases in U.S. consumption and exports contributed to a 9.5 million barrel (7%)

decrease in distillate stocks from March. This stock draw occurred despite an increase in distillate production.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.93 per million British thermal units (MMBtu) on May 6, 2021, which was up 29 cents/MMBtu from April 1, 2021 **(Figure 8)**.

Figure 8. Natural gas front-month futures prices and actual minus historical average HDD and CDD

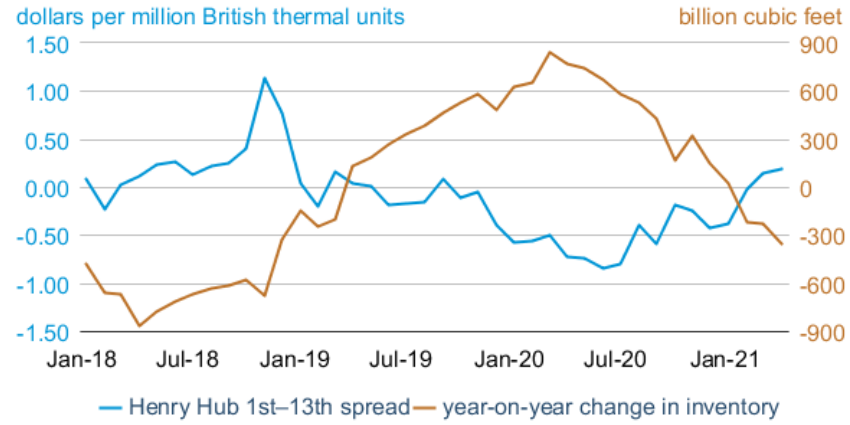


Sources: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

The high levels of LNG exports have likely helped support natural gas prices. We estimate LNG exports of 9.2 million billion cubic feet per day (Bcf/d) in April, which is a decrease from the record 10.5 million Bcf/d of LNG exports in March but a 2.3 million Bcf/d (34%) increase from the previous 12-month average. April's natural gas stock builds were lower than the five-year (2016–20) average as a result of the high LNG exports, as well as lower production and seasonally-high consumption resulting from relatively cold temperatures during the week ending April 22.

Futures price spreads: The natural gas 1st–13th price spread averaged 19 cents per MMBtu in April, the highest backwardation (where near-term contract prices are higher than longer-dated ones) since December 2018 **(Figure 9)**. Often, the 1st–13th price spread increases when natural gas inventories decrease, and the price spread often decreases when inventories increase. For example, in June 2020, when inventories were 672 billion cubic feet (Bcf) greater than their year-ago levels, the 1st–13th price spread was decreasing and averaged -84 cents/MMBtu for the month. In April 2021, natural gas inventories ended the month 353 Bcf lower than in April 2020, mostly as a result of high heating demand and production outages in February as well as several months of high export demand. Inventory draws from December through March, including February's draw that was a record high for that month, have contributed to low natural gas inventories and generally increasing front-month price spreads.

Figure 9. Natural gas 1st–13th futures spread and year-on-year change in inventory



Source: CME Group, as complied by Bloomberg L.P.; U.S. Energy Information Administration
Note: Futures spreads are monthly averages.

We expect U.S. natural gas storage injections from April through October will be slightly less than, but close to, the five-year average injection rate for those months. In our forecast, natural gas inventories end October at 3,630 Bcf, which would be 122 Bcf (3%) less than the five-year average. We expect the slightly less-than-average storage injections to put some upward pressure on natural gas prices and that the third-quarter 2021 Henry Hub spot price will average $2.90/MMBtu as a result.

Notable forecast changes

- We increased our April and May U.S. gasoline consumption forecast by 140,000 b/d and 270,000 b/d, respectively. Overall, we revised up the summer (April–September) gasoline consumption forecast by 130,000 b/d from last month based on weekly data (which suggested gasoline consumption was higher than we had forecast) and IHS Markit's upward revision in the employment forecast.

- We forecast OPEC crude oil production will average 26.9 million b/d in 2021 and 28.5 million b/d in 2022, which are 0.2 million b/d and 0.4 million b/d higher, respectively, than last month's STEO. The higher forecast OPEC production mainly reflects our expectation that crude oil production in Iran will continue to increase, continuing the rising output trend that started in November 2020. Even though sanctions that target Iran's crude oil exports remain in place, crude oil exports from Iran have been rising since the end of 2020, driving up crude oil production.

- Our forecast are secondary coal inventories are lower by 26 MMst (22%) in 2021 and by 20 MMst (24%) in 2022 compared with our April forecast. Lower inventories reflect EIA's expectation that coal-fired electricity generation will increase at a faster rate than the forecast increase in coal production, which reflects a general decline in coal production capacity.

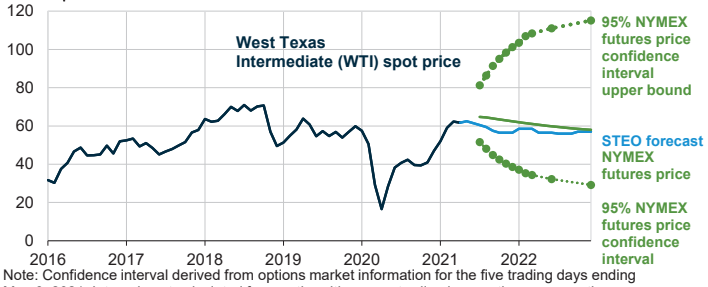
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Short-Term Energy Outlook
Chart Gallery

May 11, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

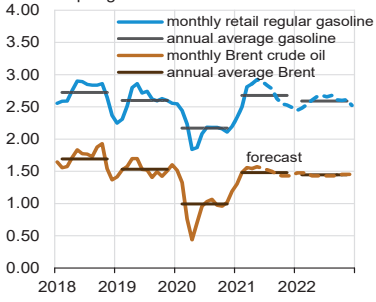


Note: Confidence interval derived from options market information for the five trading days ending May 6, 2021. Intervals not calculated for months with sparse trading in near-the-money options

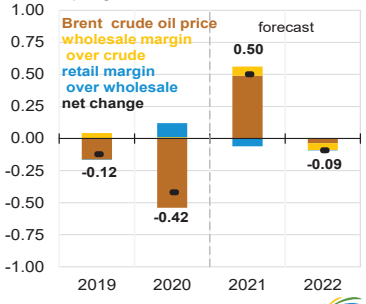
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021, CME Group, and Bloomberg, L.P.

eia

U.S. gasoline and crude oil prices
dollars per gallon



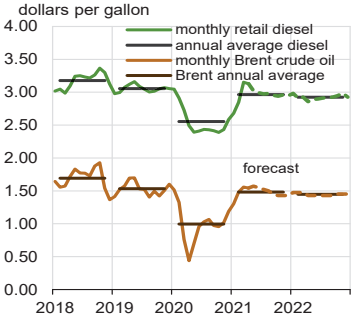
Components of annual gasoline price changes
dollars per gallon



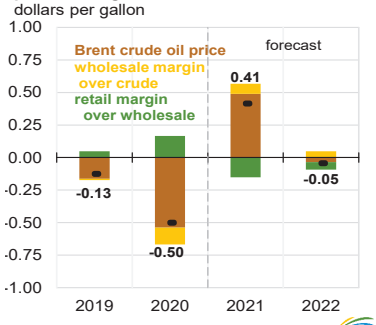
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

eia

U.S. diesel and crude oil prices

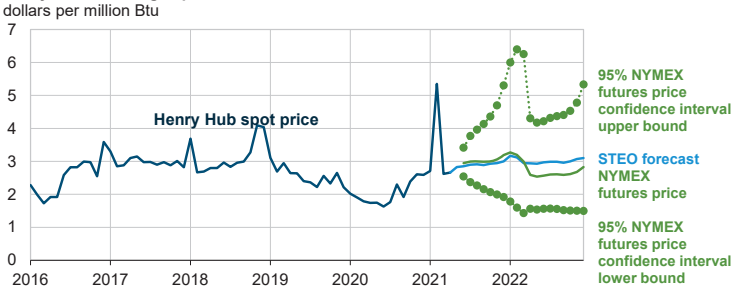


Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

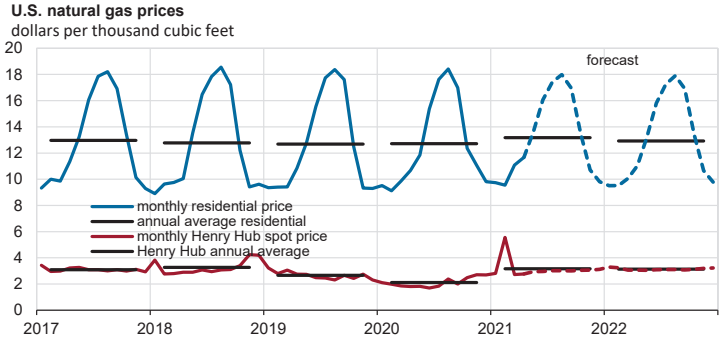
Henry Hub natural gas price and NYMEX confidence intervals



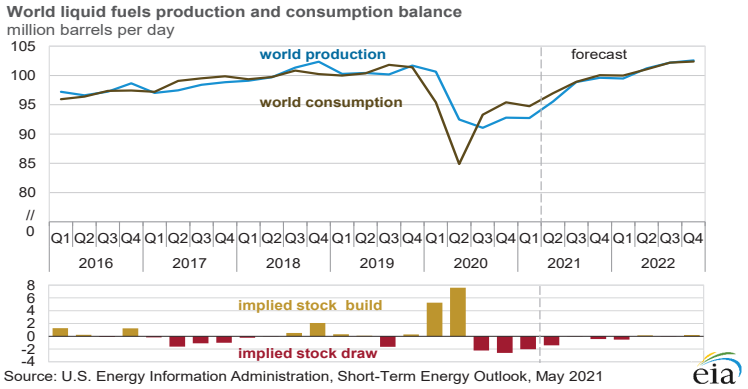
Note: Confidence interval derived from options market information for the five trading days ending May 6, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021, and CME Group

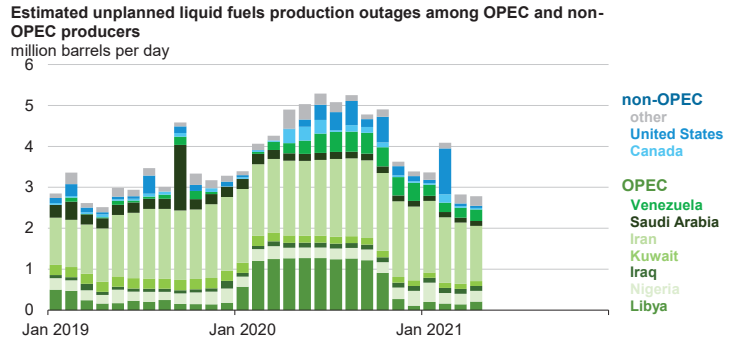
U.S. natural gas prices



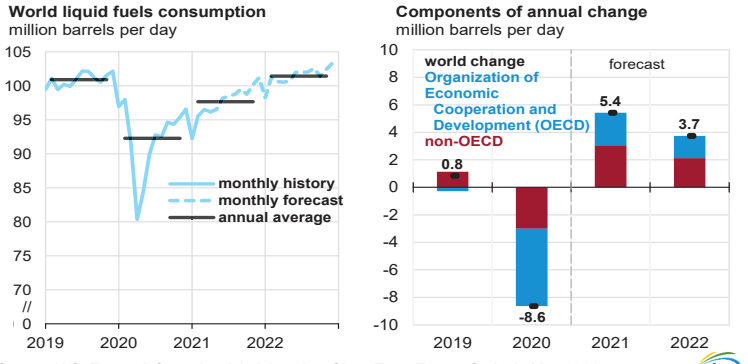
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021, and Refinitiv



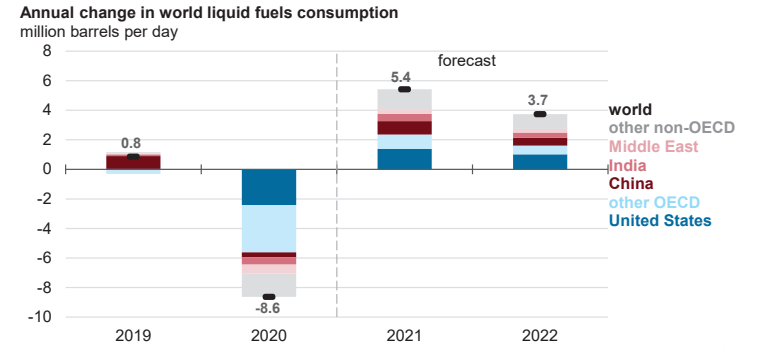
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



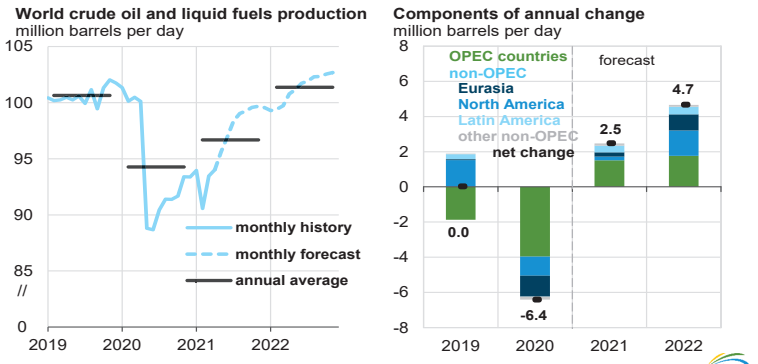
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



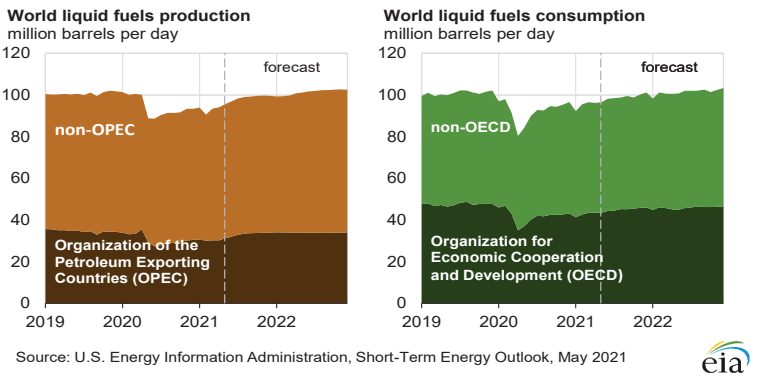
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

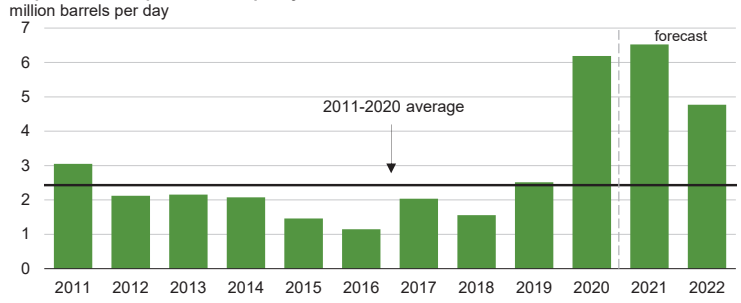


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



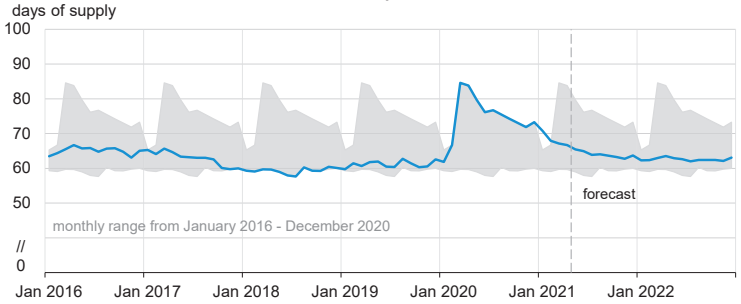
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



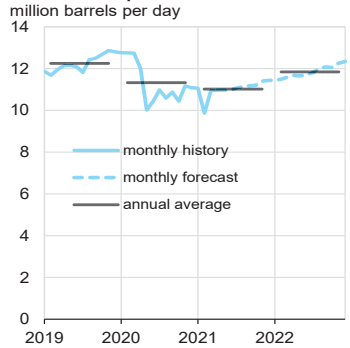
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

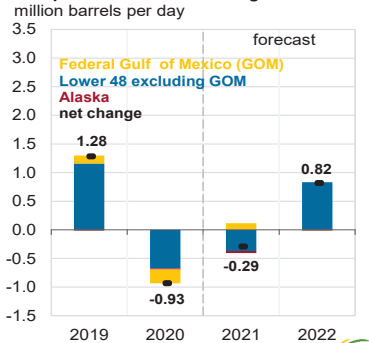


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. crude oil production
million barrels per day

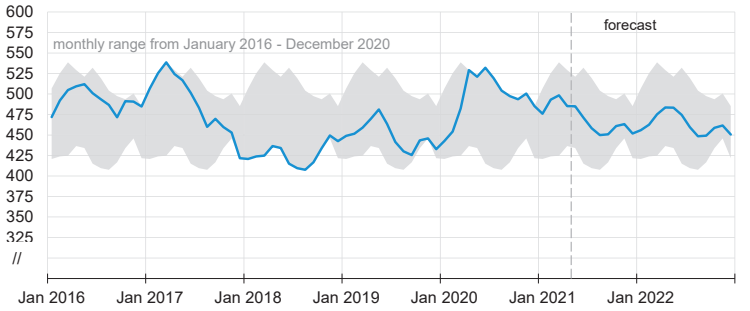


Components of annual change
million barrels per day



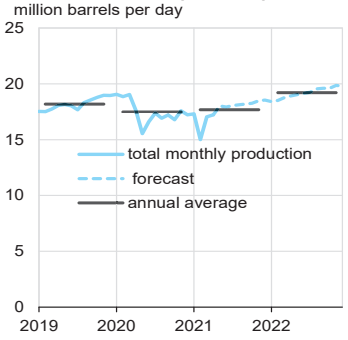
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. commercial crude oil inventories
million barrels

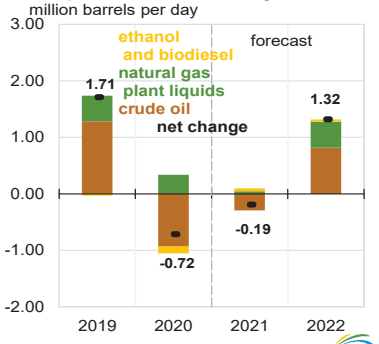


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. crude oil and liquid fuels production
million barrels per day

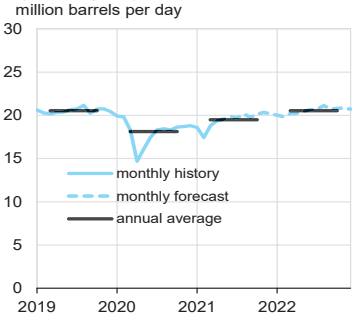


Components of annual change
million barrels per day

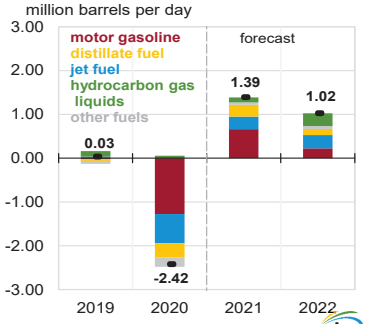


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. liquid fuels product supplied (consumption)
million barrels per day

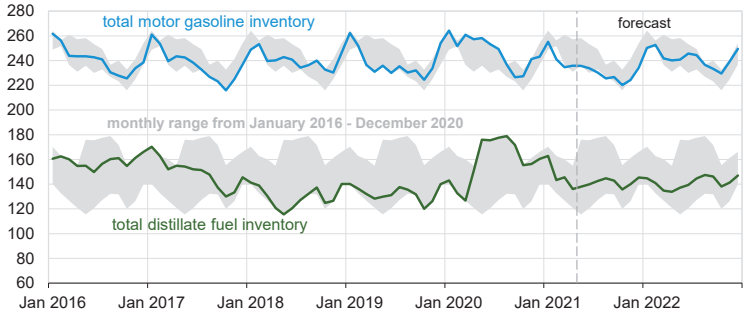


Components of annual change
million barrels per day



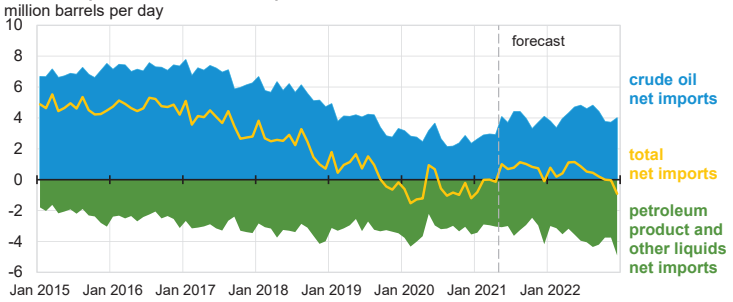
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. gasoline and distillate inventories
million barrels



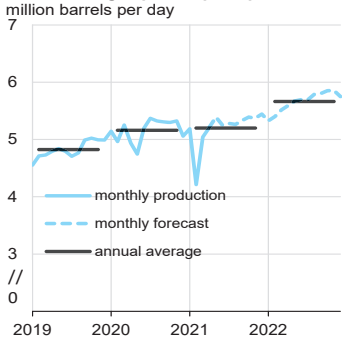
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

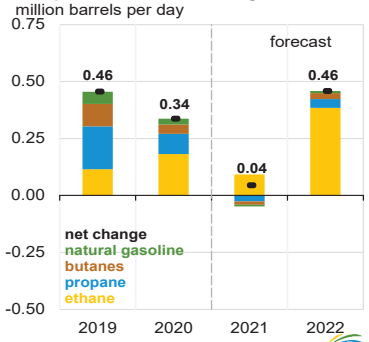


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

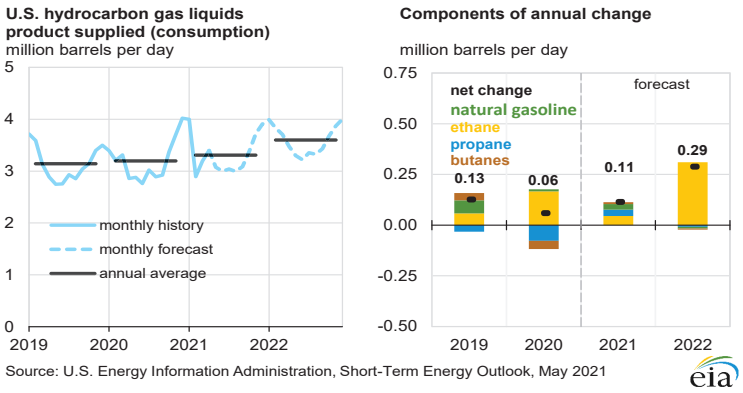
U.S. natural gas plant liquids production
million barrels per day



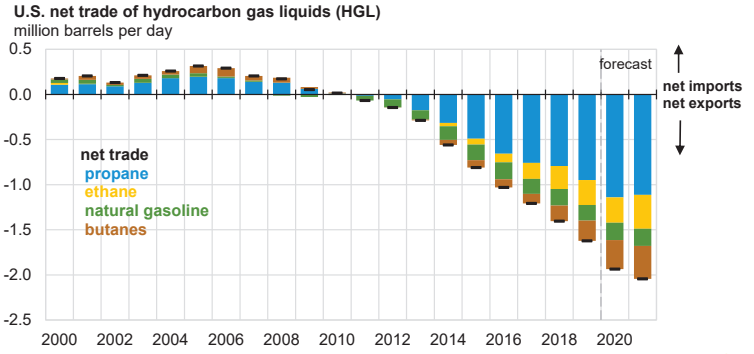
Components of annual change
million barrels per day



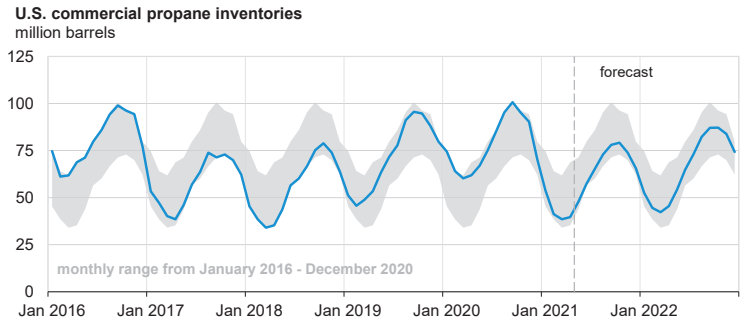
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



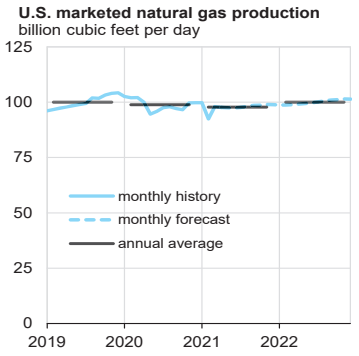
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

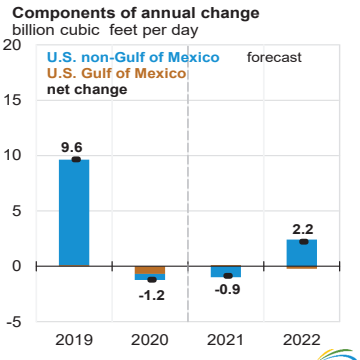


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

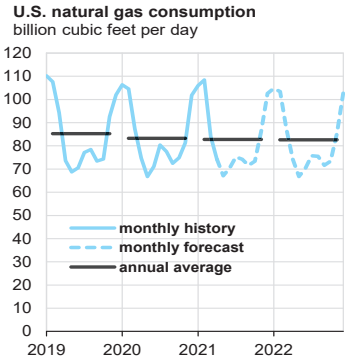


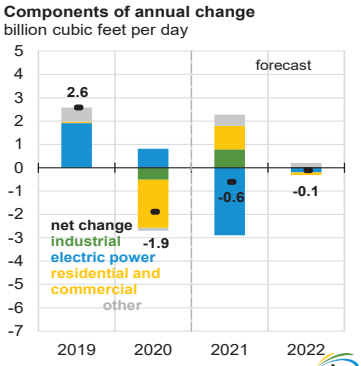
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



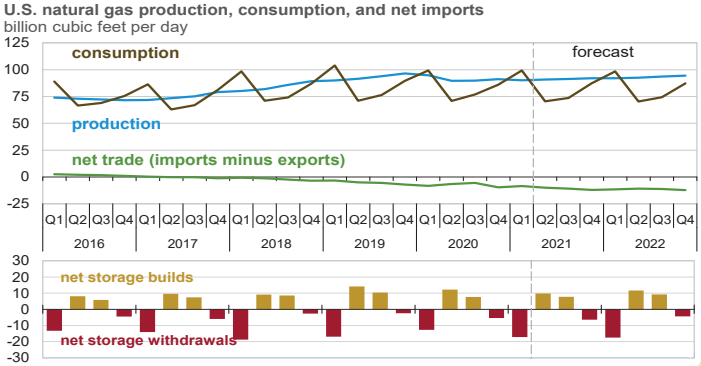


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



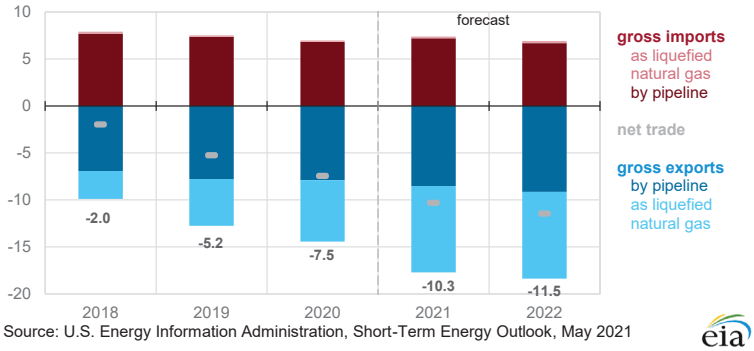


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



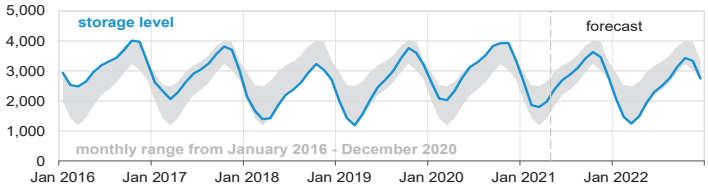
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. annual natural gas trade
billion cubic feet per day

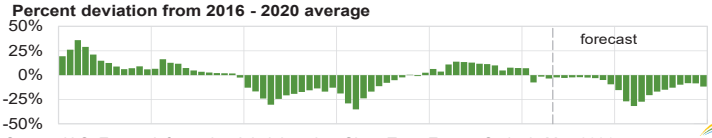


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. working natural gas in storage
billion cubic feet

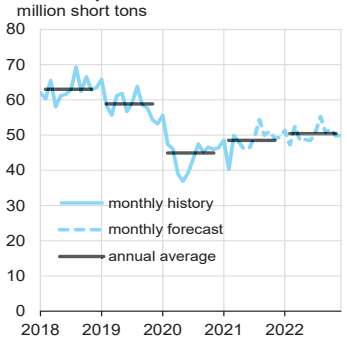


Percent deviation from 2016 - 2020 average

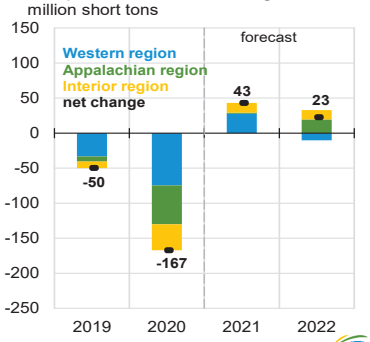


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

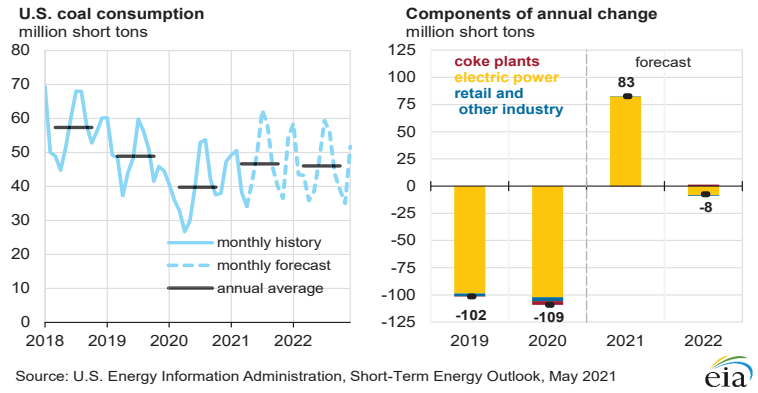
U.S. coal production
million short tons



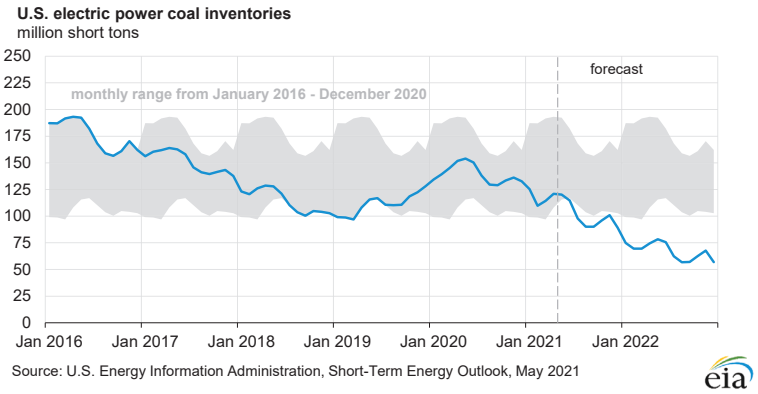
Components of annual change
million short tons



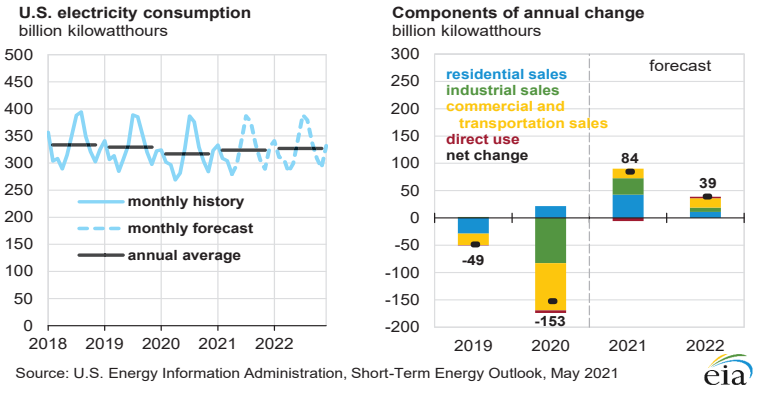
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



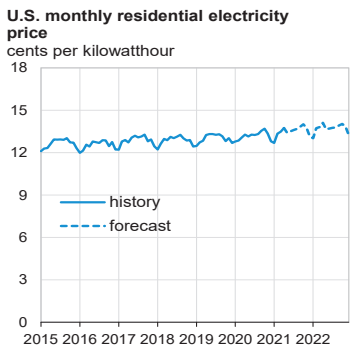
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

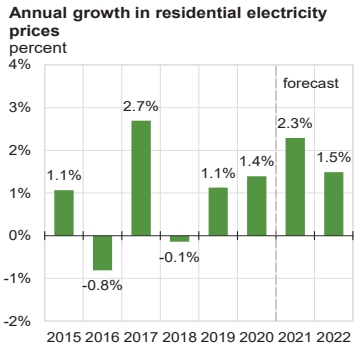


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

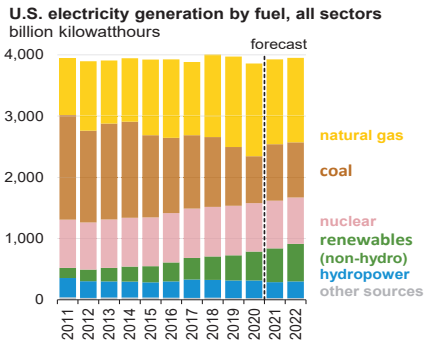


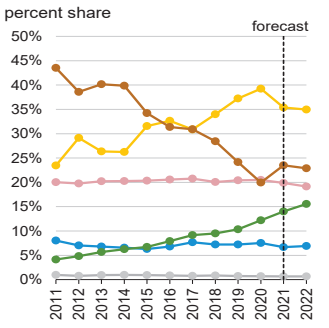
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



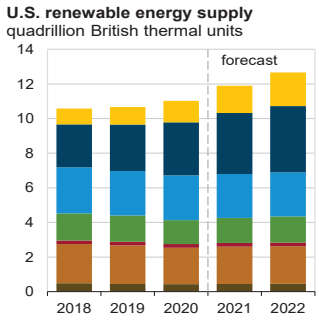


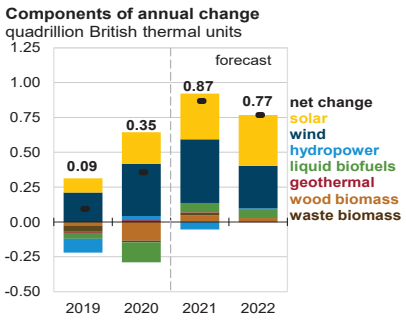
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

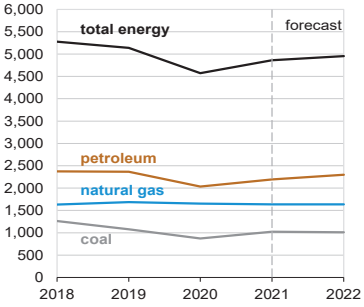




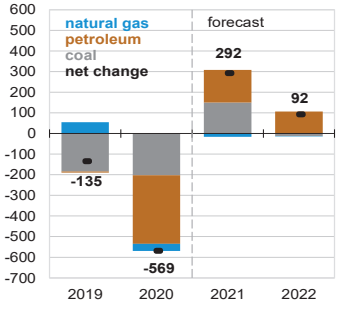
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. annual CO2 emissions by source
million metric tons

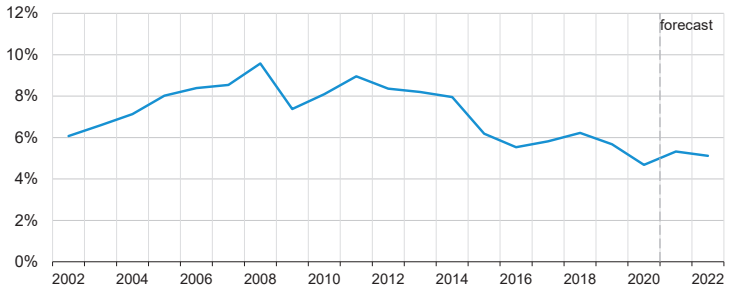


Components of annual change
million metric tons



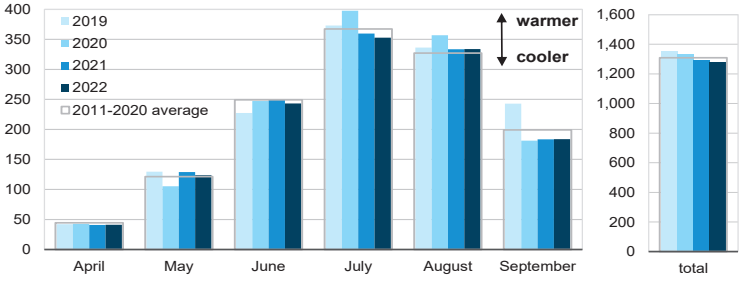
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. annual energy expenditures
share of gross domestic product



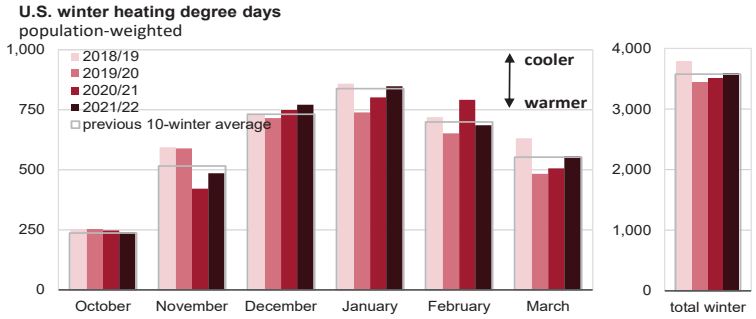
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021

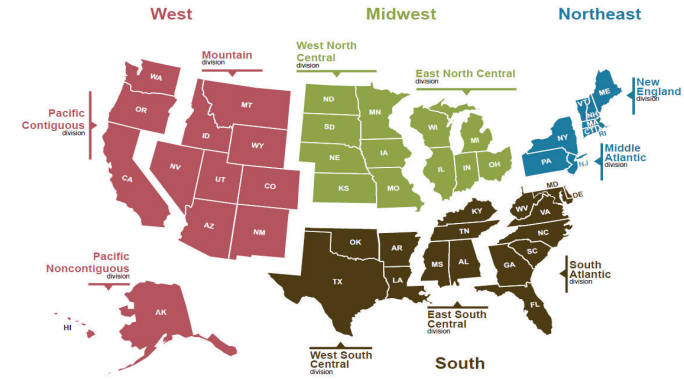


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2021



U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.75**	**10.81**	**10.81**	**10.90**	**10.65**	*10.97*	*11.12*	*11.34*	*11.51*	*11.68*	*11.96*	*12.21*	**11.31**	*11.02*	*11.84*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.68**	**89.83**	**91.15**	**90.09**	*90.75*	*91.34*	*92.03*	*91.97*	*92.54*	*93.60*	*94.36*	**91.35**	*91.06*	*93.12*
Coal Production															
(million short tons)	**149**	**115**	**136**	**139**	**139**	*140*	*154*	*150*	*151*	*146*	*157*	*151*	**539**	*582*	*605*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.71**	**18.31**	*19.60*	*19.88*	*20.22*	*20.03*	*20.46*	*20.84*	*20.78*	**18.12**	*19.51*	*20.53*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.84**	**76.83**	**86.08**	**99.19**	*70.53*	*73.69*	*87.38*	*98.39*	*70.42*	*74.32*	*87.21*	**83.25**	*82.64*	*82.53*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**138**	*125*	*166*	*131*	*145*	*122*	*159*	*126*	**477**	*560*	*552*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	*10.09*	*11.93*	*10.05*	*10.67*	*10.19*	*12.03*	*10.13*	**10.39**	*10.65*	*10.75*
Renewables (c)															
(quadrillion Btu)	**2.92**	**3.00**	**2.83**	**2.91**	**2.97**	*3.35*	*3.08*	*3.16*	*3.24*	*3.57*	*3.27*	*3.30*	**11.65**	*12.56*	*13.37*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.10**	**20.63**	**23.42**	**23.79**	**24.70**	*22.72*	*24.08*	*24.68*	*25.53*	*23.24*	*24.50*	*24.87*	**92.94**	*96.18*	*98.14*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	*61.89*	*59.19*	*56.50*	*58.50*	*56.50*	*56.00*	*57.00*	**39.17**	*58.91*	*56.99*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	*2.78*	*2.90*	*2.96*	*3.08*	*2.95*	*2.98*	*3.06*	**2.03**	*3.05*	*3.02*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.93**	*1.98*	*1.98*	*1.95*	*1.99*	*1.99*	*1.97*	*1.95*	**1.92**	*1.96*	*1.98*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,038**	*19,405*	*19,787*	*20,047*	*20,236*	*20,367*	*20,483*	*20,581*	**18,426**	*19,569*	*20,417*
Percent change from prior year	**0.3**	**-9.0**	**-2.8**	**-2.4**	**0.1**	*12.1*	*6.4*	*6.7*	*6.3*	*5.0*	*3.5*	*2.7*	**-3.5**	*6.2*	*4.3*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.4**	*116.0*	*116.5*	*117.0*	*117.5*	*118.2*	*118.8*	*119.5*	**113.6**	*116.2*	*118.5*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.3**	**1.8**	*2.8*	*2.3*	*2.3*	*1.8*	*1.9*	*2.0*	*2.1*	**1.2**	*2.3*	*2.0*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,434**	**16,758**	*16,069*	*15,832*	*15,678*	*15,846*	*15,964*	*16,083*	*16,157*	**15,744**	*16,084*	*16,013*
Percent change from prior year	**1.4**	**12.2**	**6.4**	**3.1**	**11.3**	*-3.4*	*-0.1*	*1.6*	*-5.4*	*-0.6*	*1.6*	*3.1*	**5.8**	*2.2*	*-0.4*
Manufacturing Production Index															
(Index, 2012=100)	**104.4**	**89.3**	**100.1**	**103.1**	**103.7**	*105.3*	*107.6*	*109.0*	*109.9*	*110.6*	*111.0*	*111.3*	**99.2**	*106.4*	*110.7*
Percent change from prior year	**-2.0**	**-15.5**	**-5.5**	**-2.6**	**-0.6**	*17.9*	*7.5*	*5.7*	*6.0*	*5.0*	*3.1*	*2.2*	**-6.4**	*7.2*	*4.0*
Weather															
U.S. Heating Degree-Days	**1,875**	**540**	**70**	**1,418**	**2,099**	*453*	*69*	*1,496*	*2,090*	*478*	*69*	*1,494*	**3,903**	*4,117*	*4,131*
U.S. Cooling Degree-Days	**71**	**396**	**936**	**123**	**50**	*419*	*877*	*100*	*46*	*408*	*871*	*100*	**1,525**	*1,445*	*1,425*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109;
Petroleum Supply Annual , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130;
Electric Power Monthly , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.
Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	*61.89*	*59.19*	*56.50*	*58.50*	*56.50*	*56.00*	*57.00*	**39.17**	*58.91*	*56.99*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	*65.25*	*62.69*	*60.00*	*62.00*	*60.00*	*60.00*	*61.00*	**41.69**	*62.26*	*60.74*
U.S. Imported Average	**43.76**	**26.33**	**39.90**	**40.64**	**55.89**	*59.95*	*57.24*	*54.50*	*56.25*	*54.25*	*53.50*	*54.50*	**37.26**	*56.94*	*54.54*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.88**	**40.79**	**42.09**	**56.85**	*60.91*	*58.21*	*55.50*	*57.25*	*55.25*	*54.50*	*55.50*	**39.75**	*57.90*	*55.58*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**181**	*209*	*194*	*172*	*174*	*184*	*186*	*176*	**133**	*189*	*180*
Diesel Fuel	**160**	**97**	**124**	**133**	**175**	*191*	*190*	*185*	*188*	*185*	*186*	*188*	**129**	*186*	*187*
Fuel Oil	**160**	**87**	**113**	**121**	**166**	*181*	*183*	*181*	*184*	*175*	*175*	*180*	**125**	*178*	*180*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**161**	*179*	*181*	*178*	*185*	*183*	*183*	*186*	**131**	*176*	*185*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**119**	**154**	*147*	*140*	*133*	*134*	*134*	*130*	*132*	**125**	*143*	*132*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	*289*	*275*	*252*	*249*	*265*	*265*	*258*	**218**	*268*	*259*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	*299*	*287*	*265*	*262*	*278*	*278*	*272*	**227**	*280*	*273*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	**290**	*305*	*297*	*295*	*294*	*288*	*292*	*295*	**255**	*297*	*292*
Heating Oil	**280**	**200**	**214**	**230**	**273**	*289*	*297*	*313*	*310*	*285*	*271*	*275*	**244**	*289*	*292*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	*2.89*	*3.01*	*3.08*	*3.20*	*3.06*	*3.10*	*3.18*	**2.11**	*3.17*	*3.13*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	*2.78*	*2.90*	*2.96*	*3.08*	*2.95*	*2.98*	*3.06*	**2.03**	*3.05*	*3.02*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.77**	**5.78**	*3.90*	*3.96*	*4.28*	*4.53*	*4.00*	*3.94*	*4.27*	**3.29**	*4.50*	*4.20*
Commercial Sector	**7.13**	**7.63**	**8.49**	**7.53**	**7.75**	*8.52*	*8.91*	*7.91*	*7.69*	*8.12*	*8.54*	*7.65*	**7.48**	*8.05*	*7.84*
Residential Sector	**9.46**	**11.89**	**17.65**	**10.60**	**9.98**	*13.16*	*17.42*	*10.66*	*9.66*	*12.62*	*17.34*	*10.60*	**10.83**	*11.16*	*10.97*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.93**	*1.98*	*1.98*	*1.95*	*1.99*	*1.99*	*1.97*	*1.95*	**1.92**	*1.96*	*1.98*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**8.23**	*3.45*	*3.12*	*3.31*	*3.65*	*3.19*	*3.16*	*3.39*	**2.39**	*4.41*	*3.33*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**10.52**	*12.48*	*11.90*	*11.23*	*11.51*	*12.14*	*11.36*	*11.23*	**9.15**	*11.48*	*11.54*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.53**	*14.87*	*14.77*	*14.49*	*14.68*	*14.50*	*14.47*	*14.68*	**10.73**	*14.27*	*14.59*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.14**	*6.91*	*7.19*	*6.57*	*6.90*	*7.00*	*7.19*	*6.58*	**6.66**	*6.96*	*6.92*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**10.92**	*10.96*	*11.41*	*11.01*	*11.22*	*11.18*	*11.50*	*11.08*	**10.65**	*11.09*	*11.25*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.14**	*13.54*	*13.69*	*13.59*	*13.49*	*13.81*	*13.82*	*13.67*	**13.20**	*13.50*	*13.70*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**32.95**	**29.44**	**29.98**	**30.69**	**30.15**	*30.67*	*31.33*	*31.80*	*31.96*	*32.29*	*32.66*	*33.20*	**30.76**	*30.99*	*32.53*
U.S. (50 States)	**20.22**	**17.58**	**18.30**	**18.31**	**17.57**	*18.61*	*18.78*	*19.09*	*19.26*	*19.73*	*20.19*	*20.51*	**18.60**	*18.52*	*19.93*
Canada	**5.65**	**4.92**	**4.95**	**5.56**	**5.66**	*5.26*	*5.74*	*5.77*	*5.81*	*5.78*	*5.80*	*5.83*	**5.27**	*5.61*	*5.80*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	*1.91*	*1.88*	*1.84*	*1.78*	*1.74*	*1.71*	*1.68*	**1.94**	*1.89*	*1.73*
Other OECD	**5.08**	**5.00**	**4.82**	**4.92**	**4.99**	*4.88*	*4.92*	*5.10*	*5.11*	*5.03*	*4.95*	*5.18*	**4.95**	*4.97*	*5.07*
Non-OECD	**67.71**	**63.05**	**61.09**	**62.12**	**62.58**	*64.87*	*67.55*	*67.81*	*67.52*	*68.94*	*69.52*	*69.38*	**63.48**	*65.72*	*68.85*
OPEC	**33.49**	**30.71**	**28.64**	**29.99**	**30.34**	*31.18*	*33.37*	*33.92*	*34.06*	*33.92*	*33.95*	*33.99*	**30.70**	*32.22*	*33.98*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	*25.93*	*28.05*	*28.55*	*28.47*	*28.47*	*28.47*	*28.47*	**25.60**	*26.92*	*28.47*
Other Liquids (b)	**5.21**	**5.07**	**5.02**	**5.12**	**5.26**	*5.25*	*5.32*	*5.37*	*5.58*	*5.45*	*5.48*	*5.52*	**5.10**	*5.30*	*5.51*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.39**	*13.70*	*13.74*	*13.90*	*14.07*	*14.66*	*14.82*	*14.95*	**13.44**	*13.68*	*14.63*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	*4.98*	*4.98*	*5.03*	*5.00*	*5.03*	*5.03*	*5.07*	**4.93**	*5.01*	*5.03*
Other Non-OECD	**14.52**	**14.24**	**14.78**	**14.09**	**13.80**	*15.01*	*15.46*	*14.97*	*14.40*	*15.33*	*15.72*	*15.36*	**14.41**	*14.81*	*15.21*
Total World Supply	**100.66**	**92.49**	**91.07**	**92.81**	**92.73**	*95.54*	*98.88*	*99.61*	*99.48*	*101.22*	*102.18*	*102.58*	**94.24**	*96.72*	*101.38*
Non-OPEC Supply	**67.17**	**61.77**	**62.42**	**62.82**	**62.39**	*64.36*	*65.51*	*65.69*	*65.43*	*67.31*	*68.23*	*68.58*	**63.54**	*64.50*	*67.40*
Consumption (million barrels per day) (c)															
OECD	**45.28**	**37.43**	**42.10**	**42.83**	**42.47**	*43.78*	*44.99*	*45.79*	*45.55*	*45.29*	*46.28*	*46.40*	**41.91**	*44.27*	*45.88*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.71**	**18.31**	*19.60*	*19.88*	*20.22*	*20.03*	*20.46*	*20.84*	*20.78*	**18.12**	*19.51*	*20.53*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	*0.18*	*0.18*	*0.19*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.11**	*2.19*	*2.29*	*2.29*	*2.28*	*2.23*	*2.33*	*2.32*	**2.10**	*2.22*	*2.29*
Europe	**13.35**	**11.04**	**12.85**	**12.54**	**12.22**	*12.77*	*13.38*	*13.31*	*13.08*	*13.27*	*13.66*	*13.37*	**12.45**	*12.92*	*13.35*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.66**	*3.00*	*3.13*	*3.45*	*3.67*	*3.01*	*3.09*	*3.40*	**3.27**	*3.31*	*3.29*
Other OECD	**6.41**	**5.41**	**5.55**	**5.87**	**5.98**	*6.04*	*6.12*	*6.33*	*6.29*	*6.13*	*6.17*	*6.33*	**5.81**	*6.12*	*6.23*
Non-OECD	**50.13**	**47.45**	**51.21**	**52.59**	**52.29**	*53.18*	*53.92*	*54.25*	*54.45*	*55.79*	*55.92*	*55.99*	**50.35**	*53.42*	*55.54*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	*5.01*	*5.40*	*5.24*	*5.09*	*5.17*	*5.58*	*5.43*	**4.95**	*5.15*	*5.32*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.72**	*0.73*	*0.73*	*0.74*	*0.74*	*0.74*	*0.76*	*0.76*	**0.71**	*0.73*	*0.75*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.10**	*15.51*	*15.22*	*15.51*	*15.80*	*16.02*	*15.70*	*15.94*	**14.43**	*15.34*	*15.86*
Other Asia	**13.16**	**11.64**	**12.60**	**13.61**	**13.88**	*13.86*	*13.79*	*14.22*	*14.68*	*14.91*	*14.48*	*14.89*	**12.75**	*13.94*	*14.74*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.65**	*18.09*	*18.77*	*18.54*	*18.14*	*18.95*	*19.40*	*18.98*	**17.51**	*18.27*	*18.87*
Total World Consumption	**95.41**	**84.88**	**93.31**	**95.42**	**94.76**	*96.96*	*98.91*	*100.05*	*100.00*	*101.08*	*102.19*	*102.39*	**92.27**	*97.69*	*101.42*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.89**	**0.56**	*0.12*	*-0.10*	*0.48*	*0.07*	*-0.53*	*0.03*	*0.42*	**-0.18**	*0.26*	*0.00*
Other OECD	**-0.50**	**-1.17**	**0.04**	**0.68**	**0.59**	*0.41*	*0.04*	*-0.01*	*0.14*	*0.12*	*-0.01*	*-0.19*	**-0.23**	*0.25*	*0.01*
Other Stock Draws and Balance	**-4.33**	**-4.75**	**1.72**	**1.04**	**0.88**	*0.89*	*0.09*	*-0.03*	*0.30*	*0.27*	*-0.01*	*-0.42*	**-1.56**	*0.45*	*0.03*
Total Stock Draw	**-5.25**	**-7.60**	**2.25**	**2.61**	**2.03**	*1.42*	*0.03*	*0.44*	*0.52*	*-0.15*	*0.01*	*-0.19*	**-1.97**	*0.97*	*0.05*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	**1,295**	*1,300*	*1,309*	*1,269*	*1,267*	*1,319*	*1,319*	*1,290*	**1,344**	*1,269*	*1,290*
OECD Commercial Inventory	**2,963**	**3,201**	**3,166**	**3,026**	**2,923**	*2,891*	*2,897*	*2,858*	*2,842*	*2,884*	*2,885*	*2,873*	**3,026**	*2,858*	*2,873*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.87**	**24.44**	**25.16**	**25.76**	**25.16**	*25.79*	*26.41*	*26.70*	*26.85*	*27.25*	*27.71*	*28.02*	**25.81**	*26.02*	*27.46*
Canada	**5.65**	**4.92**	**4.95**	**5.56**	**5.66**	*5.26*	*5.74*	*5.77*	*5.81*	*5.78*	*5.80*	*5.83*	**5.27**	*5.61*	*5.80*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	*1.91*	*1.88*	*1.84*	*1.78*	*1.74*	*1.71*	*1.68*	**1.94**	*1.89*	*1.73*
United States	**20.22**	**17.58**	**18.30**	**18.31**	**17.57**	*18.61*	*18.78*	*19.09*	*19.26*	*19.73*	*20.19*	*20.51*	**18.60**	*18.52*	*19.93*
Central and South America	**6.02**	**6.05**	**6.62**	**5.89**	**5.57**	*6.75*	*7.17*	*6.71*	*6.13*	*7.11*	*7.54*	*7.21*	**6.15**	*6.56*	*7.00*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.64**	*0.69*	*0.70*	*0.69*	*0.71*	*0.76*	*0.75*	*0.73*	**0.64**	*0.68*	*0.74*
Brazil	**3.44**	**3.89**	**4.28**	**3.51**	**3.24**	*4.30*	*4.66*	*4.20*	*3.56*	*4.54*	*4.90*	*4.46*	**3.78**	*4.10*	*4.37*
Colombia	**0.91**	**0.79**	**0.78**	**0.79**	**0.79**	*0.80*	*0.80*	*0.80*	*0.84*	*0.77*	*0.77*	*0.80*	**0.81**	*0.79*	*0.79*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	*0.52*	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.52*	*0.53*
Other Central and S. America	**0.44**	**0.42**	**0.41**	**0.46**	**0.40**	*0.44*	*0.49*	*0.50*	*0.49*	*0.50*	*0.59*	*0.69*	**0.43**	*0.46*	*0.57*
Europe	**4.44**	**4.35**	**4.17**	**4.29**	**4.40**	*4.29*	*4.32*	*4.50*	*4.52*	*4.45*	*4.37*	*4.61*	**4.31**	*4.38*	*4.48*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.12**	*2.08*	*2.12*	*2.23*	*2.25*	*2.20*	*2.22*	*2.34*	**2.01**	*2.14*	*2.25*
United Kingdom	**1.18**	**1.16**	**1.00**	**1.06**	**1.06**	*0.99*	*0.99*	*1.04*	*1.05*	*1.04*	*0.93*	*1.03*	**1.10**	*1.02*	*1.01*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.39**	*13.70*	*13.74*	*13.90*	*14.07*	*14.66*	*14.82*	*14.95*	**13.44**	*13.68*	*14.63*
Azerbaijan	**0.76**	**0.69**	**0.66**	**0.69**	**0.74**	*0.72*	*0.73*	*0.77*	*0.79*	*0.80*	*0.77*	*0.80*	**0.70**	*0.74*	*0.79*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	*1.89*	*1.88*	*1.93*	*1.95*	*2.00*	*1.96*	*2.01*	**1.86**	*1.89*	*1.98*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	*10.73*	*10.77*	*10.82*	*10.96*	*11.49*	*11.70*	*11.75*	**10.50**	*10.69*	*11.48*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	*0.24*	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.12**	**0.12**	**0.12**	**0.12**	**0.11**	*0.12*	*0.12*	*0.14*	*0.15*	*0.16*	*0.16*	*0.16*	**0.12**	*0.12*	*0.16*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.16**	*3.17*	*3.21*	*3.22*	*3.26*	*3.25*	*3.25*	*3.24*	**3.13**	*3.19*	*3.25*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	*0.96*	*1.01*	*1.02*	*1.03*	*1.03*	*1.03*	*1.03*	**0.96**	*0.99*	*1.03*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.90**	*1.91*	*1.92*	*1.92*	*1.93*	*1.93*	*1.93*	*1.93*	**1.87**	*1.91*	*1.93*
Asia and Oceania	**9.46**	**9.19**	**9.25**	**9.21**	**9.32**	*9.26*	*9.25*	*9.26*	*9.24*	*9.23*	*9.20*	*9.20*	**9.28**	*9.27*	*9.22*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.47**	*0.50*	*0.50*	*0.49*	*0.49*	*0.48*	*0.47*	*0.47*	**0.49**	*0.49*	*0.48*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	*4.98*	*4.98*	*5.03*	*5.00*	*5.03*	*5.03*	*5.07*	**4.93**	*5.01*	*5.03*
India	**0.96**	**0.90**	**0.92**	**0.92**	**0.93**	*0.92*	*0.92*	*0.91*	*0.92*	*0.90*	*0.90*	*0.89*	**0.92**	*0.92*	*0.90*
Indonesia	**0.91**	**0.89**	**0.88**	**0.89**	**0.86**	*0.85*	*0.85*	*0.83*	*0.84*	*0.83*	*0.82*	*0.81*	**0.89**	*0.85*	*0.83*
Malaysia	**0.71**	**0.60**	**0.63**	**0.64**	**0.65**	*0.65*	*0.64*	*0.64*	*0.64*	*0.63*	*0.63*	*0.62*	**0.65**	*0.65*	*0.63*
Vietnam	**0.25**	**0.24**	**0.23**	**0.23**	**0.23**	*0.23*	*0.23*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	**0.23**	*0.23*	*0.21*
Africa	**1.48**	**1.43**	**1.41**	**1.39**	**1.39**	*1.41*	*1.41*	*1.40*	*1.35*	*1.35*	*1.35*	*1.35*	**1.43**	*1.40*	*1.35*
Egypt	**0.62**	**0.61**	**0.59**	**0.57**	**0.59**	*0.61*	*0.61*	*0.61*	*0.57*	*0.57*	*0.57*	*0.57*	**0.60**	*0.61*	*0.57*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.17**	**61.77**	**62.42**	**62.82**	**62.39**	*64.36*	*65.51*	*65.69*	*65.43*	*67.31*	*68.23*	*68.58*	**63.54**	*64.50*	*67.40*
OPEC non-crude liquids	**5.21**	**5.07**	**5.02**	**5.12**	**5.26**	*5.25*	*5.32*	*5.37*	*5.58*	*5.45*	*5.48*	*5.52*	**5.10**	*5.30*	*5.51*
Non-OPEC + OPEC non-crude	**72.38**	**66.84**	**67.44**	**67.93**	**67.65**	*69.61*	*70.83*	*71.06*	*71.01*	*72.76*	*73.71*	*74.11*	**68.64**	*69.80*	*72.91*
Unplanned non-OPEC Production Outages	**0.18**	**0.90**	**0.69**	**0.53**	**0.67**	-	-	-	-	-	-	-	**0.57**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	-	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	-	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	-	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	-	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	-	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	-	-	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	-	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	-	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	-	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	-	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	*25.93*	*28.05*	*28.55*	*28.47*	*28.47*	*28.47*	*28.47*	**25.60**	*26.92*	*28.47*
Other Liquids (a)	**5.21**	**5.07**	**5.02**	**5.12**	**5.26**	*5.25*	*5.32*	*5.37*	*5.58*	*5.45*	*5.48*	*5.52*	**5.10**	*5.30*	*5.51*
Total OPEC Supply	**33.49**	**30.71**	**28.64**	**29.99**	**30.34**	*31.18*	*33.37*	*33.92*	*34.06*	*33.92*	*33.95*	*33.99*	**30.70**	*32.22*	*33.98*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	*26.97*	*27.18*	*27.18*	*27.18*	*27.19*	*27.19*	*27.19*	**25.98**	*26.97*	*27.19*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	*6.55*	*6.47*	*6.14*	*6.05*	*6.05*	*6.05*	*6.05*	**5.81**	*6.47*	*6.05*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	*33.52*	*33.65*	*33.32*	*33.24*	*33.23*	*33.24*	*33.25*	**31.79**	*33.44*	*33.24*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	*6.68*	*5.03*	*4.68*	*4.68*	*4.69*	*4.69*	*4.69*	**5.49**	*5.84*	*4.69*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.19**	*0.90*	*0.57*	*0.09*	*0.08*	*0.08*	*0.08*	*0.08*	**0.70**	*0.69*	*0.08*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.19**	*7.58*	*5.60*	*4.77*	*4.76*	*4.77*	*4.77*	*4.78*	**6.19**	*6.52*	*4.77*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	-	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.12**	**22.45**	**22.15**	*23.65*	*24.04*	*24.40*	*24.13*	*24.53*	*25.00*	*24.94*	**21.91**	*23.57*	*24.65*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.11**	*2.19*	*2.29*	*2.29*	*2.28*	*2.23*	*2.33*	*2.32*	**2.10**	*2.22*	*2.29*
Mexico	**1.97**	**1.48**	**1.59**	**1.68**	**1.73**	*1.85*	*1.86*	*1.88*	*1.81*	*1.83*	*1.82*	*1.83*	**1.68**	*1.83*	*1.82*
United States	**19.33**	**16.08**	**18.36**	**18.71**	**18.31**	*19.60*	*19.88*	*20.22*	*20.03*	*20.46*	*20.84*	*20.78*	**18.12**	*19.51*	*20.53*
Central and South America	**6.14**	**5.61**	**6.04**	**6.32**	**6.12**	*6.34*	*6.49*	*6.50*	*6.37*	*6.55*	*6.69*	*6.70*	**6.03**	*6.36*	*6.58*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.90**	*3.02*	*3.14*	*3.14*	*3.03*	*3.13*	*3.24*	*3.24*	**2.90**	*3.05*	*3.16*
Europe	**14.06**	**11.73**	**13.57**	**13.27**	**12.95**	*13.49*	*14.12*	*14.04*	*13.82*	*14.01*	*14.42*	*14.13*	**13.16**	*13.65*	*14.10*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	*5.01*	*5.40*	*5.24*	*5.09*	*5.17*	*5.58*	*5.43*	**4.95**	*5.15*	*5.32*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.71**	*3.82*	*4.15*	*3.98*	*3.85*	*3.96*	*4.30*	*4.14*	**3.74**	*3.92*	*4.06*
Middle East	**7.91**	**7.43**	**8.44**	**8.06**	**7.88**	*8.08*	*8.71*	*8.26*	*7.99*	*8.59*	*9.00*	*8.36*	**7.96**	*8.24*	*8.49*
Asia and Oceania	**34.64**	**32.14**	**33.80**	**35.87**	**36.43**	*36.05*	*35.88*	*37.14*	*38.14*	*37.74*	*37.11*	*38.24*	**34.11**	*36.38*	*37.80*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.10**	*15.51*	*15.22*	*15.51*	*15.80*	*16.02*	*15.70*	*15.94*	**14.43**	*15.34*	*15.86*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.66**	*3.00*	*3.13*	*3.45*	*3.67*	*3.01*	*3.09*	*3.40*	**3.27**	*3.31*	*3.29*
India	**4.63**	**3.77**	**4.17**	**4.93**	**5.05**	*4.76*	*4.70*	*4.96*	*5.24*	*5.33*	*4.98*	*5.30*	**4.37**	*4.87*	*5.21*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.31**	*4.34*	*4.26*	*4.46*	*4.47*	*4.48*	*4.40*	*4.59*	**4.15**	*4.34*	*4.49*
Total OECD Liquid Fuels Consumption	**45.28**	**37.43**	**42.10**	**42.83**	**42.47**	*43.78*	*44.99*	*45.79*	*45.55*	*45.29*	*46.28*	*46.40*	**41.91**	*44.27*	*45.88*
Total non-OECD Liquid Fuels Consumption	**50.13**	**47.45**	**51.21**	**52.59**	**52.29**	*53.18*	*53.92*	*54.25*	*54.45*	*55.79*	*55.92*	*55.99*	**50.35**	*53.42*	*55.54*
Total World Liquid Fuels Consumption	**95.41**	**84.88**	**93.31**	**95.42**	**94.76**	*96.96*	*98.91*	*100.05*	*100.00*	*101.08*	*102.19*	*102.39*	**92.27**	*97.69*	*101.42*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**110.3**	**107.6**	**112.3**	**113.4**	**115.8**	*117.1*	*118.5*	*119.5*	*122.2*	*122.8*	*123.4*	*123.9*	**110.9**	*117.7*	*123.1*
Percent change from prior year	**-3.4**	**-6.2**	**-2.4**	**-1.8**	**5.0**	*8.9*	*5.5*	*5.3*	*5.6*	*4.8*	*4.1*	*3.7*	**-3.4**	*6.1*	*4.5*
OECD Index, 2015 = 100													**103.5**	*109.0*	*113.0*
Percent change from prior year													**-4.8**	*5.3*	*3.7*
Non-OECD Index, 2015 = 100													**116.0**	*123.7*	*130.1*
Percent change from prior year													**-2.2**	*6.7*	*5.1*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.8**	**111.5**	**108.3**	**106.8**	*108.8*	*109.3*	*109.5*	*109.6*	*109.4*	*109.2*	*108.8*	**111.9**	*108.6*	*109.3*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	*-6.1*	*-2.0*	*1.1*	*2.6*	*0.6*	*-0.1*	*-0.6*	**1.9**	*-2.9*	*0.6*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.75**	**10.81**	**10.81**	**10.90**	**10.65**	*10.97*	*11.12*	*11.34*	*11.51*	*11.68*	*11.96*	*12.21*	**11.31**	*11.02*	*11.84*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.45**	*0.37*	*0.39*	*0.44*	*0.43*	*0.36*	*0.38*	*0.43*	**0.45**	*0.41*	*0.40*
Federal Gulf of Mexico (b)	**1.96**	**1.69**	**1.45**	**1.52**	**1.79**	*1.83*	*1.74*	*1.73*	*1.76*	*1.74*	*1.76*	*1.81*	**1.66**	*1.77*	*1.77*
Lower 48 States (excl GOM)	**10.31**	**8.71**	**8.92**	**8.91**	**8.40**	*8.77*	*8.99*	*9.18*	*9.32*	*9.58*	*9.81*	*9.98*	**9.21**	*8.84*	*9.67*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.51**	**2.82**	*3.56*	*4.26*	*3.69*	*3.70*	*4.61*	*4.60*	*3.82*	**2.70**	*3.59*	*4.18*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	*0.18*	*0.00*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	**-0.15**	*0.30*	*0.22*	*-0.01*	*-0.26*	*0.01*	*0.28*	*-0.02*	**-0.14**	*0.09*	*0.00*
Crude Oil Adjustment (d)	**0.67**	**0.03**	**0.38**	**0.32**	**0.46**	*0.35*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.35**	*0.30*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.90**	**13.78**	*15.36*	*15.82*	*15.23*	*15.22*	*16.55*	*17.09*	*16.29*	**14.21**	*15.05*	*16.29*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.88**	*1.08*	*1.07*	*1.05*	*1.06*	*1.09*	*1.14*	*1.14*	**0.92**	*1.02*	*1.11*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.23**	**4.84**	*5.29*	*5.29*	*5.40*	*5.42*	*5.65*	*5.76*	*5.82*	**5.16**	*5.21*	*5.66*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.07**	**1.02**	*1.06*	*1.09*	*1.09*	*1.07*	*1.10*	*1.11*	*1.11*	**1.01**	*1.07*	*1.10*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	*0.96*	*0.98*	*0.98*	*0.97*	*0.99*	*0.99*	*1.00*	**0.91**	*0.96*	*0.99*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	*0.21*	*0.21*	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.20*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.32**	**-3.10**	*-3.04*	*-3.28*	*-3.21*	*-3.23*	*-3.56*	*-4.21*	*-4.14*	**-3.35**	*-3.16*	*-3.79*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.03**	**-2.01**	*-2.10*	*-2.11*	*-1.96*	*-1.98*	*-2.16*	*-2.21*	*-2.11*	**-1.94**	*-2.05*	*-2.12*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.19**	**0.12**	*0.37*	*0.43*	*0.30*	*0.21*	*0.26*	*0.30*	*0.20*	**0.27**	*0.30*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.04**	**-0.09**	*-0.07*	*-0.06*	*-0.07*	*-0.08*	*-0.07*	*-0.06*	*-0.08*	**-0.06**	*-0.07*	*-0.07*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.43**	**0.47**	*0.69*	*0.50*	*0.15*	*0.53*	*0.75*	*0.43*	*0.22*	**0.42**	*0.45*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.78**	**-0.67**	*-0.67*	*-0.68*	*-0.54*	*-0.75*	*-0.70*	*-0.77*	*-0.78*	**-0.62**	*-0.64*	*-0.75*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.07**	**0.02**	*0.06*	*0.03*	*0.06*	*-0.04*	*0.01*	*0.10*	*0.16*	**0.05**	*0.04*	*0.06*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.74**	**-0.50**	*-0.74*	*-0.80*	*-0.54*	*-0.56*	*-0.95*	*-1.26*	*-1.13*	**-0.98**	*-0.65*	*-0.98*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.05**	**0.07**	*0.00*	*-0.01*	*0.05*	*-0.03*	*-0.07*	*-0.06*	*0.04*	**0.02**	*0.03*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.48**	**-0.52**	*-0.58*	*-0.58*	*-0.64*	*-0.52*	*-0.64*	*-0.68*	*-0.67*	**-0.52**	*-0.58*	*-0.63*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.71**	**0.70**	*-0.35*	*-0.32*	*0.45*	*0.28*	*-0.58*	*-0.28*	*0.33*	**-0.03**	*0.12*	*-0.06*
Total Supply	**19.33**	**16.08**	**18.36**	**18.71**	**18.31**	*19.60*	*19.88*	*20.22*	*20.03*	*20.46*	*20.84*	*20.78*	**18.12**	*19.51*	*20.53*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.70**	**3.38**	*3.16*	*3.04*	*3.67*	*3.84*	*3.33*	*3.37*	*3.85*	**3.20**	*3.31*	*3.60*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**0.03**	**-0.02**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.07**	*0.00*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.02**	**8.01**	*8.94*	*9.00*	*8.82*	*8.50*	*9.13*	*9.19*	*8.86*	**8.03**	*8.70*	*8.92*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.84**	**0.84**	*0.90*	*0.92*	*0.90*	*0.86*	*0.93*	*0.93*	*0.92*	**0.82**	*0.89*	*0.91*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.12**	*1.34*	*1.49*	*1.51*	*1.49*	*1.63*	*1.77*	*1.78*	**1.08**	*1.36*	*1.67*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.92**	**3.94**	*4.04*	*4.02*	*4.18*	*4.24*	*4.19*	*4.13*	*4.19*	**3.78**	*4.05*	*4.19*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.23**	**0.26**	*0.21*	*0.28*	*0.24*	*0.23*	*0.21*	*0.25*	*0.26*	**0.22**	*0.25*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.71**	**1.63**	*1.91*	*2.06*	*1.80*	*1.73*	*1.98*	*2.13*	*1.84*	**1.75**	*1.85*	*1.92*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.71**	**18.31**	*19.60*	*19.88*	*20.22*	*20.03*	*20.46*	*20.84*	*20.78*	**18.12**	*19.51*	*20.53*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-0.81**	**-0.28**	*0.52*	*0.97*	*0.48*	*0.47*	*1.04*	*0.40*	*-0.32*	**-0.65**	*0.43*	*0.40*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.3**	**498.3**	*471.1*	*450.9*	*451.9*	*475.2*	*474.5*	*449.2*	*450.6*	**485.3**	*451.9*	*450.6*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**229.2**	**170.5**	*207.5*	*247.6*	*202.7*	*160.0*	*208.4*	*249.3*	*208.3*	**229.2**	*202.7*	*208.3*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.2**	**93.3**	*91.3*	*90.2*	*83.1*	*93.1*	*91.1*	*90.1*	*83.2*	**78.2**	*83.1*	*83.2*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**29.9**	**27.1**	*26.2*	*26.0*	*26.2*	*28.3*	*27.1*	*26.8*	*27.1*	**29.9**	*26.2*	*27.1*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**243.2**	**234.6**	*233.7*	*226.7*	*234.3*	*241.7*	*245.7*	*233.4*	*249.4*	**243.2**	*234.3*	*249.4*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	**19.1**	*23.4*	*22.2*	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.3**	*24.4*	*26.2*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**217.9**	**215.5**	*210.3*	*204.5*	*209.9*	*217.6*	*221.8*	*210.3*	*223.3*	**217.9**	*209.9*	*223.3*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.6**	**38.3**	*40.1*	*42.4*	*39.5*	*39.1*	*40.0*	*42.4*	*39.3*	**38.6**	*39.5*	*39.3*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**160.4**	**145.5**	*139.8*	*142.9*	*145.4*	*134.8*	*139.4*	*146.2*	*147.0*	**160.4**	*145.4*	*147.0*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	**30.9**	*33.4*	*31.4*	*32.6*	*32.1*	*32.8*	*31.1*	*32.6*	**30.2**	*32.6*	*32.6*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**49.3**	**56.0**	*56.5*	*50.9*	*53.2*	*62.2*	*59.9*	*50.7*	*52.1*	**49.3**	*53.2*	*52.1*
Total Commercial Inventory	**1320.8**	**1452.8**	**1422.0**	**1344.3**	**1294.5**	*1299.7*	*1309.1*	*1268.9*	*1266.6*	*1319.0*	*1319.0*	*1289.7*	**1344.3**	*1268.9*	*1289.7*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	*621.6*	*621.6*	*617.3*	*613.1*	*608.8*	*606.1*	*596.4*	**638.1**	*617.3*	*596.4*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.06**	**1.85**	*2.19*	*2.13*	*2.25*	*2.37*	*2.47*	*2.52*	*2.59*	**2.01**	*2.10*	*2.49*
Propane	**1.72**	**1.61**	**1.68**	**1.70**	**1.60**	*1.65*	*1.67*	*1.68*	*1.64*	*1.69*	*1.71*	*1.72*	**1.68**	*1.65*	*1.69*
Butanes	**0.91**	**0.86**	**0.90**	**0.89**	**0.84**	*0.87*	*0.89*	*0.90*	*0.87*	*0.90*	*0.92*	*0.92*	**0.89**	*0.88*	*0.90*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.58**	**0.54**	*0.58*	*0.60*	*0.58*	*0.54*	*0.59*	*0.62*	*0.59*	**0.58**	*0.57*	*0.58*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	*0.00*	*0.01*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	*0.29*	*0.31*	*0.31*	*0.30*	*0.30*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	*0.28*	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	*0.26*	*0.20*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.28**	**-0.35**	*-0.39*	*-0.38*	*-0.38*	*-0.43*	*-0.45*	*-0.45*	*-0.47*	**-0.28**	*-0.38*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.29**	**-1.08**	*-1.14*	*-1.16*	*-1.07*	*-1.04*	*-1.17*	*-1.21*	*-1.16*	**-1.14**	*-1.11*	*-1.15*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.33**	**-0.35**	*-0.39*	*-0.39*	*-0.34*	*-0.33*	*-0.39*	*-0.39*	*-0.33*	**-0.32**	*-0.37*	*-0.36*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	*-0.19*	*-0.19*	*-0.17*	*-0.18*	*-0.16*	*-0.17*	*-0.15*	**-0.19**	*-0.19*	*-0.16*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.38**	*0.28*	*0.31*	*0.49*	*0.39*	*0.29*	*0.32*	*0.50*	**0.37**	*0.36*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.13**	*0.16*	*0.17*	*0.16*	*0.17*	*0.18*	*0.19*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.81**	**1.52**	*1.83*	*1.74*	*1.89*	*2.02*	*2.03*	*2.07*	*2.11*	**1.70**	*1.75*	*2.06*
Propane	**1.09**	**0.59**	**0.58**	**0.99**	**1.11**	*0.58*	*0.58*	*1.04*	*1.14*	*0.56*	*0.57*	*1.00*	**0.81**	*0.83*	*0.81*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.30**	**0.29**	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.29*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.24**	**0.19**	*0.24*	*0.20*	*0.20*	*0.18*	*0.22*	*0.20*	*0.20*	**0.20**	*0.21*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.35**	**0.26**	*0.21*	*0.23*	*0.24*	*0.21*	*0.22*	*0.23*	*0.24*	**0.21**	*0.23*	*0.23*
HGL Inventories (million barrels)															
Ethane	**52.6**	**49.5**	**62.5**	**74.9**	**65.7**	*66.4*	*65.0*	*66.6*	*58.6*	*58.0*	*57.1*	*60.1*	**59.9**	*65.9*	*58.5*
Propane	**60.3**	**75.3**	**100.7**	**70.4**	**38.5**	*57.4*	*78.0*	*65.6*	*42.3*	*64.9*	*87.1*	*74.2*	**70.4**	*65.6*	*74.2*
Propylene (at refineries only)	**1.4**	**1.5**	**1.5**	**1.5**	**1.1**	*1.5*	*1.9*	*1.9*	*1.7*	*1.9*	*2.1*	*2.0*	**1.5**	*1.9*	*2.0*
Butanes/Butylenes	**43.6**	**69.3**	**86.0**	**54.7**	**38.3**	*58.7*	*76.8*	*47.9*	*38.0*	*62.3*	*80.2*	*51.0*	**54.7**	*47.9*	*51.0*
Natural Gasoline (Pentanes Plus)	**24.0**	**35.7**	**38.6**	**32.9**	**25.0**	*25.1*	*24.6*	*23.2*	*20.5*	*21.5*	*22.2*	*21.4*	**32.9**	*23.2*	*21.4*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.90**	**13.78**	*15.36*	*15.82*	*15.23*	*15.22*	*16.55*	*17.09*	*16.29*	**14.21**	*15.05*	*16.29*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.52**	*0.44*	*0.48*	*0.65*	*0.55*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.56*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	*1.16*	*1.17*	*1.16*	*1.14*	*1.20*	*1.20*	*1.17*	**1.06**	*1.14*	*1.18*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.20**	**-0.02**	*0.39*	*0.44*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.30*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.46**	**0.68**	*0.90*	*0.67*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.63*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.23**	**16.01**	*18.26*	*18.58*	*17.67*	*17.57*	*19.31*	*19.76*	*18.72*	**16.57**	*17.64*	*18.85*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.88**	*1.08*	*1.07*	*1.05*	*1.06*	*1.09*	*1.14*	*1.14*	**0.92**	*1.02*	*1.11*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.43**	*0.84*	*0.79*	*0.41*	*0.50*	*0.86*	*0.80*	*0.41*	**0.55**	*0.62*	*0.64*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**8.98**	**8.75**	*9.81*	*9.76*	*9.55*	*9.33*	*9.89*	*10.02*	*9.85*	**8.74**	*9.47*	*9.77*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.09**	*1.30*	*1.48*	*1.41*	*1.53*	*1.63*	*1.70*	*1.58*	**1.02**	*1.32*	*1.61*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.46**	**4.26**	*4.66*	*4.78*	*4.68*	*4.65*	*5.14*	*5.40*	*5.27*	**4.74**	*4.59*	*5.12*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.15**	**0.19**	*0.23*	*0.26*	*0.21*	*0.26*	*0.29*	*0.29*	*0.23*	**0.19**	*0.22*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.16**	*2.50*	*2.57*	*2.47*	*2.35*	*2.59*	*2.70*	*2.53*	**2.26**	*2.43*	*2.54*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.15**	**16.88**	*19.34*	*19.65*	*18.72*	*18.63*	*20.40*	*20.90*	*19.86*	**17.49**	*18.66*	*19.95*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.32**	**14.19**	*15.74*	*16.20*	*15.63*	*15.56*	*16.75*	*17.30*	*16.54*	**14.72**	*15.45*	*16.54*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	*18.09*	*18.09*	*18.09*	*18.09*	*18.09*	*18.09*	*18.09*	**18.66**	*18.09*	*18.09*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.78**	*0.87*	*0.90*	*0.86*	*0.86*	*0.93*	*0.96*	*0.91*	**0.79**	*0.85*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**181**	*209*	*194*	*172*	*174*	*184*	*186*	*176*	**133**	*189*	*180*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	*279*	*270*	*247*	*242*	*253*	*258*	*249*	**214**	*262*	*251*
PADD 2	**226**	**179**	**207**	**202**	**246**	*283*	*260*	*236*	*227*	*252*	*251*	*239*	**204**	*257*	*243*
PADD 3	**210**	**162**	**186**	**183**	**229**	*258*	*243*	*221*	*221*	*232*	*233*	*224*	**187**	*238*	*228*
PADD 4	**247**	**201**	**233**	**221**	**246**	*296*	*281*	*257*	*250*	*270*	*274*	*260*	**226**	*270*	*264*
PADD 5	**311**	**258**	**283**	**278**	**312**	*351*	*338*	*319*	*324*	*339*	*330*	*339*	**284**	*331*	*333*
U.S. Average	**241**	**194**	**218**	**215**	**256**	*289*	*275*	*252*	*249*	*265*	*265*	*258*	**218**	*268*	*259*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	*299*	*287*	*265*	*262*	*278*	*278*	*272*	**227**	*280*	*273*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**68.5**	**64.0**	*62.3*	*58.4*	*59.6*	*65.3*	*68.0*	*62.9*	*68.8*	**68.5**	*59.6*	*68.8*
PADD 2	**60.2**	**52.6**	**46.2**	**50.9**	**50.5**	*51.6*	*50.3*	*50.2*	*53.4*	*52.2*	*50.7*	*51.1*	**50.9**	*50.2*	*51.1*
PADD 3	**84.8**	**90.5**	**79.7**	**83.7**	**80.4**	*82.2*	*80.9*	*85.4*	*85.1*	*88.1*	*82.7*	*89.6*	**83.7**	*85.4*	*89.6*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.8**	*8.1*	*7.6*	*8.0*	*7.9*	*8.0*	*7.7*	*8.2*	**8.7**	*8.0*	*8.2*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	**30.9**	*29.6*	*29.6*	*31.1*	*30.0*	*29.4*	*29.4*	*31.7*	**31.4**	*31.1*	*31.7*
U.S. Total	**260.8**	**253.3**	**226.5**	**243.2**	**234.6**	*233.7*	*226.7*	*234.3*	*241.7*	*245.7*	*233.4*	*249.4*	**243.2**	*234.3*	*249.4*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	**19.1**	*23.4*	*22.2*	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.3**	*24.4*	*26.2*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**217.9**	**215.5**	*210.3*	*204.5*	*209.9*	*217.6*	*221.8*	*210.3*	*223.3*	**217.9**	*209.9*	*223.3*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.70**	**96.91**	*97.51*	*98.13*	*98.86*	*98.80*	*99.41*	*100.55*	*101.37*	**98.83**	*97.86*	*100.04*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.00**	*0.75*	*0.71*	*0.88*	*0.92*	*0.76*	*0.71*	*0.87*	**0.92**	*0.83*	*0.81*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.73**	**2.25**	*2.31*	*2.16*	*2.09*	*2.09*	*2.02*	*1.92*	*1.90*	**2.09**	*2.20*	*1.98*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**95.99**	**93.66**	*94.45*	*95.26*	*95.90*	*95.79*	*96.64*	*97.92*	*98.60*	**95.81**	*94.82*	*97.25*
Total Dry Gas Production	**94.79**	**89.68**	**89.83**	**91.15**	**90.09**	*90.75*	*91.34*	*92.03*	*91.97*	*92.54*	*93.60*	*94.36*	**91.35**	*91.06*	*93.12*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.19**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.19*	*0.22*
LNG Gross Exports	**7.92**	**5.51**	**3.91**	**8.78**	**9.36**	*9.03*	*8.68*	*9.73*	*9.96*	*8.83*	*8.33*	*9.78*	**6.53**	*9.20*	*9.22*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.73**	*6.59*	*6.69*	*6.83*	*7.38*	*6.36*	*6.37*	*6.69*	**6.84**	*7.20*	*6.69*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.18**	**7.95**	*7.78*	*8.98*	*9.33*	*9.24*	*8.61*	*9.36*	*9.37*	**7.90**	*8.51*	*9.15*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.18**	**0.18**	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.17**	*0.18*	*0.18*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.17**	*-9.81*	*-7.74*	*6.37*	*17.45*	*-11.57*	*-9.20*	*4.39*	**-0.46**	*1.44*	*0.21*
Total Supply	**99.49**	**71.13**	**76.78**	**87.09**	**99.05**	*71.07*	*73.00*	*86.53*	*98.09*	*70.23*	*73.44*	*86.67*	**83.61**	*82.36*	*82.05*
Balancing Item (b)	**-0.18**	**-0.29**	**0.05**	**-1.01**	**0.14**	*-0.55*	*0.69*	*0.85*	*0.30*	*0.19*	*0.88*	*0.54*	**-0.36**	*0.28*	*0.48*
Total Primary Supply	**99.31**	**70.84**	**76.83**	**86.08**	**99.19**	*70.53*	*73.69*	*87.38*	*98.39*	*70.42*	*74.32*	*87.21*	**83.25**	*82.64*	*82.53*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.82**	**16.00**	**25.13**	*7.17*	*3.73*	*16.81*	*24.14*	*8.03*	*3.79*	*16.67*	**12.70**	*13.16*	*13.11*
Commercial	**13.93**	**5.82**	**4.36**	**10.31**	**14.69**	*6.44*	*4.70*	*10.82*	*14.89*	*6.19*	*4.62*	*10.74*	**8.60**	*9.14*	*9.09*
Industrial	**24.65**	**20.62**	**21.15**	**23.83**	**24.26**	*22.50*	*21.95*	*24.72*	*25.30*	*22.51*	*21.71*	*24.10*	**22.56**	*23.35*	*23.40*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.79**	*26.52*	*35.38*	*26.62*	*25.39*	*25.73*	*36.20*	*27.16*	**31.74**	*28.85*	*28.64*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	**4.90**	*4.93*	*4.96*	*5.00*	*5.00*	*5.03*	*5.08*	*5.13*	**5.00**	*4.95*	*5.06*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.61**	**3.28**	*2.82*	*2.81*	*3.26*	*3.51*	*2.78*	*2.76*	*3.26*	**2.53**	*3.04*	*3.08*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	**0.14**	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.84**	**76.83**	**86.08**	**99.19**	*70.53*	*73.69*	*87.38*	*98.39*	*70.42*	*74.32*	*87.21*	**83.25**	*82.64*	*82.53*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,030**	**3,133**	**3,840**	**3,341**	**1,801**	*2,693*	*3,405*	*2,819*	*1,249*	*2,302*	*3,149*	*2,744*	**3,341**	*2,819*	*2,744*
East Region (d)	**385**	**655**	**890**	**763**	**306**	*537*	*792*	*561*	*81*	*383*	*652*	*465*	**763**	*561*	*465*
Midwest Region (d)	**472**	**747**	**1,053**	**918**	**399**	*637*	*967*	*779*	*198*	*494*	*870*	*738*	**918**	*779*	*738*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**763**	*1,035*	*1,088*	*1,005*	*630*	*921*	*1,013*	*976*	**1,155**	*1,005*	*976*
Mountain Region (d)	**92**	**177**	**235**	**195**	**114**	*166*	*211*	*173*	*117*	*165*	*230*	*209*	**195**	*173*	*209*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	*295*	*326*	*278*	*200*	*318*	*362*	*334*	**282**	*278*	*334*
Alaska	**23**	**25**	**31**	**28**	**23**	*22*	*22*	*22*	*22*	*22*	*22*	*22*	**28**	*22*	*22*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	*2.89*	*3.01*	*3.08*	*3.20*	*3.06*	*3.10*	*3.18*	**2.11**	*3.17*	*3.13*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**14.64**	**14.75**	*15.18*	*17.51*	*13.37*	*12.96*	*13.86*	*16.84*	*13.00*	**14.47**	*14.59*	*13.37*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.77**	**10.42**	*12.76*	*16.98*	*11.00*	*10.09*	*12.42*	*17.16*	*11.29*	**11.76**	*11.27*	*11.24*
E. N. Central	**6.99**	**9.50**	**18.15**	**8.02**	**7.35**	*10.86*	*16.56*	*8.32*	*7.62*	*10.57*	*16.31*	*8.11*	**8.39**	*8.54*	*8.69*
W. N. Central	**6.85**	**9.89**	**17.26**	**8.66**	**8.63**	*12.33*	*17.72*	*9.45*	*8.08*	*10.86*	*16.95*	*9.02*	**8.48**	*9.73*	*9.23*
S. Atlantic	**12.12**	**15.52**	**24.15**	**14.20**	**12.02**	*17.26*	*22.91*	*12.66*	*11.22*	*16.37*	*22.54*	*12.54*	**14.23**	*13.63*	*13.12*
E. S. Central	**9.69**	**13.34**	**20.85**	**10.63**	**9.76**	*15.37*	*22.15*	*13.42*	*10.47*	*14.90*	*22.02*	*13.33*	**11.15**	*11.69*	*12.55*
W. S. Central	**8.52**	**14.22**	**20.83**	**11.67**	**9.93**	*14.97*	*20.61*	*11.74*	*8.86*	*14.27*	*20.27*	*11.48*	**11.40**	*12.04*	*11.36*
Mountain	**7.55**	**9.37**	**12.60**	**8.15**	**7.94**	*10.10*	*13.77*	*8.53*	*8.05*	*9.82*	*13.65*	*8.53*	**8.43**	*8.80*	*8.90*
Pacific	**13.41**	**14.47**	**14.50**	**13.70**	**14.30**	*14.61*	*14.98*	*13.73*	*13.84*	*14.53*	*15.29*	*14.22*	**13.82**	*14.26*	*14.25*
U.S. Average	**9.46**	**11.89**	**17.65**	**10.60**	**9.98**	*13.16*	*17.42*	*10.66*	*9.66*	*12.62*	*17.34*	*10.60*	**10.83**	*11.16*	*10.97*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**10.06**	**10.31**	*10.60*	*10.79*	*10.15*	*10.48*	*10.55*	*10.27*	*10.07*	**10.16**	*10.35*	*10.34*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.53**	**7.85**	*7.61*	*6.98*	*7.44*	*7.82*	*7.62*	*7.17*	*7.66*	**7.50**	*7.58*	*7.66*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.21**	**6.39**	*8.11*	*9.41*	*7.10*	*6.78*	*7.54*	*8.58*	*6.45*	**6.28**	*7.06*	*6.92*
W. N. Central	**5.43**	**6.53**	**8.12**	**6.55**	**7.47**	*8.30*	*9.11*	*7.28*	*7.06*	*7.54*	*8.80*	*6.97*	**6.14**	*7.64*	*7.22*
S. Atlantic	**8.51**	**9.21**	**9.55**	**8.88**	**8.87**	*9.87*	*10.00*	*8.85*	*8.39*	*9.15*	*9.42*	*8.43*	**8.87**	*9.16*	*8.65*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	**8.49**	*9.59*	*10.28*	*9.06*	*8.39*	*9.36*	*9.94*	*8.84*	**8.78**	*9.00*	*8.84*
W. S. Central	**5.99**	**7.18**	**8.13**	**7.46**	**7.28**	*8.03*	*8.69*	*7.96*	*7.08*	*7.53*	*8.00*	*7.29*	**6.92**	*7.78*	*7.35*
Mountain	**6.09**	**6.85**	**7.42**	**6.45**	**6.54**	*7.11*	*8.12*	*7.09*	*6.89*	*7.27*	*8.13*	*6.99*	**6.46**	*6.96*	*7.11*
Pacific	**9.58**	**9.30**	**9.59**	**9.70**	**10.35**	*10.01*	*10.09*	*9.36*	*9.23*	*9.05*	*9.51*	*9.15*	**9.57**	*9.94*	*9.21*
U.S. Average	**7.13**	**7.63**	**8.49**	**7.53**	**7.75**	*8.52*	*8.91*	*7.91*	*7.69*	*8.12*	*8.54*	*7.65*	**7.48**	*8.05*	*7.84*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.67**	**8.69**	*7.77*	*6.77*	*7.66*	*8.09*	*7.52*	*6.61*	*7.62*	**7.54**	*7.85*	*7.59*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.61**	**7.70**	*7.24*	*7.25*	*7.46*	*8.02*	*7.75*	*7.63*	*8.00*	**7.28**	*7.48*	*7.91*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.10**	**5.52**	*5.73*	*5.70*	*5.57*	*5.85*	*5.64*	*5.56*	*5.54*	**4.86**	*5.59*	*5.69*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.13**	**6.03**	*4.97*	*4.54*	*4.94*	*5.18*	*4.52*	*4.41*	*4.90*	**3.68**	*5.18*	*4.79*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	**5.43**	*4.85*	*4.84*	*5.09*	*5.28*	*4.73*	*4.68*	*4.95*	**4.06**	*5.07*	*4.93*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.04**	**5.04**	*4.48*	*4.45*	*4.83*	*5.00*	*4.48*	*4.29*	*4.64*	**3.65**	*4.73*	*4.62*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.89**	**5.44**	*3.00*	*3.27*	*3.30*	*3.35*	*3.22*	*3.28*	*3.34*	**2.31**	*3.70*	*3.30*
Mountain	**4.40**	**4.59**	**4.67**	**4.91**	**5.11**	*5.43*	*5.88*	*5.84*	*5.79*	*5.50*	*5.64*	*5.46*	**4.64**	*5.53*	*5.60*
Pacific	**7.46**	**6.28**	**6.18**	**7.23**	**8.27**	*7.19*	*7.13*	*7.07*	*7.07*	*6.54*	*6.80*	*6.84*	**6.86**	*7.41*	*6.83*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.77**	**5.78**	*3.90*	*3.96*	*4.28*	*4.53*	*4.00*	*3.94*	*4.27*	**3.29**	*4.50*	*4.20*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.1**	**115.2**	**135.8**	**139.0**	**138.7**	*140.2*	*153.6*	*149.6*	*151.1*	*145.5*	*156.6*	*151.5*	**539.1**	*582.1*	*604.8*
Appalachia	**39.7**	**29.3**	**33.9**	**35.5**	**34.8**	*35.1*	*34.5*	*35.6*	*39.6*	*41.1*	*39.0*	*39.9*	**138.3**	*140.0*	*159.6*
Interior	**25.8**	**19.2**	**23.2**	**22.3**	**22.4**	*24.7*	*28.7*	*28.5*	*30.2*	*29.1*	*29.7*	*28.8*	**90.4**	*104.4*	*117.7*
Western	**83.6**	**66.7**	**78.8**	**81.2**	**81.5**	*80.3*	*90.4*	*85.4*	*81.3*	*75.4*	*87.9*	*82.8*	**310.3**	*337.7*	*327.4*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-0.9**	**0.0**	*0.1*	*2.1*	*-2.1*	*-1.3*	*-2.1*	*-0.8*	*-5.3*	**2.8**	*0.2*	*-9.6*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	*0.9*	*1.2*	*1.2*	*1.0*	*1.0*	*1.3*	*1.3*	**5.1**	*4.5*	*4.6*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	*17.9*	*17.2*	*21.2*	*27.2*	*18.0*	*18.4*	*24.0*	**69.1**	*77.0*	*87.5*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	*8.5*	*10.8*	*11.7*	*15.4*	*10.6*	*12.2*	*13.1*	**42.1**	*41.4*	*51.4*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	*9.4*	*6.5*	*9.4*	*11.8*	*7.4*	*6.2*	*10.8*	**27.0**	*35.6*	*36.2*
Total Primary Supply	**130.9**	**102.9**	**123.8**	**120.3**	**119.1**	*123.3*	*139.8*	*127.5*	*123.6*	*126.4*	*138.8*	*123.5*	**477.9**	*509.8*	*512.3*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-3.3**	**17.8**	*-0.4*	*24.4*	*1.1*	*19.8*	*-6.2*	*18.5*	*0.4*	**-3.5**	*42.9*	*32.5*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	*2.0*	*2.0*	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.2**	**99.4**	**147.3**	**119.3**	**138.9**	*124.9*	*166.2*	*130.7*	*145.2*	*122.1*	*159.1*	*125.7*	**482.1**	*560.7*	*552.1*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**1.3**	*2.6*	*4.2*	*6.1*	*3.4*	*3.2*	*3.7*	*5.3*	**14.4**	*14.1*	*15.5*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**129.8**	*115.8*	*155.5*	*117.8*	*135.1*	*112.4*	*149.0*	*113.9*	**436.5**	*518.9*	*510.4*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.2**	**7.0**	*6.6*	*6.5*	*6.8*	*6.8*	*6.5*	*6.4*	*6.5*	**26.4**	*26.8*	*26.2*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.7*
Other Industrial	**7.1**	**5.6**	**5.9**	**7.0**	**6.8**	*6.4*	*6.3*	*6.5*	*6.6*	*6.4*	*6.2*	*6.3*	**25.6**	*26.0*	*25.5*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	**138.0**	*124.9*	*166.2*	*130.7*	*145.2*	*122.1*	*159.1*	*125.7*	**477.3**	*559.8*	*552.1*
Discrepancy (c)	**6.7**	**2.9**	**-1.3**	**-3.5**	**0.9**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**4.8**	*0.9*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	**28.5**	*28.3*	*26.2*	*28.3*	*29.7*	*31.8*	*32.6*	*37.9*	**28.5**	*28.3*	*37.9*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**137.5**	**119.7**	*120.1*	*95.7*	*94.5*	*74.7*	*80.9*	*62.4*	*62.1*	**137.5**	*94.5*	*62.1*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**114.4**	*114.6*	*90.1*	*89.2*	*69.6*	*75.6*	*57.1*	*56.9*	**132.7**	*89.2*	*56.9*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**3.8**	*3.6*	*3.5*	*3.3*	*3.6*	*3.4*	*3.4*	*3.2*	**2.8**	*3.3*	*3.2*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.4**	*1.7*	*1.8*	*1.9*	*1.3*	*1.7*	*1.8*	*1.8*	**1.7**	*1.9*	*1.8*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	*6.32*	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	*0.257*	*0.268*	*0.303*	*0.290*	*0.255*	*0.251*	*0.258*	**0.216**	*0.269*	*0.263*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.93**	*1.98*	*1.98*	*1.95*	*1.99*	*1.99*	*1.97*	*1.95*	**1.92**	*1.96*	*1.98*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**990**	*974*	*1,139*	*967*	*993*	*982*	*1,149*	*975*	**4,009**	*4,070*	*4,099*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	*936*	*1,101*	*930*	*956*	*944*	*1,109*	*937*	**3,853**	*3,920*	*3,946*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	*34*	*34*	*34*	*34*	*34*	*36*	*35*	**143**	*136*	*139*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*14*	*14*
Net Imports	**10**	**11**	**15**	**12**	**9**	*12*	*15*	*11*	*12*	*13*	*15*	*11*	**47**	*47*	*51*
Total Supply	**976**	**944**	**1,163**	**973**	**999**	*986*	*1,154*	*978*	*1,006*	*994*	*1,164*	*986*	**4,056**	*4,117*	*4,150*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**52**	*68*	*57*	*54*	*45*	*67*	*57*	*54*	**254**	*231*	*224*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**913**	*885*	*1,064*	*892*	*927*	*894*	*1,071*	*898*	**3,664**	*3,754*	*3,790*
Residential Sector	**340**	**334**	**453**	**334**	**376**	*343*	*446*	*340*	*377*	*346*	*449*	*343*	**1,462**	*1,504*	*1,515*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	*308*	*365*	*315*	*311*	*312*	*369*	*318*	**1,276**	*1,293*	*1,311*
Industrial Sector	**231**	**216**	**242**	**231**	**231**	*232*	*251*	*235*	*236*	*235*	*251*	*235*	**920**	*950*	*957*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	*33*	*34*	*33*	*33*	*33*	*35*	*34*	**138**	*133*	*136*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	*918*	*1,097*	*925*	*960*	*927*	*1,106*	*932*	**3,802**	*3,887*	*3,925*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,712**	*2,477*	*3,220*	*2,451*	*2,692*	*2,467*	*3,204*	*2,449*	**10,723**	*10,861*	*10,812*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**114.4**	*114.6*	*90.1*	*89.2*	*69.6*	*75.6*	*57.1*	*56.9*	**132.7**	*89.2*	*56.9*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.8**	*8.9*	*8.9*	*9.1*	*8.5*	*8.5*	*8.5*	*9.0*	**8.3**	*9.1*	*9.0*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**16.0**	*16.0*	*15.9*	*16.2*	*16.1*	*16.0*	*16.0*	*16.3*	**16.8**	*16.2*	*16.3*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.93**	*1.98*	*1.98*	*1.95*	*1.99*	*1.99*	*1.97*	*1.95*	**1.92**	*1.96*	*1.98*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**8.23**	*3.45*	*3.12*	*3.31*	*3.65*	*3.19*	*3.16*	*3.39*	**2.39**	*4.41*	*3.33*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**10.52**	*12.48*	*11.90*	*11.23*	*11.51*	*12.14*	*11.36*	*11.23*	**9.15**	*11.48*	*11.54*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.53**	*14.87*	*14.77*	*14.49*	*14.68*	*14.50*	*14.47*	*14.68*	**10.73**	*14.27*	*14.59*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.14**	*13.54*	*13.69*	*13.59*	*13.49*	*13.81*	*13.82*	*13.67*	**13.20**	*13.50*	*13.70*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**10.92**	*10.96*	*11.41*	*11.01*	*11.22*	*11.18*	*11.50*	*11.08*	**10.65**	*11.09*	*11.25*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.14**	*6.91*	*7.19*	*6.57*	*6.90*	*7.00*	*7.19*	*6.58*	**6.66**	*6.96*	*6.92*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	*8.86*	*18.75*	*15.87*	*16.83*	*15.81*	*15.70*	*15.57*	**26.99**	*164.96*	*15.98*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	*40.23*	*45.79*	*39.09*	*41.05*	*40.38*	*43.02*	*38.78*	**38.15**	*42.46*	*40.81*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	*28.30*	*32.85*	*37.83*	*50.39*	*29.20*	*31.30*	*34.40*	**26.52**	*38.56*	*36.32*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	*26.40*	*31.28*	*32.59*	*41.75*	*28.59*	*31.04*	*29.75*	**22.85**	*33.75*	*32.78*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	*28.82*	*32.10*	*28.52*	*31.70*	*28.99*	*31.86*	*29.08*	**24.49**	*31.13*	*30.40*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	*29.07*	*31.27*	*28.39*	*29.81*	*29.77*	*32.26*	*29.26*	**25.43**	*33.43*	*30.28*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	*25.34*	*30.84*	*26.26*	*26.69*	*26.76*	*31.66*	*26.74*	**22.55**	*83.19*	*27.96*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	*27.16*	*29.28*	*27.09*	*27.97*	*27.53*	*29.35*	*27.22*	**22.62**	*31.16*	*28.02*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	*26.74*	*28.69*	*28.42*	*28.85*	*27.52*	*27.85*	*27.90*	**23.48**	*27.89*	*28.03*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	*29.61*	*34.09*	*29.70*	*30.60*	*29.18*	*31.46*	*29.02*	**25.46**	*31.99*	*30.06*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	*34.36*	*39.51*	*32.72*	*32.76*	*34.34*	*36.20*	*32.68*	**39.64**	*37.08*	*33.99*

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**13.0**	*11.1*	*13.7*	*11.2*	*13.2*	*11.2*	*13.5*	*11.1*	**48.2**	*49.0*	*49.0*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**35.8**	*30.3*	*40.6*	*31.4*	*36.2*	*30.7*	*40.3*	*31.4*	**137.1**	*138.1*	*138.6*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.0**	*44.3*	*54.8*	*44.7*	*51.0*	*44.7*	*54.7*	*44.9*	**190.0**	*193.9*	*195.3*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**30.2**	*25.1*	*30.6*	*25.9*	*32.7*	*26.4*	*32.0*	*27.0*	**105.8**	*111.8*	*118.2*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**94.9**	*89.8*	*113.4*	*85.5*	*94.6*	*89.9*	*114.5*	*86.4*	**370.6**	*383.7*	*385.4*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.6**	*27.1*	*38.1*	*27.3*	*33.4*	*27.3*	*38.4*	*27.5*	**118.8**	*126.1*	*126.6*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**55.1**	*55.0*	*78.0*	*50.6*	*52.8*	*54.6*	*78.9*	*51.5*	**226.5**	*238.6*	*237.8*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.6**	*25.8*	*34.3*	*24.0*	*23.6*	*26.0*	*34.5*	*24.4*	**108.4**	*107.8*	*108.4*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**38.2**	*33.5*	*41.3*	*37.6*	*38.5*	*33.9*	*41.2*	*37.7*	**151.5**	*150.6*	*151.4*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**375.7**	*343.2*	*446.1*	*339.5*	*377.3*	*345.8*	*449.1*	*343.2*	**1,462.0**	*1,504.5*	*1,515.4*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.9**	*10.8*	*12.9*	*11.5*	*12.0*	*10.9*	*12.9*	*11.5*	**47.5**	*47.2*	*47.3*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.8**	*33.8*	*39.3*	*34.5*	*36.1*	*34.7*	*39.8*	*34.9*	**138.9**	*142.4*	*145.5*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.4**	*41.2*	*48.2*	*42.4*	*42.7*	*41.9*	*48.7*	*42.8*	**169.7**	*173.2*	*176.0*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.2**	*21.9*	*26.8*	*23.8*	*24.9*	*22.4*	*27.5*	*24.4*	**96.0**	*96.7*	*99.1*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**71.0**	*74.9*	*87.7*	*73.9*	*73.2*	*76.1*	*88.8*	*74.6*	**300.2**	*307.5*	*312.8*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.7**	*20.1*	*25.9*	*20.8*	*21.0*	*20.3*	*26.1*	*20.9*	**85.8**	*87.5*	*88.2*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**43.4**	*46.2*	*56.7*	*47.0*	*43.7*	*46.4*	*57.2*	*47.7*	**189.4**	*193.3*	*195.0*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**22.1**	*23.4*	*27.4*	*23.2*	*22.7*	*23.8*	*27.9*	*23.7*	**94.7**	*96.2*	*98.1*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**34.0**	*34.4*	*39.1*	*36.8*	*33.9*	*34.2*	*38.7*	*36.3*	**148.3**	*144.3*	*143.2*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	*1.2*	*1.3*	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	**5.2**	*5.2*	*5.4*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.8**	*308.0*	*365.4*	*315.3*	*311.5*	*312.0*	*368.9*	*318.2*	**1,275.7**	*1,293.4*	*1,310.6*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.7**	*3.6*	*4.0*	*3.7*	*3.7*	*3.6*	*3.9*	*3.6*	**14.8**	*15.0*	*14.7*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.9**	*17.4*	*19.1*	*17.8*	*18.3*	*17.6*	*19.2*	*17.8*	**70.4**	*72.2*	*72.9*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.7**	*41.6*	*46.8*	*43.3*	*45.8*	*41.8*	*46.6*	*43.0*	**168.7**	*176.3*	*177.2*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.1**	*22.9*	*24.5*	*22.8*	*23.9*	*23.4*	*24.8*	*22.9*	**87.3**	*93.3*	*95.1*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.6**	*33.5*	*35.4*	*34.0*	*33.9*	*33.4*	*35.2*	*33.6*	**131.7**	*136.5*	*136.1*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.6**	*23.2*	*24.2*	*23.2*	*24.1*	*23.3*	*24.1*	*23.0*	**91.1**	*94.3*	*94.6*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**45.7**	*46.9*	*49.7*	*50.0*	*47.3*	*48.2*	*50.5*	*50.7*	**188.1**	*192.3*	*196.7*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.7**	*21.5*	*23.4*	*20.3*	*20.2*	*21.9*	*23.7*	*20.5*	**82.9**	*84.9*	*86.3*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.3**	*20.6*	*22.5*	*19.0*	*18.2*	*20.4*	*22.2*	*18.7*	**80.1**	*80.4*	*79.4*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.5*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**231.3**	*232.3*	*250.8*	*235.3*	*236.5*	*234.6*	*251.3*	*235.0*	**919.5**	*949.6*	*957.5*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.8**	*25.7*	*30.7*	*26.5*	*29.1*	*25.7*	*30.4*	*26.3*	**111.0**	*111.7*	*111.5*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.3**	*82.3*	*99.7*	*84.5*	*91.4*	*83.6*	*100.1*	*84.9*	**349.7**	*355.8*	*360.1*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.3**	*127.2*	*149.9*	*130.6*	*139.6*	*128.5*	*150.1*	*130.8*	**528.8**	*544.0*	*549.0*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.4**	*69.9*	*82.0*	*72.6*	*81.6*	*72.2*	*84.3*	*74.3*	**289.2**	*301.8*	*312.4*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.8**	*198.4*	*236.9*	*193.7*	*202.0*	*199.8*	*238.8*	*194.9*	**803.7**	*828.8*	*835.4*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.0**	*70.3*	*88.2*	*71.3*	*78.5*	*70.8*	*88.6*	*71.5*	**295.7**	*307.8*	*309.4*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**144.3**	*148.2*	*184.4*	*147.6*	*143.9*	*149.2*	*186.6*	*149.9*	**604.2**	*624.4*	*629.7*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**65.4**	*70.8*	*85.2*	*67.6*	*66.5*	*71.8*	*86.0*	*68.6*	**286.2**	*289.0*	*292.9*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**90.6**	*88.7*	*103.2*	*93.6*	*90.8*	*88.7*	*102.3*	*93.0*	**380.6**	*376.1*	*374.7*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	*3.5*	*3.7*	*3.9*	*3.7*	*3.6*	*3.7*	*3.9*	**14.6**	*14.6*	*14.9*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**913.4**	*885.0*	*1,063.8*	*891.7*	*927.0*	*893.9*	*1,071.0*	*898.0*	**3,663.7**	*3,753.9*	*3,789.9*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.29**	*21.59*	*21.90*	*22.26*	*23.12*	*23.48*	*23.65*	*23.72*	**21.20**	*21.75*	*23.48*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.74**	*16.48*	*16.86*	*16.59*	*16.13*	*16.69*	*17.03*	*16.70*	**15.92**	*16.43*	*16.64*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.27**	*14.00*	*13.69*	*14.04*	*13.57*	*14.25*	*13.88*	*14.22*	**13.48**	*13.73*	*13.96*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.98**	*12.99*	*13.51*	*11.65*	*10.70*	*12.74*	*13.17*	*11.53*	**11.99**	*12.28*	*12.01*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.67**	*11.82*	*12.28*	*12.18*	*12.14*	*12.21*	*12.52*	*12.22*	**11.88**	*12.00*	*12.29*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.20**	*11.83*	*11.62*	*11.75*	*11.52*	*12.00*	*11.67*	*11.81*	**11.36**	*11.58*	*11.73*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**12.42**	*11.94*	*11.59*	*11.55*	*12.30*	*11.54*	*11.22*	*11.32*	**11.29**	*11.85*	*11.55*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.56**	*12.30*	*12.47*	*11.89*	*11.81*	*12.50*	*12.58*	*11.97*	**11.88**	*12.10*	*12.25*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.42**	*17.01*	*18.28*	*17.12*	*17.07*	*18.03*	*19.00*	*17.47*	**16.67**	*17.24*	*17.91*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.14**	*13.54*	*13.69*	*13.59*	*13.49*	*13.81*	*13.82*	*13.67*	**13.20**	*13.50*	*13.70*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.23**	*16.00*	*16.66*	*16.47*	*17.09*	*16.76*	*17.28*	*16.93*	**15.90**	*16.35*	*17.03*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.43**	*13.08*	*13.71*	*12.87*	*12.70*	*13.28*	*13.77*	*12.89*	**12.47**	*13.04*	*13.18*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.30**	*10.65*	*10.53*	*10.62*	*10.48*	*10.71*	*10.57*	*10.67*	**10.19**	*10.52*	*10.61*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.25**	*10.74*	*11.13*	*9.50*	*9.03*	*10.35*	*10.69*	*9.32*	**9.66**	*10.17*	*9.86*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.25**	*9.01*	*9.31*	*9.55*	*9.52*	*9.11*	*9.27*	*9.47*	**9.13**	*9.28*	*9.34*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**11.01**	*11.19*	*10.99*	*11.04*	*11.22*	*11.30*	*11.07*	*11.15*	**10.70**	*11.05*	*11.18*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**10.35**	*8.40*	*8.55*	*8.37*	*11.05*	*9.05*	*8.92*	*8.64*	**7.90**	*8.88*	*9.36*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.16**	*10.05*	*10.36*	*9.44*	*9.21*	*10.06*	*10.31*	*9.43*	**9.58**	*9.79*	*9.78*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.22**	*15.37*	*18.01*	*15.63*	*14.77*	*15.95*	*18.44*	*16.00*	**15.18**	*15.88*	*16.35*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**10.92**	*10.96*	*11.41*	*11.01*	*11.22*	*11.18*	*11.50*	*11.08*	**10.65**	*11.09*	*11.25*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.44**	*13.04*	*12.94*	*12.52*	*13.81*	*13.30*	*13.12*	*12.66*	**12.26**	*12.99*	*13.22*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.42**	*6.38*	*6.35*	*6.20*	*6.24*	*6.25*	*6.20*	*6.05*	**6.35**	*6.34*	*6.19*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.86**	*6.99*	*6.85*	*6.72*	*6.83*	*7.04*	*6.90*	*6.78*	**6.66**	*6.85*	*6.89*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**7.13**	*7.37*	*8.00*	*6.75*	*7.08*	*7.50*	*8.15*	*6.88*	**7.20**	*7.33*	*7.41*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.19**	*6.31*	*6.62*	*6.14*	*6.17*	*6.32*	*6.60*	*6.13*	**6.17**	*6.32*	*6.31*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.77**	*5.71*	*5.79*	*5.54*	*5.67*	*5.70*	*5.77*	*5.52*	**5.54**	*5.70*	*5.67*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.60**	*5.37*	*5.33*	*4.92*	*6.46*	*5.63*	*5.17*	*4.82*	**5.07**	*5.77*	*5.50*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.21**	*6.56*	*6.98*	*6.01*	*6.25*	*6.61*	*7.01*	*6.04*	**6.21**	*6.46*	*6.50*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.66**	*10.94*	*12.66*	*11.28*	*9.94*	*11.28*	*13.03*	*11.63*	**10.71**	*11.21*	*11.55*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.14**	*6.91*	*7.19*	*6.57*	*6.90*	*7.00*	*7.19*	*6.58*	**6.66**	*6.96*	*6.92*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.13**	*17.97*	*18.49*	*18.32*	*19.39*	*19.17*	*19.56*	*19.17*	**17.68**	*18.24*	*19.33*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.54**	*12.91*	*13.58*	*12.84*	*12.77*	*13.05*	*13.63*	*12.87*	**12.58**	*12.99*	*13.10*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.26**	*10.61*	*10.53*	*10.49*	*10.41*	*10.74*	*10.63*	*10.61*	**10.24**	*10.47*	*10.60*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.29**	*10.45*	*11.08*	*9.40*	*9.13*	*10.30*	*10.88*	*9.37*	**9.77**	*10.07*	*9.93*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.88**	*9.83*	*10.33*	*10.11*	*10.18*	*10.04*	*10.43*	*10.11*	**9.91**	*10.05*	*10.20*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.50**	*9.63*	*9.83*	*9.52*	*9.64*	*9.73*	*9.89*	*9.59*	**9.38**	*9.63*	*9.72*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.27**	*8.76*	*8.97*	*8.29*	*10.00*	*8.86*	*8.88*	*8.27*	**8.29**	*9.06*	*8.98*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.14**	*9.81*	*10.28*	*9.28*	*9.24*	*9.89*	*10.31*	*9.32*	**9.48**	*9.67*	*9.73*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.22**	*14.95*	*16.94*	*15.33*	*14.76*	*15.65*	*17.48*	*15.70*	**14.82**	*15.41*	*15.95*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.87**	*10.90*	*11.37*	*10.82*	*11.04*	*11.10*	*11.46*	*10.89*	**10.66**	*11.01*	*11.14*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**321.9**	*318.4*	*422.3*	*323.9*	*305.9*	*309.3*	*433.2*	*330.4*	**1,512.2**	*1,386.5*	*1,378.8*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**231.9**	*203.6*	*278.4*	*208.0*	*243.3*	*195.5*	*264.7*	*199.1*	**768.2**	*921.9*	*902.6*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**199.0**	*186.7*	*205.4*	*188.1*	*189.0*	*185.3*	*197.4*	*184.1*	**789.9**	*779.2*	*755.8*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**193.4**	*223.2*	*191.3*	*204.3*	*212.1*	*249.5*	*209.6*	*216.6*	**760.6**	*812.1*	*887.8*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**70.1**	*72.0*	*62.6*	*57.7*	*68.6*	*80.5*	*65.4*	*59.1*	**289.9**	*262.4*	*273.6*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**91.3**	*104.0*	*81.0*	*110.6*	*104.9*	*112.1*	*87.2*	*116.2*	**336.7**	*386.8*	*420.5*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**20.6**	*34.7*	*35.6*	*24.1*	*27.0*	*44.5*	*44.6*	*29.4*	**90.1**	*115.0*	*145.6*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.3**	*8.3*	*7.9*	*7.5*	*7.4*	*8.4*	*8.1*	*7.5*	**27.5**	*31.0*	*31.4*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**4.1**	*4.3*	*4.2*	*4.3*	*4.2*	*4.0*	*4.2*	*4.4*	**16.5**	*16.9*	*16.8*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.2**	*-1.4*	*-2.4*	*-1.2*	*-1.2*	*-1.3*	*-2.4*	*-1.1*	**-5.3**	*-6.2*	*-6.0*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**4.9**	*3.6*	*4.1*	*4.1*	*4.1*	*3.8*	*4.2*	*4.8*	**16.5**	*16.7*	*16.9*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	*0.5*	*0.7*	*0.8*	*0.8*	*0.4*	*0.7*	*0.8*	**3.1**	*2.7*	*2.7*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.8**	*1.8*	*1.7*	*1.8*	*1.7*	*1.8*	*1.7*	*1.9*	**7.5**	*7.1*	*7.1*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**952.2**	*936.5*	*1,101.3*	*930.0*	*955.7*	*944.2*	*1,109.1*	*936.6*	**3,852.8**	*3,920.0*	*3,945.6*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**11.6**	*11.1*	*17.2*	*12.8*	*9.7*	*11.7*	*17.7*	*12.0*	**47.7**	*52.6*	*51.2*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.4**	*0.0*	*0.0*	*0.1*	*0.7*	*0.0*	*0.0*	*0.1*	**0.2**	*0.5*	*0.8*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	*7.2*	*7.2*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.1*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	*2.2*	*1.3*	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*7.3*	*7.4*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.7**	*3.2*	*2.7*	*3.2*	*3.2*	*3.3*	*2.8*	*3.2*	**10.3**	*11.8*	*12.6*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	*0.4*	*0.2*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	**1.4**	*1.4*	*1.4*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.1**	*24.2*	*28.6*	*23.9*	*23.1*	*23.9*	*29.3*	*24.8*	**92.9**	*100.7*	*101.0*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.3**	*26.6*	*31.9*	*28.2*	*29.9*	*27.1*	*31.9*	*28.3*	**113.0**	*116.0*	*117.2*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**13.8**	*13.2*	*20.2*	*15.0*	*15.3*	*15.0*	*21.4*	*15.3*	**57.1**	*62.3*	*66.9*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.4**	*7.6*	*7.1*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*30.9*	*27.2*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	*7.0*	*7.0*	*7.2*	*7.0*	*7.0*	*7.0*	*7.1*	**31.4**	*28.5*	*28.1*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	*2.0*	*1.8*	*2.2*	*2.0*	*2.3*	*2.1*	*2.6*	**7.6**	*7.9*	*8.8*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	*0.1*	*0.1*	*0.1*	*0.4*	*0.1*	*0.1*	*0.1*	**0.6**	*0.7*	*0.7*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**32.8**	*30.0*	*36.2*	*31.3*	*31.1*	*31.4*	*37.2*	*32.1*	**135.4**	*130.3*	*131.8*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	*35.4*	*42.7*	*36.3*	*37.5*	*35.9*	*42.9*	*36.6*	**145.3**	*150.9*	*152.9*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**75.1**	*74.0*	*87.8*	*71.3*	*76.6*	*81.3*	*98.1*	*78.3*	**315.8**	*308.2*	*334.4*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**51.5**	*40.6*	*52.3*	*42.4*	*60.2*	*36.4*	*46.7*	*38.0*	**148.3**	*186.8*	*181.3*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.3**	*65.0*	*72.5*	*62.4*	*59.1*	*59.3*	*62.9*	*57.6*	**275.7**	*268.2*	*238.9*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.6**	*2.6*	*1.6*	*2.1*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*9.0*	*9.1*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**10.8**	*12.3*	*8.9*	*12.1*	*11.9*	*13.2*	*9.5*	*12.8*	**39.1**	*44.1*	*47.4*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**0.6**	*0.3*	*0.1*	*0.9*	*0.8*	*0.4*	*0.2*	*1.0*	**2.2**	*2.0*	*2.4*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**209.0**	*194.8*	*223.1*	*191.2*	*211.3*	*193.2*	*219.0*	*189.8*	**791.1**	*818.2*	*813.4*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.1**	**194.6**	*173.9*	*205.9*	*180.8*	*197.2*	*175.7*	*207.2*	*182.0*	**732.4**	*755.2*	*762.1*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**58.2**	*56.3*	*70.8*	*58.0*	*57.2*	*56.2*	*72.5*	*58.2*	**254.2**	*243.3*	*244.1*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.9**	*33.5*	*48.6*	*31.6*	*38.2*	*33.5*	*47.6*	*32.3*	**118.3**	*150.6*	*151.6*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**54.0**	*52.1*	*55.4*	*53.6*	*54.1*	*55.2*	*58.5*	*55.5*	**210.1**	*215.1*	*223.3*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.3**	*7.3*	*6.6*	*7.8*	*10.2*	*7.6*	*6.7*	*7.8*	**38.7**	*31.1*	*32.2*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**3.9**	*5.9*	*5.9*	*4.6*	*4.5*	*7.4*	*7.8*	*5.6*	**17.4**	*20.3*	*25.2*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	*-0.4*	*-0.7*	*-0.2*	*0.0*	*-0.3*	*-0.7*	*-0.2*	**-1.1**	*-1.3*	*-1.2*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**162.4**	*154.7*	*186.7*	*155.3*	*164.1*	*159.5*	*192.3*	*159.2*	**637.6**	*659.1*	*675.2*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.4**	*159.0*	*188.2*	*156.8*	*165.4*	*160.7*	*190.4*	*158.3*	**649.7**	*667.4*	*674.9*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.0**	*38.4*	*45.4*	*37.3*	*26.7*	*38.7*	*47.2*	*38.0*	**179.5**	*155.0*	*150.6*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.6**	*9.1*	*6.7*	*3.7*	*5.9*	*7.9*	*5.1*	*3.1*	**15.9**	*24.1*	*22.0*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.9**	*7.2*	*7.9*	*6.9*	*7.9*	*7.3*	*8.1*	*7.2*	**29.4**	*29.8*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.5**	*3.4*	*3.1*	*2.6*	*3.0*	*3.9*	*3.4*	*2.7*	**8.4**	*11.6*	*13.0*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	*0.7*	*0.8*	*0.6*	*0.7*	*0.7*	*0.8*	*0.6*	**3.3**	*3.0*	*2.9*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**49.8**	*58.8*	*64.0*	*51.1*	*44.3*	*58.6*	*64.5*	*51.6*	**236.7**	*223.7*	*219.0*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.7**	*58.7*	*66.8*	*52.2*	*48.5*	*58.5*	*67.3*	*52.5*	**232.8**	*228.4*	*226.9*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**33.9**	*36.8*	*45.7*	*34.5*	*36.6*	*37.2*	*50.2*	*38.0*	**178.3**	*150.9*	*162.0*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**68.2**	*55.8*	*78.3*	*62.2*	*72.3*	*53.9*	*74.6*	*58.5*	**218.4**	*264.5*	*259.3*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	*21.0*	*24.7*	*24.1*	*23.9*	*22.2*	*23.8*	*22.2*	**95.1**	*93.5*	*92.2*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**3.0**	*3.1*	*2.4*	*2.2*	*2.4*	*2.8*	*2.3*	*2.2*	**11.8**	*10.8*	*9.8*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**23.2**	*24.6*	*19.1*	*27.7*	*24.7*	*25.8*	*20.2*	*28.6*	**81.3**	*94.5*	*99.3*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.6**	*1.2*	*1.0*	*1.3*	*1.1*	*1.2*	*1.2*	*1.9*	**5.2**	*5.1*	*5.3*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**153.6**	*142.4*	*171.2*	*152.1*	*160.9*	*143.1*	*172.4*	*151.4*	**590.0**	*619.3*	*627.8*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.1**	*152.9*	*177.4*	*155.2*	*159.3*	*153.8*	*178.5*	*156.4*	**618.8**	*644.6*	*647.9*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.8**	*12.2*	*20.8*	*12.7*	*16.4*	*12.1*	*21.8*	*13.4*	**71.6**	*58.5*	*63.8*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**22.3**	*15.1*	*26.8*	*17.8*	*20.9*	*16.1*	*27.3*	*19.0*	**79.2**	*82.0*	*83.3*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.2**	*3.5*	*4.4*	*4.4*	*4.3*	*4.4*	*4.1*	*3.0*	**16.8**	*16.5*	*15.8*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.5**	*5.2*	*4.4*	*3.3*	*3.6*	*4.3*	*4.0*	*3.2*	**21.8**	*18.4*	*15.0*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**21.6**	*26.3*	*20.8*	*26.7*	*24.2*	*28.3*	*22.9*	*28.7*	**80.6**	*95.3*	*104.0*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.5**	*0.6*	*0.4*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.6**	*62.4*	*77.2*	*65.1*	*69.5*	*65.3*	*80.1*	*67.4*	**270.5**	*271.2*	*282.3*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.9**	*60.8*	*74.1*	*60.4*	*66.5*	*63.2*	*76.6*	*62.3*	**262.1**	*260.2*	*268.6*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.5**	*33.6*	*48.2*	*26.7*	*21.6*	*25.4*	*41.7*	*23.2*	**174.6**	*142.1*	*111.9*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.5**	*18.3*	*22.9*	*17.8*	*16.7*	*18.2*	*22.8*	*17.0*	**67.2**	*75.5*	*74.7*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	*10.3*	*10.3*	*9.6*	*10.7*	*10.0*	*10.6*	*10.3*	**41.4**	*40.7*	*41.6*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.8*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**23.3**	*31.3*	*28.2*	*31.2*	*32.7*	*39.0*	*34.0*	*34.4*	**92.6**	*113.9*	*140.2*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.3**	*0.3*	*0.3*	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	**1.5**	*1.4*	*1.3*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**84.4**	*94.1*	*110.1*	*85.8*	*82.2*	*93.1*	*109.7*	*85.4*	**378.4**	*374.3*	*370.4*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**84.4**	*94.1*	*110.1*	*85.8*	*82.2*	*93.1*	*109.7*	*85.4*	**378.4**	*374.3*	*370.4*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**21.6**	*18.3*	*26.0*	*22.0*	*19.8*	*10.4*	*24.2*	*21.4*	**89.6**	*87.9*	*75.9*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**23.2**	*21.8*	*30.1*	*23.2*	*21.4*	*20.4*	*29.5*	*22.8*	**86.1**	*98.3*	*94.0*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.6*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.7**	*33.8*	*29.4*	*27.5*	*33.4*	*42.0*	*31.5*	*28.2*	**136.0**	*125.4*	*135.2*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.1**	*16.5*	*14.6*	*17.1*	*16.9*	*18.1*	*15.8*	*17.9*	**55.6**	*63.3*	*68.7*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.1**	*0.2*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**97.2**	*91.8*	*102.7*	*92.4*	*94.1*	*93.4*	*103.6*	*92.9*	**377.4**	*384.0*	*384.1*
Net energy for load (f)	**89.9**	**81.7**	**93.6**	**87.7**	**89.4**	*84.7*	*94.8*	*89.4*	*89.5*	*86.0*	*95.0*	*89.6*	**353.0**	*358.2*	*360.2*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**10.3**	*12.3*	*15.6*	*11.4*	*8.8*	*8.9*	*14.0*	*10.8*	**61.7**	*49.7*	*42.5*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**6.0**	*6.8*	*10.1*	*7.4*	*5.4*	*6.7*	*8.6*	*6.0*	**25.9**	*30.2*	*26.8*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	*7.7*	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.7*	**31.6**	*32.4*	*32.2*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.6**	*3.8*	*3.8*	*2.5*	*2.9*	*4.0*	*3.9*	*2.6*	**12.8**	*12.7*	*13.5*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	*4.6*	*3.6*	*3.5*	*4.6*	*5.9*	*4.6*	*4.4*	**10.5**	*14.8*	*19.6*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.4**	*35.3*	*41.8*	*32.5*	*30.2*	*33.1*	*39.9*	*31.5*	**142.7**	*140.0*	*134.7*
Net energy for load (f)	**19.8**	**25.3**	**32.7**	**21.3**	**19.3**	*24.0*	*31.3*	*20.6*	*19.2*	*24.4*	*31.4*	*20.7*	**99.2**	*95.2*	*95.7*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.5**	*11.7*	*24.1*	*21.4*	*16.3*	*11.6*	*23.8*	*21.0*	**79.9**	*73.6*	*72.7*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	*2.2*	*2.2*	*1.4*	*1.1*	*2.1*	*2.1*	*1.8*	**6.7**	*7.7*	*7.1*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	*4.0*	*4.7*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.4*	*16.8*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.4**	*6.1*	*5.6*	*2.7*	*3.9*	*7.2*	*6.5*	*3.4*	**16.8**	*16.8*	*21.0*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.0**	*20.6*	*19.6*	*15.2*	*15.5*	*21.4*	*20.6*	*16.2*	**65.8**	*70.3*	*73.6*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**-0.1**	*0.1*	*0.1*	*0.1*	*-0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.2*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.6**	*44.7*	*56.3*	*45.5*	*41.3*	*46.2*	*57.6*	*46.5*	**185.8**	*185.1*	*191.5*
Net energy for load (f)	**58.6**	**59.4**	**74.6**	**61.1**	**57.5**	*63.0*	*74.7*	*60.4*	*56.9*	*62.3*	*74.6*	*60.5*	**253.7**	*255.7*	*254.4*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

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Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

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Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.037**	*0.038*	*0.037*	*0.038*	*0.037*	*0.036*	*0.038*	*0.039*	**0.147**	*0.150*	*0.149*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.675**	*0.694*	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.581**	*2.527*	*2.538*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.188**	*0.315*	*0.324*	*0.220*	*0.246*	*0.405*	*0.406*	*0.268*	**0.820**	*1.047*	*1.325*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.061**	*0.066*	*0.064*	*0.062*	*0.060*	*0.066*	*0.065*	*0.063*	**0.238**	*0.253*	*0.254*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.051**	*0.062*	*0.059*	*0.054*	*0.054*	*0.063*	*0.060*	*0.054*	**0.185**	*0.225*	*0.231*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.831**	*0.947*	*0.737*	*1.007*	*0.955*	*1.020*	*0.794*	*1.058*	**3.065**	*3.522*	*3.828*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.843**	*2.122*	*1.820*	*1.940*	*2.043*	*2.285*	*1.961*	*2.037*	**7.037**	*7.724*	*8.325*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.171**	*0.184*	*0.190*	*0.190*	*0.184*	*0.189*	*0.193*	*0.194*	**0.698**	*0.735*	*0.760*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	*0.003*	*0.002*	*0.002*	*0.002*	*0.003*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	*0.039*	*0.038*	*0.040*	*0.040*	*0.039*	*0.038*	*0.040*	**0.156**	*0.157*	*0.157*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.337**	*0.338*	*0.353*	*0.357*	*0.348*	*0.345*	*0.356*	*0.358*	**1.376**	*1.386*	*1.407*
Subtotal	**0.594**	**0.520**	**0.558**	**0.588**	**0.556**	*0.569*	*0.589*	*0.595*	*0.580*	*0.581*	*0.595*	*0.600*	**2.261**	*2.309*	*2.355*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	*0.043*	*0.044*	*0.031*	*0.035*	*0.051*	*0.051*	*0.035*	**0.123**	*0.146*	*0.172*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.071**	*0.084*	*0.086*	*0.073*	*0.077*	*0.092*	*0.094*	*0.078*	**0.290**	*0.314*	*0.340*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.067**	*0.103*	*0.104*	*0.072*	*0.079*	*0.119*	*0.120*	*0.083*	**0.291**	*0.346*	*0.401*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.114**	*0.114*	*0.115*	*0.115*	*0.114*	*0.114*	*0.115*	*0.115*	**0.458**	*0.457*	*0.457*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.190**	*0.226*	*0.229*	*0.197*	*0.202*	*0.243*	*0.245*	*0.208*	**0.788**	*0.843*	*0.898*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.058**	*0.074*	*0.073*	*0.079*	*0.079*	*0.082*	*0.087*	*0.091*	**0.275**	*0.284*	*0.339*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.258**	**0.252**	*0.273*	*0.282*	*0.276*	*0.259*	*0.283*	*0.286*	*0.282*	**1.002**	*1.083*	*1.109*
Subtotal	**0.318**	**0.284**	**0.340**	**0.334**	**0.310**	*0.347*	*0.355*	*0.355*	*0.337*	*0.365*	*0.373*	*0.373*	**1.277**	*1.367*	*1.448*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.058**	*0.074*	*0.073*	*0.079*	*0.079*	*0.082*	*0.087*	*0.091*	**0.275**	*0.284*	*0.339*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.171**	*0.184*	*0.190*	*0.190*	*0.184*	*0.189*	*0.193*	*0.194*	**0.698**	*0.735*	*0.760*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.268**	**0.262**	*0.283*	*0.293*	*0.287*	*0.269*	*0.294*	*0.297*	*0.293*	**1.041**	*1.124*	*1.152*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.054**	*0.055*	*0.054*	*0.055*	*0.054*	*0.052*	*0.055*	*0.056*	**0.214**	*0.218*	*0.217*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.678**	*0.697*	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.592**	*2.538*	*2.549*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.290**	*0.472*	*0.482*	*0.330*	*0.368*	*0.587*	*0.589*	*0.394*	**1.246**	*1.574*	*1.939*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.111**	*0.113*	*0.111*	*0.111*	*0.109*	*0.114*	*0.112*	*0.112*	**0.430**	*0.446*	*0.447*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.522**	*0.534*	*0.548*	*0.547*	*0.536*	*0.542*	*0.552*	*0.548*	**2.101**	*2.150*	*2.177*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.831**	*0.947*	*0.737*	*1.007*	*0.955*	*1.020*	*0.794*	*1.058*	**3.065**	*3.522*	*3.828*
Total Consumption	**2.923**	**2.995**	**2.826**	**2.907**	**2.970**	*3.348*	*3.080*	*3.160*	*3.239*	*3.565*	*3.267*	*3.296*	**11.652**	*12.558*	*13.367*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,615**	**6,613**	**6,577**	**6,576**	**6,566**	*6,421*	*6,420*	*6,465*	*6,468*	*6,470*	*6,470*	*6,470*	**6,576**	*6,465*	*6,470*
Waste	**3,942**	**3,940**	**3,866**	**3,865**	**3,855**	*3,853*	*3,852*	*3,897*	*3,900*	*3,902*	*3,902*	*3,902*	**3,865**	*3,897*	*3,902*
Wood	**2,673**	**2,673**	**2,711**	**2,711**	**2,711**	*2,568*	*2,568*	*2,568*	*2,568*	*2,568*	*2,568*	*2,568*	**2,711**	*2,568*	*2,568*
Conventional Hydroelectric	**79,506**	**79,510**	**79,658**	**79,663**	**79,723**	*79,735*	*79,734*	*79,784*	*79,798*	*79,813*	*79,854*	*79,857*	**79,663**	*79,784*	*79,857*
Geothermal	**2,502**	**2,520**	**2,520**	**2,520**	**2,520**	*2,520*	*2,520*	*2,562*	*2,562*	*2,562*	*2,562*	*2,562*	**2,520**	*2,562*	*2,562*
Large-Scale Solar (b)	**39,095**	**41,329**	**42,976**	**47,525**	**50,021**	*53,271*	*56,770*	*63,197*	*64,814*	*70,246*	*72,046*	*79,137*	**47,525**	*63,197*	*79,137*
Wind	**106,204**	**107,767**	**109,294**	**118,261**	**124,234**	*127,344*	*128,916*	*134,147*	*135,208*	*137,080*	*137,160*	*139,321*	**118,261**	*134,147*	*139,321*
Other Sectors (c)															
Biomass	**6,403**	**6,403**	**6,399**	**6,413**	**6,405**	*6,386*	*6,386*	*6,386*	*6,386*	*6,386*	*6,379*	*6,379*	**6,413**	*6,386*	*6,379*
Waste	**788**	**788**	**784**	**798**	**798**	*799*	*799*	*799*	*799*	*799*	*799*	*799*	**798**	*799*	*799*
Wood	**5,615**	**5,615**	**5,615**	**5,615**	**5,607**	*5,587*	*5,587*	*5,587*	*5,587*	*5,587*	*5,579*	*5,579*	**5,615**	*5,587*	*5,579*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	*289*	*287*	*287*	*287*	*287*	*287*	*287*	**289**	*287*	*287*
Large-Scale Solar (b)	**441**	**468**	**473**	**479**	**494**	*498*	*513*	*532*	*534*	*534*	*534*	*534*	**479**	*532*	*534*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**29,019**	*30,333*	*31,648*	*32,960*	*34,325*	*35,643*	*36,970*	*38,276*	**27,724**	*32,960*	*38,276*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,118**	*19,001*	*19,869*	*20,715*	*21,597*	*22,451*	*23,337*	*24,188*	**17,238**	*20,715*	*24,188*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,798**	*9,167*	*9,550*	*9,952*	*10,370*	*10,770*	*11,148*	*11,539*	**8,430**	*9,952*	*11,539*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,104**	*2,166*	*2,229*	*2,293*	*2,358*	*2,422*	*2,484*	*2,548*	**2,056**	*2,293*	*2,548*
Wind	**113**	**339**	**348**	**348**	**348**	*348*	*348*	*598*	*598*	*598*	*598*	*598*	**348**	*598*	*598*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.3**	*8.3*	*7.9*	*7.5*	*7.4*	*8.4*	*8.1*	*7.5*	**27.5**	*31.0*	*31.4*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.1**	*4.4*	*4.3*	*4.2*	*4.0*	*4.5*	*4.4*	*4.2*	**16.1**	*17.0*	*17.1*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	*3.8*	*3.6*	*3.4*	*3.3*	*3.9*	*3.7*	*3.3*	**11.4**	*14.0*	*14.3*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**70.1**	*72.0*	*62.6*	*57.7*	*68.6*	*80.5*	*65.4*	*59.1*	**289.9**	*262.4*	*273.6*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**4.1**	*4.3*	*4.2*	*4.3*	*4.2*	*4.0*	*4.2*	*4.4*	**16.5**	*16.9*	*16.8*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**20.6**	*34.7*	*35.6*	*24.1*	*27.0*	*44.5*	*44.6*	*29.4*	**90.1**	*115.0*	*145.6*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**91.3**	*104.0*	*81.0*	*110.6*	*104.9*	*112.1*	*87.2*	*116.2*	**336.7**	*386.8*	*420.5*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.1**	*7.1*	*7.0*	*7.1*	*7.1*	*7.1*	*7.0*	*7.1*	**28.6**	*28.2*	*28.2*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.4**	*6.4*	*6.4*	*6.4*	*6.4*	*6.4*	*6.4*	*6.4*	**25.8**	*25.5*	*25.5*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**9.8**	*14.8*	*15.1*	*10.4*	*11.7*	*17.6*	*17.7*	*12.2*	**41.7**	*50.1*	*59.2*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	*9.1*	*9.3*	*6.4*	*7.2*	*10.9*	*11.0*	*7.6*	**25.4**	*30.8*	*36.6*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	*4.5*	*4.6*	*3.2*	*3.7*	*5.4*	*5.4*	*3.7*	**12.9**	*15.4*	*18.1*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	*1.1*	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	*0.3*	*0.2*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	**0.8**	*1.1*	*1.5*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,038**	*19,405*	*19,787*	*20,047*	*20,236*	*20,367*	*20,483*	*20,581*	**18,426**	*19,569*	*20,417*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,925**	**12,999**	**13,257**	*13,506*	*13,719*	*13,935*	*14,081*	*14,206*	*14,307*	*14,405*	**12,726**	*13,604*	*14,249*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,315**	**3,459**	**3,520**	*3,557*	*3,619*	*3,659*	*3,686*	*3,703*	*3,722*	*3,742*	**3,311**	*3,589*	*3,713*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-1**	**60**	**-71**	*26*	*173*	*212*	*218*	*204*	*174*	*144*	**-73**	*85*	*185*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,320**	**3,389**	*3,453*	*3,453*	*3,447*	*3,453*	*3,434*	*3,434*	*3,429*	**3,341**	*3,436*	*3,438*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,167**	**2,279**	**2,282**	*2,333*	*2,379*	*2,430*	*2,478*	*2,518*	*2,555*	*2,589*	**2,217**	*2,356*	*2,535*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,400**	**3,466**	*3,565*	*3,633*	*3,715*	*3,754*	*3,769*	*3,776*	*3,795*	**3,143**	*3,595*	*3,774*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,434**	**16,758**	*16,069*	*15,832*	*15,678*	*15,846*	*15,964*	*16,083*	*16,157*	**15,744**	*16,084*	*16,013*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	*146.2*	*148.1*	*149.3*	*150.2*	*151.0*	*151.7*	*152.4*	**142.3**	*146.7*	*151.3*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	*5.5*	*4.7*	*4.3*	*4.1*	*3.9*	*3.7*	*3.6*	**8.1**	*5.2*	*3.8*
Housing Starts															
(millions - SAAR)	**1.48**	**1.08**	**1.43**	**1.58**	**1.61**	*1.68*	*1.62*	*1.59*	*1.54*	*1.49*	*1.45*	*1.41*	**1.40**	*1.62*	*1.47*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**107.7**	**93.7**	**102.5**	**104.9**	**105.5**	*107.2*	*109.4*	*110.8*	*111.9*	*112.8*	*113.3*	*113.8*	**102.2**	*108.2*	*113.0*
Manufacturing	**104.4**	**89.3**	**100.1**	**103.1**	**103.7**	*105.3*	*107.6*	*109.0*	*109.9*	*110.6*	*111.0*	*111.3*	**99.2**	*106.4*	*110.7*
Food	**116.5**	**107.9**	**113.6**	**116.0**	**117.7**	*119.5*	*120.0*	*120.0*	*120.2*	*120.4*	*120.6*	*121.0*	**113.5**	*119.3*	*120.5*
Paper	**94.7**	**87.2**	**87.0**	**91.8**	**92.2**	*93.4*	*94.5*	*95.0*	*95.5*	*95.7*	*95.5*	*95.4*	**90.2**	*93.8*	*95.5*
Petroleum and Coal Products	**105.0**	**82.7**	**89.9**	**93.2**	**98.3**	*99.9*	*101.3*	*102.2*	*102.8*	*103.2*	*103.2*	*103.1*	**92.7**	*100.4*	*103.1*
Chemicals	**99.8**	**93.7**	**96.4**	**99.8**	**97.1**	*103.7*	*108.0*	*109.7*	*110.1*	*110.2*	*110.1*	*110.4*	**97.4**	*104.6*	*110.2*
Nonmetallic Mineral Products	**122.2**	**106.3**	**113.7**	**117.7**	**115.8**	*116.6*	*117.7*	*118.2*	*118.4*	*118.4*	*118.3*	*118.5*	**115.0**	*117.1*	*118.4*
Primary Metals	**94.4**	**69.6**	**79.3**	**87.7**	**89.6**	*92.1*	*93.4*	*93.7*	*93.9*	*93.8*	*92.6*	*91.7*	**82.7**	*92.2*	*93.0*
Coal-weighted Manufacturing (a)	**106.5**	**94.1**	**100.9**	**105.2**	**103.2**	*105.4*	*106.9*	*107.7*	*108.2*	*108.7*	*108.7*	*108.9*	**101.7**	*105.8*	*108.7*
Distillate-weighted Manufacturing (a)	**98.8**	**85.6**	**92.5**	**95.8**	**97.0**	*98.6*	*99.9*	*100.5*	*100.7*	*100.8*	*100.6*	*100.4*	**93.2**	*99.0*	*100.6*
Electricity-weighted Manufacturing (a)	**105.1**	**89.4**	**98.4**	**103.0**	**102.3**	*105.1*	*106.6*	*107.4*	*107.9*	*108.3*	*108.1*	*108.0*	**99.0**	*105.3*	*108.1*
Natural Gas-weighted Manufacturing (a)	**107.8**	**94.0**	**100.3**	**105.4**	**102.8**	*106.3*	*107.8*	*108.5*	*109.0*	*109.5*	*109.3*	*109.3*	**101.9**	*106.3*	*109.3*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	*2.65*	*2.66*	*2.67*	*2.68*	*2.69*	*2.70*	*2.72*	**2.59**	*2.65*	*2.69*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.08**	*2.10*	*2.09*	*2.08*	*2.08*	*2.09*	*2.09*	*2.10*	**1.94**	*2.09*	*2.09*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.50**	**1.87**	*2.05*	*1.97*	*1.83*	*1.84*	*1.89*	*1.89*	*1.85*	**1.43**	*1.93*	*1.87*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.4**	*116.0*	*116.5*	*117.0*	*117.5*	*118.2*	*118.8*	*119.5*	**113.6**	*116.2*	*118.5*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,762**	**6,880**	**8,262**	**8,008**	**7,581**	*8,824*	*8,866*	*8,793*	*8,143*	*9,130*	*9,193*	*8,949*	**7,730**	*8,520*	*8,857*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**628**	**362**	**475**	**533**	**603**	*583*	*613*	*655*	*653*	*711*	*728*	*700*	**500**	*614*	*698*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**238**	**285**	*306*	*356*	*385*	*407*	*454*	*462*	*439*	**231**	*333*	*440*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**195.3**	*183.6*	*174.2*	*184.6*	*188.6*	*205.0*	*209.8*	*227.8*	**217.5**	*184.4*	*207.8*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	*0.257*	*0.268*	*0.303*	*0.290*	*0.255*	*0.251*	*0.258*	**0.216**	*0.269*	*0.263*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**553**	**442**	**518**	**522**	**509**	*550*	*564*	*571*	*555*	*573*	*587*	*585*	**2,035**	*2,193*	*2,300*
Natural Gas	**490**	**349**	**383**	**429**	**485**	*348*	*367*	*436*	*481*	*347*	*370*	*435*	**1,651**	*1,636*	*1,633*
Coal	**201**	**177**	**271**	**224**	**251**	*227*	*304*	*242*	*264*	*223*	*291*	*232*	**873**	*1,023*	*1,011*
Total Energy (c)	**1,247**	**971**	**1,174**	**1,178**	**1,247**	*1,127*	*1,237*	*1,251*	*1,303*	*1,146*	*1,251*	*1,255*	**4,571**	*4,863*	*4,955*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2009)															
New England	**993**	**901**	**969**	**981**	**996**	*1,014*	*1,033*	*1,045*	*1,053*	*1,060*	*1,066*	*1,070*	**961**	*1,022*	*1,062*
Middle Atlantic	**2,774**	**2,486**	**2,669**	**2,695**	**2,729**	*2,792*	*2,846*	*2,885*	*2,916*	*2,939*	*2,959*	*2,972*	**2,656**	*2,813*	*2,947*
E. N. Central	**2,502**	**2,266**	**2,458**	**2,480**	**2,516**	*2,564*	*2,609*	*2,642*	*2,660*	*2,672*	*2,681*	*2,687*	**2,427**	*2,583*	*2,675*
W. N. Central	**1,188**	**1,084**	**1,168**	**1,184**	**1,198**	*1,216*	*1,238*	*1,251*	*1,261*	*1,267*	*1,274*	*1,278*	**1,156**	*1,226*	*1,270*
S. Atlantic	**3,388**	**3,114**	**3,337**	**3,369**	**3,409**	*3,470*	*3,534*	*3,575*	*3,609*	*3,632*	*3,651*	*3,670*	**3,302**	*3,497*	*3,641*
E. S. Central	**828**	**742**	**809**	**820**	**830**	*844*	*860*	*870*	*876*	*881*	*884*	*888*	**800**	*851*	*882*
W. S. Central	**2,317**	**2,125**	**2,267**	**2,303**	**2,332**	*2,375*	*2,424*	*2,460*	*2,484*	*2,501*	*2,519*	*2,535*	**2,253**	*2,398*	*2,509*
Mountain	**1,283**	**1,177**	**1,265**	**1,280**	**1,301**	*1,324*	*1,351*	*1,367*	*1,381*	*1,390*	*1,399*	*1,407*	**1,251**	*1,336*	*1,394*
Pacific	**3,769**	**3,436**	**3,684**	**3,714**	**3,759**	*3,837*	*3,925*	*3,985*	*4,029*	*4,059*	*4,084*	*4,109*	**3,651**	*3,876*	*4,071*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**97.1**	**82.9**	**92.3**	**95.4**	**95.8**	*97.5*	*99.6*	*100.8*	*101.4*	*101.9*	*102.2*	*102.4*	**91.9**	*98.4*	*102.0*
Middle Atlantic	**96.2**	**79.7**	**90.8**	**93.6**	**93.9**	*95.6*	*97.8*	*99.2*	*100.3*	*101.2*	*101.7*	*102.1*	**90.1**	*96.6*	*101.3*
E. N. Central	**104.7**	**84.9**	**99.8**	**102.7**	**103.5**	*105.3*	*107.5*	*109.3*	*110.2*	*110.8*	*111.2*	*111.5*	**98.0**	*106.4*	*110.9*
W. N. Central	**103.8**	**90.4**	**100.0**	**102.7**	**103.9**	*105.5*	*107.5*	*108.7*	*109.5*	*110.0*	*110.5*	*110.8*	**99.2**	*106.4*	*110.2*
S. Atlantic	**109.1**	**94.3**	**105.1**	**108.7**	**109.1**	*110.8*	*113.3*	*114.7*	*115.6*	*116.3*	*116.6*	*116.9*	**104.3**	*112.0*	*116.4*
E. S. Central	**108.6**	**89.1**	**104.8**	**108.5**	**109.4**	*111.0*	*113.2*	*114.6*	*115.0*	*115.4*	*115.6*	*115.8*	**102.7**	*112.0*	*115.4*
W. S. Central	**100.1**	**88.2**	**95.3**	**97.7**	**98.1**	*99.7*	*102.0*	*103.6*	*104.8*	*105.7*	*106.2*	*106.7*	**95.3**	*100.9*	*105.8*
Mountain	**115.6**	**102.9**	**113.6**	**117.0**	**117.7**	*119.4*	*121.7*	*123.0*	*123.9*	*124.5*	*124.8*	*125.0*	**112.3**	*120.4*	*124.5*
Pacific	**102.9**	**89.1**	**97.5**	**99.5**	**99.8**	*101.2*	*103.6*	*104.8*	*106.1*	*107.2*	*107.7*	*108.4*	**97.2**	*102.4*	*107.3*
Real Personal Income (Billion $2009)															
New England	**890**	**978**	**931**	**904**	**975**	*941*	*928*	*921*	*931*	*939*	*946*	*950*	**926**	*941*	*942*
Middle Atlantic	**2,305**	**2,509**	**2,421**	**2,317**	**2,498**	*2,414*	*2,381*	*2,362*	*2,390*	*2,409*	*2,427*	*2,436*	**2,388**	*2,414*	*2,416*
E. N. Central	**2,452**	**2,694**	**2,574**	**2,512**	**2,720**	*2,613*	*2,578*	*2,553*	*2,576*	*2,593*	*2,609*	*2,618*	**2,558**	*2,616*	*2,599*
W. N. Central	**1,158**	**1,258**	**1,179**	**1,184**	**1,255**	*1,224*	*1,209*	*1,199*	*1,209*	*1,216*	*1,224*	*1,229*	**1,195**	*1,222*	*1,219*
S. Atlantic	**3,272**	**3,513**	**3,417**	**3,353**	**3,617**	*3,492*	*3,455*	*3,432*	*3,467*	*3,494*	*3,521*	*3,540*	**3,389**	*3,499*	*3,505*
E. S. Central	**909**	**989**	**935**	**926**	**1,014**	*970*	*957*	*947*	*955*	*960*	*966*	*969*	**940**	*972*	*963*
W. S. Central	**2,037**	**2,202**	**2,100**	**2,067**	**2,228**	*2,157*	*2,132*	*2,117*	*2,144*	*2,163*	*2,182*	*2,196*	**2,101**	*2,158*	*2,171*
Mountain	**1,217**	**1,322**	**1,263**	**1,245**	**1,337**	*1,295*	*1,281*	*1,272*	*1,285*	*1,296*	*1,305*	*1,313*	**1,262**	*1,296*	*1,300*
Pacific	**2,833**	**3,041**	**2,978**	**2,911**	**3,104**	*3,001*	*2,974*	*2,960*	*2,994*	*3,019*	*3,044*	*3,062*	**2,941**	*3,010*	*3,030*
Households (Thousands)															
New England	**5,896**	**5,877**	**5,900**	**5,924**	**5,941**	*5,959*	*5,975*	*5,984*	*5,992*	*6,001*	*6,011*	*6,023*	**5,924**	*5,984*	*6,023*
Middle Atlantic	**16,161**	**16,102**	**16,164**	**16,234**	**16,281**	*16,327*	*16,364*	*16,388*	*16,411*	*16,435*	*16,459*	*16,485*	**16,234**	*16,388*	*16,485*
E. N. Central	**18,864**	**18,814**	**18,901**	**18,989**	**19,050**	*19,113*	*19,167*	*19,208*	*19,244*	*19,270*	*19,295*	*19,323*	**18,989**	*19,208*	*19,323*
W. N. Central	**8,646**	**8,631**	**8,677**	**8,732**	**8,768**	*8,803*	*8,832*	*8,854*	*8,873*	*8,895*	*8,917*	*8,934*	**8,732**	*8,854*	*8,934*
S. Atlantic	**25,669**	**25,649**	**25,815**	**26,001**	**26,137**	*26,267*	*26,384*	*26,482*	*26,572*	*26,667*	*26,756*	*26,841*	**26,001**	*26,482*	*26,841*
E. S. Central	**7,659**	**7,647**	**7,689**	**7,739**	**7,771**	*7,802*	*7,830*	*7,851*	*7,870*	*7,890*	*7,909*	*7,925*	**7,739**	*7,851*	*7,925*
W. S. Central	**14,887**	**14,880**	**14,981**	**15,097**	**15,180**	*15,260*	*15,331*	*15,391*	*15,448*	*15,505*	*15,563*	*15,616*	**15,097**	*15,391*	*15,616*
Mountain	**9,464**	**9,470**	**9,544**	**9,629**	**9,693**	*9,755*	*9,812*	*9,861*	*9,908*	*9,951*	*9,994*	*10,032*	**9,629**	*9,861*	*10,032*
Pacific	**18,779**	**18,739**	**18,838**	**18,951**	**19,021**	*19,086*	*19,142*	*19,184*	*19,226*	*19,266*	*19,310*	*19,348*	**18,951**	*19,184*	*19,348*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.9**	**7.0**	**7.0**	*7.2*	*7.3*	*7.3*	*7.4*	*7.4*	*7.5*	*7.5*	**6.9**	*7.2*	*7.4*
Middle Atlantic	**20.1**	**16.8**	**18.0**	**18.3**	**18.4**	*18.8*	*19.1*	*19.3*	*19.5*	*19.6*	*19.8*	*19.9*	**18.3**	*18.9*	*19.7*
E. N. Central	**22.3**	**19.4**	**20.8**	**21.0**	**21.1**	*21.5*	*21.7*	*21.9*	*22.0*	*22.1*	*22.2*	*22.2*	**20.9**	*21.6*	*22.1*
W. N. Central	**10.8**	**9.8**	**10.2**	**10.3**	**10.4**	*10.5*	*10.7*	*10.7*	*10.7*	*10.8*	*10.8*	*10.8*	**10.3**	*10.6*	*10.8*
S. Atlantic	**29.3**	**26.3**	**27.6**	**27.9**	**28.1**	*28.6*	*29.0*	*29.2*	*29.3*	*29.5*	*29.6*	*29.7*	**27.8**	*28.7*	*29.6*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.1**	**8.1**	*8.2*	*8.3*	*8.3*	*8.3*	*8.3*	*8.4*	*8.4*	**8.0**	*8.2*	*8.4*
W. S. Central	**17.9**	**16.3**	**16.8**	**17.1**	**17.2**	*17.5*	*17.8*	*17.9*	*18.0*	*18.0*	*18.1*	*18.2*	**17.0**	*17.6*	*18.1*
Mountain	**11.2**	**10.1**	**10.6**	**10.7**	**10.8**	*11.0*	*11.1*	*11.2*	*11.3*	*11.3*	*11.4*	*11.5*	**10.6**	*11.0*	*11.4*
Pacific	**24.0**	**21.0**	**21.8**	**22.0**	**22.1**	*22.6*	*22.9*	*23.2*	*23.4*	*23.6*	*23.8*	*23.9*	**22.2**	*22.7*	*23.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,738**	**972**	**114**	**1,998**	**3,009**	*766*	*125*	*2,100*	*3,074*	*847*	*127*	*2,100*	**5,822**	*6,000*	*6,147*
Middle Atlantic	**2,469**	**837**	**85**	**1,833**	**2,822**	*591*	*77*	*1,926*	*2,871*	*671*	*73*	*1,926*	**5,224**	*5,416*	*5,541*
E. N. Central	**2,787**	**847**	**126**	**2,101**	**3,087**	*668*	*109*	*2,232*	*3,151*	*724*	*112*	*2,232*	**5,861**	*6,096*	*6,218*
W. N. Central	**3,037**	**799**	**168**	**2,312**	**3,225**	*696*	*143*	*2,434*	*3,247*	*705*	*147*	*2,434*	**6,316**	*6,498*	*6,533*
South Atlantic	**1,107**	**252**	**17**	**875**	**1,340**	*196*	*10*	*913*	*1,367*	*183*	*10*	*911*	**2,252**	*2,459*	*2,471*
E. S. Central	**1,484**	**338**	**20**	**1,228**	**1,794**	*282*	*16*	*1,262*	*1,812*	*242*	*16*	*1,262*	**3,069**	*3,353*	*3,332*
W. S. Central	**974**	**103**	**8**	**738**	**1,298**	*123*	*4*	*764*	*1,149*	*81*	*4*	*763*	**1,822**	*2,189*	*1,997*
Mountain	**2,209**	**671**	**126**	**1,767**	**2,292**	*652*	*138*	*1,818*	*2,189*	*679*	*141*	*1,817*	**4,773**	*4,901*	*4,826*
Pacific	**1,536**	**524**	**64**	**1,083**	**1,558**	*520*	*90*	*1,209*	*1,524*	*590*	*87*	*1,210*	**3,208**	*3,377*	*3,410*
U.S. Average	**1,875**	**540**	**70**	**1,418**	**2,099**	*453*	*69*	*1,496*	*2,090*	*478*	*69*	*1,494*	**3,903**	*4,117*	*4,131*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**823**	**105**	**2,128**	**3,134**	*856*	*107*	*2,100*	*3,100*	*851*	*112*	*2,121*	**6,207**	*6,196*	*6,184*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,913**	*677*	*72*	*1,911*	*2,887*	*677*	*73*	*1,929*	**5,606**	*5,573*	*5,566*
E. N. Central	**3,197**	**698**	**102**	**2,197**	**3,157**	*731*	*105*	*2,170*	*3,133*	*724*	*101*	*2,196*	**6,194**	*6,162*	*6,154*
W. N. Central	**3,287**	**702**	**132**	**2,379**	**3,247**	*728*	*133*	*2,367*	*3,218*	*723*	*130*	*2,396*	**6,500**	*6,475*	*6,468*
South Atlantic	**1,459**	**169**	**10**	**952**	**1,393**	*180*	*11*	*914*	*1,377*	*185*	*11*	*915*	**2,589**	*2,498*	*2,488*
E. S. Central	**1,850**	**214**	**15**	**1,277**	**1,772**	*232*	*16*	*1,249*	*1,764*	*240*	*14*	*1,251*	**3,356**	*3,268*	*3,269*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	*86*	*3*	*786*	*1,145*	*94*	*3*	*781*	**2,078**	*2,016*	*2,023*
Mountain	**2,192**	**718**	**135**	**1,844**	**2,181**	*701*	*134*	*1,842*	*2,173*	*681*	*134*	*1,828*	**4,889**	*4,858*	*4,816*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	*553*	*81*	*1,147*	*1,455*	*526*	*80*	*1,137*	**3,284**	*3,242*	*3,198*
U.S. Average	**2,149**	**472**	**64**	**1,509**	**2,108**	*482*	*65*	*1,484*	*2,090*	*476*	*64*	*1,488*	**4,194**	*4,138*	*4,119*
Cooling Degree Days															
New England	**0**	**102**	**541**	**0**	**0**	*97*	*423*	*2*	*0*	*86*	*413*	*2*	**643**	*522*	*502*
Middle Atlantic	**0**	**157**	**681**	**4**	**0**	*172*	*557*	*5*	*0*	*159*	*549*	*5*	**842**	*733*	*713*
E. N. Central	**2**	**217**	**609**	**2**	**2**	*236*	*565*	*7*	*0*	*219*	*556*	*7*	**830**	*811*	*782*
W. N. Central	**6**	**294**	**662**	**3**	**8**	*291*	*713*	*11*	*3*	*263*	*692*	*11*	**965**	*1,024*	*969*
South Atlantic	**196**	**618**	**1,231**	**301**	**154**	*679*	*1,185*	*249*	*133*	*674*	*1,188*	*249*	**2,345**	*2,266*	*2,244*
E. S. Central	**72**	**422**	**1,059**	**80**	**40**	*520*	*1,087*	*74*	*28*	*522*	*1,085*	*74*	**1,634**	*1,721*	*1,709*
W. S. Central	**174**	**840**	**1,498**	**209**	**89**	*899*	*1,535*	*215*	*89*	*869*	*1,524*	*215*	**2,722**	*2,738*	*2,697*
Mountain	**10**	**465**	**1,086**	**118**	**10**	*447*	*949*	*78*	*20*	*434*	*937*	*79*	**1,679**	*1,485*	*1,470*
Pacific	**24**	**198**	**722**	**129**	**23**	*162*	*579*	*59*	*27*	*166*	*573*	*59*	**1,073**	*823*	*824*
U.S. Average	**71**	**396**	**936**	**123**	**50**	*419*	*877*	*100*	*46*	*408*	*871*	*100*	**1,525**	*1,445*	*1,425*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	*80*	*474*	*1*	*0*	*83*	*468*	*1*	**554**	*555*	*552*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	*163*	*610*	*6*	*0*	*161*	*601*	*7*	**785**	*779*	*769*
E. N. Central	**3**	**240**	**579**	**8**	**3**	*234*	*572*	*7*	*3*	*236*	*565*	*7*	**829**	*816*	*811*
W. N. Central	**7**	**296**	**696**	**11**	**7**	*294*	*686*	*10*	*7*	*297*	*678*	*10*	**1,010**	*997*	*993*
South Atlantic	**127**	**696**	**1,202**	**247**	**143**	*680*	*1,195*	*261*	*147*	*675*	*1,191*	*266*	**2,272**	*2,279*	*2,279*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	*532*	*1,064*	*74*	*44*	*526*	*1,064*	*78*	**1,747**	*1,713*	*1,712*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	*880*	*1,567*	*210*	*113*	*866*	*1,542*	*213*	**2,774**	*2,771*	*2,734*
Mountain	**24**	**432**	**939**	**81**	**24**	*444*	*954*	*86*	*23*	*453*	*949*	*86*	**1,476**	*1,509*	*1,512*
Pacific	**31**	**185**	**624**	**78**	**31**	*193*	*648*	*86*	*31*	*199*	*651*	*85*	**917**	*957*	*966*
U.S. Average	**47**	**420**	**892**	**100**	**52**	*415*	*894*	*105*	*53*	*415*	*889*	*107*	**1,459**	*1,466*	*1,463*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday May 6, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

June 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The June *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing economic recovery from the COVID-19 pandemic. The U.S. economy continues to rise after reaching multiyear lows in the second quarter of 2020 (2Q20). The increase in economic activity and easing of the COVID-19 pandemic have contributed to rising energy use. U.S. gross domestic product (GDP) declined by 3.5% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 6.7% in 2021 and by 4.9% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. Our forecast assumes continuing economic growth and increasing mobility as a result of the easing of the COVID-19 pandemic. Any developments that would cause deviations from these assumptions would likely cause energy consumption and prices to deviate from our forecast.

- Brent crude oil spot prices averaged $68 per barrel (b) in May, up $4/b from April. Brent prices were higher in May as global oil inventories continued to decline, albeit at a slower pace than in the first four months of the year. In the coming months, we expect that global oil production will increase to match rising levels of global oil consumption. The rising oil production in the forecast is largely a result of the OPEC+ decision to raise production. We expect rising production will end the persistent global oil inventory draws that have occurred for much of the past year and lead to relatively balanced global oil markets in the second half of 2021 (2H21). We expect Brent prices will remain near current levels in 3Q21, averaging $68/b. However, in 2022, we expect that continuing growth in production from OPEC+ and accelerating growth in U.S. tight oil production—along with other supply growth—will outpace decelerating growth in global oil consumption and contribute to declining oil prices. Based on these factors, we expect Brent to average $60/b in 2022.

- We expect U.S. gasoline consumption will average 9.1 million barrels per day (b/d) this summer (April–September), which is 1.3 million b/d more than last summer but still more than 0.4 million b/d less than summer 2019. Weekly consumption data reflect the Colonial Pipeline outage and subsequent increase in gasoline demand, but consumption both before and after this event indicate more gasoline demand than we had previously forecast. Our latest forecast also reflects IHS Markit's increased employment forecast.

We expect U.S. gasoline consumption to average 8.7 million b/d in for all of 2021 and 9.0 million b/d in 2022.

- For the 2021 April–September summer driving season, we forecast U.S. regular gasoline retail prices will average $2.92 per gallon (gal), up from an average of $2.07/gal last summer. The higher forecast gasoline prices reflect higher crude oil prices and higher wholesale gasoline margins. Wholesale gasoline margins have risen as a result of relatively low inventories and rising gasoline demand. Margins also temporarily widened because of outages on the Colonial Pipeline. These developments caused U.S. average regular gasoline retail prices to reach a monthly average of $2.99/gal in May, peaking at $3.03/gal on May 17, which were the highest monthly and weekly prices since 2014. We expect that prices will average $3.03/gal in June before falling to $2.76/gal by September. The drop in forecast retail gasoline prices reflects our forecast that gasoline margins will fall this summer in response to rising refinery utilization. For all of 2021, we expect U.S. regular gasoline retail prices to average $2.77/gal and gasoline retail prices for all grades to average $2.87/gal. Higher prices and more gasoline consumption would result in the average U.S. household spending about $570 (38%) more on motor fuel in 2021 compared with 2020.

- We estimate that 96.2 million b/d of petroleum and liquid fuels was consumed globally in May, an increase of 11.9 million b/d from May 2020 but 3.7 million b/d less than in May 2019. We forecast that global consumption of petroleum and liquid fuels will average 97.7 million b/d for all of 2021, which is a 5.4 million b/d increase from 2020. We forecast that global consumption of petroleum and liquid fuels will increase by 3.6 million b/d in 2022 to average 101.3 million b/d.

- We forecast OPEC crude oil production will average 26.9 million b/d in 2021 and 28.7 million b/d in 2022. OPEC crude oil production in the forecast rises from 25.0 million b/d in April to an average of 28.0 million b/d in 3Q21. Our expectation of rising OPEC production is primarily based on our assumption that OPEC will raise production by about 1 million b/d in both June and in July in response to rising global oil demand and seasonal increases in oil consumption for power generation for some OPEC members. It also reflects an assumption that Iran's crude oil production will continue to increase this year. Although sanctions that target Iran's crude oil exports remain in place, crude oil exports—according to ClipperData, LLC.—and production from Iran are up from most of 2020.

- According to our most recent data, U.S. crude oil production averaged 11.2 million b/d in March 2021, an increase of 1.4 million b/d from February. The March rise indicates that the production outages caused by the February winter freeze were temporary and that production came back online quickly. Because prices of West Texas Intermediate crude oil remain above $60/b during 2021 in the current forecast, we expect that producers will drill and complete enough wells to raise 2022 production from 2021

levels. We estimate that 2022 production will average 11.8 million b/d, up from a forecast average of 11.1 million b/d in 2021.

Natural Gas

- In May, the natural gas spot price at Henry Hub averaged $2.91 per million British thermal units (MMBtu), which is up from the April average of $2.66/MMBtu. We expect the Henry Hub spot price will average $2.92/MMBtu in 3Q21 and $3.07/MMBtu for all of 2021, which is up from the 2020 average of $2.03/MMBtu. Higher natural gas prices this year primarily reflect two factors: growth in liquefied natural gas (LNG) exports and rising domestic natural gas consumption outside of the power sector. In 2022, we expect the Henry Hub price will average $2.93/MMBtu amid slowing growth in LNG exports and rising U.S. natural gas production.

- We expect that U.S. consumption of natural gas will average 82.9 billion cubic feet per day (Bcf/d) in 2021, down 0.5% from 2020. U.S. natural gas consumption declines in the forecast, in part, because electric power generators switch to coal from natural gas as a result of rising natural gas prices. In 2021, we expect residential and commercial natural gas consumption combined will rise by 1.2 Bcf/d from 2020 and industrial consumption will rise by 0.7 Bcf/d from 2020. Rising consumption outside of the power sector results from expanding economic activity and colder winter temperatures in 2021 compared with 2020. We expect U.S. natural gas consumption will average 82.8 Bcf/d in 2022.

- We estimate that natural gas inventories ended May 2021 at almost 2.4 trillion cubic feet (Tcf), which is 3% lower than the five-year (2016–20) average. More natural gas was withdrawn from storage during the winter of 2020–21 than the previous five-year average, largely as a result of the colder-than-average February temperatures that contributed to a drop in natural gas production. We forecast that inventories will end the 2021 injection season (end of October) at 3.6 Tcf, which would be 4% below the five-year average.

- Following a significant weather-related decline in U.S. natural gas production in February, U.S. dry natural gas production rose by 6.0 Bcf/d in March to 92.3 Bcf/d. We expect dry natural gas production will average 92.9 Bcf/d in 2H21 and then rise to 93.9 Bcf/d in 2022.

Electricity, coal, renewables, and emissions

- We forecast that retail sales of electricity in the United States will increase by 2.3% in 2021 after falling by 3.9% in 2020. The largest increase in consumption will occur in the residential sector, where we forecast retail sales of electricity will grow by 2.8% this year. This growth is primarily a result of colder temperatures in the first quarter of 2021 compared with the same period in 2020. Much of the forecast increase in electricity consumption in the commercial and industrial sectors reflects improving economic

conditions in 2021. We expect retail electricity sales to these two sectors combined will increase by 2.0% in 2021. For 2022, we forecast that U.S. retail sales of electricity will grow by another 1.4%.

- We expect the share of electric power generation produced by natural gas in the United States will average 36% in 2021 and 35% in 2022, down from 39% in 2020. The forecast share for natural gas as a generation fuel declines in response to our expectation of a higher delivered natural gas price for electricity generators, which we forecast will average $4.09/MMBtu in 2021 compared with an average of $2.39/MMBtu in 2020. As a result of the higher expected natural gas prices, the forecast share of generation from coal rises from 20% in 2020 to 23% this year but falls to 22% next year. New additions of solar and wind generating capacity support our expectation that the renewables share of U.S. generation will rise from 20% in 2020 to 21% in 2021 and to 23% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022 as a result of retiring capacity at some nuclear power plants.

- We forecast that planned additions to U.S. wind and solar generating capacity in 2021 and 2022 will contribute to rising electricity generation from those sources. We estimate that the U.S. electric power sector added 14.8 gigawatts (GW) of new wind capacity in 2020. We expect 16.0 GW of new wind capacity will come online in 2021 and 5.3 GW in 2022. Utility-scale solar capacity rose by an estimated 10.5 GW in 2020. Our forecast for added utility-scale solar capacity is 15.5 GW 2021 and 16.6 GW for 2022. We expect significant solar capacity additions in Texas during the forecast period. In addition, 4 GW to 5 GW of small-scale solar capacity (systems less than 1 megawatt) will come online each year during the 2021–22 STEO forecast.

- We expect U.S. coal production to total 600 million short tons (MMst) in 2021, which is 61 MMst (11%) more than in 2020. The increase is driven primarily by rising electricity demand. In 2022, we expect coal production to grow by an additional 5 MMst (1%).

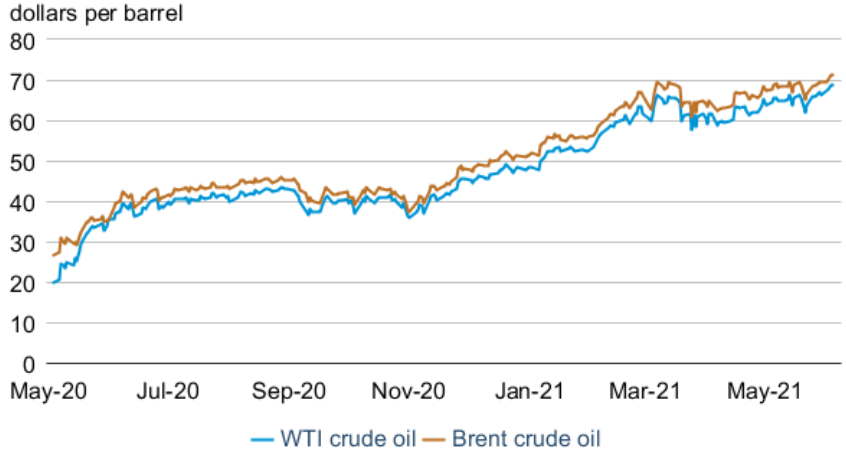
- We expect U.S. coal exports to be about 81 MMst in 2021, 12 MMst (17%) more than in 2020. We expect most of this growth to come from rising demand for steam coal in Europe and Asia as increased steel prices during 2021 and 2022 drive exports. Forecast U.S. coal exports in 2022 rise by an additional 12 MMst (14%).

- We estimate that U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption related to reduced economic activity and responses to COVID-19. In 2021, we forecast energy-related CO_2 emissions will increase about 6% from the 2020 level as economic activity increases and leads to rising energy use. We also expect energy-related CO_2 emissions to rise in 2022, but by a slower rate of 2%. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 15% in 2021 and then decrease by 1% in 2022.

Petroleum and natural gas markets review

Prices: The front month futures price for Brent crude oil settled at $71.31 per barrel (b) on June 3, up $3.75/b from $67.56/b on May 3. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $4.32/b during the same period, settling at $68.81/b on June 3 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Sources: Graph by EIA, based on CME Group and Intercontinental Exchange, compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

After declining in April, crude oil prices in May moved toward post-pandemic daily highs at nearly $70/b. Continuing draws on global oil inventories contributed to upward crude oil price pressures. Despite rising COVID-19 case counts in some countries, particularly India, global oil demand remained higher than supply in May, contributing to continued global withdrawals from inventories of crude oil and petroleum products. However, we estimate withdrawals fell to 1.2 million barrels per day (b/d) in May, compared with average monthly withdrawals of 2.1 million b/d since June 2020.

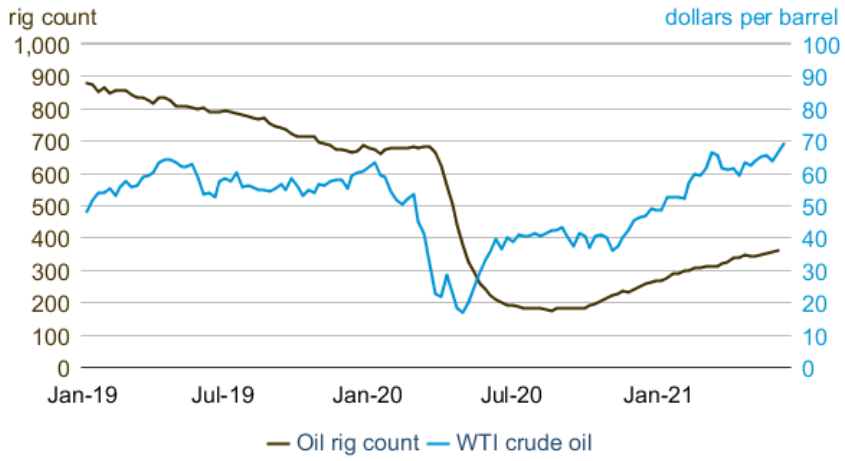
On June 1, front-month Brent futures prices closed above $70/b for the first time since January 2020. At its June 1 meeting, OPEC+ reaffirmed its commitment to continued production increases in the coming months. Despite the group's plans to raise production, prices increased as the market weighed the planned increases relative to expected increases in consumption. Scheduled increases in production targets contributed to OPEC crude oil production reaching 25.5 million barrels per day (b/d) in May, its highest level since April 2020. This increase brought global supply to an estimated 95.0 million b/d compared with consumption of 96.2 million b/d. We expect OPEC crude oil production will increase to an average of 28.0 million b/d in the third quarter of 2021 (3Q21).

In the June STEO, we raised our Brent price forecast for the coming months. We now expect Brent prices to average $69/b in June and $68/b in 3Q21, which are $4/b and $5/b higher, respectively, than in last month's forecast. This price forecast keeps prices near or slightly below

current levels through 3Q21, and it incorporates the recent price increases and our forecast of mostly balanced oil markets in the coming months. Given announced increases in OPEC crude oil production, we expect production to increase more rapidly in the second half of 2021 (2H21) to keep pace with rising demand. In the forecast, global oil consumption rises by 2.8 million b/d from 2Q21 to 2H21 while global oil production rises by 4.3 million b/d during the same period, balancing out the 1.5 million b/d of global oil inventory draws from 2Q21. We expect more significant downward oil price pressures to emerge later in 2021 and into 2022 as forecast global oil supply outpaces slowing oil demand growth.

U.S. oil rigs and WTI prices: Baker Hughes' U.S. crude oil rotary rig count, which serves as an indicator of active U.S. crude oil production capacity, reached a low of 172 active rigs on August 14, 2020 **(Figure 2)**. Since then, the number of U.S. oil rigs has more than doubled, increasing by 187 rigs to a total of 359 rigs as of May 28. The pace at which crude oil producers deploy drilling rigs at any price level is an important driver of crude oil production in U.S. tight oil basins.

Figure 2. U.S. oil rigs and WTI prices



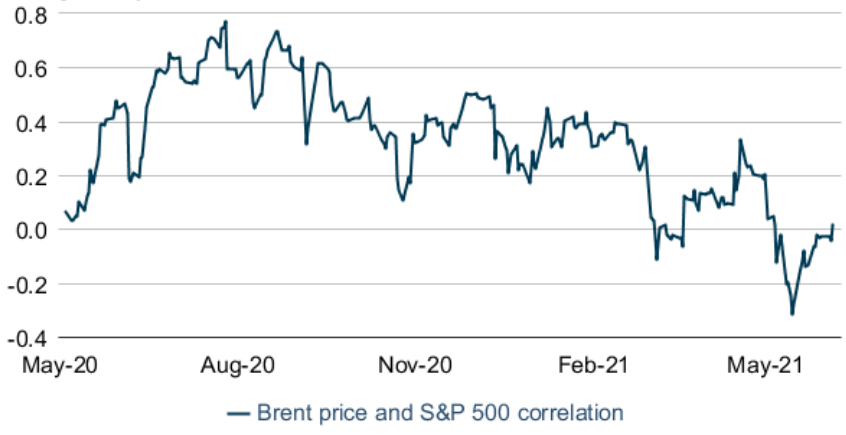
Source: Graph by EIA, based on data from Baker Hughes and CME Group, as compiled by Bloomberg, L.P.
Note: WTI=West Texas Intermediate

We expect that the rig count is likely to continue to increase in response to WTI crude oil prices rising from less than $50/b in late 2020 to a monthly average of $65/b in May. Our models show changes in rig counts typically lag behind changes in the WTI price from between three and six months, and production typically comes online about two months after rig deployment. Assuming that other factors remain constant, price increases over the past month will likely continue to drive rig deployments through much of the rest of 2021. However, the recent changes in rig counts indicate operators, notably in the Permian, could be deploying fewer rigs at current oil prices than they have previously deployed when oil prices were at similar levels. In the forecast, we have slightly reduced the responsiveness of rig deployments in the Permian to upward oil price movements.

Although U.S. crude oil producers have some incentive to remain cautious about deploying rigs and increasing production because of overall market uncertainty, if WTI crude oil prices remain near $65/b in the coming months, as we forecast, prices will continue to provide an incentive for producers to deploy additional rigs and resume production. Onshore U.S. crude oil production in the Lower 48 states during May 2021 was 8.9 million b/d, near its highest level so far in 2021, and we expect production to reach almost 9.3 million b/d by December 2021 with further increases into 2022. However, our crude oil production forecast is lower than in recent STEOs because of relatively fewer rig deployments at existing price levels, particularly in the Permian. In the March STEO, we forecast slightly more onshore U.S. crude oil production at almost 9.4 million b/d by December 2021, while we forecast WTI prices in 2Q21 and 3Q21 to average $6/b less than in our current forecast. Assumptions about the oil price levels at which rigs are deployed are one of the key uncertainties in our forecast.

Brent Price and S&P 500 correlation: In 2020, the widespread impact of the COVID-19 pandemic across sectors resulted in an increased correlation between the Brent crude oil price and S&P 500, an equity index of widely traded U.S. public companies **(Figure 3)**. Historically, the relationship between Brent prices and publicly traded equities is often mixed. Among many factors, rising oil prices present the risk of inflation and can increase transportation fuel costs for most firms, contributing to negative correlation. However, rising oil prices can also reflect strong economic growth, which leads to rising profitability for many companies, contributing to positive correlation. Rising oil prices can also indicate potentially higher earnings for many large companies in the S&P 500 that produce and refine petroleum, also contributing to a positive correlation. A positive correlation between the two can suggest that both asset prices are being determined primarily by demand-side factors, such as global economic growth, which can influence both demand for crude oil and for goods and services from other sectors. The rolling 30-day correlation between the Brent price and the S&P 500 reached a high point of 0.77 during July 2020, the highest correlation between the two series since December 2010.

Figure 3. Brent price and S&P 500 correlation

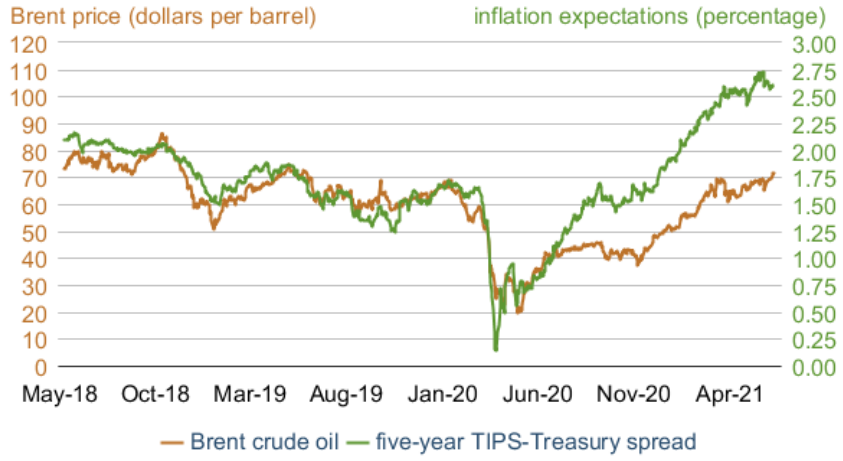


eia Source: Graph by EIA, based on data from Bloomberg L.P.

Uneven increases in crude oil prices and equity values contributed to a gradual decrease in the correlation since July 2020, suggesting that drivers of the crude oil price are driven more by sector-specific, supply-side factors and less by macroeconomic conditions or global demand. In March 2021, the correlation decreased when crude oil prices increased more rapidly than the S&P 500 overall, which was after OPEC+ producers announced they would maintain production curtailments amid rising crude oil demand. After crude oil prices decreased later in March, and remained relatively flat through April, the S&P 500 climbed to record highs. The opposite directional movements between the two series resulted in a shift to a negative correlation between them. The correlation between the Brent crude oil price and the S&P 500 index reached -0.32 on May 13, the largest negative correlation since July 2014.

Crude oil and inflation expectations: The percentage difference in yields for five-year Treasury Inflation-Protected Securities (TIPS) compared with U.S. treasury bonds is often used to measure market expectations of inflation. Responses to the COVID-19 pandemic resulted in a dramatic decline in demand for goods, which significantly reduced petroleum and other commodity prices in early 2020. Because crude oil and other commodity prices are inputs to other sectors of the economy, changes in crude oil prices can also affect inflation expectations. The TIPS-Treasury spread decreased to an average of 0.7% in March 2020, reflecting low inflation expectations as a result of lower prices and reduced economic activity **(Figure 4)**.

Figure 4. Crude oil and inflation expectations



Source: Graph by EIA, based on data from Bloomberg L.P. and Federal Reserve Bank of St. Louis
Note: TIPS=Treasury Inflation Protected Securities

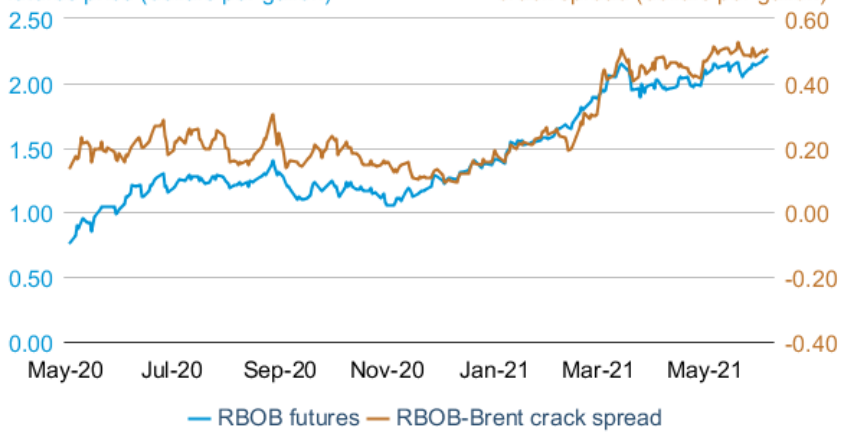
Inflation expectations have generally increased since August 2020. The TIPS-Treasury spread increased from 2.55% on April 1, 2021, to 2.60% on May 3 (the first trading day of May), before reaching a high of 2.72% on May 12, the spread's highest point since 2008. The increasing inflation expectations correspond to increases in the Brent crude oil price, which increased from $65/b on April 1 to $68/b on May 3 and $69/b on May 12. Fuel price increases for consumers and firms as a result of high crude oil prices are an important contributor to inflation expectations. However, the TIPS-Treasury spread also increased at the end of March and into

April, while Brent prices remained below their mid-March levels. Differing directional movements between the spread and the crude oil price reflect the effects of other goods and commodity prices on inflation expectations.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.20 per gallon (gal) on June 3, up 10 cents/gal from May 3 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 1 cent/gal to settle at 50 cents/gal during the same period.

Figure 5. Historical RBOB front-month futures prices and crack spreads



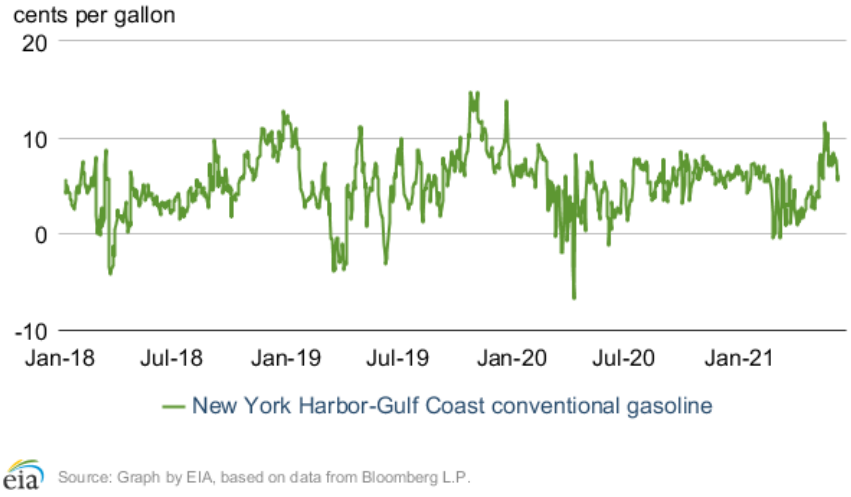
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

The average RBOB–Brent crack spread of 50 cents/gal in May was the highest since July 2015. The high spread reflected increasing demand, low inventories, and disruptions to the flow of gasoline along the U.S. East Coast because of the Colonial Pipeline outage. We estimate U.S. gasoline consumption averaged 9.1 million b/d in May, a 4% increase from April and the highest level since November 2019. The increase in gasoline demand likely reflected typical seasonal factors such as Memorial Day travel, as well as increased willingness to travel as a result of rising vaccinations, rising employment, and increased gasoline purchases in response to outages at many gas stations during the Colonial Pipeline disruption in early May. In addition, refinery production has not kept up with the increases in demand the past few months. Gasoline stocks fell sharply because of weather-related outages in February. Those disruptions were followed by increasing gasoline consumption from March through May. The increase in gasoline consumption and supply disruptions have resulted in gasoline inventories being below the five-year average for every month in 2021. Low gasoline inventories have supported the high gasoline crack spread, and helped push retail gasoline prices above $3.00/gal. We forecast that as refineries increase runs in the coming months and increases in gasoline consumption slow, it

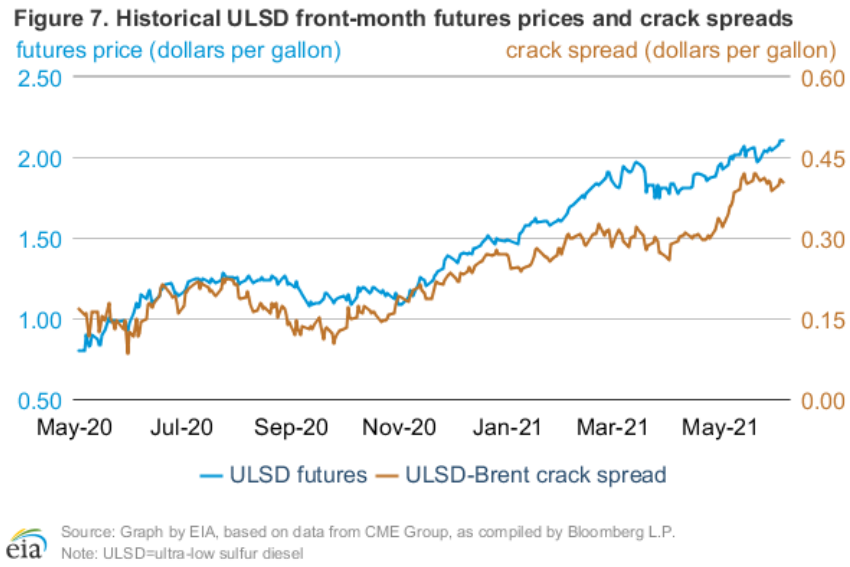
will put some downward pressure on gasoline crack spreads and contribute to U.S. average retail gasoline prices falling to $2.76/gal by September. However, we expect gasoline stocks to remain near five-year lows for the rest of 2021, keeping gasoline crack spreads higher than the five-year average.

Regional gasoline prices: The Colonial Pipeline outage interrupted the flow of gasoline from the U.S. Gulf Coast to the East Coast and led to a short-term increase in the spread between New York Harbor gasoline spot prices and Gulf Coast conventional gasoline spot prices **(Figure 6)**. The spread peaked on May 13 at 11.5 cents/gal, the highest spread since December 16, 2019. The New York Harbor gasoline price increased relative to the Gulf Coast conventional gasoline price likely because of a combination of increasing stocks in the U.S. Gulf Coast, decreasing stocks in the East Coast, and increased demand in the Lower Atlantic. The Lower Atlantic, which receives much of its gasoline from the pipeline, had lower-than-average gasoline stocks at the time of the pipeline outage, and as a result had the highest demand for substitute supply sources. Although the spread exceeded 10 cents/gal for only four days in the month, the spread remained slightly elevated through May, averaging 8 cents/gal, which is higher than the five-year May average of 5 cents/gal and higher than the April 2021 average of 3 cents/gal. The spread decreased in early June, settling at 6 cents/gal on June 3.

Figure 6. New York Harbor-Gulf Coast conventional gasoline spot price differentials



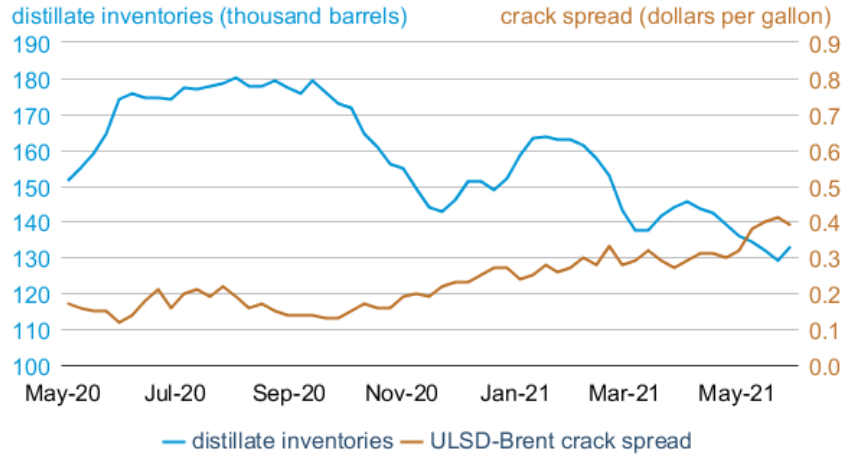
Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.10/gal on June 3, up 15 cent/gal from May 3 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 6 cents/gal, settling at 40 cents/gal during the same period.



May had the highest average ULSD–Brent crack spread since December 2019. The crack spread increase was likely the result of the most U.S. consumption of distillate fuel since November 2019 and relatively low distillate production. We estimate May distillate consumption of 4.1 million b/d, an increase of 0.5 million b/d (15%) from the May 2020 levels and 3% higher than the average from the five previous years (2015–2019). Although distillate consumption has increased above the five-year average for May, distillate production was at its lowest May level since 2012.

Because increases in distillate consumption have been outpacing increases in production and net imports in recent months, distillate inventories have been decreasing, which has supported increases in the ULSD–Brent crack spread **(Figure 8)**. From August 2020 to April 2021, distillate inventories decreased from 179 million barrels, the highest level since 1982, to approximately 136 million barrels. During that same period, the ULSD–Brent crack spread increased from 17 cents/gal to 31 cents/gal. In May, we estimate inventories fell to about 133 million barrels, which is lower than the five-year average, and this reduction has coincided with steeper increases in the crack spread. On May 11, the crack spread exceeded 40 cents/gal for the first time since March 2020 and remained close to 40 cents/gal through June 3.

Figure 8. Weekly U.S. distillate inventories and crack spreads

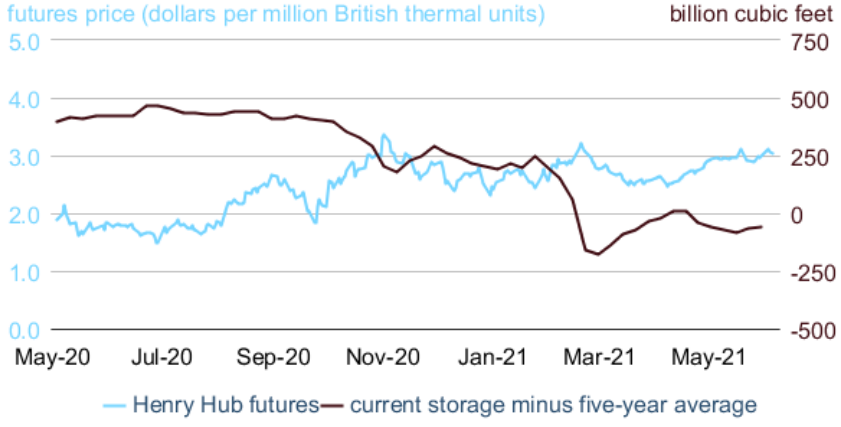


Source: Graph by EIA, based on data from Weekly Petroleum Status Report and Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $3.04 per million British thermal units (MMBtu) on June 3, 2021, which was up 7 cents/MMBtu from May 3, 2021 **(Figure 9)**. The average price for front-month natural gas futures contracts in May was $2.96/MMBtu, the highest May average since 2017.

Figure 9. U.S. natural gas front-month futures prices and storage deviation from 5-year average



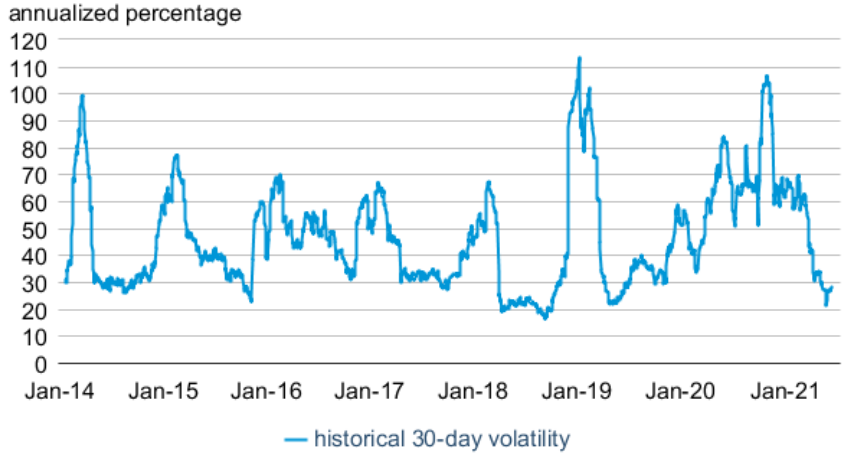
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

High levels of U.S. LNG exports continued in May and supported Henry Hub natural gas futures prices above $3.00/MMBtu. We estimate U.S. LNG exports of 10.0 billion cubic feet per day (Bcf/d) in May, the most on record for the month. Every month since November 2020 has been among the 10 highest months for U.S. LNG exports on record. Stable U.S. production during this

period in combination with high exports reduced storage levels below their previous five-year average. Although natural gas stocks were 191 Bcf higher than the five-year (2016–20) average at the start of the year, they were 61 Bcf lower than the five-year average as of the week ending May 28. Front-month natural gas futures prices have increased as stocks have decreased, starting the year at $2.58/MMBtu and closing at $3.04/MMBtu on June 3.

Although U.S. natural gas futures prices have risen, futures price volatility has declined to low levels. Historical volatility measures the magnitude of daily changes in closing prices for a commodity during a given time in the past. Based on rolling front-month contracts, the 30-day historical volatility of U.S. natural gas futures prices was 27.9% on June 3, a significant decrease from 73.5% a year ago. **(Figure 10)**. However, the May 2020 historical volatility was unusually high as a result of COVID-19-related disruptions, and historical volatility tends to be low around May because of less demand for natural gas as a fuel for heating or cooling. The previous five-year (2015–19) average historical volatility for the first trading day of June was 35.7%. This year, historical volatility has been even lower so far than the seasonal average. Prices have hovered within a somewhat narrow range around $3.00/MMBtu, likely because of stable U.S. production and relatively stable U.S. consumption as a result of slightly below-average cooling demand during May.

Figure 10. Natural gas historical volatility



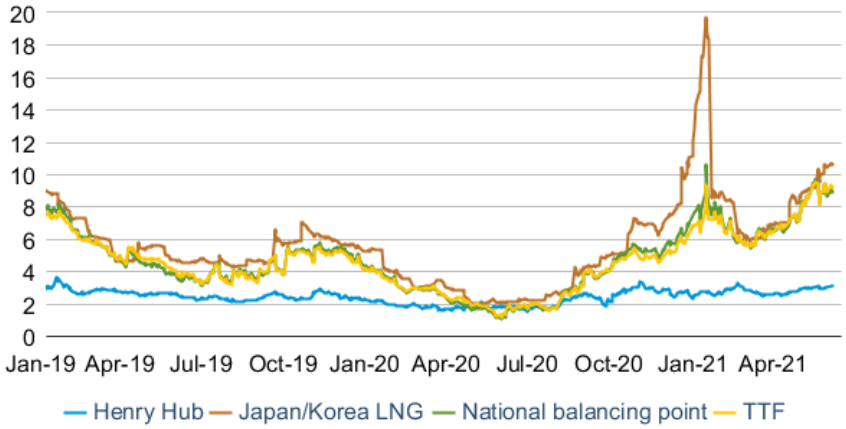
Source: Graph by EIA, based on data from Bloomberg L.P.

International natural gas prices: International LNG spot prices often reach yearly lows in May, but this year they have climbed to the high prices typically seen in winter months. The Japan-Korea Marker (JKM) price exceeded $10/MMBtu this May, compared with May 2019 and 2020 averages near $5/MMBtu and $2/MMBtu, respectively. The Title Transfer Facility (TTF) and National Balancing Point (NBP) prices in Europe have shown similar trends **(Figure 11)**. In Asia, efforts to build stocks in anticipation of demand for summer electricity and to prepare for heating demand next winter has increased demand for LNG imports and supported high prices. Because LNG stocks in Asia have been lower than usual this year as a result of significant draws

during the extremely cold winter, demand in Asia for LNG imports has been much greater than usual. In Europe, the coldest April in nearly a century and low inventories also supported higher global demand and higher prices for LNG. Because of this strong global demand for LNG, we forecast that U.S. LNG exports will continue to be high and average more than 9.0 Bcf/d during the remainder of 2021.

Figure 11. International natural gas prices

dollars per million British thermal units



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: TTF=Title Transfer Facility

Notable forecast changes

- We forecast Brent and WTI crude oil spot prices will average $65/b and $62/b, respectively, in 2021. Both of these forecasts are $3/b higher than forecast in the May STEO. The higher forecasts reflect the incorporation of higher-than-forecast actual prices during May, along with our expectation that crude oil markets will be in balance through much of the second half of the year, limiting downward price pressures. However, we expect that Brent crude oil prices will decline to $60/b on average in 2022 as global oil supply begins to outpace global oil demand.

- We expect global oil inventories will build by 0.5 million b/d in 2022, compared with our expectation of generally unchanged inventories in the May STEO. Our forecast of inventory growth is the result of our expectation of higher global oil supply in 2022. We raised expectations of supply growth across several key producers in the June STEO including OPEC, China, and Mexico.

- We forecast U.S. coal production to total 600 MMst in 2021, up 18 MMst (3%) from last month's STEO. High U.S. coal production in this forecast is the result of our expectation of higher inventory levels and more exports compared with the May STEO.

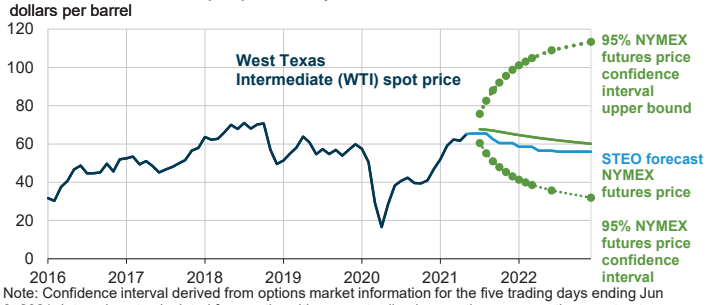
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

June 8, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

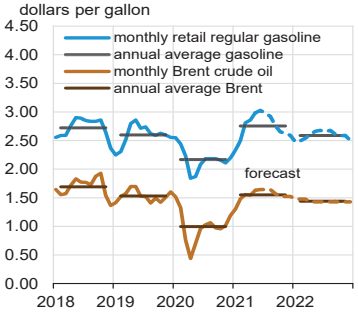


Note: Confidence interval derived from options market information for the five trading days ending Jun 3, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

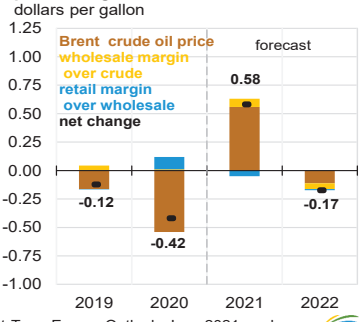
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



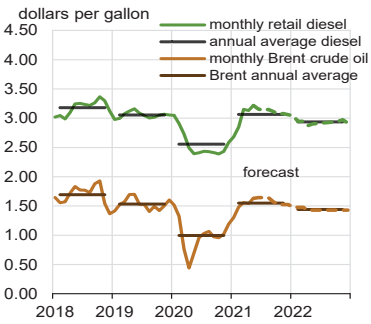
Components of annual gasoline price changes
dollars per gallon



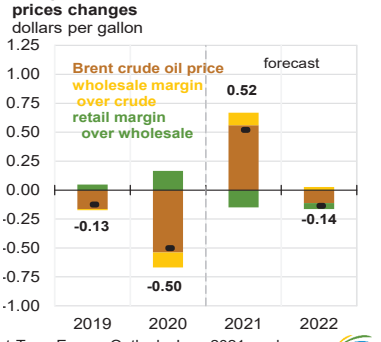
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices



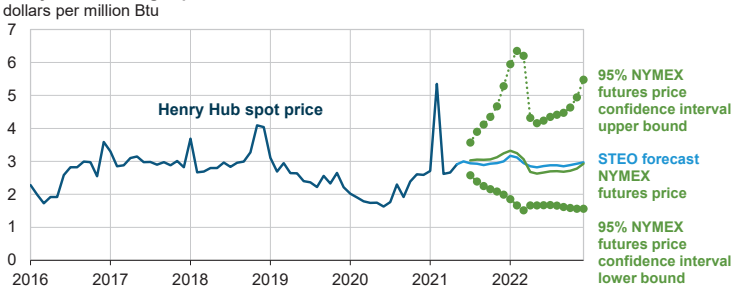
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

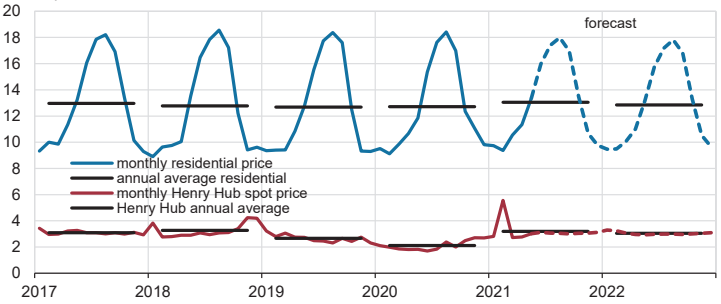


Note: Confidence interval derived from options market information for the five trading days ending Jun 3, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

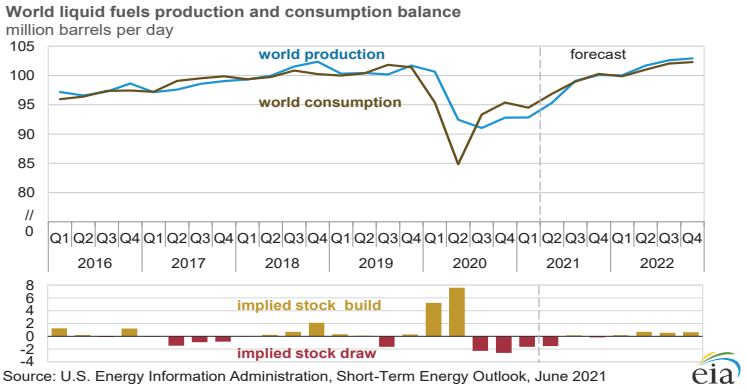
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021, CME Group, and Refinitiv an LSEG Business

U.S. natural gas prices

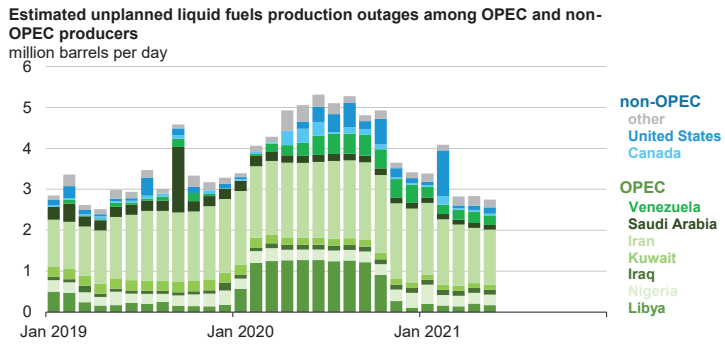
dollars per thousand cubic feet



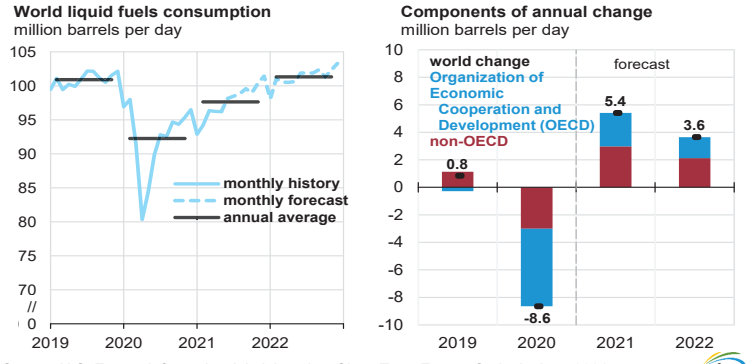
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021, and Refinitiv an LSEG Business



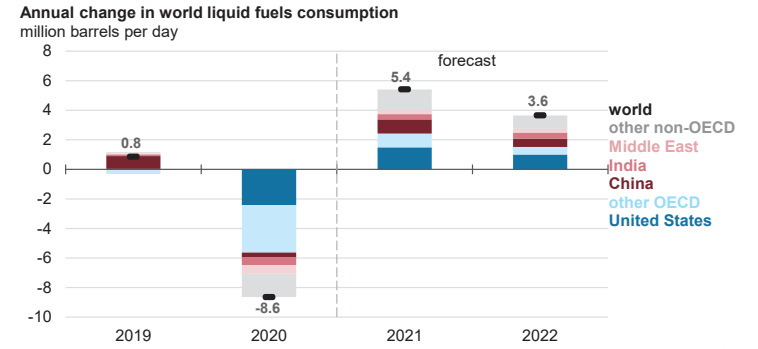
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



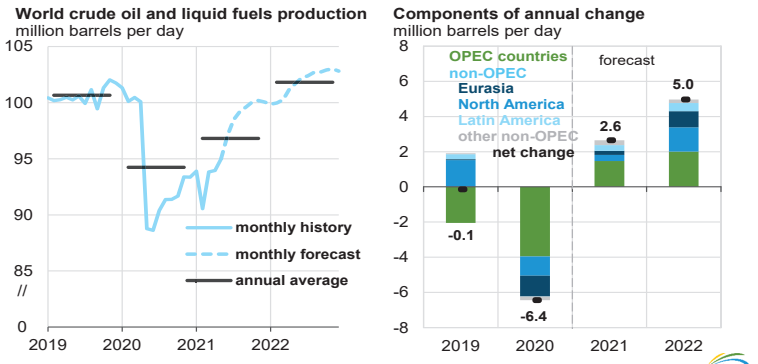
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



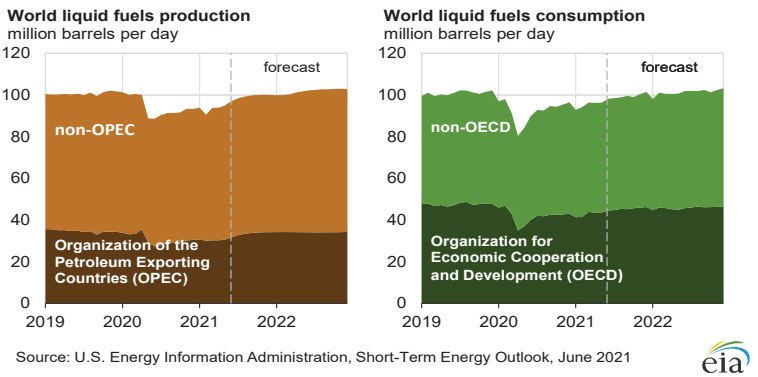
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

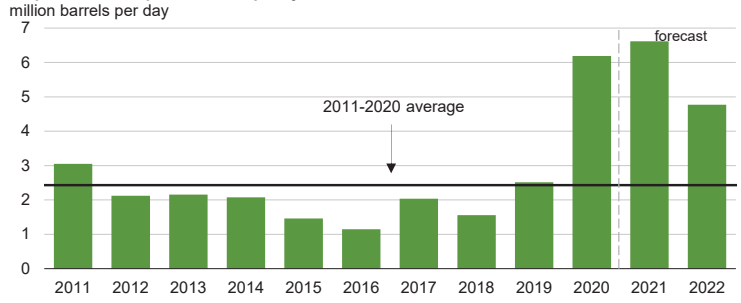


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



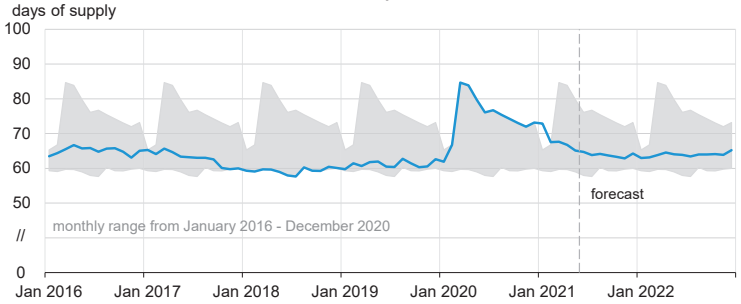
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



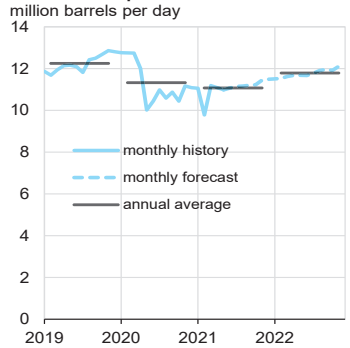
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

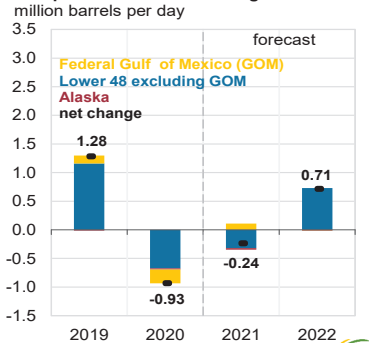


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. crude oil production
million barrels per day

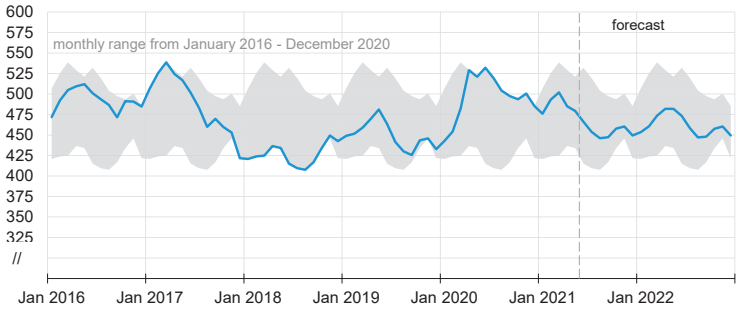


Components of annual change
million barrels per day



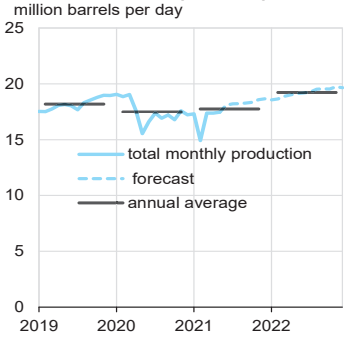
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. commercial crude oil inventories
million barrels

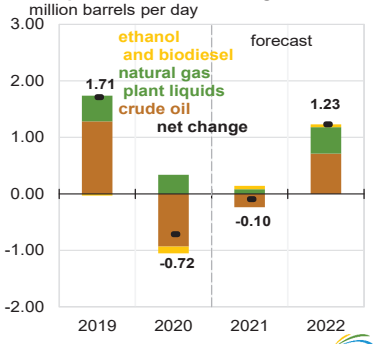


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. crude oil and liquid fuels production
million barrels per day

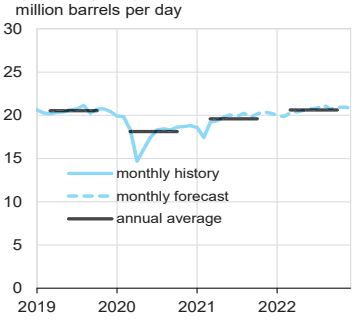


Components of annual change
million barrels per day

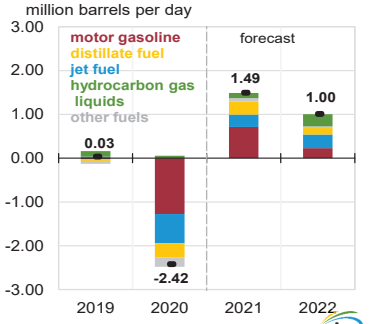


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. liquid fuels product supplied (consumption)
million barrels per day

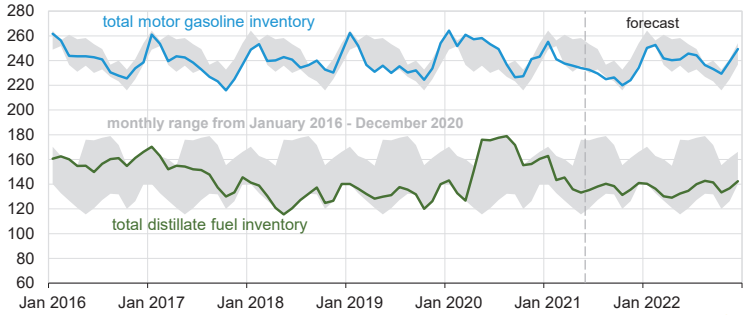


Components of annual change
million barrels per day



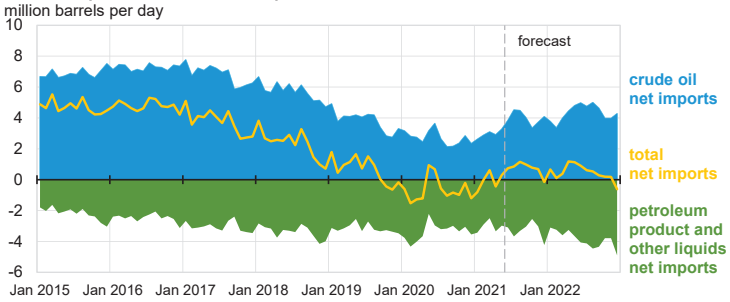
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. gasoline and distillate inventories
million barrels



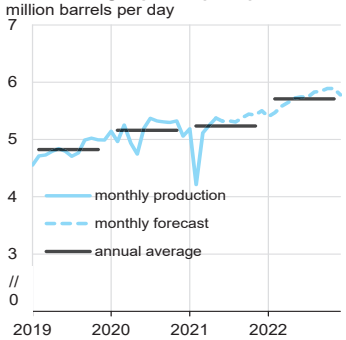
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

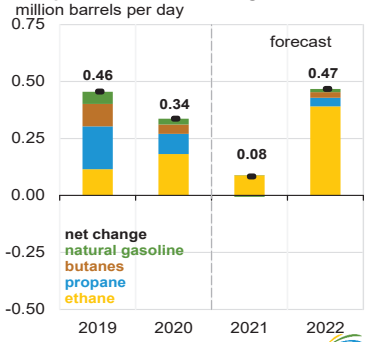


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

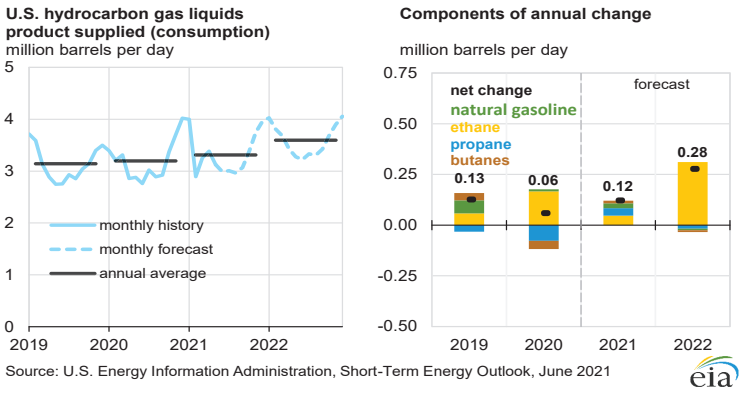
U.S. natural gas plant liquids production
million barrels per day



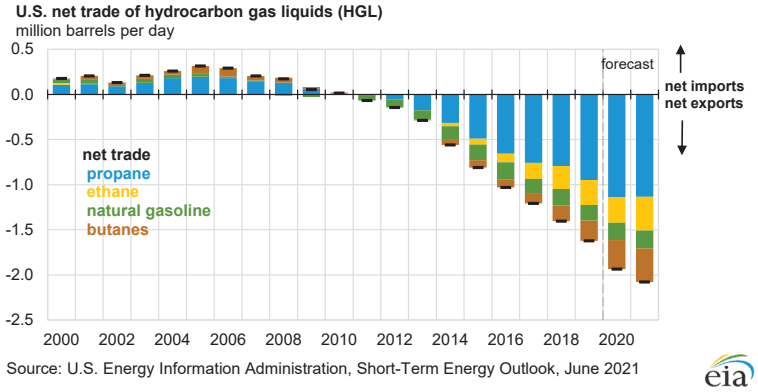
Components of annual change
million barrels per day



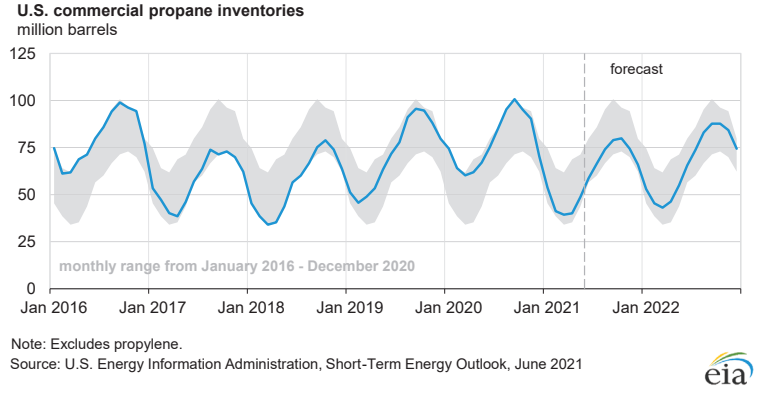
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



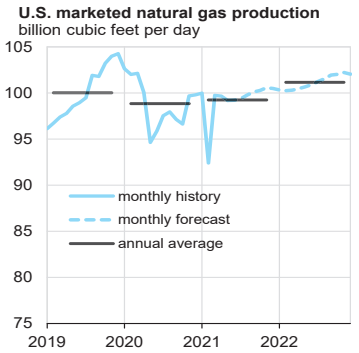
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

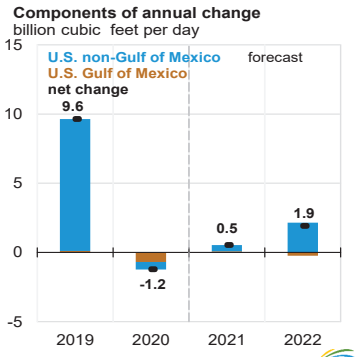


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

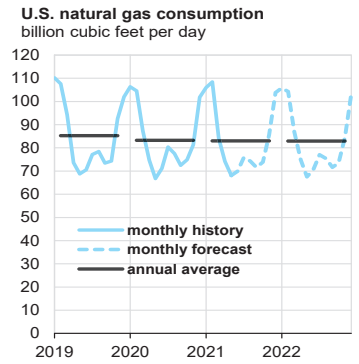


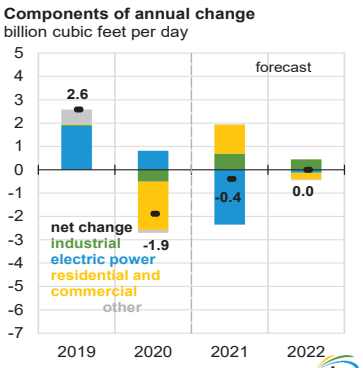
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



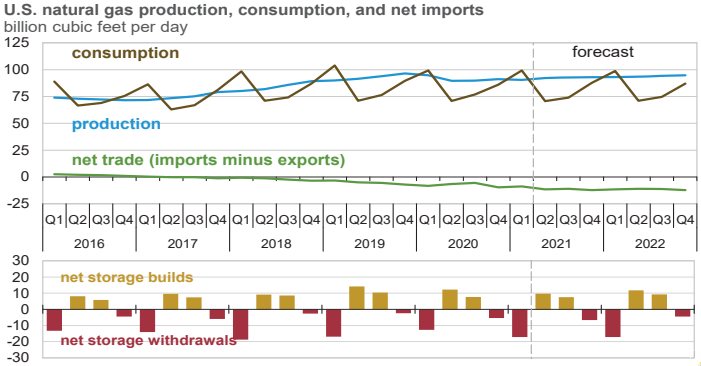


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



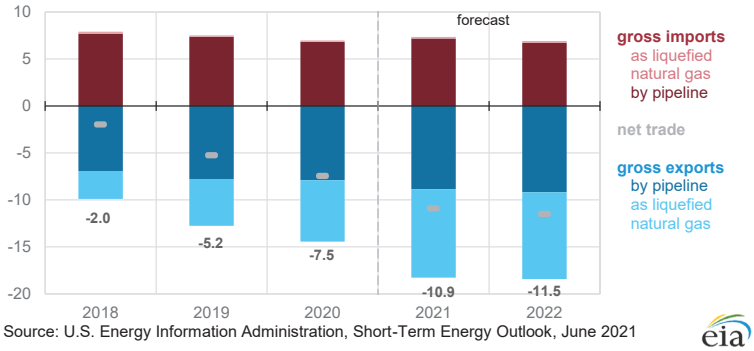


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



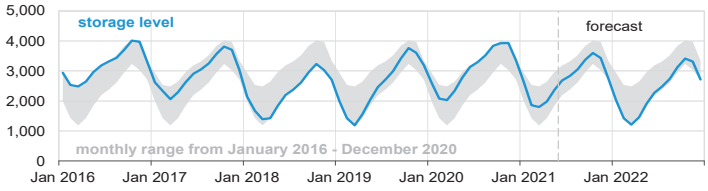
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. annual natural gas trade
billion cubic feet per day

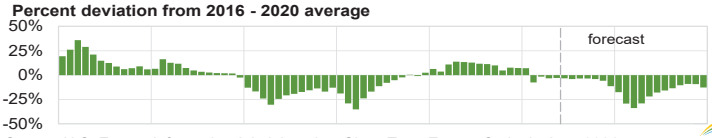


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. working natural gas in storage
billion cubic feet

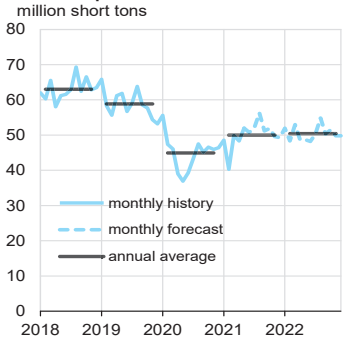


Percent deviation from 2016 - 2020 average

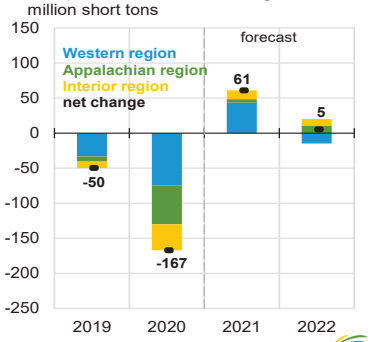


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

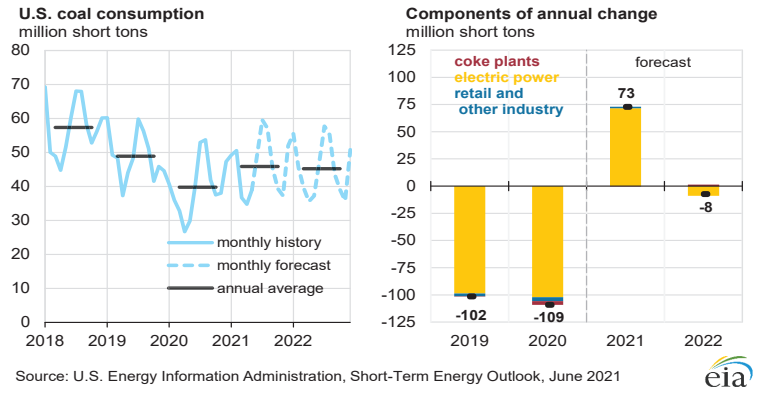
U.S. coal production
million short tons



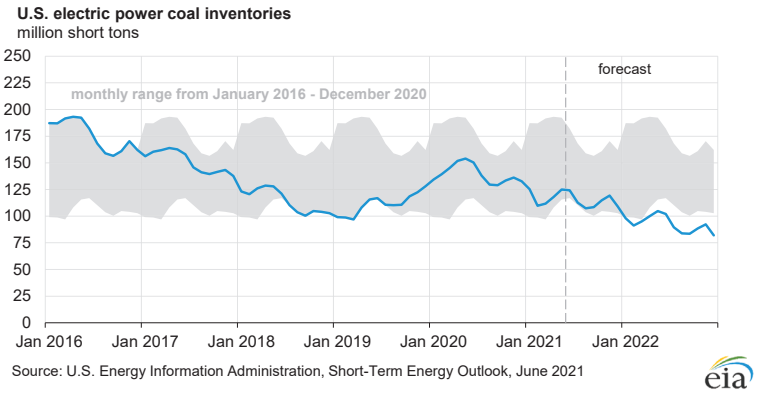
Components of annual change
million short tons



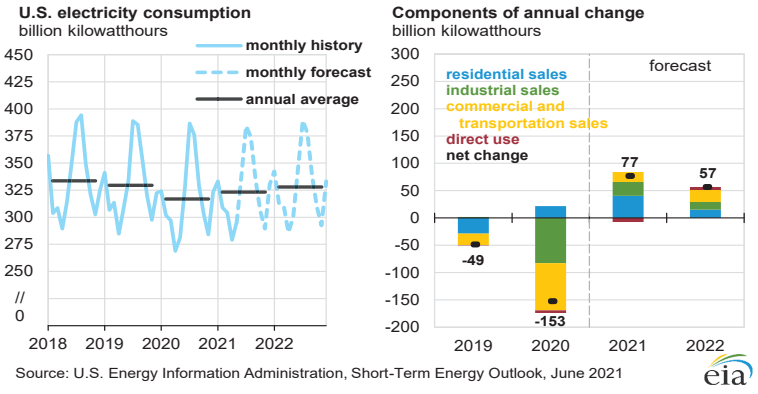
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



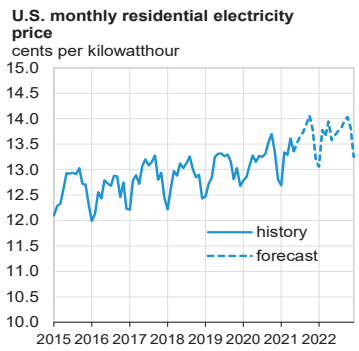
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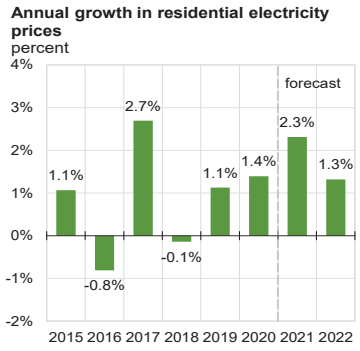


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

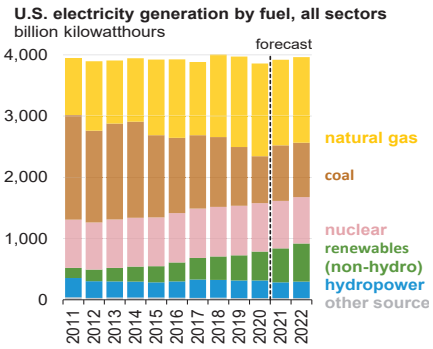


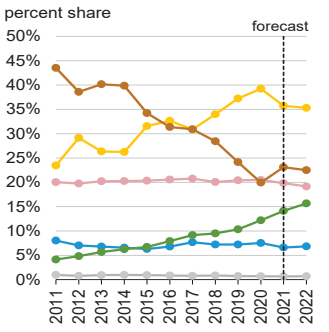
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



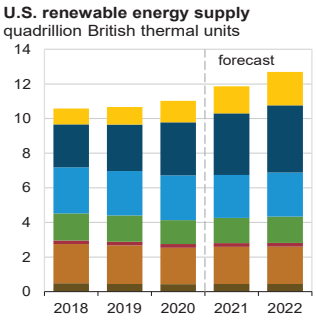


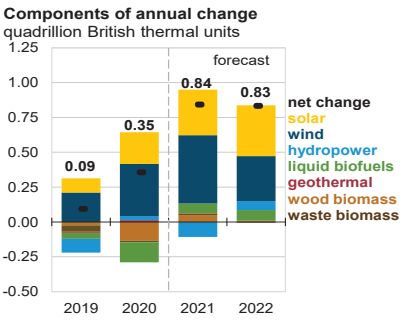
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

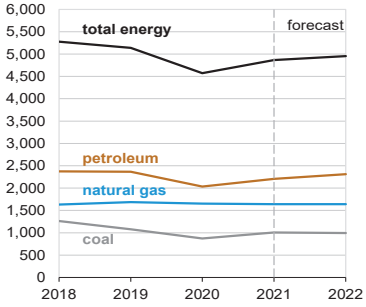




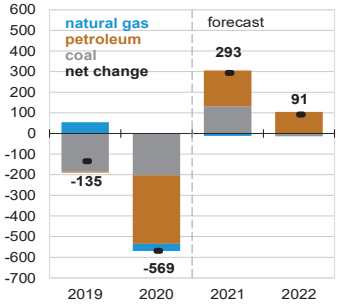
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. annual CO2 emissions by source
million metric tons

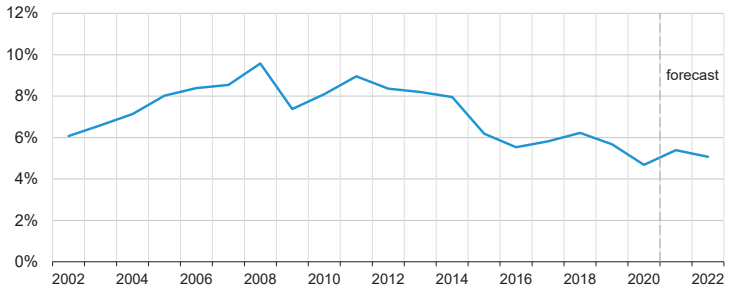


Components of annual change
million metric tons



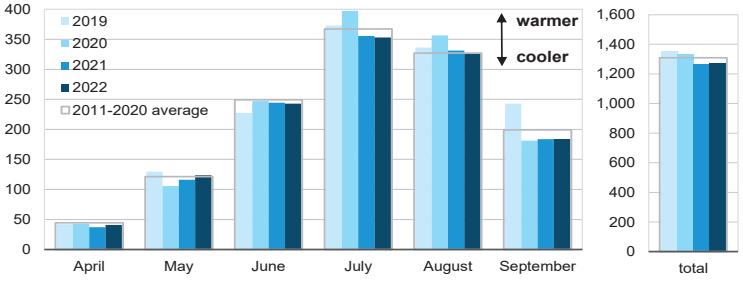
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. annual energy expenditures
share of gross domestic product



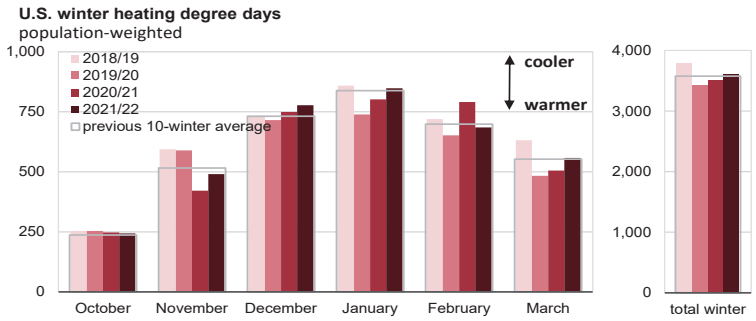
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021

U.S. summer cooling degree days
population-weighted



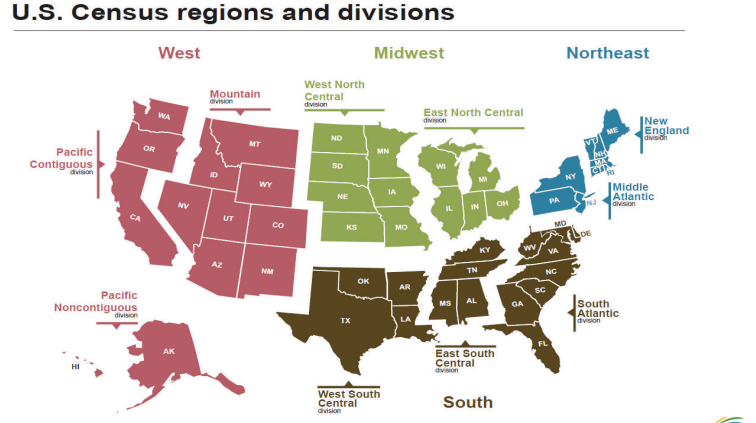
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2021



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.75**	**10.81**	**10.81**	**10.90**	**10.70**	*11.04*	*11.17*	*11.38*	*11.55*	*11.67*	*11.88*	*12.05*	**11.31**	*11.08*	*11.79*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.68**	**89.83**	**91.15**	**90.53**	*92.26*	*92.63*	*93.26*	*93.13*	*93.48*	*94.31*	*94.80*	**91.35**	*92.18*	*93.93*
Coal Production															
(million short tons)	**149**	**115**	**136**	**139**	**139**	*151*	*160*	*151*	*153*	*146*	*155*	*151*	**539**	*600*	*605*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	*19.73*	*19.97*	*20.26*	*20.06*	*20.58*	*20.90*	*20.90*	**18.12**	*19.61*	*20.61*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.84**	**76.83**	**86.08**	**99.22**	*70.70*	*73.94*	*87.78*	*98.81*	*70.99*	*74.72*	*87.09*	**83.25**	*82.85*	*82.85*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**136**	*123*	*162*	*129*	*141*	*120*	*157*	*126*	**477**	*550*	*543*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	*10.04*	*11.88*	*10.07*	*10.72*	*10.23*	*12.01*	*10.16*	**10.39**	*10.63*	*10.78*
Renewables (c)															
(quadrillion Btu)	**2.92**	**3.00**	**2.83**	**2.91**	**2.95**	*3.35*	*3.08*	*3.16*	*3.29*	*3.56*	*3.26*	*3.31*	**11.65**	*12.54*	*13.41*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.10**	**20.63**	**23.42**	**23.79**	**24.83**	*22.77*	*24.06*	*24.70*	*25.56*	*23.30*	*24.51*	*24.95*	**92.94**	*96.36*	*98.31*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	*64.14*	*64.53*	*60.50*	*58.50*	*56.50*	*56.00*	*56.00*	**39.17**	*61.85*	*56.74*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	*2.86*	*2.92*	*2.96*	*3.08*	*2.84*	*2.87*	*2.93*	**2.03**	*3.07*	*2.93*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	*1.90*	*1.88*	*1.85*	*1.87*	*1.87*	*1.85*	*1.82*	**1.92**	*1.88*	*1.85*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,088**	*19,503*	*19,849*	*20,231*	*20,451*	*20,601*	*20,689*	*20,773*	**18,426**	*19,668*	*20,629*
Percent change from prior year	**0.3**	**-9.0**	**-2.8**	**-2.4**	**0.4**	*12.7*	*6.7*	*7.6*	*7.1*	*5.6*	*4.2*	*2.7*	**-3.5**	*6.7*	*4.9*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.6**	*116.5*	*117.0*	*117.5*	*118.0*	*118.6*	*119.2*	*119.8*	**113.6**	*116.6*	*118.9*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.3**	**1.9**	*3.2*	*2.8*	*2.7*	*2.1*	*1.8*	*1.8*	*2.0*	**1.2**	*2.7*	*1.9*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,434**	**17,391**	*16,138*	*15,898*	*15,719*	*15,892*	*16,005*	*16,094*	*16,145*	**15,744**	*16,286*	*16,034*
Percent change from prior year	**1.4**	**12.2**	**6.4**	**3.1**	**15.5**	*-3.0*	*0.3*	*1.8*	*-8.6*	*-0.8*	*1.2*	*2.7*	**5.8**	*3.4*	*-1.5*
Manufacturing Production Index															
(Index, 2012=100)	**104.4**	**89.3**	**100.1**	**103.1**	**103.4**	*105.0*	*107.0*	*109.7*	*111.4*	*112.4*	*112.7*	*113.0*	**99.2**	*106.3*	*112.4*
Percent change from prior year	**-2.0**	**-15.5**	**-5.5**	**-2.6**	**-0.9**	*17.5*	*6.9*	*6.5*	*7.7*	*7.0*	*5.3*	*2.9*	**-6.4**	*7.1*	*5.7*
Weather															
U.S. Heating Degree-Days	**1,874**	**541**	**70**	**1,418**	**2,098**	*480*	*72*	*1,511*	*2,091*	*479*	*73*	*1,509*	**3,902**	*4,161*	*4,153*
U.S. Cooling Degree-Days	**71**	**395**	**935**	**122**	**50**	*398*	*871*	*99*	*46*	*407*	*864*	*99*	**1,524**	*1,418*	*1,416*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	*64.14*	*64.53*	*60.50*	*58.50*	*56.50*	*56.00*	*56.00*	**39.17**	*61.85*	*56.74*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	*67.44*	*68.03*	*64.00*	*62.00*	*60.00*	*60.00*	*60.00*	**41.69**	*65.19*	*60.49*
U.S. Imported Average	**43.76**	**26.33**	**39.90**	**40.64**	**54.93**	*62.30*	*62.60*	*58.50*	*56.25*	*54.25*	*53.50*	*53.50*	**37.26**	*59.94*	*54.29*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.88**	**40.79**	**42.09**	**57.19**	*63.17*	*63.55*	*59.50*	*57.25*	*55.25*	*54.50*	*54.50*	**39.75**	*60.99*	*55.32*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	*213*	*207*	*182*	*174*	*185*	*186*	*174*	**133**	*196*	*180*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	*201*	*206*	*196*	*190*	*186*	*187*	*187*	**129**	*196*	*188*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	*186*	*198*	*193*	*186*	*176*	*176*	*178*	**125**	*186*	*182*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	*188*	*197*	*189*	*187*	*184*	*184*	*185*	**131**	*186*	*185*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**119**	**162**	*155*	*152*	*143*	*136*	*134*	*130*	*130*	**125**	*153*	*132*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	*296*	*289*	*262*	*251*	*265*	*265*	*256*	**218**	*277*	*259*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	*305*	*301*	*275*	*264*	*278*	*278*	*270*	**227**	*287*	*273*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	**290**	*317*	*313*	*307*	*298*	*290*	*293*	*295*	**255**	*307*	*294*
Heating Oil	**280**	**200**	**214**	**230**	**272**	*287*	*307*	*322*	*312*	*287*	*273*	*274*	**244**	*293*	*293*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	*2.97*	*3.03*	*3.08*	*3.20*	*2.95*	*2.98*	*3.04*	**2.11**	*3.19*	*3.05*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	*2.86*	*2.92*	*2.96*	*3.08*	*2.84*	*2.87*	*2.93*	**2.03**	*3.07*	*2.93*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.77**	**5.74**	*3.88*	*4.00*	*4.28*	*4.55*	*3.94*	*3.83*	*4.15*	**3.29**	*4.49*	*4.14*
Commercial Sector	**7.13**	**7.63**	**8.49**	**7.53**	**7.56**	*8.29*	*8.91*	*7.91*	*7.68*	*8.09*	*8.47*	*7.54*	**7.48**	*7.94*	*7.79*
Residential Sector	**9.46**	**11.89**	**17.65**	**10.60**	**9.80**	*12.90*	*17.41*	*10.63*	*9.63*	*12.57*	*17.25*	*10.49*	**10.83**	*11.01*	*10.88*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	*1.90*	*1.88*	*1.85*	*1.87*	*1.87*	*1.85*	*1.82*	**1.92**	*1.88*	*1.85*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.34**	*3.10*	*3.08*	*3.28*	*3.62*	*3.04*	*3.01*	*3.24*	**2.39**	*4.09*	*3.21*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**11.11**	*12.79*	*12.66*	*12.00*	*11.89*	*12.19*	*11.39*	*11.17*	**9.15**	*12.10*	*11.65*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.66**	*15.57*	*15.94*	*15.33*	*14.93*	*14.59*	*14.53*	*14.61*	**10.73**	*14.87*	*14.70*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	*7.03*	*7.19*	*6.59*	*6.93*	*7.02*	*7.20*	*6.59*	**6.66**	*6.99*	*6.94*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	*10.94*	*11.40*	*10.98*	*11.35*	*11.13*	*11.49*	*11.04*	**10.65**	*11.12*	*11.26*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	*13.50*	*13.75*	*13.64*	*13.47*	*13.72*	*13.83*	*13.66*	**13.20**	*13.50*	*13.68*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**32.95**	**29.43**	**29.97**	**30.69**	**30.20**	*30.89*	*31.53*	*32.00*	*32.20*	*32.48*	*32.76*	*33.21*	**30.76**	*31.16*	*32.67*
U.S. (50 States)	**20.22**	**17.58**	**18.30**	**18.31**	**17.63**	*18.74*	*18.89*	*19.19*	*19.39*	*19.81*	*20.17*	*20.40*	**18.60**	*18.62*	*19.95*
Canada	**5.65**	**4.92**	**4.95**	**5.55**	**5.65**	*5.26*	*5.74*	*5.77*	*5.81*	*5.78*	*5.80*	*5.83*	**5.27**	*5.61*	*5.80*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	*1.95*	*1.92*	*1.89*	*1.83*	*1.80*	*1.77*	*1.73*	**1.94**	*1.92*	*1.78*
Other OECD	**5.08**	**4.99**	**4.81**	**4.94**	**4.99**	*4.93*	*4.98*	*5.15*	*5.17*	*5.10*	*5.02*	*5.25*	**4.95**	*5.01*	*5.13*
Non-OECD	**67.69**	**63.02**	**61.06**	**62.10**	**62.63**	*64.44*	*67.55*	*68.09*	*67.83*	*69.21*	*69.84*	*69.70*	**63.46**	*65.70*	*69.16*
OPEC	**33.50**	**30.72**	**28.65**	**30.00**	**30.35**	*30.90*	*33.30*	*34.12*	*34.26*	*34.13*	*34.16*	*34.20*	**30.71**	*32.18*	*34.19*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	*25.64*	*27.97*	*28.75*	*28.67*	*28.67*	*28.67*	*28.67*	**25.60**	*26.87*	*28.67*
Other Liquids (b)	**5.22**	**5.07**	**5.02**	**5.12**	**5.27**	*5.26*	*5.33*	*5.38*	*5.59*	*5.46*	*5.49*	*5.53*	**5.11**	*5.31*	*5.52*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.39**	*13.68*	*13.73*	*13.88*	*14.06*	*14.65*	*14.80*	*14.94*	**13.44**	*13.67*	*14.62*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	*5.04*	*5.01*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.04*	*5.08*
Other Non-OECD	**14.50**	**14.21**	**14.75**	**14.06**	**13.84**	*14.83*	*15.51*	*15.02*	*14.46*	*15.36*	*15.79*	*15.44*	**14.38**	*14.81*	*15.27*
Total World Supply	**100.64**	**92.45**	**91.04**	**92.79**	**92.83**	*95.33*	*99.08*	*100.10*	*100.03*	*101.70*	*102.60*	*102.91*	**94.22**	*96.86*	*101.82*
Non-OPEC Supply	**67.14**	**61.73**	**62.39**	**62.79**	**62.48**	*64.43*	*65.78*	*65.97*	*65.77*	*67.57*	*68.44*	*68.71*	**63.51**	*64.68*	*67.63*
Consumption (million barrels per day) (c)															
OECD	**45.26**	**37.40**	**42.12**	**42.80**	**42.29**	*43.90*	*45.11*	*45.96*	*45.51*	*45.29*	*46.20*	*46.37*	**41.90**	*44.33*	*45.85*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	*19.73*	*19.97*	*20.26*	*20.06*	*20.58*	*20.90*	*20.90*	**18.12**	*19.61*	*20.61*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	*0.18*	*0.18*	*0.19*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.03**	*2.16*	*2.28*	*2.31*	*2.27*	*2.22*	*2.32*	*2.30*	**2.10**	*2.20*	*2.28*
Europe	**13.33**	**11.01**	**12.87**	**12.51**	**11.96**	*12.75*	*13.41*	*13.38*	*13.05*	*13.21*	*13.57*	*13.27*	**12.43**	*12.88*	*13.28*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.67**	*3.00*	*3.12*	*3.45*	*3.64*	*2.98*	*3.06*	*3.37*	**3.27**	*3.31*	*3.26*
Other OECD	**6.41**	**5.41**	**5.55**	**5.87**	**5.98**	*6.08*	*6.15*	*6.37*	*6.29*	*6.13*	*6.16*	*6.32*	**5.81**	*6.15*	*6.22*
Non-OECD	**50.13**	**47.45**	**51.21**	**52.59**	**52.21**	*52.96*	*53.85*	*54.31*	*54.36*	*55.72*	*55.85*	*55.92*	**50.35**	*53.34*	*55.47*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	*5.00*	*5.39*	*5.23*	*5.05*	*5.13*	*5.54*	*5.39*	**4.95**	*5.14*	*5.28*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.72**	*0.73*	*0.73*	*0.74*	*0.73*	*0.74*	*0.76*	*0.76*	**0.71**	*0.73*	*0.75*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.03**	*15.59*	*15.30*	*15.59*	*15.89*	*16.11*	*15.78*	*16.02*	**14.43**	*15.38*	*15.95*
Other Asia	**13.16**	**11.64**	**12.60**	**13.61**	**13.83**	*13.52*	*13.61*	*14.17*	*14.53*	*14.77*	*14.34*	*14.74*	**12.75**	*13.78*	*14.60*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.71**	*18.12*	*18.81*	*18.58*	*18.16*	*18.97*	*19.43*	*19.00*	**17.51**	*18.31*	*18.89*
Total World Consumption	**95.40**	**84.85**	**93.33**	**95.39**	**94.50**	*96.86*	*98.96*	*100.27*	*99.86*	*101.01*	*102.05*	*102.29*	**92.26**	*97.67*	*101.31*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.89**	**0.48**	*0.39*	*-0.14*	*0.47*	*0.06*	*-0.53*	*0.03*	*0.42*	**-0.18**	*0.30*	*0.00*
Other OECD	**-0.50**	**-1.17**	**0.04**	**0.68**	**0.43**	*0.36*	*0.00*	*-0.10*	*-0.07*	*-0.05*	*-0.18*	*-0.33*	**-0.23**	*0.17*	*-0.16*
Other Stock Draws and Balance	**-4.32**	**-4.75**	**1.77**	**1.03**	**0.77**	*0.78*	*0.01*	*-0.21*	*-0.16*	*-0.11*	*-0.40*	*-0.72*	**-1.55**	*0.34*	*-0.35*
Total Stock Draw	**-5.25**	**-7.60**	**2.30**	**2.60**	**1.67**	*1.53*	*-0.12*	*0.17*	*-0.17*	*-0.69*	*-0.55*	*-0.62*	**-1.96**	*0.80*	*-0.51*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	**1,302**	*1,284*	*1,297*	*1,258*	*1,257*	*1,309*	*1,309*	*1,280*	**1,344**	*1,258*	*1,280*
OECD Commercial Inventory	**2,963**	**3,201**	**3,166**	**3,026**	**2,945**	*2,895*	*2,907*	*2,877*	*2,883*	*2,939*	*2,956*	*2,957*	**3,026**	*2,877*	*2,957*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.87**	**24.44**	**25.16**	**25.76**	**25.21**	*25.95*	*26.56*	*26.85*	*27.03*	*27.39*	*27.74*	*27.96*	**25.81**	*26.15*	*27.53*
Canada	**5.65**	**4.92**	**4.95**	**5.55**	**5.65**	*5.26*	*5.74*	*5.77*	*5.81*	*5.78*	*5.80*	*5.83*	**5.27**	*5.61*	*5.80*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	*1.95*	*1.92*	*1.89*	*1.83*	*1.80*	*1.77*	*1.73*	**1.94**	*1.92*	*1.78*
United States	**20.22**	**17.58**	**18.30**	**18.31**	**17.63**	*18.74*	*18.89*	*19.19*	*19.39*	*19.81*	*20.17*	*20.40*	**18.60**	*18.62*	*19.95*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.61**	*6.55*	*7.18*	*6.71*	*6.13*	*7.06*	*7.54*	*7.21*	**6.15**	*6.52*	*6.99*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.63**	*0.69*	*0.70*	*0.69*	*0.71*	*0.76*	*0.75*	*0.73*	**0.64**	*0.68*	*0.74*
Brazil	**3.44**	**3.89**	**4.29**	**3.52**	**3.23**	*4.12*	*4.66*	*4.20*	*3.56*	*4.51*	*4.90*	*4.46*	**3.79**	*4.06*	*4.36*
Colombia	**0.90**	**0.78**	**0.77**	**0.79**	**0.78**	*0.79*	*0.80*	*0.80*	*0.84*	*0.76*	*0.77*	*0.80*	**0.81**	*0.79*	*0.79*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	*0.52*	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.52*	*0.53*
Other Central and S. America	**0.45**	**0.42**	**0.41**	**0.45**	**0.47**	*0.44*	*0.49*	*0.49*	*0.49*	*0.50*	*0.59*	*0.69*	**0.43**	*0.47*	*0.57*
Europe	**4.44**	**4.34**	**4.16**	**4.30**	**4.38**	*4.33*	*4.37*	*4.55*	*4.56*	*4.50*	*4.42*	*4.66*	**4.31**	*4.40*	*4.53*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	*2.08*	*2.12*	*2.23*	*2.24*	*2.19*	*2.21*	*2.34*	**2.01**	*2.13*	*2.25*
United Kingdom	**1.18**	**1.15**	**0.99**	**1.07**	**1.06**	*1.01*	*1.00*	*1.06*	*1.06*	*1.04*	*0.94*	*1.04*	**1.10**	*1.03*	*1.02*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.39**	*13.68*	*13.73*	*13.88*	*14.06*	*14.65*	*14.80*	*14.94*	**13.44**	*13.67*	*14.62*
Azerbaijan	**0.76**	**0.69**	**0.66**	**0.69**	**0.74**	*0.71*	*0.71*	*0.75*	*0.77*	*0.79*	*0.76*	*0.79*	**0.70**	*0.73*	*0.78*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	*1.89*	*1.88*	*1.93*	*1.95*	*2.00*	*1.96*	*2.01*	**1.86**	*1.89*	*1.98*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	*10.73*	*10.77*	*10.82*	*10.96*	*11.49*	*11.70*	*11.75*	**10.50**	*10.69*	*11.48*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	*0.24*	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.12**	**0.12**	**0.12**	**0.12**	**0.11**	*0.12*	*0.12*	*0.14*	*0.15*	*0.16*	*0.16*	*0.16*	**0.12**	*0.12*	*0.16*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.16**	*3.17*	*3.21*	*3.22*	*3.26*	*3.25*	*3.25*	*3.24*	**3.13**	*3.19*	*3.25*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	*0.96*	*1.01*	*1.02*	*1.03*	*1.03*	*1.03*	*1.03*	**0.96**	*0.99*	*1.03*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.90**	*1.91*	*1.92*	*1.92*	*1.93*	*1.93*	*1.93*	*1.93*	**1.87**	*1.91*	*1.93*
Asia and Oceania	**9.44**	**9.16**	**9.21**	**9.18**	**9.34**	*9.31*	*9.31*	*9.33*	*9.34*	*9.33*	*9.30*	*9.31*	**9.25**	*9.32*	*9.32*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.48**	*0.51*	*0.51*	*0.50*	*0.50*	*0.50*	*0.49*	*0.48*	**0.49**	*0.50*	*0.49*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	*5.04*	*5.01*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.04*	*5.08*
India	**0.96**	**0.90**	**0.92**	**0.92**	**0.92**	*0.92*	*0.92*	*0.91*	*0.92*	*0.91*	*0.90*	*0.90*	**0.92**	*0.92*	*0.91*
Indonesia	**0.91**	**0.89**	**0.87**	**0.88**	**0.89**	*0.88*	*0.87*	*0.86*	*0.87*	*0.86*	*0.85*	*0.83*	**0.89**	*0.87*	*0.85*
Malaysia	**0.71**	**0.60**	**0.63**	**0.64**	**0.65**	*0.64*	*0.64*	*0.64*	*0.64*	*0.63*	*0.62*	*0.61*	**0.65**	*0.64*	*0.63*
Vietnam	**0.25**	**0.24**	**0.23**	**0.23**	**0.23**	*0.22*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	*0.21*	**0.23**	*0.22*	*0.21*
Africa	**1.48**	**1.44**	**1.42**	**1.40**	**1.39**	*1.44*	*1.44*	*1.43*	*1.40*	*1.40*	*1.39*	*1.39*	**1.43**	*1.42*	*1.39*
Egypt	**0.62**	**0.61**	**0.60**	**0.58**	**0.58**	*0.64*	*0.64*	*0.64*	*0.61*	*0.61*	*0.61*	*0.61*	**0.60**	*0.62*	*0.61*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.14**	**61.73**	**62.39**	**62.79**	**62.48**	*64.43*	*65.78*	*65.97*	*65.77*	*67.57*	*68.44*	*68.71*	**63.51**	*64.68*	*67.63*
OPEC non-crude liquids	**5.22**	**5.07**	**5.02**	**5.12**	**5.27**	*5.26*	*5.33*	*5.38*	*5.59*	*5.46*	*5.49*	*5.53*	**5.11**	*5.31*	*5.52*
Non-OPEC + OPEC non-crude	**72.36**	**66.81**	**67.41**	**67.91**	**67.75**	*69.69*	*71.11*	*71.35*	*71.36*	*73.03*	*73.93*	*74.24*	**68.62**	*69.99*	*73.15*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.55**	**0.68**	-	-	-	-	-	-	-	**0.59**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

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Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	-	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	-	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	-	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	-	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	-	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	-	-	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	-	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	-	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	-	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	-	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	*25.64*	*27.97*	*28.75*	*28.67*	*28.67*	*28.67*	*28.67*	**25.60**	*26.87*	*28.67*
Other Liquids (a)	**5.22**	**5.07**	**5.02**	**5.12**	**5.27**	*5.26*	*5.33*	*5.38*	*5.59*	*5.46*	*5.49*	*5.53*	**5.11**	*5.31*	*5.52*
Total OPEC Supply	**33.50**	**30.72**	**28.65**	**30.00**	**30.35**	*30.90*	*33.30*	*34.12*	*34.26*	*34.13*	*34.16*	*34.20*	**30.71**	*32.18*	*34.19*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	*26.89*	*27.18*	*27.38*	*27.38*	*27.39*	*27.39*	*27.39*	**25.98**	*27.00*	*27.39*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	*6.63*	*6.47*	*6.14*	*6.05*	*6.05*	*6.05*	*6.05*	**5.81**	*6.49*	*6.05*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	*33.51*	*33.65*	*33.52*	*33.44*	*33.43*	*33.44*	*33.45*	**31.79**	*33.49*	*33.44*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	*6.82*	*5.10*	*4.68*	*4.68*	*4.69*	*4.69*	*4.69*	**5.49**	*5.89*	*4.69*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.19**	*1.05*	*0.57*	*0.09*	*0.08*	*0.08*	*0.08*	*0.08*	**0.70**	*0.72*	*0.08*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.19**	*7.87*	*5.67*	*4.77*	*4.76*	*4.77*	*4.77*	*4.78*	**6.19**	*6.61*	*4.77*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	-	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.12**	**22.45**	**22.20**	*23.75*	*24.12*	*24.46*	*24.15*	*24.64*	*25.05*	*25.05*	**21.91**	*23.64*	*24.72*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.03**	*2.16*	*2.28*	*2.31*	*2.27*	*2.22*	*2.32*	*2.30*	**2.10**	*2.20*	*2.28*
Mexico	**1.97**	**1.48**	**1.59**	**1.68**	**1.71**	*1.85*	*1.86*	*1.88*	*1.81*	*1.83*	*1.82*	*1.83*	**1.68**	*1.83*	*1.83*
United States	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	*19.73*	*19.97*	*20.26*	*20.06*	*20.58*	*20.90*	*20.90*	**18.12**	*19.61*	*20.61*
Central and South America	**6.14**	**5.61**	**6.04**	**6.32**	**6.14**	*6.36*	*6.52*	*6.53*	*6.39*	*6.58*	*6.72*	*6.73*	**6.03**	*6.39*	*6.61*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.93**	*3.05*	*3.17*	*3.16*	*3.04*	*3.15*	*3.26*	*3.26*	**2.90**	*3.08*	*3.18*
Europe	**14.04**	**11.70**	**13.59**	**13.23**	**12.68**	*13.48*	*14.14*	*14.11*	*13.78*	*13.96*	*14.33*	*14.04*	**13.14**	*13.61*	*14.03*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	*5.00*	*5.39*	*5.23*	*5.05*	*5.13*	*5.54*	*5.39*	**4.95**	*5.14*	*5.28*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.71**	*3.82*	*4.14*	*3.97*	*3.80*	*3.92*	*4.25*	*4.10*	**3.74**	*3.91*	*4.02*
Middle East	**7.91**	**7.43**	**8.44**	**8.06**	**7.90**	*8.09*	*8.71*	*8.26*	*7.98*	*8.59*	*8.99*	*8.35*	**7.96**	*8.24*	*8.48*
Asia and Oceania	**34.64**	**32.14**	**33.80**	**35.87**	**36.36**	*35.84*	*35.81*	*37.22*	*38.04*	*37.64*	*37.01*	*38.14*	**34.11**	*36.31*	*37.71*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.03**	*15.59*	*15.30*	*15.59*	*15.89*	*16.11*	*15.78*	*16.02*	**14.43**	*15.38*	*15.95*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.67**	*3.00*	*3.12*	*3.45*	*3.64*	*2.98*	*3.06*	*3.37*	**3.27**	*3.31*	*3.26*
India	**4.63**	**3.77**	**4.17**	**4.93**	**5.00**	*4.46*	*4.54*	*4.92*	*5.16*	*5.25*	*4.91*	*5.23*	**4.37**	*4.73*	*5.14*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.31**	*4.34*	*4.27*	*4.46*	*4.47*	*4.48*	*4.41*	*4.59*	**4.15**	*4.35*	*4.49*
Total OECD Liquid Fuels Consumption	**45.26**	**37.40**	**42.12**	**42.80**	**42.29**	*43.90*	*45.11*	*45.96*	*45.51*	*45.29*	*46.20*	*46.37*	**41.90**	*44.33*	*45.85*
Total non-OECD Liquid Fuels Consumption	**50.13**	**47.45**	**51.21**	**52.59**	**52.21**	*52.96*	*53.85*	*54.31*	*54.36*	*55.72*	*55.85*	*55.92*	**50.35**	*53.34*	*55.47*
Total World Liquid Fuels Consumption	**95.40**	**84.85**	**93.33**	**95.39**	**94.50**	*96.86*	*98.96*	*100.27*	*99.86*	*101.01*	*102.05*	*102.29*	**92.26**	*97.67*	*101.31*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**110.3**	**107.6**	**112.4**	**113.5**	**115.7**	*117.1*	*118.7*	*119.6*	*122.4*	*123.1*	*123.8*	*124.3*	**110.9**	*117.8*	*123.4*
Percent change from prior year	**-3.4**	**-6.2**	**-2.4**	**-1.8**	**4.9**	*8.9*	*5.6*	*5.4*	*5.8*	*5.1*	*4.3*	*3.9*	**-3.4**	*6.2*	*4.8*
OECD Index, 2015 = 100													**103.6**	*109.3*	*113.9*
Percent change from prior year													**-4.8**	*5.5*	*4.2*
Non-OECD Index, 2015 = 100													**116.0**	*123.6*	*130.0*
Percent change from prior year													**-2.3**	*6.5*	*5.2*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	*108.0*	*108.0*	*108.6*	*108.9*	*108.8*	*108.6*	*108.4*	**111.9**	*107.8*	*108.7*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	*-6.8*	*-3.1*	*0.3*	*2.0*	*0.8*	*0.6*	*-0.2*	**1.9**	*-3.6*	*0.8*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.75**	**10.81**	**10.81**	**10.90**	**10.70**	*11.04*	*11.17*	*11.38*	*11.55*	*11.67*	*11.88*	*12.05*	**11.31**	*11.08*	*11.79*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	*0.41*	*0.40*	*0.44*	*0.43*	*0.39*	*0.39*	*0.43*	**0.45**	*0.42*	*0.41*
Federal Gulf of Mexico (b)	**1.96**	**1.69**	**1.45**	**1.52**	**1.81**	*1.77*	*1.75*	*1.73*	*1.77*	*1.74*	*1.75*	*1.79*	**1.66**	*1.76*	*1.76*
Lower 48 States (excl GOM)	**10.31**	**8.71**	**8.92**	**8.91**	**8.44**	*8.87*	*9.02*	*9.21*	*9.35*	*9.54*	*9.73*	*9.84*	**9.21**	*8.89*	*9.62*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.51**	**2.87**	*3.34*	*4.34*	*3.71*	*3.71*	*4.74*	*4.79*	*4.08*	**2.70**	*3.57*	*4.33*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	*0.19*	*0.00*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	**-0.18**	*0.39*	*0.20*	*-0.02*	*-0.27*	*0.00*	*0.27*	*-0.02*	**-0.14**	*0.10*	*0.00*
Crude Oil Adjustment (d)	**0.67**	**0.03**	**0.38**	**0.32**	**0.42**	*0.40*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.35**	*0.30*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.90**	**13.81**	*15.38*	*15.94*	*15.28*	*15.27*	*16.68*	*17.20*	*16.38*	**14.21**	*15.11*	*16.39*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.84**	*1.09*	*1.08*	*1.05*	*1.06*	*1.10*	*1.15*	*1.15*	**0.92**	*1.02*	*1.11*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.23**	**4.86**	*5.32*	*5.34*	*5.46*	*5.48*	*5.70*	*5.80*	*5.85*	**5.16**	*5.24*	*5.71*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.07**	**1.03**	*1.08*	*1.10*	*1.08*	*1.08*	*1.11*	*1.12*	*1.12*	**1.01**	*1.07*	*1.11*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	*0.98*	*0.99*	*0.98*	*0.97*	*0.99*	*1.00*	*1.00*	**0.91**	*0.96*	*0.99*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	*0.21*	*0.21*	*0.21*	*0.21*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.32**	**-2.94**	*-3.13*	*-3.35*	*-3.27*	*-3.32*	*-3.66*	*-4.32*	*-4.16*	**-3.35**	*-3.18*	*-3.87*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.03**	**-2.02**	*-2.12*	*-2.18*	*-1.99*	*-2.04*	*-2.23*	*-2.27*	*-2.13*	**-1.94**	*-2.08*	*-2.17*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.19**	**0.14**	*0.39*	*0.45*	*0.30*	*0.21*	*0.26*	*0.30*	*0.20*	**0.27**	*0.32*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.04**	**-0.08**	*-0.07*	*-0.06*	*-0.07*	*-0.08*	*-0.06*	*-0.06*	*-0.07*	**-0.06**	*-0.07*	*-0.07*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.43**	**0.55**	*0.62*	*0.51*	*0.15*	*0.53*	*0.75*	*0.43*	*0.22*	**0.42**	*0.46*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.78**	**-0.66**	*-0.59*	*-0.60*	*-0.58*	*-0.77*	*-0.64*	*-0.76*	*-0.78*	**-0.62**	*-0.61*	*-0.74*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.07**	**0.03**	*0.06*	*0.00*	*0.06*	*-0.04*	*0.01*	*0.10*	*0.16*	**0.05**	*0.04*	*0.06*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.74**	**-0.49**	*-0.76*	*-0.85*	*-0.52*	*-0.55*	*-0.98*	*-1.28*	*-1.11*	**-0.98**	*-0.66*	*-0.98*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.05**	**0.08**	*0.03*	*-0.01*	*0.05*	*-0.03*	*-0.07*	*-0.06*	*0.04*	**0.02**	*0.04*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.48**	**-0.49**	*-0.69*	*-0.61*	*-0.66*	*-0.55*	*-0.68*	*-0.71*	*-0.70*	**-0.52**	*-0.61*	*-0.66*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.71**	**0.66**	*-0.20*	*-0.34*	*0.45*	*0.28*	*-0.58*	*-0.28*	*0.34*	**-0.03**	*0.14*	*-0.06*
Total Supply	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	*19.73*	*19.97*	*20.26*	*20.06*	*20.58*	*20.90*	*20.90*	**18.12**	*19.61*	*20.61*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.70**	**3.40**	*3.16*	*3.01*	*3.69*	*3.84*	*3.31*	*3.35*	*3.88*	**3.20**	*3.32*	*3.59*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**0.03**	**0.05**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.07**	*0.01*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.02**	**8.00**	*9.04*	*9.12*	*8.80*	*8.50*	*9.24*	*9.24*	*8.90*	**8.03**	*8.74*	*8.97*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.84**	**0.82**	*0.95*	*0.93*	*0.90*	*0.86*	*0.94*	*0.94*	*0.92*	**0.82**	*0.90*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	*1.33*	*1.47*	*1.50*	*1.50*	*1.63*	*1.78*	*1.79*	**1.08**	*1.36*	*1.68*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.92**	**3.97**	*4.07*	*4.04*	*4.23*	*4.28*	*4.22*	*4.15*	*4.25*	**3.78**	*4.08*	*4.22*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.23**	**0.26**	*0.21*	*0.28*	*0.24*	*0.24*	*0.21*	*0.26*	*0.26*	**0.22**	*0.25*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.71**	**1.63**	*1.91*	*2.05*	*1.79*	*1.72*	*1.96*	*2.12*	*1.83*	**1.75**	*1.85*	*1.91*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	*19.73*	*19.97*	*20.26*	*20.06*	*20.58*	*20.90*	*20.90*	**18.12**	*19.61*	*20.61*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-0.81**	**-0.07**	*0.20*	*0.99*	*0.44*	*0.40*	*1.08*	*0.48*	*-0.09*	**-0.65**	*0.39*	*0.47*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.3**	**501.9**	*466.1*	*447.3*	*449.4*	*473.5*	*473.2*	*447.9*	*449.5*	**485.3**	*449.4*	*449.5*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**229.2**	**168.6**	*204.0*	*244.0*	*198.7*	*156.7*	*205.2*	*246.2*	*204.8*	**229.2**	*198.7*	*204.8*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.2**	**93.3**	*89.5*	*89.8*	*83.0*	*93.1*	*90.8*	*89.8*	*83.1*	**78.2**	*83.0*	*83.1*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**29.9**	**29.1**	*25.5*	*25.3*	*25.6*	*27.7*	*26.4*	*26.1*	*26.4*	**29.9**	*25.6*	*26.4*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**243.2**	**237.6**	*232.5*	*226.4*	*234.2*	*241.7*	*245.6*	*233.2*	*249.4*	**243.2**	*234.2*	*249.4*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	**20.3**	*23.4*	*22.2*	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.3**	*24.4*	*26.2*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**217.9**	**217.4**	*209.2*	*204.1*	*209.8*	*217.6*	*221.8*	*210.1*	*223.2*	**217.9**	*209.8*	*223.2*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.6**	**39.0**	*41.8*	*43.8*	*40.5*	*39.9*	*40.7*	*43.0*	*39.9*	**38.6**	*40.5*	*39.9*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**160.4**	**145.5**	*135.3*	*138.5*	*140.9*	*130.2*	*134.7*	*141.5*	*142.4*	**160.4**	*140.9*	*142.4*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	**30.9**	*33.2*	*31.3*	*32.5*	*32.0*	*32.7*	*31.0*	*32.4*	**30.2**	*32.5*	*32.4*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**49.3**	**55.8**	*56.3*	*50.7*	*53.0*	*62.0*	*59.8*	*50.5*	*52.0*	**49.3**	*53.0*	*52.0*
Total Commercial Inventory	**1320.8**	**1452.8**	**1422.0**	**1344.3**	**1301.7**	*1284.3*	*1297.1*	*1257.7*	*1256.8*	*1309.2*	*1309.3*	*1279.8*	**1344.3**	*1257.7*	*1279.8*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	*620.1*	*620.1*	*615.8*	*611.5*	*607.3*	*604.6*	*594.9*	**638.1**	*615.8*	*594.9*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.06**	**1.87**	*2.16*	*2.12*	*2.25*	*2.37*	*2.47*	*2.52*	*2.60*	**2.01**	*2.10*	*2.49*
Propane	**1.72**	**1.61**	**1.68**	**1.70**	**1.62**	*1.69*	*1.70*	*1.71*	*1.67*	*1.72*	*1.73*	*1.74*	**1.68**	*1.68*	*1.72*
Butanes	**0.91**	**0.86**	**0.90**	**0.89**	**0.85**	*0.89*	*0.91*	*0.91*	*0.89*	*0.92*	*0.93*	*0.92*	**0.89**	*0.89*	*0.91*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.58**	**0.53**	*0.58*	*0.61*	*0.59*	*0.55*	*0.60*	*0.62*	*0.59*	**0.58**	*0.58*	*0.59*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	*0.00*	*0.01*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	*0.29*	*0.31*	*0.31*	*0.30*	*0.31*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	*0.28*	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	*0.24*	*0.20*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.28**	**-0.35**	*-0.39*	*-0.38*	*-0.38*	*-0.43*	*-0.45*	*-0.45*	*-0.46*	**-0.28**	*-0.37*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.29**	**-1.11**	*-1.15*	*-1.20*	*-1.08*	*-1.08*	*-1.22*	*-1.24*	*-1.16*	**-1.14**	*-1.13*	*-1.18*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.33**	**-0.35**	*-0.39*	*-0.40*	*-0.35*	*-0.35*	*-0.40*	*-0.40*	*-0.34*	**-0.32**	*-0.37*	*-0.37*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	*-0.19*	*-0.20*	*-0.18*	*-0.19*	*-0.17*	*-0.18*	*-0.16*	**-0.19**	*-0.20*	*-0.17*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	*0.29*	*0.31*	*0.49*	*0.39*	*0.29*	*0.33*	*0.51*	**0.37**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	*0.16*	*0.17*	*0.16*	*0.17*	*0.18*	*0.18*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.81**	**1.54**	*1.83*	*1.73*	*1.90*	*2.02*	*2.03*	*2.07*	*2.12*	**1.70**	*1.75*	*2.06*
Propane	**1.09**	**0.59**	**0.58**	**0.99**	**1.09**	*0.61*	*0.57*	*1.07*	*1.13*	*0.54*	*0.55*	*1.02*	**0.81**	*0.83*	*0.81*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.30**	**0.29**	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.29*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.24**	**0.22**	*0.23*	*0.20*	*0.20*	*0.18*	*0.22*	*0.20*	*0.20*	**0.20**	*0.21*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.35**	**0.26**	*0.21*	*0.22*	*0.24*	*0.21*	*0.21*	*0.23*	*0.24*	**0.21**	*0.23*	*0.22*
HGL Inventories (million barrels)															
Ethane	**52.6**	**49.5**	**62.5**	**74.9**	**65.8**	*65.9*	*63.5*	*65.1*	*57.4*	*56.9*	*56.0*	*59.0*	**59.9**	*65.1*	*57.3*
Propane	**60.3**	**75.3**	**100.7**	**70.4**	**39.3**	*58.7*	*78.9*	*65.9*	*43.1*	*65.5*	*87.7*	*74.4*	**70.4**	*65.9*	*74.4*
Propylene (at refineries only)	**1.4**	**1.5**	**1.5**	**1.5**	**1.1**	*1.5*	*1.8*	*1.8*	*1.7*	*1.9*	*2.1*	*1.9*	**1.5**	*1.8*	*1.9*
Butanes/Butylenes	**43.6**	**69.3**	**86.0**	**54.7**	**37.2**	*57.6*	*75.6*	*46.8*	*36.8*	*61.1*	*78.9*	*49.7*	**54.7**	*46.8*	*49.7*
Natural Gasoline (Pentanes Plus)	**24.0**	**35.7**	**38.6**	**32.9**	**22.8**	*23.0*	*22.7*	*21.4*	*18.9*	*20.0*	*20.9*	*20.1*	**32.9**	*21.4*	*20.1*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.90**	**13.81**	*15.38*	*15.94*	*15.28*	*15.27*	*16.68*	*17.20*	*16.38*	**14.21**	*15.11*	*16.39*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	*0.45*	*0.48*	*0.65*	*0.56*	*0.47*	*0.51*	*0.69*	**0.51**	*0.53*	*0.56*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	*1.17*	*1.19*	*1.16*	*1.15*	*1.22*	*1.21*	*1.19*	**1.06**	*1.14*	*1.19*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.20**	**-0.08**	*0.43*	*0.44*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.29*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.46**	**0.71**	*0.93*	*0.67*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.64*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.23**	**16.01**	*18.36*	*18.71*	*17.72*	*17.63*	*19.46*	*19.89*	*18.83*	**16.57**	*17.71*	*18.96*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.84**	*1.09*	*1.08*	*1.05*	*1.06*	*1.10*	*1.15*	*1.15*	**0.92**	*1.02*	*1.11*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	*0.82*	*0.79*	*0.40*	*0.50*	*0.86*	*0.80*	*0.41*	**0.55**	*0.62*	*0.64*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**8.98**	**8.74**	*9.85*	*9.80*	*9.56*	*9.36*	*9.95*	*10.06*	*9.88*	**8.74**	*9.49*	*9.81*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	*1.30*	*1.49*	*1.41*	*1.53*	*1.64*	*1.71*	*1.59*	**1.02**	*1.33*	*1.62*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.46**	**4.29**	*4.65*	*4.85*	*4.71*	*4.68*	*5.20*	*5.45*	*5.31*	**4.74**	*4.63*	*5.16*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.15**	**0.19**	*0.21*	*0.27*	*0.21*	*0.26*	*0.29*	*0.30*	*0.24*	**0.19**	*0.22*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	*2.61*	*2.60*	*2.48*	*2.36*	*2.62*	*2.72*	*2.54*	**2.26**	*2.44*	*2.56*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.15**	**16.86**	*19.45*	*19.79*	*18.77*	*18.69*	*20.56*	*21.03*	*19.98*	**17.49**	*18.73*	*20.07*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.32**	**14.25**	*15.82*	*16.30*	*15.67*	*15.60*	*16.86*	*17.40*	*16.63*	**14.72**	*15.52*	*16.63*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	*18.09*	*18.09*	*18.09*	*18.09*	*18.09*	*18.09*	*18.09*	**18.66**	*18.09*	*18.09*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.79**	*0.87*	*0.90*	*0.87*	*0.86*	*0.93*	*0.96*	*0.92*	**0.79**	*0.86*	*0.92*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**180**	*213*	*207*	*182*	*174*	*185*	*186*	*174*	**133**	*196*	*180*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	*286*	*283*	*257*	*244*	*253*	*258*	*247*	**214**	*270*	*251*
PADD 2	**226**	**179**	**207**	**202**	**247**	*287*	*274*	*246*	*228*	*252*	*251*	*237*	**204**	*264*	*242*
PADD 3	**210**	**162**	**186**	**183**	**227**	*265*	*256*	*231*	*223*	*233*	*233*	*222*	**187**	*246*	*228*
PADD 4	**247**	**201**	**233**	**221**	**247**	*307*	*297*	*268*	*254*	*270*	*274*	*258*	**226**	*280*	*264*
PADD 5	**311**	**258**	**283**	**278**	**312**	*363*	*355*	*330*	*327*	*339*	*330*	*338*	**284**	*341*	*334*
U.S. Average	**241**	**194**	**218**	**215**	**256**	*296*	*289*	*262*	*251*	*265*	*265*	*256*	**218**	*277*	*259*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	*305*	*301*	*275*	*264*	*278*	*278*	*270*	**227**	*287*	*273*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**68.5**	**65.1**	*60.9*	*58.0*	*59.6*	*65.2*	*67.8*	*62.7*	*68.8*	**68.5**	*59.6*	*68.8*
PADD 2	**60.2**	**52.6**	**46.2**	**50.9**	**50.7**	*50.0*	*50.0*	*50.1*	*53.4*	*52.0*	*50.5*	*51.0*	**50.9**	*50.1*	*51.0*
PADD 3	**84.8**	**90.5**	**79.7**	**83.7**	**81.9**	*84.6*	*81.4*	*85.5*	*85.1*	*88.6*	*83.0*	*89.7*	**83.7**	*85.5*	*89.7*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	*7.6*	*7.5*	*8.0*	*7.9*	*7.9*	*7.6*	*8.2*	**8.7**	*8.0*	*8.2*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	**31.4**	*29.4*	*29.5*	*31.1*	*30.0*	*29.4*	*29.3*	*31.7*	**31.4**	*31.1*	*31.7*
U.S. Total	**260.8**	**253.3**	**226.5**	**243.2**	**237.6**	*232.5*	*226.4*	*234.2*	*241.7*	*245.6*	*233.2*	*249.4*	**243.2**	*234.2*	*249.4*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	**20.3**	*23.4*	*22.2*	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.3**	*24.4*	*26.2*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**217.9**	**217.4**	*209.2*	*204.1*	*209.8*	*217.6*	*221.8*	*210.1*	*223.2*	**217.9**	*209.8*	*223.2*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.70**	**97.55**	*99.36*	*99.76*	*100.44*	*100.30*	*100.68*	*101.58*	*102.10*	**98.83**	*99.29*	*101.17*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	*0.78*	*0.72*	*0.88*	*0.92*	*0.78*	*0.72*	*0.87*	**0.92**	*0.85*	*0.82*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.73**	**2.27**	*2.24*	*2.14*	*2.06*	*2.06*	*1.98*	*1.87*	*1.84*	**2.09**	*2.18*	*1.94*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**95.99**	**94.27**	*96.33*	*96.89*	*97.50*	*97.32*	*97.92*	*98.98*	*99.39*	**95.81**	*96.26*	*98.41*
Total Dry Gas Production	**94.79**	**89.68**	**89.83**	**91.15**	**90.53**	*92.26*	*92.63*	*93.26*	*93.13*	*93.48*	*94.31*	*94.80*	**91.35**	*92.18*	*93.93*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.18*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	*9.83*	*8.68*	*9.73*	*9.96*	*8.83*	*8.33*	*9.78*	**6.53**	*9.38*	*9.22*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.64**	*6.56*	*6.71*	*6.83*	*7.38*	*6.36*	*6.37*	*6.69*	**6.84**	*7.18*	*6.70*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.18**	**8.30**	*8.42*	*9.30*	*9.49*	*9.32*	*8.66*	*9.38*	*9.38*	**7.90**	*8.88*	*9.18*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.18**	**0.18**	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.17**	*0.18*	*0.18*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	*-9.69*	*-7.50*	*6.68*	*17.19*	*-11.70*	*-9.26*	*4.49*	**-0.46**	*1.62*	*0.12*
Total Supply	**99.49**	**71.12**	**76.78**	**87.09**	**99.12**	*71.24*	*74.22*	*87.92*	*98.90*	*71.01*	*74.08*	*87.19*	**83.61**	*83.07*	*82.74*
Balancing Item (b)	**-0.18**	**-0.29**	**0.05**	**-1.01**	**0.11**	*-0.53*	*-0.28*	*-0.15*	*-0.09*	*-0.02*	*0.63*	*-0.10*	**-0.36**	*-0.21*	*0.11*
Total Primary Supply	**99.31**	**70.84**	**76.83**	**86.08**	**99.22**	*70.70*	*73.94*	*87.78*	*98.81*	*70.99*	*74.72*	*87.09*	**83.25**	*82.85*	*82.85*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.82**	**16.00**	**25.59**	*7.14*	*3.68*	*16.97*	*24.59*	*7.68*	*3.73*	*16.79*	**12.70**	*13.29*	*13.15*
Commercial	**13.93**	**5.82**	**4.36**	**10.31**	**14.81**	*6.67*	*4.73*	*10.87*	*14.83*	*6.24*	*4.65*	*10.79*	**8.60**	*9.25*	*9.11*
Industrial	**24.65**	**20.62**	**21.15**	**23.83**	**24.08**	*22.31*	*21.82*	*24.82*	*25.47*	*22.78*	*22.05*	*24.53*	**22.56**	*23.25*	*23.70*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.65**	*27.07*	*36.34*	*27.39*	*26.05*	*26.86*	*36.86*	*27.15*	**31.74**	*29.39*	*29.25*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	**4.93**	*5.02*	*5.04*	*5.08*	*5.07*	*5.09*	*5.14*	*5.16*	**5.00**	*5.02*	*5.12*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.61**	**3.01**	*2.35*	*2.18*	*2.50*	*2.65*	*2.18*	*2.13*	*2.50*	**2.53**	*2.51*	*2.36*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	**0.14**	*0.15*	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.84**	**76.83**	**86.08**	**99.22**	*70.70*	*73.94*	*87.78*	*98.81*	*70.99*	*74.72*	*87.09*	**83.25**	*82.85*	*82.85*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,030**	**3,133**	**3,840**	**3,341**	**1,801**	*2,682*	*3,372*	*2,757*	*1,210*	*2,275*	*3,126*	*2,714*	**3,341**	*2,757*	*2,714*
East Region (d)	**385**	**655**	**890**	**763**	**313**	*521*	*778*	*546*	*71*	*376*	*647*	*454*	**763**	*546*	*454*
Midwest Region (d)	**472**	**747**	**1,053**	**918**	**395**	*621*	*941*	*749*	*181*	*482*	*862*	*732*	**918**	*749*	*732*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	*1,037*	*1,076*	*975*	*609*	*904*	*1,000*	*959*	**1,155**	*975*	*959*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	*177*	*224*	*184*	*124*	*170*	*234*	*212*	**195**	*184*	*212*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	*302*	*329*	*280*	*201*	*318*	*360*	*333*	**282**	*280*	*333*
Alaska	**23**	**25**	**31**	**28**	**23**	*24*	*24*	*24*	*24*	*24*	*24*	*24*	**28**	*24*	*24*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	*2.97*	*3.03*	*3.08*	*3.20*	*2.95*	*2.98*	*3.04*	**2.11**	*3.19*	*3.05*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**14.64**	**14.78**	*15.20*	*17.57*	*13.36*	*12.93*	*13.84*	*16.77*	*12.87*	**14.47**	*14.62*	*13.31*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.77**	**10.41**	*12.54*	*16.94*	*10.96*	*10.06*	*12.41*	*17.07*	*11.14*	**11.76**	*11.21*	*11.19*
E. N. Central	**6.99**	**9.50**	**18.15**	**8.02**	**7.41**	*10.91*	*16.64*	*8.34*	*7.60*	*10.52*	*16.21*	*8.00*	**8.39**	*8.59*	*8.64*
W. N. Central	**6.85**	**9.89**	**17.26**	**8.66**	**7.59**	*10.90*	*17.09*	*9.13*	*7.87*	*10.72*	*16.82*	*8.90*	**8.48**	*8.90*	*9.06*
S. Atlantic	**12.12**	**15.52**	**24.15**	**14.20**	**12.12**	*17.41*	*22.96*	*12.61*	*11.22*	*16.35*	*22.47*	*12.35*	**14.23**	*13.62*	*13.05*
E. S. Central	**9.69**	**13.34**	**20.85**	**10.63**	**9.53**	*14.50*	*22.08*	*13.38*	*10.42*	*14.87*	*21.93*	*13.18*	**11.15**	*11.49*	*12.54*
W. S. Central	**8.52**	**14.22**	**20.83**	**11.67**	**9.32**	*14.10*	*20.58*	*11.69*	*8.78*	*14.20*	*20.13*	*11.29*	**11.40**	*11.64*	*11.24*
Mountain	**7.55**	**9.37**	**12.60**	**8.15**	**7.90**	*9.79*	*13.69*	*8.51*	*8.04*	*9.78*	*13.58*	*8.41*	**8.43**	*8.69*	*8.84*
Pacific	**13.41**	**14.47**	**14.50**	**13.70**	**14.32**	*14.66*	*15.06*	*13.77*	*13.87*	*14.52*	*15.22*	*14.11*	**13.82**	*14.30*	*14.22*
U.S. Average	**9.46**	**11.89**	**17.65**	**10.60**	**9.80**	*12.90*	*17.41*	*10.63*	*9.63*	*12.57*	*17.25*	*10.49*	**10.83**	*11.01*	*10.88*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**10.06**	**10.38**	*10.74*	*10.91*	*10.20*	*10.52*	*10.55*	*10.21*	*9.97*	**10.16**	*10.42*	*10.32*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.53**	**7.87**	*7.69*	*7.06*	*7.48*	*7.84*	*7.62*	*7.12*	*7.57*	**7.50**	*7.62*	*7.63*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.21**	**6.12**	*7.56*	*9.31*	*7.03*	*6.72*	*7.49*	*8.48*	*6.34*	**6.28**	*6.85*	*6.84*
W. N. Central	**5.43**	**6.53**	**8.12**	**6.55**	**6.38**	*7.29*	*8.87*	*7.20*	*7.02*	*7.49*	*8.71*	*6.85*	**6.14**	*6.94*	*7.15*
S. Atlantic	**8.51**	**9.21**	**9.55**	**8.88**	**8.79**	*9.74*	*9.99*	*8.80*	*8.36*	*9.09*	*9.33*	*8.29*	**8.87**	*9.09*	*8.57*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	**8.43**	*9.40*	*10.23*	*9.03*	*8.38*	*9.34*	*9.86*	*8.72*	**8.78**	*8.94*	*8.78*
W. S. Central	**5.99**	**7.18**	**8.13**	**7.46**	**7.01**	*7.49*	*8.57*	*7.91*	*7.05*	*7.49*	*7.91*	*7.17*	**6.92**	*7.55*	*7.28*
Mountain	**6.09**	**6.85**	**7.42**	**6.45**	**6.50**	*6.98*	*8.06*	*7.06*	*6.85*	*7.22*	*8.05*	*6.88*	**6.46**	*6.90*	*7.04*
Pacific	**9.58**	**9.30**	**9.59**	**9.70**	**10.50**	*10.39*	*10.34*	*9.49*	*9.32*	*9.09*	*9.48*	*9.06*	**9.57**	*10.14*	*9.22*
U.S. Average	**7.13**	**7.63**	**8.49**	**7.53**	**7.56**	*8.29*	*8.91*	*7.91*	*7.68*	*8.09*	*8.47*	*7.54*	**7.48**	*7.94*	*7.79*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.67**	**8.58**	*7.63*	*6.76*	*7.67*	*8.10*	*7.49*	*6.52*	*7.52*	**7.54**	*7.78*	*7.54*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.61**	**7.70**	*7.24*	*7.32*	*7.50*	*8.05*	*7.74*	*7.55*	*7.88*	**7.28**	*7.50*	*7.89*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.10**	**5.39**	*5.58*	*5.72*	*5.56*	*5.84*	*5.59*	*5.46*	*5.42*	**4.86**	*5.52*	*5.63*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.13**	**5.54**	*4.34*	*4.45*	*4.93*	*5.19*	*4.47*	*4.31*	*4.78*	**3.68**	*4.87*	*4.72*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	**5.05**	*4.74*	*4.89*	*5.09*	*5.27*	*4.66*	*4.57*	*4.83*	**4.06**	*4.95*	*4.86*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.04**	**4.64**	*4.33*	*4.51*	*4.83*	*4.99*	*4.40*	*4.17*	*4.51*	**3.65**	*4.59*	*4.55*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.89**	**5.75**	*3.06*	*3.32*	*3.30*	*3.35*	*3.14*	*3.17*	*3.21*	**2.31**	*3.73*	*3.22*
Mountain	**4.40**	**4.59**	**4.67**	**4.91**	**5.00**	*5.13*	*5.73*	*5.75*	*5.74*	*5.44*	*5.56*	*5.36*	**4.64**	*5.36*	*5.53*
Pacific	**7.46**	**6.28**	**6.18**	**7.23**	**8.30**	*7.27*	*7.22*	*7.10*	*7.09*	*6.53*	*6.72*	*6.72*	**6.86**	*7.45*	*6.78*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.77**	**5.74**	*3.88*	*4.00*	*4.28*	*4.55*	*3.94*	*3.83*	*4.15*	**3.29**	*4.49*	*4.14*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.1**	**115.2**	**135.8**	**139.0**	**138.7**	*151.0*	*159.6*	*150.7*	*153.2*	*145.5*	*155.4*	*151.2*	**539.1**	*600.1*	*605.3*
Appalachia	**39.7**	**29.3**	**33.9**	**35.5**	**34.8**	*37.3*	*35.6*	*35.7*	*38.9*	*39.7*	*37.3*	*38.4*	**138.3**	*143.5*	*154.4*
Interior	**25.8**	**19.2**	**23.2**	**22.3**	**22.4**	*25.1*	*28.1*	*27.3*	*28.5*	*27.3*	*28.3*	*27.8*	**90.4**	*102.9*	*111.9*
Western	**83.6**	**66.7**	**78.8**	**81.2**	**81.5**	*88.6*	*95.9*	*87.7*	*85.8*	*78.5*	*89.7*	*85.0*	**310.3**	*353.7*	*339.0*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-0.9**	**0.3**	*0.2*	*2.2*	*-2.1*	*-1.4*	*-2.2*	*-0.9*	*-5.4*	**2.8**	*0.6*	*-9.9*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	*0.9*	*1.2*	*1.2*	*1.0*	*1.0*	*1.3*	*1.3*	**5.1**	*4.5*	*4.6*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	*18.6*	*18.7*	*22.6*	*28.5*	*19.2*	*19.5*	*25.0*	**69.1**	*80.6*	*92.2*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	*8.9*	*11.5*	*12.4*	*15.9*	*11.1*	*12.6*	*13.6*	**42.1**	*43.1*	*53.2*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	*9.7*	*7.2*	*10.2*	*12.5*	*8.1*	*6.8*	*11.5*	**27.0**	*37.5*	*39.0*
Total Primary Supply	**130.9**	**102.9**	**123.8**	**120.3**	**119.5**	*133.6*	*144.3*	*127.2*	*124.4*	*125.1*	*136.3*	*122.1*	**477.9**	*524.6*	*507.8*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-3.3**	**20.3**	*-12.5*	*15.6*	*-0.6*	*14.3*	*-7.1*	*18.4*	*1.8*	**-3.5**	*22.9*	*27.4*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	*2.0*	*2.0*	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.2**	**99.4**	**147.3**	**119.3**	**141.8**	*123.1*	*162.0*	*128.6*	*140.5*	*119.8*	*156.5*	*125.7*	**482.1**	*555.5*	*542.6*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**1.3**	*2.6*	*4.2*	*6.2*	*3.4*	*3.1*	*3.7*	*5.3*	**14.4**	*14.2*	*15.5*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**128.1**	*113.7*	*151.0*	*115.3*	*129.9*	*109.8*	*146.1*	*113.4*	**436.5**	*508.2*	*499.2*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.2**	**7.0**	*6.8*	*6.8*	*7.1*	*7.2*	*6.9*	*6.8*	*7.0*	**26.4**	*27.8*	*27.9*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	**0.8**	*0.8*	*0.7*
Other Industrial	**7.1**	**5.6**	**5.9**	**7.0**	**6.8**	*6.7*	*6.6*	*6.9*	*7.0*	*6.8*	*6.6*	*6.7*	**25.6**	*27.0*	*27.2*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	**136.4**	*123.1*	*162.0*	*128.6*	*140.5*	*119.8*	*156.5*	*125.7*	**477.3**	*550.1*	*542.6*
Discrepancy (c)	**6.7**	**2.9**	**-1.3**	**-3.5**	**5.4**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**4.8**	*5.4*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	**28.1**	*27.9*	*25.8*	*27.9*	*29.3*	*31.5*	*32.5*	*37.8*	**28.5**	*27.9*	*37.8*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**137.5**	**117.1**	*129.6*	*114.0*	*114.6*	*100.2*	*107.4*	*89.0*	*87.2*	**137.5**	*114.6*	*87.2*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	*124.2*	*108.4*	*109.2*	*95.1*	*102.1*	*83.6*	*82.0*	**132.7**	*109.2*	*82.0*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**3.8**	*3.6*	*3.6*	*3.4*	*3.6*	*3.5*	*3.5*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.4**	*1.7*	*1.8*	*1.9*	*1.3*	*1.7*	*1.8*	*1.8*	**1.7**	*1.9*	*1.8*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	*6.32*	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	*0.256*	*0.270*	*0.304*	*0.289*	*0.251*	*0.251*	*0.260*	**0.216**	*0.269*	*0.263*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	*1.90*	*1.88*	*1.85*	*1.87*	*1.87*	*1.85*	*1.82*	**1.92**	*1.88*	*1.85*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**989**	*970*	*1,136*	*970*	*998*	*986*	*1,148*	*979*	**4,009**	*4,063*	*4,110*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	*933*	*1,098*	*932*	*961*	*948*	*1,108*	*940*	**3,853**	*3,915*	*3,956*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	*33*	*34*	*34*	*34*	*34*	*37*	*35*	**143**	*135*	*140*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**10**	**11**	**15**	**12**	**9**	*11*	*14*	*11*	*12*	*12*	*15*	*11*	**47**	*45*	*50*
Total Supply	**976**	**944**	**1,163**	**973**	**998**	*981*	*1,149*	*980*	*1,010*	*998*	*1,162*	*990*	**4,056**	*4,108*	*4,160*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**51**	*68*	*57*	*54*	*45*	*67*	*57*	*54*	**254**	*229*	*225*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**914**	*881*	*1,059*	*893*	*931*	*897*	*1,070*	*901*	**3,664**	*3,748*	*3,799*
Residential Sector	**340**	**334**	**453**	**334**	**379**	*342*	*442*	*340*	*381*	*347*	*446*	*344*	**1,462**	*1,503*	*1,518*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	*307*	*366*	*317*	*313*	*314*	*370*	*319*	**1,276**	*1,294*	*1,316*
Industrial Sector	**231**	**216**	**242**	**231**	**229**	*231*	*250*	*235*	*235*	*235*	*252*	*236*	**920**	*945*	*959*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	*32*	*33*	*33*	*33*	*33*	*36*	*34*	**138**	*131*	*136*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	*913*	*1,093*	*926*	*964*	*931*	*1,105*	*935*	**3,802**	*3,879*	*3,935*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,740**	*2,472*	*3,199*	*2,455*	*2,726*	*2,477*	*3,187*	*2,456*	**10,723**	*10,867*	*10,847*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	*124.2*	*108.4*	*109.2*	*95.1*	*102.1*	*83.6*	*82.0*	**132.7**	*109.2*	*82.0*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	*8.2*	*8.3*	*8.6*	*8.1*	*8.1*	*8.2*	*8.6*	**8.3**	*8.6*	*8.6*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**15.9**	*15.9*	*15.8*	*16.1*	*16.0*	*15.9*	*15.9*	*16.2*	**16.8**	*16.1*	*16.2*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	*1.90*	*1.88*	*1.85*	*1.87*	*1.87*	*1.85*	*1.82*	**1.92**	*1.88*	*1.85*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.34**	*3.10*	*3.08*	*3.28*	*3.62*	*3.04*	*3.01*	*3.24*	**2.39**	*4.09*	*3.21*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**11.11**	*12.79*	*12.66*	*12.00*	*11.89*	*12.19*	*11.39*	*11.17*	**9.15**	*12.10*	*11.65*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.66**	*15.57*	*15.94*	*15.33*	*14.93*	*14.59*	*14.53*	*14.61*	**10.73**	*14.87*	*14.70*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	*13.50*	*13.75*	*13.64*	*13.47*	*13.72*	*13.83*	*13.66*	**13.20**	*13.50*	*13.68*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	*10.94*	*11.40*	*10.98*	*11.35*	*11.13*	*11.49*	*11.04*	**10.65**	*11.12*	*11.26*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	*7.03*	*7.19*	*6.59*	*6.93*	*7.02*	*7.20*	*6.59*	**6.66**	*6.99*	*6.94*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	*26.15*	*16.02*	*19.59*	*23.78*	*21.99*	*20.40*	*20.66*	**26.99**	*169.52*	*21.71*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	*30.59*	*47.93*	*37.24*	*38.20*	*36.19*	*39.13*	*34.75*	**38.15**	*40.13*	*37.07*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	*29.56*	*31.92*	*36.47*	*48.71*	*27.74*	*29.11*	*32.86*	**26.52**	*38.30*	*34.60*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	*28.98*	*33.28*	*30.67*	*35.72*	*28.10*	*30.79*	*28.24*	**22.85**	*34.42*	*30.72*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	*32.07*	*33.84*	*31.07*	*32.76*	*31.01*	*33.49*	*30.52*	**24.49**	*33.02*	*31.94*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	*31.09*	*33.11*	*30.74*	*31.33*	*31.24*	*33.39*	*30.72*	**25.43**	*34.98*	*31.67*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	*26.35*	*31.31*	*26.52*	*26.61*	*26.65*	*30.97*	*26.78*	**22.55**	*83.62*	*27.75*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	*29.30*	*30.61*	*29.44*	*29.77*	*29.24*	*30.84*	*28.48*	**22.62**	*32.61*	*29.58*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	*28.92*	*29.67*	*29.14*	*29.72*	*27.93*	*28.13*	*27.99*	**23.48**	*28.86*	*28.44*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	*36.30*	*41.54*	*34.41*	*37.45*	*34.03*	*36.71*	*33.79*	**25.46**	*36.70*	*35.50*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	*29.13*	*39.33*	*29.91*	*29.84*	*29.74*	*31.40*	*28.34*	**39.64**	*35.02*	*29.83*

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**12.9**	*11.2*	*13.8*	*11.1*	*13.3*	*11.0*	*13.4*	*11.1*	**48.2**	*49.0*	*48.9*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**36.1**	*30.6*	*40.4*	*31.4*	*36.6*	*30.6*	*40.0*	*31.4*	**137.1**	*138.5*	*138.7*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.2**	*44.1*	*53.8*	*44.6*	*51.4*	*44.4*	*54.2*	*44.7*	**190.0**	*192.7*	*194.7*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.9**	*24.6*	*29.6*	*25.7*	*33.1*	*26.4*	*31.7*	*27.1*	**105.8**	*109.9*	*118.4*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**95.2**	*90.6*	*113.0*	*85.7*	*95.0*	*89.9*	*112.9*	*86.6*	**370.6**	*384.6*	*384.4*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.8**	*26.9*	*37.5*	*27.3*	*33.6*	*27.2*	*38.0*	*27.6*	**118.8**	*125.5*	*126.3*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**56.8**	*53.4*	*77.2*	*50.5*	*54.1*	*55.7*	*78.5*	*51.5*	**226.5**	*237.8*	*239.8*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.7**	*26.0*	*34.2*	*24.0*	*23.7*	*26.2*	*34.3*	*24.4*	**108.4**	*108.0*	*108.7*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**39.0**	*33.4*	*41.6*	*37.7*	*39.4*	*34.0*	*41.7*	*37.9*	**151.5**	*151.7*	*152.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**378.9**	*341.8*	*442.3*	*339.5*	*381.5*	*346.6*	*446.0*	*343.7*	**1,462.0**	*1,502.5*	*1,517.8*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	*10.8*	*13.0*	*11.6*	*11.9*	*10.8*	*12.9*	*11.5*	**47.5**	*47.1*	*47.1*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.6**	*33.7*	*39.4*	*34.8*	*36.2*	*34.8*	*39.9*	*35.0*	**138.9**	*142.5*	*145.9*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.7**	*40.9*	*48.0*	*42.6*	*43.2*	*42.0*	*48.7*	*42.9*	**169.7**	*173.3*	*176.9*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.0**	*21.5*	*26.5*	*23.8*	*24.8*	*22.3*	*27.3*	*24.5*	**96.0**	*95.9*	*98.8*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.8**	*74.9*	*87.8*	*74.3*	*73.3*	*76.7*	*88.8*	*74.9*	**300.2**	*307.7*	*313.8*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.9**	*20.0*	*25.7*	*20.8*	*21.2*	*20.4*	*26.0*	*21.0*	**85.8**	*87.5*	*88.6*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.4**	*46.0*	*56.8*	*47.3*	*43.0*	*47.5*	*57.5*	*48.0*	**189.4**	*192.6*	*196.1*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	*23.6*	*27.5*	*23.3*	*22.6*	*24.2*	*28.0*	*23.8*	**94.7**	*96.4*	*98.6*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**35.2**	*34.4*	*39.3*	*36.9*	*35.2*	*34.4*	*38.9*	*36.4*	**148.3**	*145.8*	*144.9*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	*1.3*	*1.4*	*1.4*	*1.4*	*1.4*	*1.5*	*1.5*	**5.2**	*5.4*	*5.7*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.6**	*307.1*	*365.5*	*316.9*	*312.8*	*314.5*	*369.6*	*319.4*	**1,275.7**	*1,294.2*	*1,316.4*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.8**	*3.6*	*4.0*	*3.7*	*3.7*	*3.6*	*3.9*	*3.6*	**14.8**	*15.0*	*14.8*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.6**	*17.0*	*19.0*	*17.8*	*18.1*	*17.3*	*19.2*	*17.9*	**70.4**	*71.5*	*72.5*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.8**	*41.3*	*46.6*	*43.3*	*46.3*	*42.0*	*46.8*	*43.2*	**168.7**	*176.0*	*178.3*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.0**	*22.8*	*24.4*	*22.8*	*24.1*	*23.5*	*24.9*	*23.1*	**87.3**	*93.0*	*95.5*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.4**	*33.4*	*35.3*	*34.0*	*34.0*	*33.6*	*35.3*	*33.7*	**131.7**	*136.1*	*136.7*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.8**	*23.3*	*24.2*	*23.3*	*24.5*	*23.7*	*24.4*	*23.2*	**91.1**	*94.6*	*95.7*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**44.1**	*46.5*	*49.5*	*50.0*	*45.9*	*48.0*	*50.8*	*51.0*	**188.1**	*190.1*	*195.6*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.2**	*21.2*	*23.3*	*20.3*	*19.7*	*21.7*	*23.7*	*20.6*	**82.9**	*83.9*	*85.6*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.1**	*20.6*	*22.5*	*19.0*	*18.1*	*20.4*	*22.3*	*18.7*	**80.1**	*80.2*	*79.4*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.5*	*4.5*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**228.8**	*230.8*	*250.0*	*235.3*	*235.5*	*234.7*	*252.3*	*236.2*	**919.5**	*944.9*	*958.7*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	*25.6*	*30.8*	*26.5*	*29.1*	*25.5*	*30.3*	*26.4*	**111.0**	*111.5*	*111.2*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.2**	*82.1*	*99.6*	*84.8*	*91.7*	*83.4*	*99.9*	*85.1*	**349.7**	*355.7*	*360.1*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.9**	*126.4*	*148.5*	*130.6*	*141.0*	*128.6*	*149.9*	*131.0*	**528.8**	*542.4*	*550.5*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.0**	*68.9*	*80.6*	*72.3*	*82.0*	*72.2*	*84.0*	*74.7*	**289.2**	*298.8*	*312.8*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.7**	*199.1*	*236.5*	*194.3*	*202.6*	*200.5*	*237.2*	*195.5*	**803.7**	*829.6*	*835.9*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.5**	*70.2*	*87.4*	*71.4*	*79.3*	*71.2*	*88.4*	*71.7*	**295.7**	*307.6*	*310.6*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**143.3**	*146.0*	*183.5*	*147.9*	*143.1*	*151.3*	*186.8*	*150.5*	**604.2**	*620.7*	*631.7*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	*70.9*	*85.1*	*67.7*	*66.0*	*72.1*	*86.1*	*68.7*	**286.2**	*288.5*	*293.0*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**92.5**	*88.5*	*103.6*	*93.8*	*92.9*	*88.9*	*103.1*	*93.2*	**380.6**	*378.4*	*378.1*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	*3.5*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*4.0*	**14.6**	*14.8*	*15.2*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**914.0**	*881.3*	*1,059.4*	*893.2*	*931.5*	*897.3*	*1,069.5*	*900.9*	**3,663.7**	*3,748.0*	*3,799.2*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.38**	*21.74*	*21.97*	*22.29*	*23.21*	*23.61*	*23.65*	*23.62*	**21.20**	*21.83*	*23.51*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.62**	*16.32*	*16.87*	*16.67*	*16.07*	*16.53*	*16.96*	*16.67*	**15.92**	*16.38*	*16.57*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.38**	*14.15*	*13.76*	*14.08*	*13.72*	*14.45*	*13.97*	*14.27*	**13.48**	*13.82*	*14.08*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.88**	*12.99*	*13.61*	*11.66*	*10.52*	*12.57*	*13.06*	*11.40*	**11.99**	*12.27*	*11.86*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.66**	*11.81*	*12.30*	*12.21*	*12.17*	*12.25*	*12.60*	*12.27*	**11.88**	*12.01*	*12.34*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.18**	*11.82*	*11.65*	*11.76*	*11.52*	*12.01*	*11.69*	*11.81*	**11.36**	*11.58*	*11.74*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**11.85**	*11.69*	*11.86*	*11.90*	*12.10*	*11.21*	*11.33*	*11.53*	**11.29**	*11.83*	*11.52*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.53**	*12.21*	*12.41*	*11.86*	*11.77*	*12.41*	*12.52*	*11.93*	**11.88**	*12.05*	*12.20*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.76**	*16.90*	*18.09*	*16.90*	*17.14*	*17.74*	*18.70*	*17.19*	**16.67**	*17.19*	*17.71*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	*13.50*	*13.75*	*13.64*	*13.47*	*13.72*	*13.83*	*13.66*	**13.20**	*13.50*	*13.68*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.28**	*16.04*	*16.68*	*16.48*	*17.14*	*16.78*	*17.25*	*16.86*	**15.90**	*16.38*	*17.02*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.48**	*13.15*	*13.78*	*12.95*	*12.78*	*13.29*	*13.69*	*12.79*	**12.47**	*13.11*	*13.15*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.40**	*10.69*	*10.56*	*10.67*	*10.63*	*10.81*	*10.62*	*10.72*	**10.19**	*10.58*	*10.69*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.10**	*10.70*	*11.16*	*9.50*	*8.84*	*10.16*	*10.55*	*9.18*	**9.66**	*10.13*	*9.69*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.29**	*9.03*	*9.34*	*9.59*	*9.62*	*9.17*	*9.34*	*9.53*	**9.13**	*9.31*	*9.41*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.96**	*11.16*	*11.00*	*11.06*	*11.21*	*11.28*	*11.09*	*11.16*	**10.70**	*11.04*	*11.18*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**11.28**	*8.21*	*8.32*	*8.03*	*11.34*	*8.66*	*8.78*	*8.35*	**7.90**	*8.87*	*9.20*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.11**	*9.95*	*10.30*	*9.40*	*9.13*	*9.93*	*10.24*	*9.38*	**9.58**	*9.73*	*9.70*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.53**	*15.43*	*17.97*	*15.58*	*15.06*	*16.06*	*18.54*	*16.09*	**15.18**	*15.94*	*16.49*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	*10.94*	*11.40*	*10.98*	*11.35*	*11.13*	*11.49*	*11.04*	**10.65**	*11.12*	*11.26*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.49**	*13.10*	*12.97*	*12.53*	*13.86*	*13.34*	*13.13*	*12.65*	**12.26**	*13.02*	*13.25*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.50**	*6.48*	*6.38*	*6.23*	*6.31*	*6.32*	*6.22*	*6.06*	**6.35**	*6.40*	*6.23*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.92**	*7.09*	*6.88*	*6.76*	*6.91*	*7.14*	*6.93*	*6.80*	**6.66**	*6.91*	*6.94*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**6.97**	*7.38*	*8.02*	*6.76*	*6.92*	*7.49*	*8.15*	*6.88*	**7.20**	*7.30*	*7.37*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.24**	*6.36*	*6.64*	*6.16*	*6.25*	*6.35*	*6.61*	*6.13*	**6.17**	*6.35*	*6.34*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.75**	*5.72*	*5.80*	*5.56*	*5.68*	*5.71*	*5.78*	*5.54*	**5.54**	*5.71*	*5.68*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.61**	*5.75*	*5.23*	*4.95*	*6.53*	*5.57*	*5.17*	*4.86*	**5.07**	*5.83*	*5.51*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.24**	*6.61*	*7.02*	*6.00*	*6.27*	*6.67*	*7.02*	*6.03*	**6.21**	*6.49*	*6.52*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.64**	*10.87*	*12.66*	*11.25*	*9.90*	*11.23*	*12.98*	*11.59*	**10.71**	*11.18*	*11.50*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	*7.03*	*7.19*	*6.59*	*6.93*	*7.02*	*7.20*	*6.59*	**6.66**	*6.99*	*6.94*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.19**	*18.08*	*18.54*	*18.33*	*19.47*	*19.23*	*19.53*	*19.10*	**17.68**	*18.29*	*19.34*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.56**	*12.94*	*13.62*	*12.92*	*12.82*	*13.03*	*13.57*	*12.81*	**12.58**	*13.03*	*13.07*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.35**	*10.72*	*10.56*	*10.53*	*10.53*	*10.86*	*10.68*	*10.63*	**10.24**	*10.54*	*10.67*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.16**	*10.42*	*11.11*	*9.41*	*8.96*	*10.17*	*10.78*	*9.27*	**9.77**	*10.04*	*9.80*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.91**	*9.85*	*10.35*	*10.15*	*10.24*	*10.08*	*10.48*	*10.16*	**9.91**	*10.08*	*10.25*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.48**	*9.61*	*9.84*	*9.53*	*9.63*	*9.70*	*9.89*	*9.59*	**9.38**	*9.62*	*9.71*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.37**	*8.70*	*8.97*	*8.31*	*10.08*	*8.62*	*8.87*	*8.26*	**8.29**	*9.07*	*8.94*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.15**	*9.78*	*10.25*	*9.26*	*9.23*	*9.85*	*10.26*	*9.28*	**9.48**	*9.65*	*9.70*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.50**	*14.91*	*16.85*	*15.22*	*14.92*	*15.58*	*17.38*	*15.62*	**14.82**	*15.42*	*15.92*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.94**	*10.91*	*11.39*	*10.83*	*11.10*	*11.05*	*11.45*	*10.87*	**10.66**	*11.03*	*11.13*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*
Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**318.2**	*319.4*	*430.2*	*331.7*	*311.8*	*318.0*	*437.2*	*329.9*	**1,512.2**	*1,399.6*	*1,396.9*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**230.3**	*200.6*	*269.8*	*204.8*	*236.3*	*192.1*	*260.5*	*200.8*	**768.2**	*905.4*	*889.7*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.5**	*187.7*	*204.6*	*186.4*	*188.8*	*185.2*	*197.2*	*185.6*	**789.9**	*777.2*	*756.8*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**198.0**	*221.5*	*189.4*	*203.7*	*217.5*	*248.2*	*208.6*	*217.1*	**760.6**	*812.6*	*891.3*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	*71.6*	*61.2*	*57.0*	*67.9*	*79.8*	*65.0*	*58.8*	**289.9**	*259.1*	*271.4*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	*103.4*	*80.5*	*110.3*	*110.4*	*112.1*	*86.9*	*116.5*	**336.7**	*390.5*	*426.0*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	*34.6*	*35.5*	*24.0*	*28.3*	*44.7*	*44.7*	*29.6*	**90.1**	*115.6*	*147.3*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	*7.7*	*7.9*	*8.2*	*7.0*	*7.5*	*7.7*	*7.8*	**27.5**	*30.8*	*30.0*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	*4.3*	*4.2*	*4.3*	*3.9*	*4.0*	*4.3*	*4.4*	**16.5**	*16.6*	*16.6*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	*-1.4*	*-2.4*	*-1.2*	*-1.0*	*-1.3*	*-2.3*	*-1.1*	**-5.3**	*-6.0*	*-5.8*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**5.2**	*3.4*	*4.0*	*4.2*	*4.7*	*3.6*	*4.2*	*4.9*	**16.5**	*16.8*	*17.3*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	*0.4*	*0.7*	*0.9*	*0.7*	*0.5*	*0.7*	*0.9*	**3.1**	*2.7*	*2.8*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.9**	*1.8*	*1.7*	*1.8*	*1.8*	*1.8*	*1.7*	*1.9*	**7.5**	*7.1*	*7.1*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**951.8**	*933.5*	*1,098.0*	*932.3*	*960.6*	*948.0*	*1,107.7*	*939.8*	**3,852.8**	*3,915.5*	*3,956.1*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**12.1**	*10.3*	*17.2*	*12.2*	*9.4*	*11.6*	*17.6*	*11.4*	**47.7**	*51.7*	*50.0*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	*0.0*	*0.0*	*0.1*	*0.4*	*0.0*	*0.0*	*0.1*	**0.2**	*0.6*	*0.5*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	*7.3*	*7.2*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.2*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	*2.2*	*1.3*	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*7.2*	*7.4*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.8**	*3.1*	*2.7*	*3.2*	*3.3*	*3.3*	*2.8*	*3.3*	**10.3**	*11.7*	*12.6*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	*0.4*	*0.2*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	**1.4**	*1.4*	*1.4*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.7**	*23.3*	*28.6*	*23.2*	*22.5*	*23.7*	*29.2*	*24.2*	**92.9**	*99.8*	*99.6*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.3**	*26.8*	*31.9*	*28.2*	*29.9*	*27.0*	*31.8*	*28.3*	**113.0**	*116.2*	*117.0*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**12.8**	*13.1*	*20.3*	*15.9*	*14.9*	*14.9*	*21.1*	*16.2*	**57.1**	*62.1*	*67.2*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.3**	*7.8*	*7.1*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*31.0*	*27.3*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	*7.1*	*7.1*	*7.2*	*7.0*	*7.0*	*7.0*	*7.2*	**31.4**	*28.8*	*28.2*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	*2.0*	*1.8*	*2.2*	*2.0*	*2.3*	*2.1*	*2.6*	**7.6**	*8.0*	*9.0*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	*0.1*	*0.1*	*0.1*	*0.4*	*0.1*	*0.1*	*0.1*	**0.6**	*0.8*	*0.8*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**31.7**	*30.1*	*36.4*	*32.3*	*30.9*	*31.4*	*37.0*	*33.1*	**135.4**	*130.5*	*132.3*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	*35.0*	*42.5*	*36.2*	*37.5*	*35.8*	*42.8*	*36.5*	**145.3**	*150.4*	*152.7*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**72.5**	*72.7*	*86.2*	*73.2*	*79.0*	*79.3*	*95.7*	*78.4*	**315.8**	*304.6*	*332.5*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**50.5**	*41.4*	*52.6*	*40.4*	*56.2*	*33.8*	*49.1*	*37.0*	**148.3**	*184.8*	*176.1*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.4**	*64.8*	*72.4*	*62.4*	*59.0*	*59.2*	*62.9*	*57.7*	**275.7**	*268.0*	*238.9*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	*2.7*	*1.7*	*2.1*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*9.2*	*9.1*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.1**	*12.0*	*8.9*	*12.1*	*12.1*	*13.0*	*9.5*	*12.8*	**39.1**	*44.1*	*47.4*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**1.0**	*0.3*	*0.0*	*0.8*	*1.2*	*0.4*	*0.2*	*0.9*	**2.2**	*2.2*	*2.6*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**206.2**	*194.0*	*221.8*	*191.0*	*210.2*	*188.4*	*219.0*	*188.9*	**791.1**	*812.9*	*806.6*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.0**	**194.4**	*176.2*	*204.6*	*180.6*	*197.6*	*175.6*	*206.2*	*182.0*	**732.4**	*755.9*	*761.5*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**57.6**	*55.0*	*69.9*	*58.1*	*53.7*	*55.8*	*70.6*	*55.4*	**254.2**	*240.6*	*235.5*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	*33.1*	*46.6*	*32.0*	*39.4*	*35.8*	*48.4*	*34.9*	**118.3**	*148.0*	*158.5*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	*52.5*	*55.4*	*52.0*	*54.1*	*55.2*	*58.4*	*56.3*	**210.1**	*213.7*	*224.0*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.8**	*7.9*	*6.8*	*7.8*	*10.2*	*7.6*	*6.7*	*7.8*	**38.7**	*32.3*	*32.3*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.0**	*5.9*	*5.8*	*4.5*	*4.5*	*7.3*	*7.5*	*5.4*	**17.4**	*20.2*	*24.8*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	*-0.4*	*-0.6*	*-0.2*	*0.0*	*-0.3*	*-0.7*	*-0.2*	**-1.1**	*-1.2*	*-1.1*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.4**	*154.1*	*183.9*	*154.2*	*161.8*	*161.4*	*190.9*	*159.7*	**637.6**	*653.6*	*673.9*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.1**	*154.5*	*184.0*	*155.2*	*164.1*	*160.3*	*188.3*	*158.4*	**649.7**	*656.8*	*671.1*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.5**	*41.2*	*45.6*	*35.6*	*32.1*	*41.3*	*46.0*	*36.6*	**179.5**	*156.9*	*155.9*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	*5.5*	*6.2*	*4.5*	*4.9*	*5.4*	*5.8*	*4.0*	**15.9**	*20.8*	*20.1*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	*7.2*	*7.9*	*6.9*	*7.9*	*7.3*	*8.1*	*7.1*	**29.4**	*29.8*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.4**	*3.2*	*3.3*	*3.4*	*3.3*	*3.4*	*3.4*	*3.2*	**8.4**	*12.3*	*13.4*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	*0.7*	*0.8*	*0.6*	*0.8*	*0.7*	*0.8*	*0.6*	**3.3**	*3.0*	*3.0*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**50.3**	*57.7*	*63.8*	*51.0*	*49.0*	*58.2*	*64.1*	*51.6*	**236.7**	*222.9*	*222.9*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.7**	*57.9*	*66.6*	*52.2*	*48.4*	*58.4*	*66.9*	*52.5*	**232.8**	*227.4*	*226.2*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**34.5**	*35.0*	*46.8*	*36.1*	*37.0*	*38.0*	*51.6*	*38.2*	**178.3**	*152.4*	*164.7*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**69.7**	*56.7*	*76.2*	*61.1*	*70.8*	*55.9*	*72.2*	*58.5*	**218.4**	*263.8*	*257.4*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	*22.1*	*24.1*	*24.1*	*23.8*	*22.2*	*23.8*	*23.0*	**95.1**	*93.9*	*92.8*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**2.8**	*2.8*	*2.3*	*2.1*	*2.4*	*2.8*	*2.3*	*2.2*	**11.8**	*10.2*	*9.7*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**24.3**	*24.6*	*19.0*	*27.7*	*26.0*	*25.9*	*20.2*	*28.7*	**81.3**	*95.6*	*100.8*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.8**	*0.9*	*1.0*	*1.4*	*1.3*	*1.1*	*1.1*	*2.0*	**5.2**	*5.1*	*5.5*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**156.7**	*142.2*	*169.5*	*152.5*	*161.3*	*145.9*	*171.1*	*152.6*	**590.0**	*620.9*	*631.0*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.0**	*153.9*	*177.5*	*156.5*	*161.0*	*155.2*	*178.6*	*157.0*	**618.7**	*646.8*	*651.8*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.4**	*12.6*	*20.2*	*12.6*	*14.3*	*12.6*	*21.5*	*12.8*	**71.6**	*57.9*	*61.2*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**21.8**	*16.4*	*26.5*	*17.9*	*21.5*	*16.5*	*26.9*	*20.0*	**79.2**	*82.7*	*85.0*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	*3.0*	*4.4*	*4.4*	*4.3*	*4.4*	*4.1*	*2.5*	**16.8**	*16.0*	*15.3*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	*4.9*	*4.2*	*3.3*	*3.6*	*4.3*	*4.0*	*3.2*	**21.8**	*17.7*	*15.0*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**22.8**	*26.3*	*20.3*	*26.3*	*25.7*	*28.7*	*22.7*	*28.5*	**80.6**	*95.7*	*105.6*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.5**	*0.6*	*0.4*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.7**	*63.4*	*75.8*	*64.7*	*69.4*	*66.6*	*79.3*	*67.2*	**270.5**	*270.6*	*282.5*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.7**	*60.5*	*72.6*	*60.0*	*66.8*	*63.2*	*76.1*	*62.4*	**262.1**	*257.8*	*268.5*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.0**	*36.2*	*51.4*	*29.7*	*23.5*	*28.4*	*43.8*	*24.1*	**174.6**	*150.3*	*119.9*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.3**	*18.0*	*22.9*	*17.7*	*15.1*	*17.7*	*22.8*	*17.0*	**67.2**	*74.9*	*72.7*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	*10.4*	*10.3*	*9.5*	*10.7*	*10.0*	*10.6*	*10.8*	**41.4**	*40.6*	*42.1*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	*0.3*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.8*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**25.2**	*31.1*	*28.1*	*31.1*	*34.6*	*38.8*	*33.8*	*34.7*	**92.6**	*115.6*	*141.9*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	*0.3*	*0.4*	*0.4*	*0.2*	*0.3*	*0.3*	*0.4*	**1.5**	*1.3*	*1.3*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	*96.2*	*113.2*	*88.5*	*84.4*	*95.4*	*111.4*	*87.2*	**378.4**	*383.6*	*378.4*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	*96.2*	*113.2*	*88.5*	*84.4*	*95.4*	*111.4*	*87.2*	**378.4**	*383.6*	*378.4*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**20.9**	*19.1*	*30.2*	*24.0*	*21.2*	*15.7*	*30.6*	*24.3*	**89.6**	*94.1*	*91.8*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**22.5**	*20.8*	*27.2*	*21.2*	*20.8*	*17.4*	*24.9*	*19.3*	**86.1**	*91.6*	*82.4*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	*1.3*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.6*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.3**	*34.6*	*29.0*	*27.6*	*33.3*	*41.7*	*31.5*	*28.2*	**136.0**	*125.4*	*134.8*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.3**	*16.3*	*14.6*	*17.0*	*17.0*	*17.8*	*15.8*	*17.9*	**55.6**	*63.3*	*68.6*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**95.6**	*92.2*	*103.6*	*92.2*	*94.9*	*95.2*	*105.5*	*92.3*	**377.4**	*383.7*	*387.9*
Net energy for load (f)	**89.9**	**81.7**	**93.6**	**87.7**	**88.9**	*84.6*	*95.0*	*89.5*	*90.2*	*86.2*	*95.2*	*89.7*	**353.0**	*358.0*	*361.3*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**11.0**	*11.9*	*17.4*	*12.4*	*9.5*	*8.1*	*14.3*	*10.5*	**61.7**	*52.7*	*42.4*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**5.9**	*6.4*	*9.0*	*8.0*	*5.6*	*7.3*	*7.9*	*7.8*	**25.9**	*29.3*	*28.6*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	*7.2*	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.9*	*32.1*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.5**	*3.6*	*3.7*	*2.5*	*2.8*	*4.0*	*3.9*	*2.6*	**12.8**	*12.2*	*13.4*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	*4.7*	*3.6*	*3.5*	*4.8*	*6.1*	*4.6*	*4.6*	**10.5**	*14.9*	*20.0*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.8**	*33.9*	*42.4*	*34.0*	*31.1*	*33.0*	*39.5*	*33.0*	**142.7**	*141.2*	*136.6*
Net energy for load (f)	**19.8**	**25.3**	**32.7**	**21.3**	**19.1**	*24.3*	*31.7*	*21.1*	*19.7*	*24.8*	*31.7*	*21.2*	**99.2**	*96.3*	*97.4*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.6**	*11.8*	*24.3*	*21.3*	*16.4*	*11.6*	*23.8*	*21.1*	**79.9**	*74.0*	*72.8*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	*1.8*	*2.2*	*1.5*	*1.1*	*1.7*	*2.1*	*1.8*	**6.7**	*7.2*	*6.7*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	*4.2*	*4.7*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.4*	*16.7*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.0**	*5.0*	*4.6*	*2.0*	*3.3*	*6.8*	*6.1*	*3.2*	**16.8**	*13.5*	*19.3*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.5**	*20.3*	*19.5*	*15.2*	*16.0*	*21.3*	*20.5*	*16.1*	**65.8**	*70.4*	*73.9*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	**0.2**	*0.1*	*0.2*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.7**	*43.0*	*55.3*	*44.7*	*41.4*	*45.2*	*56.9*	*46.1*	**185.8**	*181.7*	*189.6*
Net energy for load (f)	**58.6**	**59.4**	**74.6**	**61.1**	**57.1**	*60.2*	*74.6*	*60.4*	*57.5*	*62.5*	*75.0*	*60.5*	**253.7**	*252.3*	*255.4*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.035**	*0.038*	*0.038*	*0.038*	*0.035*	*0.036*	*0.038*	*0.039*	**0.147**	*0.148*	*0.148*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.622**	*0.694*	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.581**	*2.474*	*2.538*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.195**	*0.315*	*0.324*	*0.218*	*0.257*	*0.407*	*0.407*	*0.269*	**0.820**	*1.052*	*1.341*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.059**	*0.066*	*0.063*	*0.061*	*0.056*	*0.065*	*0.063*	*0.061*	**0.238**	*0.249*	*0.245*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.050**	*0.052*	*0.059*	*0.066*	*0.052*	*0.051*	*0.055*	*0.061*	**0.185**	*0.227*	*0.219*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	*0.941*	*0.733*	*1.004*	*1.005*	*1.020*	*0.791*	*1.061*	**3.065**	*3.555*	*3.878*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.837**	*2.106*	*1.815*	*1.947*	*2.097*	*2.273*	*1.952*	*2.046*	**7.037**	*7.705*	*8.368*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.170**	*0.188*	*0.192*	*0.189*	*0.184*	*0.190*	*0.193*	*0.194*	**0.698**	*0.739*	*0.761*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	*0.003*	*0.002*	*0.002*	*0.002*	*0.003*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	*0.039*	*0.038*	*0.040*	*0.040*	*0.039*	*0.038*	*0.040*	**0.156**	*0.158*	*0.157*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	*0.339*	*0.352*	*0.355*	*0.346*	*0.343*	*0.355*	*0.358*	**1.376**	*1.385*	*1.402*
Subtotal	**0.594**	**0.520**	**0.558**	**0.588**	**0.556**	*0.574*	*0.590*	*0.592*	*0.577*	*0.581*	*0.594*	*0.599*	**2.261**	*2.312*	*2.351*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	*0.043*	*0.043*	*0.030*	*0.035*	*0.050*	*0.051*	*0.035*	**0.123**	*0.146*	*0.171*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.070**	*0.084*	*0.086*	*0.072*	*0.076*	*0.092*	*0.093*	*0.077*	**0.290**	*0.313*	*0.338*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.067**	*0.102*	*0.102*	*0.071*	*0.076*	*0.115*	*0.115*	*0.079*	**0.291**	*0.341*	*0.385*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	*0.114*	*0.115*	*0.115*	*0.112*	*0.114*	*0.115*	*0.115*	**0.458**	*0.456*	*0.456*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	*0.225*	*0.227*	*0.196*	*0.198*	*0.239*	*0.240*	*0.204*	**0.788**	*0.837*	*0.881*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.057**	*0.074*	*0.073*	*0.079*	*0.085*	*0.087*	*0.092*	*0.095*	**0.275**	*0.284*	*0.359*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.258**	**0.244**	*0.288*	*0.286*	*0.276*	*0.259*	*0.286*	*0.287*	*0.283*	**1.002**	*1.093*	*1.116*
Subtotal	**0.318**	**0.284**	**0.340**	**0.334**	**0.301**	*0.362*	*0.359*	*0.355*	*0.343*	*0.373*	*0.379*	*0.378*	**1.277**	*1.377*	*1.474*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.057**	*0.074*	*0.073*	*0.079*	*0.085*	*0.087*	*0.092*	*0.095*	**0.275**	*0.284*	*0.359*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.170**	*0.188*	*0.192*	*0.189*	*0.184*	*0.190*	*0.193*	*0.194*	**0.698**	*0.739*	*0.761*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.268**	**0.254**	*0.299*	*0.297*	*0.286*	*0.269*	*0.297*	*0.298*	*0.294*	**1.041**	*1.135*	*1.159*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	*0.055*	*0.054*	*0.055*	*0.052*	*0.053*	*0.055*	*0.056*	**0.214**	*0.215*	*0.215*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.624**	*0.697*	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.592**	*2.485*	*2.549*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.295**	*0.471*	*0.480*	*0.327*	*0.377*	*0.584*	*0.585*	*0.392*	**1.246**	*1.573*	*1.938*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	*0.113*	*0.110*	*0.111*	*0.104*	*0.113*	*0.110*	*0.110*	**0.430**	*0.442*	*0.437*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	*0.526*	*0.547*	*0.557*	*0.530*	*0.528*	*0.547*	*0.554*	**2.101**	*2.150*	*2.158*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	*0.941*	*0.733*	*1.004*	*1.005*	*1.020*	*0.791*	*1.061*	**3.065**	*3.555*	*3.878*
Total Consumption	**2.923**	**2.995**	**2.826**	**2.907**	**2.952**	*3.352*	*3.078*	*3.162*	*3.291*	*3.558*	*3.259*	*3.305*	**11.652**	*12.544*	*13.413*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,605**	**6,603**	**6,553**	**6,552**	**6,542**	*6,398*	*6,397*	*6,441*	*6,444*	*6,447*	*6,447*	*6,447*	**6,552**	*6,441*	*6,447*
Waste	**3,932**	**3,930**	**3,856**	**3,855**	**3,845**	*3,843*	*3,842*	*3,886*	*3,889*	*3,892*	*3,892*	*3,892*	**3,855**	*3,886*	*3,892*
Wood	**2,673**	**2,673**	**2,697**	**2,697**	**2,697**	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	**2,697**	*2,554*	*2,554*
Conventional Hydroelectric	**79,520**	**79,514**	**79,660**	**79,663**	**79,664**	*79,733*	*79,736*	*79,781*	*79,795*	*79,809*	*79,850*	*79,854*	**79,663**	*79,781*	*79,854*
Geothermal	**2,502**	**2,520**	**2,520**	**2,520**	**2,520**	*2,520*	*2,520*	*2,562*	*2,562*	*2,562*	*2,562*	*2,562*	**2,520**	*2,562*	*2,562*
Large-Scale Solar (b)	**39,126**	**41,216**	**43,013**	**47,575**	**50,238**	*53,489*	*56,678*	*63,077*	*65,091*	*70,573*	*72,388*	*79,669*	**47,575**	*63,077*	*79,669*
Wind	**106,205**	**107,768**	**109,295**	**118,262**	**121,148**	*126,519*	*128,415*	*134,261*	*134,971*	*136,842*	*137,422*	*139,583*	**118,262**	*134,261*	*139,583*
Other Sectors (c)															
Biomass	**6,395**	**6,395**	**6,391**	**6,405**	**6,383**	*6,392*	*6,372*	*6,372*	*6,372*	*6,372*	*6,364*	*6,364*	**6,405**	*6,372*	*6,364*
Waste	**781**	**781**	**777**	**791**	**788**	*792*	*792*	*792*	*792*	*792*	*792*	*792*	**791**	*792*	*792*
Wood	**5,615**	**5,615**	**5,615**	**5,615**	**5,595**	*5,600*	*5,580*	*5,580*	*5,580*	*5,580*	*5,572*	*5,572*	**5,615**	*5,580*	*5,572*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	*289*	*287*	*287*	*287*	*287*	*287*	*287*	**289**	*287*	*287*
Large-Scale Solar (b)	**441**	**468**	**473**	**480**	**482**	*498*	*511*	*545*	*548*	*548*	*548*	*548*	**480**	*545*	*548*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**28,888**	*29,950*	*31,073*	*32,198*	*33,375*	*34,504*	*35,640*	*36,751*	**27,724**	*32,198*	*36,751*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,076**	*18,731*	*19,412*	*20,076*	*20,776*	*21,446*	*22,148*	*22,811*	**17,238**	*20,076*	*22,811*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,725**	*9,071*	*9,450*	*9,847*	*10,260*	*10,654*	*11,027*	*11,412*	**8,430**	*9,847*	*11,412*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,088**	*2,148*	*2,211*	*2,275*	*2,340*	*2,403*	*2,465*	*2,528*	**2,056**	*2,275*	*2,528*
Wind	**113**	**339**	**348**	**348**	**348**	*348*	*348*	*598*	*598*	*598*	*598*	*598*	**348**	*598*	*598*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	*7.7*	*7.9*	*8.2*	*7.0*	*7.5*	*7.7*	*7.8*	**27.5**	*30.8*	*30.0*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.0**	*4.4*	*4.3*	*4.1*	*3.8*	*4.4*	*4.2*	*4.1*	**16.1**	*16.8*	*16.5*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	*3.2*	*3.6*	*4.1*	*3.2*	*3.1*	*3.4*	*3.7*	**11.4**	*14.1*	*13.5*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	*71.6*	*61.2*	*57.0*	*67.9*	*79.8*	*65.0*	*58.8*	**289.9**	*259.1*	*271.4*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	*4.3*	*4.2*	*4.3*	*3.9*	*4.0*	*4.3*	*4.4*	**16.5**	*16.6*	*16.6*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	*34.6*	*35.5*	*24.0*	*28.3*	*44.7*	*44.7*	*29.6*	**90.1**	*115.6*	*147.3*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	*103.4*	*80.5*	*110.3*	*110.4*	*112.1*	*86.9*	*116.5*	**336.7**	*390.5*	*426.0*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.0**	*7.1*	*7.0*	*7.1*	*7.0*	*7.1*	*7.0*	*7.1*	**28.6**	*28.2*	*28.2*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.3**	*6.4*	*6.4*	*6.4*	*6.3*	*6.4*	*6.4*	*6.4*	**25.8**	*25.4*	*25.4*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**9.8**	*14.7*	*14.8*	*10.2*	*11.4*	*17.0*	*17.1*	*11.7*	**41.7**	*49.5*	*57.3*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	*9.0*	*9.1*	*6.3*	*6.9*	*10.4*	*10.5*	*7.2*	**25.4**	*30.3*	*35.0*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	*4.5*	*4.6*	*3.2*	*3.6*	*5.3*	*5.3*	*3.7*	**12.9**	*15.3*	*17.9*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	*1.1*	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	*0.2*	*0.2*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	**0.8**	*1.0*	*1.5*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,088**	*19,503*	*19,849*	*20,231*	*20,451*	*20,601*	*20,689*	*20,773*	**18,426**	*19,668*	*20,629*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,925**	**12,999**	**13,334**	*13,624*	*13,834*	*14,023*	*14,178*	*14,297*	*14,395*	*14,488*	**12,726**	*13,704*	*14,339*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,315**	**3,459**	**3,543**	*3,586*	*3,640*	*3,684*	*3,717*	*3,743*	*3,762*	*3,781*	**3,311**	*3,613*	*3,751*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-1**	**60**	**-90**	*-18*	*83*	*228*	*254*	*248*	*219*	*180*	**-73**	*51*	*225*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,320**	**3,372**	*3,451*	*3,448*	*3,456*	*3,456*	*3,457*	*3,447*	*3,442*	**3,341**	*3,432*	*3,450*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,167**	**2,279**	**2,272**	*2,331*	*2,374*	*2,426*	*2,475*	*2,518*	*2,558*	*2,595*	**2,217**	*2,351*	*2,536*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,400**	**3,448**	*3,581*	*3,624*	*3,656*	*3,693*	*3,724*	*3,756*	*3,781*	**3,143**	*3,577*	*3,739*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,434**	**17,391**	*16,138*	*15,898*	*15,719*	*15,892*	*16,005*	*16,094*	*16,145*	**15,744**	*16,286*	*16,034*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	*145.3*	*148.4*	*150.2*	*151.2*	*152.0*	*152.6*	*153.2*	**142.3**	*146.8*	*152.2*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	*5.8*	*4.9*	*4.2*	*4.0*	*3.7*	*3.6*	*3.5*	**8.1**	*5.2*	*3.7*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	*1.59*	*1.56*	*1.54*	*1.50*	*1.46*	*1.43*	*1.39*	**1.40**	*1.57*	*1.44*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**107.7**	**93.7**	**102.5**	**104.9**	**105.2**	*106.7*	*108.5*	*111.3*	*113.1*	*114.3*	*114.9*	*115.3*	**102.2**	*107.9*	*114.4*
Manufacturing	**104.4**	**89.3**	**100.1**	**103.1**	**103.4**	*105.0*	*107.0*	*109.7*	*111.4*	*112.4*	*112.7*	*113.0*	**99.2**	*106.3*	*112.4*
Food	**116.5**	**107.9**	**113.6**	**116.0**	**117.6**	*119.1*	*119.3*	*119.4*	*119.6*	*119.8*	*120.1*	*120.5*	**113.5**	*118.9*	*120.0*
Paper	**94.7**	**87.2**	**87.0**	**91.8**	**91.0**	*92.3*	*93.2*	*94.0*	*94.5*	*95.0*	*95.0*	*95.1*	**90.2**	*92.7*	*94.9*
Petroleum and Coal Products	**105.0**	**82.7**	**89.9**	**93.1**	**96.5**	*99.4*	*100.1*	*101.0*	*101.7*	*102.2*	*102.3*	*102.2*	**92.6**	*99.3*	*102.1*
Chemicals	**99.8**	**93.7**	**96.4**	**99.8**	**95.7**	*101.5*	*106.6*	*108.7*	*109.2*	*109.5*	*109.6*	*110.0*	**97.4**	*103.1*	*109.6*
Nonmetallic Mineral Products	**122.2**	**106.3**	**113.7**	**117.8**	**117.2**	*118.8*	*120.3*	*120.7*	*120.9*	*120.9*	*120.9*	*121.2*	**115.0**	*119.3*	*121.0*
Primary Metals	**94.4**	**69.6**	**79.3**	**87.7**	**89.3**	*91.6*	*92.6*	*94.1*	*94.5*	*95.0*	*94.3*	*93.9*	**82.8**	*91.9*	*94.4*
Coal-weighted Manufacturing (a)	**106.5**	**94.1**	**100.9**	**105.3**	**102.3**	*105.0*	*106.6*	*108.2*	*109.2*	*109.8*	*109.9*	*110.3*	**101.7**	*105.5*	*109.8*
Distillate-weighted Manufacturing (a)	**98.8**	**85.6**	**92.5**	**95.8**	**96.9**	*98.7*	*99.8*	*100.8*	*101.2*	*101.4*	*101.3*	*101.2*	**93.2**	*99.1*	*101.2*
Electricity-weighted Manufacturing (a)	**105.1**	**89.4**	**98.4**	**103.0**	**101.4**	*104.3*	*105.9*	*107.4*	*108.3*	*109.1*	*109.1*	*109.2*	**99.0**	*104.8*	*108.9*
Natural Gas-weighted Manufacturing (a)	**107.8**	**94.0**	**100.3**	**105.4**	**101.4**	*105.5*	*107.3*	*108.8*	*109.7*	*110.5*	*110.5*	*110.8*	**101.9**	*105.8*	*110.3*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	*2.66*	*2.66*	*2.67*	*2.68*	*2.69*	*2.70*	*2.72*	**2.59**	*2.66*	*2.70*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.10**	*2.12*	*2.12*	*2.11*	*2.12*	*2.13*	*2.13*	*2.13*	**1.94**	*2.11*	*2.13*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.50**	**1.89**	*2.11*	*2.10*	*1.94*	*1.86*	*1.89*	*1.89*	*1.84*	**1.43**	*2.01*	*1.87*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.6**	*116.5*	*117.0*	*117.5*	*118.0*	*118.6*	*119.2*	*119.8*	**113.6**	*116.6*	*118.9*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,762**	**6,880**	**8,262**	**8,009**	**7,683**	*9,000*	*8,990*	*8,831*	*8,233*	*9,286*	*9,249*	*9,030*	**7,730**	*8,630*	*8,952*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**363**	**478**	**537**	**523**	*567*	*605*	*650*	*649*	*708*	*725*	*697*	**502**	*587*	*695*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**238**	**230**	*285*	*347*	*381*	*405*	*452*	*460*	*437*	**231**	*311*	*439*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	*220.1*	*201.1*	*209.2*	*208.4*	*226.7*	*227.7*	*244.6*	**217.5**	*207.2*	*226.8*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	*0.256*	*0.270*	*0.304*	*0.289*	*0.251*	*0.251*	*0.260*	**0.216**	*0.269*	*0.263*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**553**	**442**	**518**	**522**	**515**	*553*	*568*	*572*	*558*	*577*	*589*	*588*	**2,035**	*2,207*	*2,312*
Natural Gas	**490**	**349**	**383**	**429**	**485**	*349*	*368*	*438*	*483*	*350*	*372*	*434*	**1,651**	*1,640*	*1,640*
Coal	**201**	**177**	**271**	**224**	**247**	*224*	*296*	*238*	*255*	*219*	*286*	*232*	**873**	*1,006*	*993*
Total Energy (c)	**1,247**	**971**	**1,174**	**1,178**	**1,250**	*1,128*	*1,235*	*1,251*	*1,299*	*1,149*	*1,250*	*1,257*	**4,571**	*4,864*	*4,955*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2009)															
New England	**993**	**901**	**969**	**981**	**998**	*1,019*	*1,036*	*1,055*	*1,064*	*1,072*	*1,076*	*1,079*	**961**	*1,027*	*1,073*
Middle Atlantic	**2,774**	**2,486**	**2,669**	**2,695**	**2,737**	*2,805*	*2,856*	*2,914*	*2,947*	*2,971*	*2,987*	*2,997*	**2,656**	*2,828*	*2,976*
E. N. Central	**2,502**	**2,266**	**2,458**	**2,480**	**2,521**	*2,575*	*2,616*	*2,663*	*2,686*	*2,702*	*2,710*	*2,716*	**2,427**	*2,594*	*2,703*
W. N. Central	**1,188**	**1,084**	**1,168**	**1,184**	**1,202**	*1,225*	*1,243*	*1,264*	*1,276*	*1,283*	*1,288*	*1,291*	**1,156**	*1,233*	*1,284*
S. Atlantic	**3,388**	**3,114**	**3,337**	**3,369**	**3,417**	*3,486*	*3,544*	*3,609*	*3,646*	*3,672*	*3,686*	*3,701*	**3,302**	*3,514*	*3,677*
E. S. Central	**828**	**742**	**809**	**820**	**832**	*848*	*861*	*875*	*883*	*888*	*891*	*895*	**800**	*854*	*889*
W. S. Central	**2,317**	**2,125**	**2,267**	**2,303**	**2,338**	*2,389*	*2,433*	*2,484*	*2,516*	*2,536*	*2,551*	*2,565*	**2,253**	*2,411*	*2,542*
Mountain	**1,283**	**1,177**	**1,265**	**1,280**	**1,303**	*1,331*	*1,356*	*1,381*	*1,398*	*1,408*	*1,413*	*1,420*	**1,251**	*1,343*	*1,410*
Pacific	**3,769**	**3,436**	**3,684**	**3,714**	**3,770**	*3,857*	*3,937*	*4,021*	*4,070*	*4,103*	*4,121*	*4,142*	**3,651**	*3,896*	*4,109*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**97.1**	**82.9**	**92.3**	**95.4**	**95.5**	*97.0*	*98.8*	*101.3*	*102.7*	*103.6*	*103.7*	*103.9*	**91.9**	*98.1*	*103.5*
Middle Atlantic	**96.2**	**79.7**	**90.8**	**93.6**	**93.6**	*95.3*	*97.4*	*100.1*	*101.6*	*102.7*	*103.0*	*103.3*	**90.1**	*96.6*	*102.7*
E. N. Central	**104.7**	**84.9**	**99.8**	**102.7**	**103.0**	*104.5*	*106.4*	*109.4*	*111.2*	*112.2*	*112.6*	*112.9*	**98.0**	*105.8*	*112.2*
W. N. Central	**103.8**	**90.4**	**100.0**	**102.7**	**103.5**	*105.1*	*106.9*	*109.5*	*110.9*	*111.6*	*112.0*	*112.2*	**99.2**	*106.2*	*111.7*
S. Atlantic	**109.1**	**94.3**	**105.1**	**108.7**	**108.7**	*110.3*	*112.5*	*115.4*	*117.0*	*118.0*	*118.2*	*118.3*	**104.3**	*111.7*	*117.9*
E. S. Central	**108.6**	**89.1**	**104.8**	**108.5**	**109.3**	*110.9*	*112.7*	*115.1*	*116.3*	*117.0*	*117.2*	*117.4*	**102.7**	*112.0*	*117.0*
W. S. Central	**100.1**	**88.2**	**95.3**	**97.7**	**98.2**	*99.8*	*102.0*	*104.8*	*106.6*	*107.8*	*108.3*	*108.6*	**95.3**	*101.2*	*107.8*
Mountain	**115.6**	**102.9**	**113.6**	**117.0**	**117.8**	*119.4*	*121.5*	*124.5*	*126.3*	*127.2*	*127.5*	*127.6*	**112.3**	*120.8*	*127.2*
Pacific	**102.9**	**89.1**	**97.5**	**99.5**	**99.3**	*100.5*	*102.7*	*105.5*	*107.5*	*109.0*	*109.5*	*110.0*	**97.2**	*102.0*	*109.0*
Real Personal Income (Billion $2009)															
New England	**891**	**980**	**932**	**905**	**1,010**	*947*	*935*	*926*	*937*	*944*	*949*	*952*	**927**	*955*	*945*
Middle Atlantic	**2,313**	**2,517**	**2,429**	**2,325**	**2,592**	*2,435*	*2,402*	*2,380*	*2,408*	*2,426*	*2,440*	*2,446*	**2,396**	*2,452*	*2,430*
E. N. Central	**2,455**	**2,698**	**2,578**	**2,515**	**2,814**	*2,625*	*2,592*	*2,563*	*2,587*	*2,605*	*2,619*	*2,625*	**2,562**	*2,649*	*2,609*
W. N. Central	**1,159**	**1,259**	**1,180**	**1,185**	**1,298**	*1,228*	*1,215*	*1,205*	*1,215*	*1,223*	*1,229*	*1,233*	**1,196**	*1,236*	*1,225*
S. Atlantic	**3,265**	**3,506**	**3,411**	**3,347**	**3,731**	*3,499*	*3,463*	*3,433*	*3,469*	*3,494*	*3,515*	*3,530*	**3,382**	*3,532*	*3,502*
E. S. Central	**910**	**990**	**937**	**928**	**1,051**	*976*	*963*	*950*	*960*	*965*	*970*	*972*	**941**	*985*	*967*
W. S. Central	**2,037**	**2,201**	**2,099**	**2,066**	**2,304**	*2,172*	*2,145*	*2,128*	*2,157*	*2,176*	*2,191*	*2,201*	**2,101**	*2,187*	*2,181*
Mountain	**1,211**	**1,316**	**1,257**	**1,239**	**1,377**	*1,295*	*1,282*	*1,272*	*1,286*	*1,296*	*1,303*	*1,310*	**1,256**	*1,306*	*1,299*
Pacific	**2,832**	**3,039**	**2,977**	**2,910**	**3,212**	*3,014*	*2,985*	*2,970*	*3,005*	*3,030*	*3,049*	*3,062*	**2,939**	*3,045*	*3,036*
Households (Thousands)															
New England	**5,897**	**5,858**	**5,961**	**5,952**	**5,952**	*5,960*	*5,976*	*5,990*	*5,998*	*6,007*	*6,018*	*6,029*	**5,952**	*5,990*	*6,029*
Middle Atlantic	**16,163**	**16,049**	**16,333**	**16,310**	**16,312**	*16,329*	*16,366*	*16,405*	*16,429*	*16,453*	*16,476*	*16,502*	**16,310**	*16,405*	*16,502*
E. N. Central	**18,866**	**18,752**	**19,098**	**19,077**	**19,085**	*19,116*	*19,170*	*19,228*	*19,265*	*19,290*	*19,314*	*19,343*	**19,077**	*19,228*	*19,343*
W. N. Central	**8,647**	**8,603**	**8,768**	**8,773**	**8,785**	*8,804*	*8,833*	*8,863*	*8,883*	*8,905*	*8,926*	*8,943*	**8,773**	*8,863*	*8,943*
S. Atlantic	**25,672**	**25,565**	**26,084**	**26,122**	**26,186**	*26,271*	*26,388*	*26,510*	*26,601*	*26,696*	*26,784*	*26,869*	**26,122**	*26,510*	*26,869*
E. S. Central	**7,660**	**7,622**	**7,769**	**7,775**	**7,786**	*7,804*	*7,831*	*7,859*	*7,878*	*7,898*	*7,917*	*7,934*	**7,775**	*7,859*	*7,934*
W. S. Central	**14,889**	**14,831**	**15,138**	**15,168**	**15,209**	*15,262*	*15,334*	*15,407*	*15,465*	*15,522*	*15,579*	*15,632*	**15,168**	*15,407*	*15,632*
Mountain	**9,465**	**9,439**	**9,644**	**9,673**	**9,711**	*9,756*	*9,813*	*9,872*	*9,919*	*9,962*	*10,004*	*10,043*	**9,673**	*9,872*	*10,043*
Pacific	**18,782**	**18,678**	**19,034**	**19,039**	**19,057**	*19,089*	*19,145*	*19,204*	*19,247*	*19,287*	*19,331*	*19,370*	**19,039**	*19,204*	*19,370*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.9**	**7.0**	**7.0**	*7.1*	*7.3*	*7.4*	*7.4*	*7.5*	*7.5*	*7.5*	**6.9**	*7.2*	*7.5*
Middle Atlantic	**20.1**	**16.8**	**18.0**	**18.3**	**18.4**	*18.7*	*19.2*	*19.4*	*19.6*	*19.8*	*19.9*	*20.0*	**18.3**	*18.9*	*19.8*
E. N. Central	**22.3**	**19.4**	**20.8**	**21.0**	**21.1**	*21.4*	*21.8*	*22.0*	*22.1*	*22.2*	*22.3*	*22.4*	**20.9**	*21.6*	*22.3*
W. N. Central	**10.8**	**9.8**	**10.2**	**10.3**	**10.4**	*10.5*	*10.7*	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	**10.3**	*10.6*	*10.9*
S. Atlantic	**29.3**	**26.3**	**27.6**	**27.9**	**28.1**	*28.4*	*29.0*	*29.4*	*29.5*	*29.7*	*29.8*	*29.9*	**27.8**	*28.7*	*29.7*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.1**	**8.1**	*8.2*	*8.3*	*8.4*	*8.4*	*8.4*	*8.4*	*8.4*	**8.0**	*8.2*	*8.4*
W. S. Central	**17.9**	**16.3**	**16.8**	**17.1**	**17.2**	*17.4*	*17.8*	*18.0*	*18.1*	*18.2*	*18.3*	*18.3*	**17.0**	*17.6*	*18.2*
Mountain	**11.2**	**10.1**	**10.6**	**10.7**	**10.8**	*10.9*	*11.2*	*11.3*	*11.4*	*11.4*	*11.5*	*11.5*	**10.6**	*11.0*	*11.4*
Pacific	**24.0**	**21.0**	**21.8**	**22.0**	**22.1**	*22.5*	*23.0*	*23.4*	*23.6*	*23.8*	*23.9*	*24.0*	**22.2**	*22.7*	*23.8*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,743**	**975**	**115**	**2,002**	**3,014**	*803*	*127*	*2,139*	*3,101*	*844*	*131*	*2,139*	**5,834**	*6,084*	*6,215*
Middle Atlantic	**2,471**	**838**	**85**	**1,832**	**2,820**	*658*	*77*	*1,954*	*2,869*	*672*	*79*	*1,954*	**5,226**	*5,509*	*5,573*
E. N. Central	**2,786**	**846**	**126**	**2,099**	**3,088**	*736*	*119*	*2,230*	*3,149*	*725*	*119*	*2,230*	**5,856**	*6,173*	*6,223*
W. N. Central	**3,035**	**799**	**167**	**2,311**	**3,224**	*756*	*152*	*2,435*	*3,248*	*706*	*155*	*2,435*	**6,312**	*6,566*	*6,543*
South Atlantic	**1,106**	**252**	**17**	**874**	**1,337**	*218*	*11*	*934*	*1,366*	*186*	*11*	*933*	**2,249**	*2,501*	*2,496*
E. S. Central	**1,485**	**338**	**20**	**1,230**	**1,794**	*320*	*18*	*1,276*	*1,804*	*246*	*18*	*1,276*	**3,072**	*3,408*	*3,344*
W. S. Central	**970**	**102**	**8**	**738**	**1,297**	*126*	*4*	*776*	*1,149*	*83*	*4*	*775*	**1,818**	*2,204*	*2,011*
Mountain	**2,205**	**670**	**125**	**1,765**	**2,289**	*665*	*141*	*1,831*	*2,208*	*694*	*147*	*1,830*	**4,766**	*4,926*	*4,879*
Pacific	**1,539**	**526**	**64**	**1,088**	**1,562**	*487*	*93*	*1,224*	*1,519*	*583*	*94*	*1,225*	**3,217**	*3,366*	*3,420*
U.S. Average	**1,874**	**541**	**70**	**1,418**	**2,098**	*480*	*72*	*1,511*	*2,091*	*479*	*73*	*1,509*	**3,902**	*4,161*	*4,153*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**823**	**105**	**2,128**	**3,134**	*856*	*107*	*2,100*	*3,101*	*855*	*112*	*2,126*	**6,207**	*6,197*	*6,194*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,913**	*678*	*71*	*1,911*	*2,887*	*684*	*73*	*1,931*	**5,606**	*5,573*	*5,576*
E. N. Central	**3,197**	**698**	**102**	**2,197**	**3,156**	*731*	*105*	*2,170*	*3,133*	*730*	*102*	*2,196*	**6,194**	*6,161*	*6,161*
W. N. Central	**3,287**	**702**	**132**	**2,379**	**3,247**	*728*	*133*	*2,367*	*3,218*	*729*	*131*	*2,396*	**6,500**	*6,475*	*6,475*
South Atlantic	**1,459**	**169**	**10**	**952**	**1,393**	*180*	*11*	*914*	*1,377*	*187*	*11*	*917*	**2,589**	*2,498*	*2,492*
E. S. Central	**1,850**	**214**	**15**	**1,277**	**1,772**	*232*	*16*	*1,249*	*1,764*	*244*	*15*	*1,252*	**3,356**	*3,269*	*3,275*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	*86*	*3*	*786*	*1,145*	*94*	*3*	*782*	**2,078**	*2,015*	*2,024*
Mountain	**2,192**	**718**	**135**	**1,844**	**2,181**	*701*	*134*	*1,842*	*2,172*	*682*	*134*	*1,829*	**4,889**	*4,857*	*4,818*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	*553*	*81*	*1,148*	*1,455*	*523*	*80*	*1,139*	**3,284**	*3,243*	*3,198*
U.S. Average	**2,149**	**472**	**64**	**1,509**	**2,108**	*482*	*65*	*1,484*	*2,090*	*478*	*64*	*1,490*	**4,194**	*4,138*	*4,123*
Cooling Degree Days															
New England	**0**	**100**	**539**	**0**	**0**	*115*	*435*	*2*	*0*	*88*	*406*	*2*	**639**	*552*	*495*
Middle Atlantic	**0**	**157**	**682**	**4**	**0**	*180*	*559*	*5*	*0*	*161*	*541*	*5*	**843**	*744*	*707*
E. N. Central	**2**	**218**	**607**	**2**	**2**	*220*	*541*	*8*	*0*	*220*	*544*	*8*	**828**	*770*	*772*
W. N. Central	**6**	**294**	**662**	**3**	**8**	*255*	*680*	*11*	*3*	*263*	*671*	*11*	**966**	*954*	*948*
South Atlantic	**196**	**619**	**1,232**	**302**	**154**	*669*	*1,186*	*246*	*132*	*667*	*1,172*	*246*	**2,349**	*2,255*	*2,217*
E. S. Central	**72**	**420**	**1,057**	**79**	**40**	*481*	*1,060*	*72*	*29*	*521*	*1,065*	*72*	**1,628**	*1,653*	*1,687*
W. S. Central	**174**	**839**	**1,502**	**210**	**91**	*792*	*1,528*	*214*	*91*	*870*	*1,521*	*214*	**2,725**	*2,625*	*2,696*
Mountain	**11**	**466**	**1,088**	**120**	**11**	*443*	*946*	*79*	*19*	*428*	*932*	*79*	**1,684**	*1,478*	*1,457*
Pacific	**24**	**196**	**716**	**125**	**23**	*160*	*587*	*59*	*27*	*169*	*587*	*59*	**1,062**	*830*	*842*
U.S. Average	**71**	**395**	**935**	**122**	**50**	*398*	*871*	*99*	*46*	*407*	*864*	*99*	**1,524**	*1,418*	*1,416*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	*80*	*473*	*1*	*0*	*84*	*469*	*1*	**554**	*555*	*555*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	*163*	*610*	*6*	*0*	*162*	*601*	*7*	**785**	*779*	*770*
E. N. Central	**3**	**240**	**579**	**8**	**3**	*234*	*572*	*7*	*3*	*234*	*562*	*7*	**829**	*816*	*807*
W. N. Central	**7**	**296**	**696**	**11**	**7**	*294*	*686*	*10*	*7*	*293*	*675*	*10*	**1,010**	*998*	*986*
South Atlantic	**127**	**696**	**1,202**	**247**	**143**	*680*	*1,195*	*261*	*147*	*674*	*1,191*	*266*	**2,272**	*2,279*	*2,278*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	*532*	*1,064*	*74*	*43*	*522*	*1,061*	*78*	**1,747**	*1,712*	*1,705*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	*880*	*1,567*	*210*	*113*	*855*	*1,541*	*213*	**2,774**	*2,771*	*2,723*
Mountain	**24**	**432**	**939**	**81**	**24**	*444*	*954*	*86*	*24*	*453*	*949*	*86*	**1,476**	*1,509*	*1,512*
Pacific	**31**	**185**	**624**	**78**	**31**	*193*	*647*	*85*	*31*	*198*	*652*	*85*	**917**	*956*	*966*
U.S. Average	**47**	**420**	**892**	**100**	**52**	*415*	*894*	*105*	*53*	*413*	*888*	*106*	**1,459**	*1,466*	*1,460*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday June 3 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the June 2021 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Apr 2021	May 2021	Apr 2021 - May 2021 Average	Apr 2020 - May 2020 Average	2018 - 2020 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	94.0	95.0	94.5	94.3	98.6
Global Petroleum and Other Liquids Consumption (b)	96.2	96.2	96.2	82.4	97.7
Biofuels Production (c)	2.6	2.9	2.7	2.4	2.6
Biofuels Consumption (c)	2.5	2.6	2.6	2.4	2.6
Iran Liquid Fuels Production	3.5	3.5	3.5	3.0	3.6
Iran Liquid Fuels Consumption	1.5	1.6	1.5	1.4	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	87.9	88.6	88.3	88.9	92.3
Consumption (d)	92.2	92.1	92.1	78.6	93.4
Production minus Consumption	-4.4	-3.4	-3.9	10.3	-1.1
World Inventory Net Withdrawals Including Iran	2.3	1.2	1.7	-12.0	-0.8
Estimated OECD Inventory Level (e) (million barrels)	2910	2903	2906	3156	2942
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	8.5	8.1	8.3	4.4	3.4

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Apr 2021	May 2021	Apr 2021 - May 2021 Average	Apr 2020 - May 2020 Average	2018 - 2020 Average
Brent Front Month Futures Price ($ per barrel)	65.33	68.31	66.78	22.47	59.69
WTI Front Month Futures Price ($ per barrel)	61.69	65.16	63.38	23.74	53.76
Dubai Front Month Futures Price ($ per barrel)	63.28	66.44	64.82	30.09	59.01
Brent 1st - 13th Month Futures Spread ($ per barrel)	4.20	4.19	4.20	3.71	1.01
WTI 1st - 13th Month Futures Spread ($ per barrel)	4.00	4.63	4.31	3.75	0.57
RBOB Front Month Futures Price ($ per gallon)	2.01	2.13	2.07	0.79	1.61
Heating Oil Front Month Futures Price ($ per gallon)	1.86	2.02	1.94	1.02	1.76
RBOB - Brent Futures Crack Spread ($ per gallon)	0.45	0.50	0.48	0.25	0.19
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.30	0.39	0.35	0.49	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

July 2021

Short-Term Energy Outlook

Forecast highlights

- The July *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing economic recovery from the COVID-19 pandemic. U.S. economic activity continues to rise after reaching multiyear lows in the second quarter of 2020 (2Q20). The increase in economic activity and easing of the COVID-19 pandemic have contributed to rising energy use. U.S. gross domestic product (GDP) declined by 3.5% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 7.4% in 2021 and by 5.0% in 2022. We based the U.S. macroeconomic assumptions in this outlook on forecasts by IHS Markit.

- Brent crude oil spot prices averaged $73 per barrel (b) in June, up $5/b from May and $33/b higher than in June of last year. In the coming months, we expect that global oil production, largely from OPEC+ members (OPEC and partner nonmember countries), will increase by more than global oil consumption. We expect rising production will reduce the persistent global oil inventory draws that have occurred for much of the past year and keep prices similar to current levels, averaging $72/b during the second half of 2021 (2H21). However, in 2022, we expect that continuing growth in production from OPEC+ and accelerating growth in U.S. tight oil production, along with other supply growth, will outpace growth in global oil consumption and contribute to declining oil prices. Based on these factors, we expect Brent to average $67/b in 2022.

- We estimate that global consumption of petroleum and liquid fuels averaged 92.3 million barrels per day (b/d) for all of 2020, down by 8.6 million b/d from 2019. We expect that global liquid fuels consumption will grow by 5.3 million b/d in 2021. In our forecast, global consumption of liquid fuels rises by an additional 3.7 million b/d in 2022 to 101.4 million b/d, which would surpass 2019 levels.

- Based on our estimates, global liquid fuels inventories rose by 6.3 million b/d in 1H20 before declining at an average rate of 2.1 million b/d in 2H20 and 1H21. We forecast global inventories will continue to fall in the near term but at a slower rate, with global inventories falling by 0.2 million b/d in 2H21. We then expect inventories to rise by almost 0.5 million b/d in 2022.

- U.S. regular gasoline retail prices averaged $2.78 per gallon (gal) in 1H21, compared with an average of $2.20/gal in 1H20. In June, monthly retail gasoline prices averaged $3.06/gal, the first time the monthly average was more than $3.00/gal since October

2014 (in nominal terms). We forecast regular-grade gasoline prices to average $2.92/gal in 2H21 and $2.74/gal for all of 2022.

- U.S. liquid fuels consumption in 2020 averaged 18.1 million b/d, down 2.4 million b/d (12%) from 2019 consumption. We forecast U.S. liquid fuels consumption will rise to 19.6 million b/d in 2021 and then to 20.7 million b/d in 2022, which would surpass the 2019 level.

- Henry Hub natural gas spot prices averaged $2.03 per million British thermal units (MMBtu) in 2020. We expect Henry Hub prices will rise to an annual average of $3.22/MMBtu in 2021, and we forecast prices will then fall to an average of $3.00/MMBtu in 2022.

- We expect U.S. dry natural gas production to average 92.6 billion cubic feet per day (Bcf/d) in 2021, up by 1.3% from 2020, and then rise to 94.7 Bcf/d in 2022.

- U.S. natural gas consumption averaged 83.3 Bcf/d in 2020, down 2.2% from 2019. We expect that natural gas consumption will decline by 1.1% in 2021 and then grow by 0.7% in 2022. Most of the forecast decline in natural gas consumption this year is the result of less natural gas use in the electric power sector, which we expect to continue to decline because of rising natural gas prices.

- U.S. working natural gas in storage ended the winter withdrawal season in March 2021 at 1.8 trillion cubic feet (Tcf), slightly less than the five-year (2016–20) average. We forecast that flat U.S. natural gas production this summer combined with record U.S. natural gas exports will contribute to slightly lower-than-average inventory builds during the remainder of the summer build season, which ends in October. Forecast natural gas inventories end October 2021 at 3.6 Tcf, which is 3% lower than the five-year average.

- We forecast that U.S. retail sales of electricity will increase by 2.8% in 2021 after falling by 3.9% in 2020. The largest forecast increase in electricity consumption occurs in the industrial sector, driven by rising levels of economic output. We forecast U.S. retail sales of electricity to the industrial sector will grow by 5.1% this year. Retail sales of electricity to the commercial sector also grow in the forecast, but they grow at the slightly slower pace of 2.1% in 2021 as some workers continue working from home instead of in office buildings. We forecast U.S. residential electricity sales will grow by 1.9% in 2021, as a result of colder temperatures in 1Q21 compared with 1Q20 and a hot start to the summer.

- We expect the share of electric power generation produced by natural gas in the United States will average 36% in both 2021 and 2022, down from 39% in 2020. Our forecast for the natural gas share as a generation fuel declines because we expect a higher delivered natural gas price for electricity generators. Because we expect higher natural gas prices, we forecast coal's generation share to rise from 20% in 2020 to 24% this year

but to fall to 22% next year. New additions of solar and wind generating capacity support our expectation that the share of U.S. generation from these two energy sources will rise from 11% in 2020 to 15% by 2022. Extreme drought conditions in the West drive our expectation that the share of U.S. generation from hydropower will fall from 8% in 2020 to 6% in 2021 and 7% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022 as a result of retiring capacity at some nuclear power plants.

- The U.S. retail electricity price for the residential sector in our forecast averages 13.6 cents per kilowatthour in 2021, which is 2.8% higher than the average retail price in 2020. Forecast residential prices increase by an additional 1.8% in 2022.

- During the next 18 months, we expect electricity generation capacity from renewable energy sources to continue growing. Our forecast includes both wind and solar capacity growth, and solar capacity grows at a faster rate. Based on our survey data, large-scale solar capacity growth in gigawatts (GW) will exceed wind growth for the first time in 2022.

- We expect U.S. coal production to total 617 million short tons (MMst) in 2021, which is 78 MMst (15%) more than in 2020. Rising electricity demand for coal amid higher natural gas prices is driving this production increase. In 2022, we expect coal production to fall by 7 MMst (1%).

- We forecast that total energy-related carbon dioxide (CO_2) emissions will increase by 7.1% in 2021 and by 1.5% in 2022 after declining by 11.1% in 2020. Even with growth over the next two years, forecast emissions in 2022 remain 3.3% lower than in 2019.

Global Liquid Fuels

***Global Petroleum and Other Liquid Fuels Consumption*.** Based on preliminary data and estimates from 1Q21, as well as our assumptions of continued economic recovery, we forecast consumption of global petroleum and other liquid fuels will grow by 5.3 million b/d in 2021. This growth follows a decline of 8.6 million b/d in 2020. Forecast growth in global oil consumption of 3.7 million b/d in 2022 would bring global oil consumption to 101.4 million b/d, which would be 0.4 million b/d higher than in 2019. Our global economic growth forecasts come from Oxford Economics, which forecasts GDP in 2021 will increase by 6.3% and by 4.8% in 2022, compared with a decline of 3.4% in 2020.

We expect oil demand growth in 2021 to be fairly evenly split between the OECD and non-OECD. OECD oil demand grows by 2.5 million b/d, and non-OECD demand grows by 2.8 million b/d. Our forecast assumes that business activity and travel will continue to increase throughout 2021 and into 2022. For 2021, in addition to rising economic activity, oil consumption growth is driven by reopening economies and a return to travel patterns more similar to pre-pandemic norms. In 2022, economic growth alone becomes the main driver of oil consumption growth.

We expect U.S. liquid fuels consumption in 2021 to rise by 1.5 million b/d from 2020, making it the largest contributor to global consumption growth in the forecast. Since the beginning of 2021, some of the most significant increases in our expectations for oil demand have been for Europe. Strict travel restrictions imposed by many of the European OECD countries in 1Q21 gradually eased in the second quarter as a result of successful large-scale vaccination campaigns. As a result, Europe has experienced a significant increase in economic activity in 2Q21 as capacity limits and restrictions on mobility and non-essential business activity have either been reduced or eliminated. We estimate that 2Q21 liquid fuels consumption in OECD Europe was up 1.8 million b/d from the same period in 2020, contributing to our expectation that liquids consumption in OECD Europe will be up 0.5 million b/d for all 2021 compared with 2020.

Oil consumption growth in many of the non-OECD regions remains more uncertain. Large-scale vaccination campaigns in Asia, Latin America, the Middle East, and Africa have been relatively slower—with some exceptions—than in Europe and the United States. Outbreaks of COVID-19 infections and the re-imposition of restrictions on mobility and business activity still pose a significant downside risk in these regions. In 1H21, Malaysia, Thailand, and Vietnam, where a majority of the populations remain unvaccinated, imposed mobility and business activity restrictions after experiencing large outbreaks of COVID-19 infections.

In addition, the spread of COVID-19 variants and the effectiveness of the vaccines against these variants are significant risk factors to a full and sustained global recovery. India experienced its worst outbreak of COVID-19 infections in 2Q21 when the Delta variant spread, which is reportedly more virulent and contagious than other variants, and the outbreak led to a sharp reduction in economic activity from which the country is now slowly recovering. If the vaccines currently available are not effective against the Delta or other variants, countries will have to continue to rely on mobility and activity restrictions to mitigate the spread, which will lead to a longer, more drawn-out return in global oil demand.

For 2021, we forecast liquid fuels consumption in India to grow by 0.3 million b/d (6%), consumption in China to grow by 0.9 million b/d (6%), and consumption in the rest of non-OECD to grow by 1.7 million b/d (5%).

Non-OPEC Production of Petroleum and Other Liquid Fuels. Following a 2.5 million b/d decrease in 2020, with declines extending into 1Q21, we estimate that non-OPEC liquid fuels production increased by 2.6 million b/d in 2Q21 from 2Q20. Almost three quarters of this increase came from two non-OPEC producers: the United States and Russia. We expect non-OPEC production to rise by 1.1 million b/d in 2021 and by 3.1 million b/d in 2022. We expect Canada and Brazil to lead non-OPEC production growth in 2021 and the United States and Russia to lead growth in 2022.

We expect Canada's production of petroleum and other liquid fuels to increase by more than 0.3 million b/d in 2021, which would make it the leading source of non-OPEC liquid fuels supply

growth this year. Despite heavier-than-normal turnarounds at a number of oil sands projects in 1H21, we forecast Canada's production to reach new record highs in 2H21. Output growth in 2021 is driven by increasing refinery demand for crude oil in the United States, the end of Canadian government-ordered curtailments, and the restart of oil sands expansion projects that were deferred during 2020. We do not expect any new upstream projects to come online in Canada during the forecast period. Forecast crude oil production growth comes from expansions or debottlenecking of existing projects.

In January 2021, President Biden revoked the presidential permit authorizing the construction of the Keystone XL pipeline, and in June 2021, owner TC Energy officially canceled the project. The pipeline would have expanded Canada's crude oil export capacity to the United States by 830,000 b/d. The cancellation of the Keystone XL does not materially affect our production outlook for Canada, and we expect Canada's pipeline export capacity will be adequate through the end of the forecast period. Enbridge's Line 3 replacement (370,000 b/d) will come online at the end of 2021, the TransMountain expansion project (590,000 b/d) in 2022, and additional Enbridge expansion and optimizations to its existing pipeline system can bring more than 400,000 b/d of increased export capacity over the forecast period. Forecast production in Canada grows by 0.2 million b/d in 2022.

Even as production in most non-OPEC producers declined in 2020, Brazil's liquid fuels supply grew by 0.1 million b/d during 2020. We expect Brazil's production to grow by more than 0.2 million b/d in 2021. However, our current forecast is 0.1 million b/d lower on average compared with the January 2021 STEO and reflects the difficulties Brazil's national oil company, Petrobras, experienced at the beginning of 2021 with restarting fields that had undergone heavy maintenance in 4Q20. Growth in 2021 is further limited as a result of delayed startups. Petrobras has postponed the start-up of the first phase of the Mero oil field development, the floating production storage and offloading vessel (FPSO) Guanabara, from 4Q21 to 1H22. The restart of the Equinor-operated Peregrino field has also been delayed to 2022. The current operational asset in the Peregrino field has been offline since 2019 because of technical issues and was delayed again in 2020 because of COVID-19 safety protocols. The startup of its second phase of development has also been delayed to 2022 because of work disruptions caused by the pandemic. Forecast production in Brazil will grow by 0.3 million b/d in 2022. We expect that five new FPSO units will ramp up through the forecast period and continue to drive growth, notably at the Sepia, Mero, and Buzios fields. Each of these FPSOs has a production capacity of 180,000 b/d.

Russia is the second-largest producer of liquid fuels among non-OPEC countries after the United States. Production in Russia grew by 0.5 million b/d in 1H21 from 2H20, as OPEC+ participants eased crude oil production cuts. We expect Russia's liquid fuels production to increase by 0.2 million b/d for all of 2021 and by 0.8 million b/d in 2022. After the OPEC+ agreement ends in early 2022, we expect Russia's production to rise above 11.5 million b/d during 2H22, with annual average production in 2022 equal to 2019 levels.

China's liquid fuels production in our forecast increases by more than 0.1 million b/d in 2021. China's government outlined its goals for national oil companies to increase upstream crude oil and natural gas production during the next few years to help meet its outlined energy security goals. We expect slight declines in crude oil production in 2022 will be offset by both increasing production of other liquids and by increasing refinery gains, resulting in a small increase in China's overall production.

Norway's liquid fuels production rises in our forecast by about 0.1 million b/d in both 2021 and 2022. Norway's Ministry of Petroleum and Energy enacted unilateral production limits on the Norwegian continental shelf from June 2020 to December 2020. When production limits expired, Norway's liquid fuels production was up slightly in 1H21 compared with 1H20. We expect liquid fuels production to continue to grow in 2H21 and in 2022 as new fields come online and ramp up production, including the much-delayed Martin Linge field. The Johan Sverdrup field, which was the main driver of growth in Norway's liquid fuels production in 2020, will also contribute to growth in 2021 and 2022.

Mexico's forecast liquid fuels production averages 1.9 million b/d in 2021, almost unchanged from 2019 and 2020. We have revised our 2021 production forecast upwards from its January 2021 STEO estimate of 1.8 million b/d because private operators have surpassed our expectations regarding their ability to ramp up the Ixachi, Pokoch, and Hokchi fields. We expect Mexico's oil production to fall to 1.8 million b/d on average in 2022, reflecting financial constraints at Mexico's national oil company, PEMEX, and continued large declines in mature fields. New growth in foreign-operated fields in 2021 is insufficient to offset declines from PEMEX's older fields, in particular the Maloob field.

We forecast that output across a number of other non-OPEC producers will decline in 2021 and 2022, notably Indonesia, the United Kingdom, and Colombia.

OPEC Production of Petroleum and Other Liquid Fuels. At the April 2021 OPEC+ meeting, the OPEC+ countries agreed to incrementally raise their production from May through July 2021, including a full reversal of Saudi Arabia's voluntary production cut of 1 million b/d. They reaffirmed this agreement at their June meeting. This forecast was completed on July 1, prior to OPEC+ calling off its most recent meeting on July 5. However, we forecast that OPEC and its OPEC+ partners will continue to increase crude oil production beyond July in response to rising global oil consumption.

Although our forecast assumes current U.S. sanctions remain in place for Iran and Venezuela for the entire forecast period, we expect Iran will increase crude oil supply somewhat in the coming months. We also expect that OPEC+ will not implement further production cuts to accommodate any potential increases in oil output from Iran or Venezuela.

After holding crude oil production near 25 million b/d during the first four months of 2021, OPEC began increasing production in May based on its agreement with OPEC+ partners. We

expect OPEC will increase production by 2.4 million b/d from May through August, raising production in response to rising global oil consumption. In our forecast OPEC crude oil production averages 28.2 million b/d in 2H21, up 2.9 million b/d from 1H21 and up 4.0 million b/d from 2H20. For all of 2021, we forecast that OPEC crude oil production will average 26.8 million b/d, up 1.2 million b/d from 2020. We forecast OPEC will raise crude oil production by an additional 1.8 million b/d in 2022 to 28.6 million b/d.

Our OPEC crude oil production forecast is subject to considerable uncertainty. OPEC+ implemented monthly meetings to assess global oil market conditions, and the group's production targets are potentially subject to regular adjustments. OPEC+ has indicated it will adjust production targets in response to changes in global oil demand, but the path of global oil demand in the comings months remains highly uncertain. Also, the manner in which OPEC+ would change production targets in response to higher production from Iran, or other changes in the oil market, is not clear. Finally, country compliance with existing production targets as the oil price rises is uncertain.

Even with increased OPEC crude oil production, remaining surplus production capacity will be more than sufficient to meet additional demand should consumption exceed our expectations. We expect that OPEC surplus crude oil production capacity, which averaged 6.2 million b/d in 2020, will average 6.7 million b/d in 2021 and 4.8 million b/d in 2022, compared with average surplus capacity of 2.2 million b/d from 2010–19. These estimates do not include additional capacity that may be available in Iran that is offline because of U.S. sanctions on Iran's oil sales. All else equal, elevated levels of OPEC surplus production capacity tend to have a moderating effect on crude oil price increases.

Venezuela is not subject to the current OPEC+ production target, and in contrast to the rest of OPEC, we expect Venezuela's crude oil production to continue to decline as a result of ongoing operational difficulties, lack of field and facility maintenance, and continuing sanctions. Venezuela's production declines accelerated in 2020 after the United States government imposed new sanctions on its main oil trader, Rosneft Trading, in mid-February 2021. In addition, the decline in global oil demand following the onset of the COVID-19 pandemic further reduced the demand for Venezuela's oil.

OPEC Non-Crude Oil Liquids. We estimate that OPEC production of other liquids declined to 5.1 million b/d on average in 2020, down from 5.4 million b/d in 2019. The 2020 production decrease was driven by reduced output of associated condensate stemming from reduced crude oil production. In the forecast, associated liquids production rises as OPEC relaxes its crude oil production cuts. We expect OPEC non-crude oil liquids production will rise to 5.3 million b/d in 2021 and to 5.5 million b/d in 2022.

Global Oil Inventories. We estimate global oil inventories increased by 1.2 billion barrels during the first five months of 2020. Inventories subsequently fell by 0.8 billion barrels from June 2020 through June 2021. However, we expect that markets will be much more balanced

during 2H21 and in 2022. Although global oil demand continues to rise, relaxed OPEC+ production targets during the second half of the year, rising oil supplies in Iran, and rising non-OPEC production will result in global oil inventory draws of 0.2 million b/d during 2H21, compared with our estimate that inventory draws were 1.7 million b/d in 1H21. We expect inventories to build at a rate of nearly 0.5 million b/d in 2022 as OPEC continues to raise production in response to rising demand and as non-OPEC production growth, particularly in the United States, accelerates.

Crude Oil Prices. Brent crude oil prices averaged $73/b in June 2021, up $5/b from May. June was the first month when Brent crude oil prices averaged more than $70/b since May 2019. The increase likely reflected market expectations of continuing near-term tightness in global oil markets, which were evident in ongoing declines in global oil inventories. As vaccination rollouts have continued to ramp up in parts of the world, personal travel and mobility have been rising during much of 2021. Increasing oil consumption combined with production restraint from OPEC+ and relatively flat crude oil output in the United States have kept global oil consumption above global oil supply, draining inventories. Although global oil inventories during May and June fell at a slower rate than earlier in the year, the inventory draws of 1.2 million b/d over the past two months indicate the oil market was still in a structural deficit. Crude oil prices received additional support from increasing global economic activity and decreasing global COVID-19 cases. These factors have also contributed to rising prices across a wide range of assets including equities and other commodities.

We expect that recent increases in crude oil prices along with the OPEC+ decision to raise production will help meet the expected increase in global oil demand and lead to relatively balanced global oil markets for the remainder of the forecast period. Despite strength in oil prices during 1H21, we expect moderate downward oil price pressures to emerge beginning in 2H21, when we forecast global oil production to rise and cause inventories to draw at a slower pace. We expect global oil inventories will fall by 0.2 million b/d in 2H21, compared with an average draw of 1.7 million b/d in 1H21. We forecast Brent spot prices to average $71/b during 4Q21 compared with the average of $73/b in June.

Although we expect oil markets to be fairly balanced in 2022, in our forecast, global oil production begins to outpace global oil demand in 2022, which we expect will continue to put moderate downward pressure on oil prices. Higher oil price levels realized in 2021 drive increases in U.S. tight oil production in 2022. In addition, we expect more barrels from OPEC+ members to reach the market. We expect U.S. crude oil production to increase by 0.8 million b/d in 2022 and OPEC crude oil production to increase by 1.8 million b/d in 2022. Paired with a forecast deceleration in global oil demand growth to 3.7 million b/d in 2022—compared with 5.3 million b/d in 2021—rising oil production contributes to our forecast that Brent crude oil spot prices will average $67/b next year.

Global economic developments and numerous uncertainties surrounding the ongoing COVID-19 pandemic in the coming months could push oil prices higher or lower than our current price

forecast. The current forecast price path reflects global oil consumption increasing by 6% from 2020 levels in 2021 and by an additional 4% in 2022. However, this forecast depends on the rate at which current vaccinations continue and the way oil consumption behavior changes once populations are widely vaccinated. The duration of, and compliance with, the latest OPEC+ production targets also remains uncertain. Lastly, the degree to which the U.S. shale industry responds to the recent relative strength in oil prices will affect the oil price path in the coming quarters.

We forecast West Texas Intermediate (WTI) crude oil prices will average about $3/b less than Brent prices in 2021 and $4/b less than Brent prices in 2022. This price discount is based on our assumption that the recent discount of WTI to Brent, which averaged less than $3/b in 2Q21, reflected low global demand for oil exports and relatively low levels of U.S. crude oil production. As global refinery demand for crude oil increase and U.S. crude oil supply also increases, we expect the WTI discount to return to $4/b by 2H22. This discount reflects the relative cost of exporting U.S. crude oil from the Cushing distribution hub to Asia, compared with the cost of exporting Brent crude oil from the North Sea to Asia.

U.S. Liquid Fuels

Consumption. Although U.S. liquid fuels consumption has increased since reaching a recent low in 2Q20, lingering effects from COVID-19 continue to limit consumption. We estimate that in 1H21, U.S. consumption of liquids fuels averaged 19.1 million b/d, down 1.3 million b/d (6%) from 1H19. We expect the effects of the COVID-19 pandemic on liquid fuels consumption will continue to abate and liquids consumption will increase through the forecast period. Although we expect the direct effects from the pandemic on U.S. petroleum consumption to decrease, some consumption patterns may be more lasting, including increased working from home and changes in travel behavior, which could limit growth in gasoline and jet fuel consumption.

In 2021, we forecast that total U.S. liquids consumption will average 19.6 million b/d, down from 20.5 million b/d in 2019. Although we expect consumption of distillate fuel to be approximately equal to 2019 levels, we expect consumption of gasoline and jet fuel to remain below 2019 levels. We expect consumption of hydrocarbon gas liquids (HGL) to remain above 2019 levels in 2021, offsetting some of the declines in gasoline and jet fuel consumption.

In 2022, we expect distillate and HGL consumption to rise above 2019 levels, while gasoline and jet consumption will remain below 2019 levels. In the forecast, distillate and HGL consumption drive 2022 total liquids consumption to an average of 20.7 million b/d, surpassing 2019 consumption by about 0.1 million b/d.

In 1H21, we estimate U.S. gasoline consumption averaged 8.5 million b/d, down from 9.3 million b/d in 1H19 and the lowest level for the first half of a year since 2001 (except in 2020). Consumption in 1Q21 averaged 8.0 million b/d and increased to an estimated 9.0 million b/d in 2Q21 as the effects of COVID-19 decreased (driven by falling COVID-19 infections and increased

vaccinations) and seasonal driving increased. We expect the effects of COVID-19 will continue to decrease and gasoline consumption will increase to an average of 8.9 million b/d in 2H21, up from 8.3 million b/d from 2H20, but still lower than the 9.3 million b/d consumed in the same period during 2019. For all of 2021, we forecast U.S. gasoline consumption to average 8.7 million b/d and increase to 9.0 million b/d in 2022, compared with 9.3 million b/d in 2019.

We do not expect U.S. gasoline consumption to exceed 2019 levels in the forecast period. In 2021, we forecast that U.S. vehicle miles traveled (VMT) will average 8.6 million miles per day, up from 7.7 million miles per day in 2020 but below the average of 8.9 million miles per day in 2019. In 2022, however, we expect VMT to average 9.0 million miles per day, slightly above the level seen in 2019. Increased vehicle efficiency, however, partly offsets the increases in VMT, keeping gasoline consumption below 2019 levels. We assume that work-from-home options in the future will remain more available than before the pandemic, limiting gasoline demand growth.

Responses to the COVID-19 pandemic affected distillate consumption in the United States in 2020 less than gasoline and jet fuel because it is driven more by economic activity and freight movement and less by reduced travel. In weekly data, distillate consumption recently returned to 2019 levels, and we estimate that distillate consumption in June 2021 surpassed distillate consumption in June 2019 by 70,000 b/d. For 1H21, distillate consumption averaged an estimated 4.0 million b/d, which is below the 1H19 average of 4.2 million b/d. However, we forecast distillate consumption to average 4.2 million b/d in 4Q21, surpassing the 4Q19 average by 0.1 million b/d. We forecast distillate consumption to average almost 4.3 million b/d in 2022, the highest level on record in our data, which dates back to 1945.

In 1H21, jet fuel consumption averaged 1.2 million b/d, up from 1.1 million b/d in 2020 but below 2019 consumption of 1.7 million b/d. We expect jet fuel consumption will average 1.4 million b/d in 2021, down from 1.7 million b/d in 2019. In 2022, forecast jet fuel consumption almost returns to 2019 levels, averaging 1.7 million b/d.

U.S. consumption of HGLs in our forecast increases by 0.1 million b/d to an average 3.3 million b/d in 2021 and then increase by 0.3 million b/d to 3.6 million b/d in 2022. The growth in HGL consumption in 2021 and 2022 reflects more demand for ethane as a petrochemical feedstock in the United States. We forecast ethane consumption will increase by 30,000 b/d in 2021 and by a further 300,000 b/d in 2022 with new demand coming from additional ethylene cracking capacity.

Crude Oil Supply. We forecast that annual U.S. crude oil production will average 11.1 million b/d in 2021, which is a 0.2 million b/d decrease from 2020 levels. However, annual average numbers somewhat obscure production trends. Production in 1Q21 was down by more than 2.0 million b/d from 1Q20, the quarter before 2Q20 when production fell sharply in response to falling oil prices. However, from 2Q21 through 4Q21, we forecast U.S. crude oil production will

be up 0.4 million b/d on average year over year. We forecast U.S. crude oil production will rise to an average of 11.9 million b/d in 2022.

Most crude oil production in the Lower 48 (L48) states, excluding the Federal Offshore Gulf of Mexico (GOM), is tight oil production, and we expect trends in L48 production to drive overall U.S. crude oil production levels. Our forecast crude oil production growth is based on WTI prices that indicate a favorable environment for drilling activity. In June, WTI prices averaged more than $70/b for the first time since October 2018, and we expect that through the end of 2022, WTI prices will remain above $60/b—a price that has signaled robust activity among U.S. operators in the past. Because changes in rig counts typically lag changes in the WTI price by three to six months and production changes typically occur about two months after rig deployment, current crude oil price levels will not likely affect production until late 2021. We forecast U.S. crude oil production to average about 11.2 million b/d in both 2Q21 and 3Q21 before beginning to rise more steadily. Forecast U.S. crude oil production reaches 11.3 million b/d in 4Q21 and increases to 12.2 million b/d by 4Q22.

Assuming that other factors remain constant, recent and forecast crude oil price levels will likely continue to drive rig deployments through the end of 2022. However, this forecast depends on the capital decisions of operators. The recent pace of rig deployment indicates that operators are adding rigs more slowly than during past periods when prices reached similar levels. If operators take a more cautious approach to rig deployment than we are expecting, crude oil production could be lower than in our forecast.

In the GOM, we expect crude oil production to average 1.8 million b/d in both 2021 and 2022. Ten new projects that will likely begin operations during the forecast period will help offset declines at existing GOM projects.

We expect little change in Alaska's crude oil production, which will average more than 0.4 million b/d in both 2021 and 2022, down slightly from 2020 levels. We do not expect the U.S. federal moratorium on new federal oil and natural gas leases that occurred earlier this year to affect the short-term outlook for the GOM or Alaska.

Hydrocarbon Gas Liquids Supply. We forecast natural gas plant production of HGLs to increase by 0.1 million b/d in 2021 and by almost 0.5 million b/d in 2022. Rising HGL production in the forecast is mostly driven by increased ethane production. Higher rates of ethane recovery at natural gas processing plants occur in the forecast to meet growing demand for ethane as a petrochemical feedstock in the United States and abroad during both 2021 and 2022.

Liquid Biofuels. COVID-19-related reductions in economic activity in general, and decreased demand for liquid fuels in particular, significantly affected U.S. biofuels markets in 2020, and we expect some of these impacts to persist through the forecast period. The current forecast reflects the most recent 2020 targets in the Renewable Fuel Standard (RFS) program, and given the delays in finalizing 2021 RFS targets, we assume those 2020 target levels to remain

unchanged throughout the forecast period. In the forecast, these RFS targets primarily affect biomass-based diesel production and net imports, which help meet multiple RFS targets for biomass-based diesel, advanced biofuel, and total renewable fuel.

Because of sharp reductions in motor gasoline demand resulting from responses to COVID-19, U.S. fuel ethanol production was significantly lower in 2020 than in previous years. U.S. fuel ethanol production fell by 12% from 2019 to an average of 0.91 million b/d in 2020. As a result, we forecast that persistent reductions in domestic gasoline demand and limited higher-blend fuel ethanol growth potential will result in fuel ethanol production remaining lower than 2019 levels throughout the STEO forecast. We expect fuel ethanol production to average 0.97 million b/d in 2021, 7% more than in 2020, and to average 1.00 million b/d in 2022, 4% more than 2021, but still slightly below the 2019 level.

U.S. fuel ethanol consumption averaged 949,000 b/d in 2019, and we estimate fuel ethanol consumption fell by 13% to an average of 822,000 b/d in 2020. We forecast that fuel ethanol consumption will gradually rise during the forecast period, largely following the growth in domestic motor gasoline consumption with limited growth in any higher blending levels. In our forecast, U.S. fuel ethanol consumption averages 896,000 b/d in 2021 and 917,000 b/d in 2022. This level of consumption results in the fuel ethanol share of total gasoline, which was an estimated 10.2% in both 2019 and 2020, remaining near this level during 2021 and 2022. This stable fuel ethanol share assumes that growth in higher-level fuel ethanol blends is limited by a lack in consumer demand for higher levels of fuel ethanol blending beyond 10% of gasoline (E10) despite significantly elevated renewable identification number (RIN) prices which could incentivize increased fuel ethanol blending by some gasoline blenders and retailers.

We estimate that U.S. biodiesel production increased in 2020 and was less affected by COVID-19-related restrictions than many other fuels, despite production capacity that declined slightly. U.S. biodiesel production increased by an estimated 5% from 2019 to 2020, averaging an estimated 118,000 b/d last year. We expect biodiesel production will fall slightly to 117,000 b/d in 2021 before increasing by 10% to 129,000 b/d in 2022, driven largely by biodiesel's role in meeting multiple RFS targets and the existence of the biodiesel production tax credit through 2022. Despite RIN prices that have recently been at all-time highs, record-high feedstock costs are expected to limit biodiesel production growth over the forecast period.

U.S. net imports of biomass-based diesel increased by an estimated 6% to an average of 22,000 b/d in 2020, and we expect net imports to increase to an average of 29,000 b/d in 2021 and 44,000 b/d in 2022. Increased net imports of biomass-based diesel primarily reflect increased volumes of renewable diesel imported to meet both California Low Carbon Fuel Standard requirements and RFS targets for biomass-based diesel and advanced biofuels.

Product Prices. Changes in travel patterns in response to COVID-19 resulted in significant reductions in crude oil prices and demand for liquid fuels in the United States during 2020, which significantly reduced prices for gasoline and diesel fuel during the same period. In 2021,

as vaccination levels have increased and general economic activity has begun to recover, personal mobility and seasonal driving demand has grown sharply year-over-year, leading to increasing prices for crude oil, gasoline, and diesel fuel compared with the same time last year.

Although much of the increase in U.S. gasoline and diesel prices so far in 2021 reflects rising crude oil prices, higher refinery margins have also contributed. Refinery margins (the difference between the wholesale price of gasoline and the price of Brent crude oil), which fell significantly along with gasoline and diesel demand in March and April 2020, returned to levels within their seasonal ranges in 4Q20. Since then, margins have increased significantly beyond their recent five-year averages, driven in part by significant increases in RIN prices, which are embedded to some degree in wholesale product prices. So, although refinery margins have increased beyond seasonal averages for both gasoline and diesel fuel, RIN costs have likely limited actual refinery profitability to some degree. This dynamic is reflected in refinery production of gasoline, which has not increased in line with growing gasoline demand, resulting in U.S. gasoline inventories that have been lower than in recent years and in upward pressure on prices.

The U.S. refinery wholesale gasoline margin averaged 30 cents/gal in February 2021. It then increased to an average of 52 cents/gal in June, which was 17 cents/gal higher than at the same time last year and 11 cents/gal higher than the recent five-year average. We expect the U.S. refinery wholesale gasoline margin will average 42 cents/gal in 2021 and 36 cents/gal in 2022, compared with a five-year (2016–20) average of 35 cents/gal. Because some of the strength in margins is attributable to elevated RIN costs, the margins remain uncertain throughout the year because RIN markets can be highly volatile and are currently driven by both agricultural commodity markets as well as uncertainty around future RFS rulemakings. Our forecast assumes current elevated agricultural commodity prices will not persist to the same degree, and future RFS rulemakings will add clarity and reduce some tightness in RIN markets.

In addition to elevated refinery margins, supply disruptions as a result of the Colonial Pipeline Cyberattack added upward retail gasoline price pressure in May, when the U.S. weekly average gasoline retail prices surpassed $3.00/gal for the first time since late 2014. Since then, U.S. regular gasoline retail prices have remained above $3.00/gal, averaging $3.06/gal in June. We expect that gradual reductions in U.S. refinery margins, driven partially by increased refinery output along with falling crude oil prices, will result in lower retail gasoline prices for the remainder of the year. We forecast the retail price of regular gasoline in the United States will average $3.04/gal during 3Q21, 85 cents/gal higher than at the same time last year. We expect the U.S. monthly regular retail gasoline price will fall from an average of $3.11/gal in July 2021 to $2.93/gal in September before falling to $2.76/gal in December 2021. We forecast the U.S. regular gasoline retail price, which averaged $2.18/gal in 2020, to average $2.85/gal in 2021 and $2.74/gal in 2022.

Regional annual average forecast prices for 2021 range from a low of $2.56/gal in the Gulf Coast region (PADD 3) to a high of $3.51/gal in the West Coast region (PADD 5).

The retail price of diesel fuel in the United States averaged $2.55/gal in 2020, which was 50 cents/gal lower than in 2019. We forecast that the diesel price will average $3.16/gal in 2021 and $3.09/gal in 2022. We expect that global economic activity returning to pre-pandemic levels will help drive diesel refinery margins higher during the forecast period than their multiyear lows in 2020. Diesel refinery margins based on the Brent crude oil price averaged 30 cents/gal in 2020, which was 11 cents/gal lower than the 2015–19 average and the lowest annual average since 2009. We expect diesel refinery margins will average 40 cents/gal in 2021 and 44 cents/gal in 2022.

Natural Gas

Natural Gas Consumption. U.S. consumption of natural gas averaged 83.3 billion cubic feet per day (Bcf/d) in 2020, and we expect consumption will decrease by 0.9 Bcf/d (1.1%) in 2021 and then increase by 0.6 Bcf/d (0.7%) 2022 to average 82.9 Bcf/d for the year.

The largest natural gas-consuming sector in the United States is the electric power sector. We estimate that the electric power sector will consume an average of 29.3 Bcf/d in 2021, which is 7.7% less than in 2020. We forecast that higher prices for natural gas (compared with coal prices) for power generation and rising electricity generation capacity from renewable energy will likely cause natural gas consumption in the electric power sector to decline in 2021. We forecast electric power sector consumption of natural gas will increase by 1.3% in 2022, based on an expected decline in natural gas prices next year.

We expect combined U.S. residential and commercial natural gas consumption will average 22.6 Bcf/d in 2021, up 6.0% from 2020. Compared with 1Q20, colder temperatures and people spending more time at home because of the COVID-19 pandemic led to increases in heating demand in 1Q21. Based on forecasts by the National Oceanic and Atmospheric Administration (NOAA), we assume colder temperatures with 7.0% more heating degree days (HDD) across the United States in 2021 compared with 2020. We expect natural gas consumption in the U.S. residential and commercial sectors to decline by 0.4% in 2022.

We forecast U.S. consumption of natural gas in the industrial sector will increase 1.2% in 2021 to 22.8 Bcf/d and an additional 0.9% to 23.0 Bcf/d in 2022. Our natural gas-weighted manufacturing index, based on forecasts from IHS Markit, has steadily increased after falling in 2Q20, and our forecast assumes that the natural gas-weighted manufacturing index will reach 2019 levels in 2H21.

Natural Gas Production. We forecast that U.S. dry natural gas production will average 92.6 Bcf/d in 2021, which would be up 1.3% from 2020. Natural gas production rises in response to higher crude oil and natural gas prices. We forecast Henry Hub spot prices in 2021 will average more than $1 per million British thermal units (MMBtu), or 58%, higher than the average in 2020. In addition, we expect associated natural gas production from oil directed rigs in the Permian Basin to increase in 2021 as WTI prices average almost $27/b (68%) more than in 2020.

In 2022, we expect dry natural gas production to average 94.7 Bcf/d, which would be up 2.3% from 2021.

Natural Gas Trade. We forecast U.S. liquefied natural gas (LNG) exports to average 9.6 Bcf/d in 2021 and 10.2 Bcf/d in 2022, surpassing pipeline exports for the first time on an annual basis in both years. Several factors support this forecast: gradual recovery in global LNG demand, high winter LNG demand, particularly in Asia, and expansions in global LNG regasification capacity in both existing and new markets in the next two years. U.S. LNG exports are projected to increase in 2022 because of commissioning of additional LNG trains at Sabine Pass and Calcasieu Pass.

U.S. LNG exports have reached record high levels this spring, averaging 10.3 Bcf/d from March through May, supported by high spot LNG prices in Asia and Europe, and a continuous recovery in global LNG demand. We estimate that U.S. LNG exports declined to 9.0 Bcf/d in June, likely because of planned and unplanned outages at several U.S. liquefaction facilities.

Pipeline exports of U.S. natural gas have also increased as more infrastructure has been built to transport natural gas both to and within Mexico. U.S. pipeline exports averaged 7.9 Bcf/d in 2020, an increase of 1.7% compared with 2019. We expect pipeline exports to increase as more natural gas-fired power plants come online in Mexico and more pipeline infrastructure is built within Mexico and the United States. We expect gross U.S. pipeline exports to Mexico and Canada to average 9.0 Bcf/d in 2021 and 9.2 Bcf/d in 2022.

U.S. natural gas pipeline imports (almost all of which come from Canada) decreased from 2019 to 2020, continuing a trend that began in 2008. We forecast natural gas pipeline imports to increase 5.7% in 2021 because the United States will import more natural gas amid relatively flat U.S. natural gas production along with record U.S. exports of natural gas. However, pipeline imports will likely decline in 2022 in response to an increase in U.S. natural gas production in 2022.

Natural Gas Inventories. Storage withdrawals in 1Q21 were 14% higher than the five-year average because severely cold temperatures in February caused near-record storage withdrawals and because of declines in natural gas production. Total inventories were 1.8 trillion cubic feet (Tcf) at the end of March, about 2% lower than the five-year average for that time of year. For the 2021 April–October storage injection season, we expect injections will be 5% below the five-year average rate because record exports outpace increases in natural gas production. We expect that inventories will reach more than 3.6 Tcf at the end of October 2021, which would be 3% lower than the previous five-year average for the end of October and 8% lower than at the end of October 2020.

Natural Gas Prices. The Henry Hub spot price averaged $2.03/MMBtu in 2020. Natural gas prices fell through much of 2020 as U.S. natural gas consumption outside of the electric power sector declined and LNG exports also dropped. These declines outpaced declines in production and contributed to inventories building at a faster rate than the five-year average.

The Henry Hub spot price rose to an average of $3.25/MMBtu in 1H21, somewhat elevated by the February monthly average price of $5.35/MMBtu, which was strongly influenced by cold weather. More recently, the daily spot price reached $3.79/MMBtu on June 30. U.S. natural gas prices rose in 1H21 as growth in demand for natural gas outpaced supply. The combination of U.S. consumption of natural gas outside of the power sector and exports together were up almost 6 Bcf/d in 1H21 compared with the same period in 2020. At the same time, domestic dry natural gas production plus imports were almost unchanged in 1H21 compared in 1H20.

We expect the Henry Hub spot price to fall from recent highs and average $3.22/MMBtu in 3Q21 and also average $3.22/MMBtu for all of 2021. For the remaining months in 2021, we expect prices to remain more than $3.00/MMBtu, driven by continuing record natural gas exports and rising demand for natural gas outside of the electric power sector amid relatively flat natural gas production. We expect downward price pressure to emerge in 2022 as U.S. natural gas production increases and export growth slows. We forecast the Henry Hub spot price to average $3.00/MMBtu in 2022.

Coal

Coal Production. We forecast U.S. coal production will increase by 78 million short tons (MMst) (15%) in 2021 to total 617 MMst for the year. The expected increase in production reflects greater electric power sector demand for coal. Higher natural gas prices make coal more economically competitive relative to natural gas for electricity generation dispatch. In the forecast, coal production increases by 13 MMst (9%) in the Appalachia region, 14 MMst (16%) in the Interior region, and 51 MMst (17%) in the Western region.

Coal production in the forecast falls by 7 MMst (1%) in 2022 to 610 MMst. The decline is in response to falling natural gas prices in our forecast, which tends to reduce coal use for power generation. Western region production is expected to decline by 6% in 2022, offsetting gains in the Interior (7%) and Appalachia (5%) regions.

Overall production capacity decreased in 2020, and the lost capacity is unlikely to come back online. We expect an increased draw on electric power sector coal inventories in 2021 (25 MMst) and 2022 (23 MMst).

Coal Consumption. We expect a 92 MMst (19%) increase in U.S. coal consumption in 2021. Rising consumption is largely driven by an increase in demand from the electric power sector, which is expected to consume 522 MMst of coal in 2021, 20% more than 2020. We forecast total U.S. coal consumption to decrease 32 MMst (6%), in 2022 to 537 MMst.

Coal Trade. Annual U.S. coal exports dropped 26% between 2019 and 2020, from 94 MMst to 69 MMst. Metallurgical coal exports were 42 MMst in 2020, 20% lower than the previous year, and steam coal exports were 27 MMst, 34% lower than in 2019.

Four of the top 10 U.S. coal export destinations—Brazil, Turkey, the Dominican Republic, and China—increased their imports of U.S. coal in 2020. Exports to the Dominican Republic increased by 1.3 MMst, more than double its 2019 imports of U.S. coal. In particular, an ongoing trade dispute between Australia and China has opened up opportunities for swing suppliers, such as the United States, to gain market share and increase overall exports especially for steam coal.

In our forecast, we assume the seaborne steam coal market in 2021 will be more robust with higher demand for U.S. coal. Forecast U.S. steam coal exports reach 37 MMst in 2021, which is a 37% increase from 2020. Rising U.S. exports in the forecast reflect smaller export volumes from other global suppliers and seaborne coal prices that are supportive of U.S. exports. We expect total U.S. coal exports to increase by 15 MMst (21%) in 2021 as a result of economic growth for major coal importers that are emerging from a lower demand market because of the pandemic in 2020. Steel production, which was limited by pandemic shutdowns, is expected to return to average levels during the remainder of 2021 and bring U.S. metallurgical coal exports to 47 MMst. We expect coal exports to increase by 15 MMst (18%) in 2022 as overall seaborne supply comes back into line with 2019 levels. We expect that U.S. coal exports will total 99 MMst in 2022.

Coal Prices. The delivered coal price to U.S. electricity generators averaged $1.92/MMBtu in 2020, which was 10 cents/MMBtu lower than the 2019 price. We forecast that coal prices will decrease to $1.88/MMBtu in 2021 and $1.85/MMBtu in 2022.

Electricity

Electricity Consumption. We forecast total retail sales of electricity by U.S. utilities and electricity suppliers will increase by 2.8% in 2021 and by 1.0% in 2022. So far this year, estimated U.S. retail electricity sales during 1H21 were 4.5% more than for the same period of 2020. We forecast that electricity sales during 2H21 will grow by 1.2% compared with 2H20.

The relaxing of social distancing guidelines and growing COVID-19 vaccinations have led to increased economic activity compared with last year, especially in restaurants and retail stores, which were most affected by pandemic-related restrictions in 2020. Residential electricity consumption in 2020 noticeably increased because people were staying at home for longer periods during the day and because many were working from home. Residential electricity use is likely to remain elevated as work-from-home arrangements continue for some workers.

Year-to-year changes in residential electricity consumption are most related to changes in temperature, often measured using heating degree days (HDD) and cooling degree days (CDD). We estimate residential electricity sales during 1H21 to be 5.7% more than during the same period in 2020. Much of this increase reflected colder winter temperatures compared with last year's mild winter and a hot June across much of the country. HDDs in the United States during 1H21 were 6.9% more than in 2020. Based on forecasts from NOAA, our forecast assumes U.S.

HDDs to be higher than last year during 2H21, but the effect on electricity consumption is offset by CDDs in the forecast that are 9.7% lower than in 2H20. We forecast residential electricity sales during 2H21 will be 1.4% lower than residential sales in 2020. Forecast annual residential electricity use grows by 1.9% in 2021 and falls by 0.5% in 2022.

Weather and overall economic activity affect electricity consumption in the commercial sector. Although the colder winter weather earlier this year supported electricity consumption in the commercial sector, economic activity and growth in private-sector jobs were still restrained, especially during 1Q21 compared with the same period in 2020, before the pandemic-related lockdowns began. Nonfarm employment during 1Q21 was 5.6% lower during the same period in 2020, while retail electricity sales to the commercial sector were 2.9% lower. For 2H21, we forecast commercial sector retail electricity sales will grow by 1.7% compared with last year, driven in part by an expected 4.8% increase in nonfarm employment. For 2022, forecast commercial sector electricity use grows by 1.4% on an annual basis.

Improving economic conditions will also likely increase electricity demand in the industrial sector. The U.S. industrial production index for electricity-intensive industries in the forecast increases by 6.5% in 2021 after declining by a similar percentage in 2020. This expected increase in industrial production contributes to our forecast that retail sales of electricity to the industrial sector will rise by 5.1% in 2021. In 2022, we forecast retail sales of electricity to the industrial sector will increase by 2.6%.

Electricity Generation. We expect the U.S. electric power sector will generate 2.1% more power during 2021 than in 2020. Electric power sector generation in the forecast grows by an additional 0.7% in 2022.

One of the largest shifts in fuels for electricity generation in recent years has been the industry's reduced use of coal and increased use of natural gas. Coal-fired electricity generation in the United States has declined almost every year over the past decade. The amount of U.S. coal generation in 2020 was 62% below its high in 2007. In contrast, natural gas generation grew by 86% between 2007 and 2020.

Both regulatory and economic factors are driving this trend of declining coal use and rising natural gas use. One of the most important drivers has been the sustained low cost of natural gas, which reached the lowest level in decades last year. In 2020, the price of natural gas delivered to electric generators averaged $2.39/MMBtu. However, natural gas prices have been rising in recent months now that the economy is beginning to recover from the effects of the pandemic, but U.S. production of natural gas is growing at a slower pace. In April 2021, the most recent available history, the delivered natural gas price to electricity generators averaged $3.04/MMBtu. Expected natural gas costs remain relatively elevated through the forecast and delivered prices average $3.44/MMBtu in 2H21.

These expected changes in the costs of fuels used for generating power will likely reverse some of the recent trends in the use of coal and natural gas for electricity generation, at least temporarily. We forecast that the natural gas-fired share of total U.S. generation will decline from 39% in 2020 to 36% in both 2021 and 2022, which would be close to what the natural gas share was in 2019. The expected rise in natural gas costs make coal more economical for electricity generation. The forecast share of generation from coal-fired power plants rises from 20% last year to 24% in 2021 and 22% in 2022.

We forecast the share of generation from renewable sources will increase from 20% in 2020 to 21% in 2021 and to 23% in 2022. Most of this increase will come from new solar and wind generating capacity expansions in the electric power sector. The current drought in the West has restrained electricity generation by hydropower. U.S. hydropower generation contributes about 6.5% of total generation in the 2021 forecast, which would be the lowest share since 2015. In 2022, the forecast hydropower share rises to 6.8% but is still below the 7.5% share last year.

The forecast nuclear share of total electricity generation, which averaged nearly 21% in 2020 will fall to 20% by 2021 and to 19% in 2022. The declining share partly reflects retirements of nuclear capacity. In April, New York's Indian Point nuclear power plant retired. Reactors at three other nuclear plants in the Midwest are scheduled to retire in either 2021 or 2022. The retirements are partly offset by two reactors at the Vogtle plant in Georgia that are scheduled to come online next year.

Renewable Capacity. We expect that generating capacity from renewable energy sources will continue to grow through the STEO forecast horizon. By the end of 2022, electric power sector total renewables capacity increases by 81 gigawatts (GW) from 2019. An additional 15 GW in all other sectors brings the total to 96 GW.

We forecast that in 2022 large-scale solar capacity growth will exceed wind growth for the first time. We forecast that 16 GW of solar photovoltaic (PV) generating capacity in the electric power sector will be added in 2021 and an additional 17 GW is forecast for 2022. We forecast small-scale solar PV capacity to increase by about 5 GW per year through the STEO forecast period. Residential PV accounts for most of this additional small-scale generating capacity for both 2021 and 2022. Solar capacity growth in the forecast reflects various state and federal policies that support renewable energy.

We forecast generating capacity from wind turbines in the electric power sector to grow by 17 GW in 2021 and by 6 GW in 2022. Because wind capacity is often added at the end of the calendar year, increases in wind generation frequently lag behind increases in capacity for the year they occur in, and they are reflected in the generation for the next year.

Much of this slowing growth in wind capacity can be attributed to the expiration of the production tax credit. The credit, which at the end of 2019 was extended through 2020,

provided a 2.5 cents per kilowatthour (kWh) benefit for facilities entering service or securing 5% safe harbor (spending at least 5% of total estimated project cost) through the 2020 calendar year. The effect of the tax credit extension included in the Consolidated Appropriation Act 2021, enacted in late-December 2020, is now reflected in this forecast. This extension caused capacity additions to move from 2020 to 2021 and the slowing wind growth in 2022.

Electricity Prices. Wholesale electricity prices throughout the country so far in 2021 have been higher than last year, reflecting the increased cost of natural gas for power generation. During 2Q21, wholesale prices ranged from $31 per megawatthour (MWh) in the Central region, which is 58% higher than 2Q20, to $52/MWh in the Northwest region, which is 256% higher than in 2020. Wholesale prices are likely to remain relatively volatile over the next few months. Forecast prices during 2H21 average from a low of $24/MWh in Texas to a high of $46/MWh in California.

We forecast the U.S. retail electricity price for the residential sector will average 13.6 cents/kWh in 2021, which is 2.8% higher than the average retail price in 2020. Forecast residential prices increase by an additional 1.8% in 2022.

U.S. Economic Assumptions and Energy-Related Carbon Dioxide Emissions

U.S. Economy. We base the STEO on macroeconomic forecasts for the United States by IHS Markit. We used the June 2021 version of the IHS Markit macroeconomic model with our own energy price forecasts as model assumptions to develop the economic forecasts in the STEO.

Using the IHS Markit model, we assume U.S. real GDP will grow by 7.4% in 2021 and by 5.0% in 2022. These rates compare with a 3.5% decline in annual GDP growth in 2020. We assume that total U.S. industrial production will increase 6.5% in 2021 and 4.8% in 2022. This growth contrasts with the 7.2% decline in annual growth in 2020. In the forecast, U.S. nonfarm employment, which decreased by 5.7% in 2020, will increase by 2.9% in 2021 and 3.8% in 2022.

Energy-Related Carbon Dioxide Emissions. Energy-related carbon dioxide (CO_2) emissions in the United States fell by 11.1% in 2020 relative to 2019. We expect CO_2 emissions to rise by 7.1% in 2021 and by 1.5% in 2022. We forecast an increase in coal CO_2 emissions and a decrease in natural gas CO_2 emissions because higher natural gas prices make coal more economically competitive for electric power generation. We expect CO_2 emissions from coal to rise by 18.5% in 2021 and to decline by 4.9% in 2022. We expect CO_2 emissions from natural gas to fall by 1.3% from 2020 to 2021 and then increase by less than 1% in 2022. Petroleum-related CO_2 emissions increase 9.0% in 2021 and 5.2% in 2022 as transportation patterns begin to return to normal. Energy-related CO_2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Notable forecast changes

- For more information, see the detailed table of forecast changes.

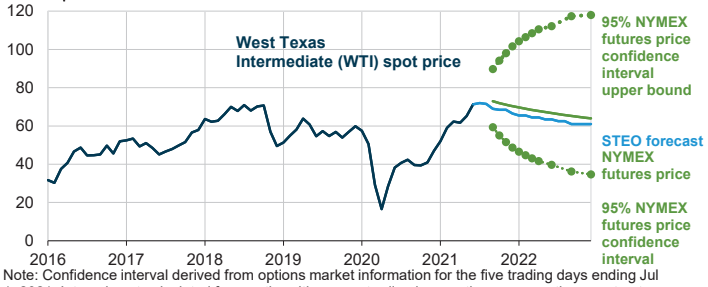
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

July 7, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

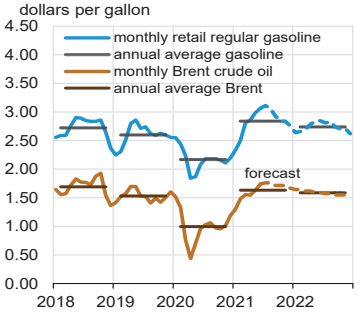


Note: Confidence interval derived from options market information for the five trading days ending Jul 1, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

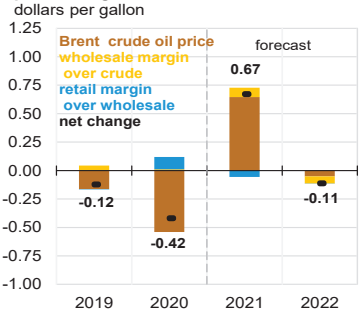
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



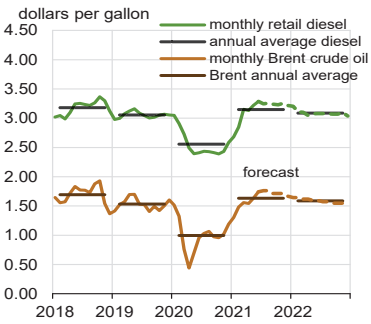
Components of annual gasoline price changes
dollars per gallon



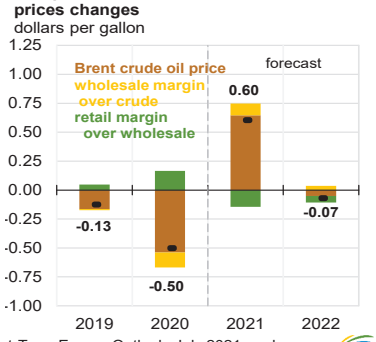
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices



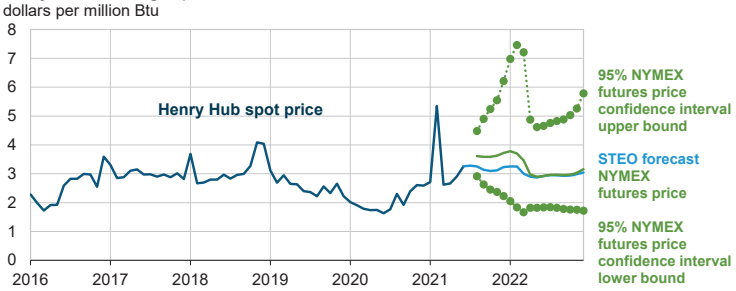
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

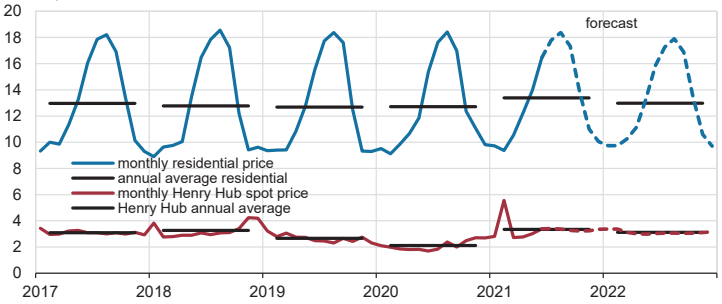


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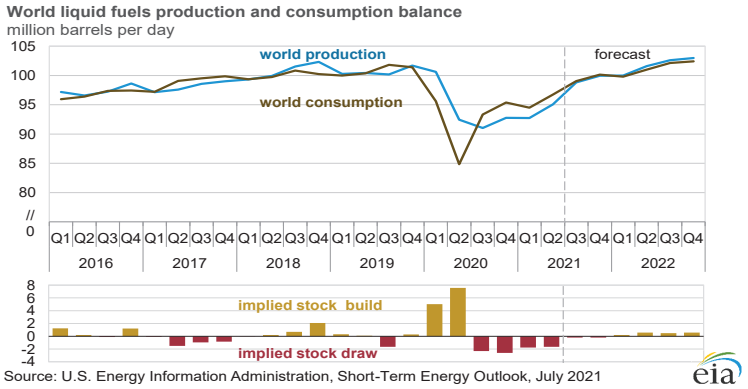
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021, CME Group, and Refinitiv an LSEG Business

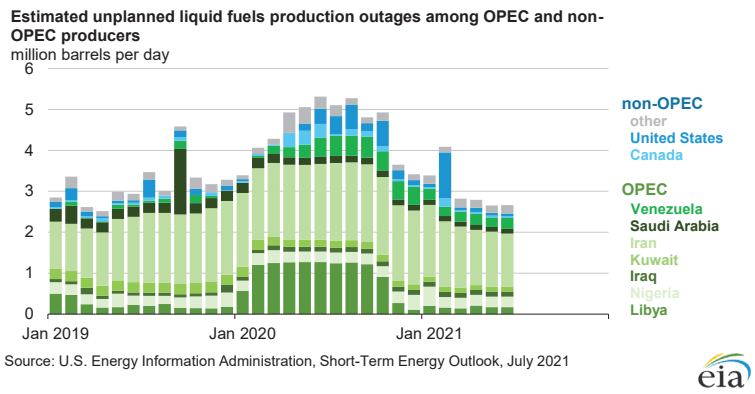
U.S. natural gas prices

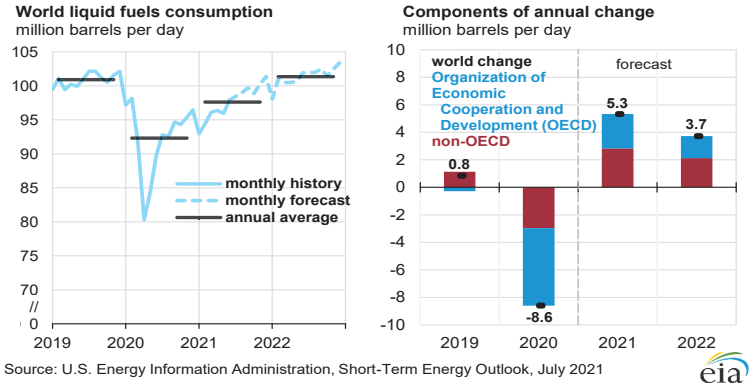
dollars per thousand cubic feet

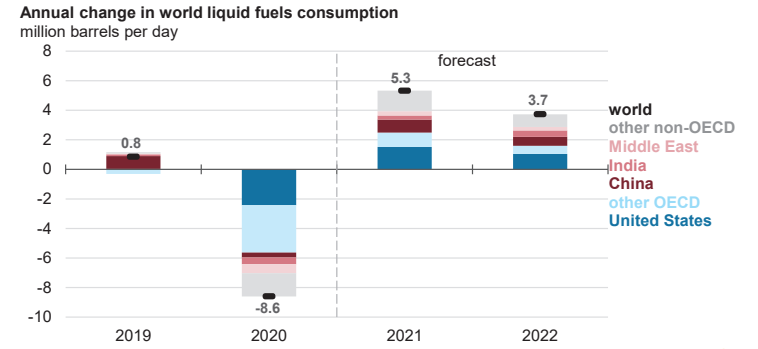


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021, and Refinitiv an LSEG Business

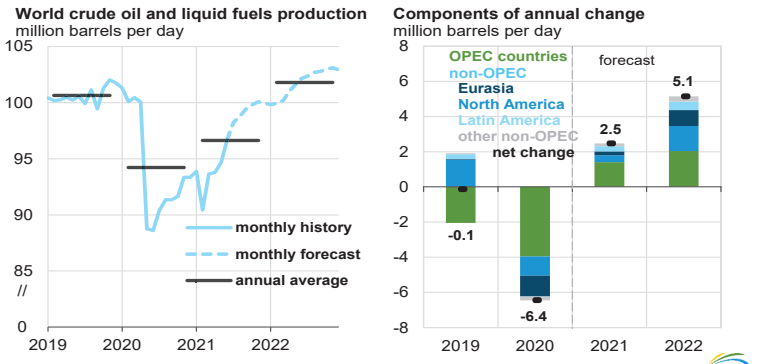

World liquid fuels production and consumption balance
million barrels per day
105
100
95
90
85
80
0
world production
world consumption
forecast
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2016 2017 2018 2019 2020 2021 2022
8
6
4
2
0
-2
-4
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6
5
4
3
2
1
0
Jan 2019
Jan 2020
Jan 2021
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021
eia

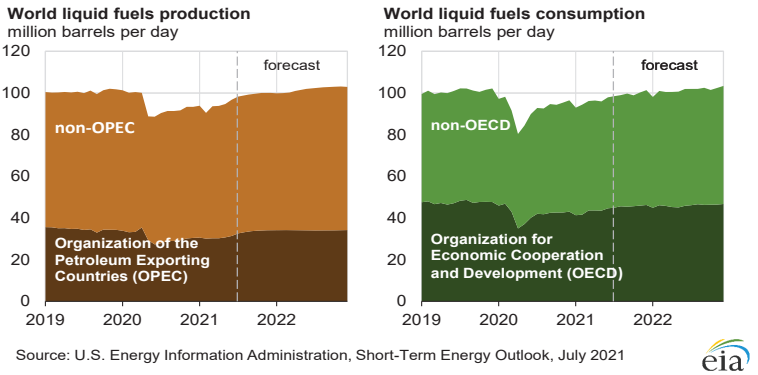

World liquid fuels consumption
million barrels per day
105
100
95
90
85
80
75
70
0
monthly history
monthly forecast
annual average
2019
2020
2021
2022
Components of annual change
million barrels per day
10
8
6
4
2
0
-2
-4
-6
-8
-10
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
0.8
-8.6
5.3
3.7
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

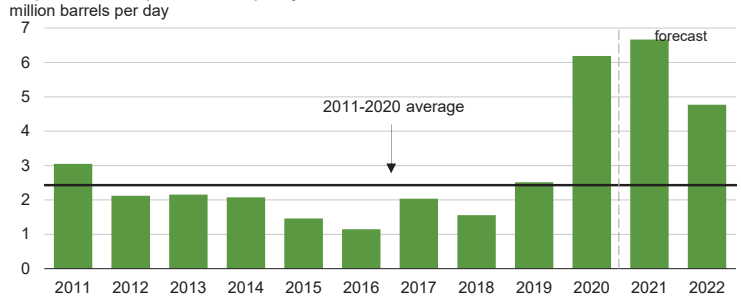


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



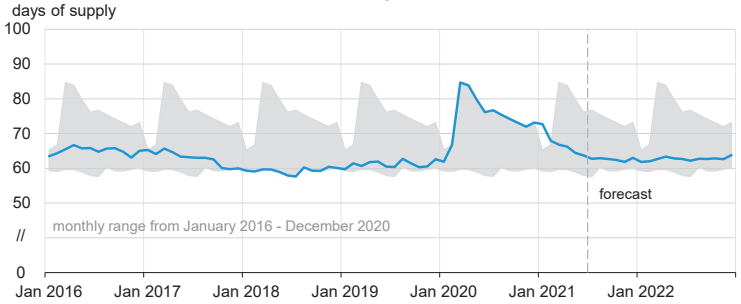
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



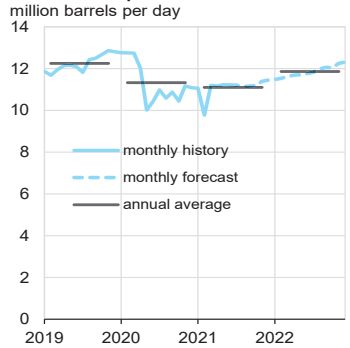
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

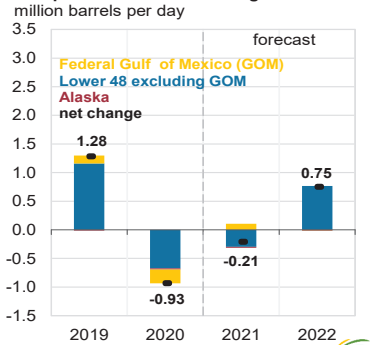


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. crude oil production
million barrels per day

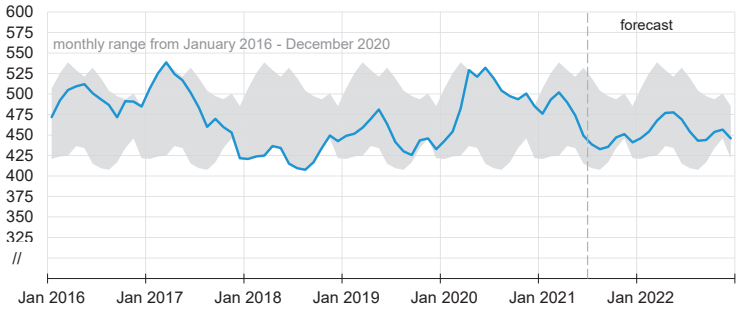


Components of annual change
million barrels per day



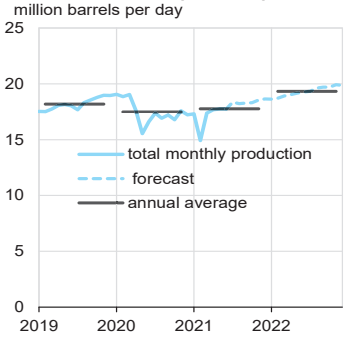
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. commercial crude oil inventories
million barrels

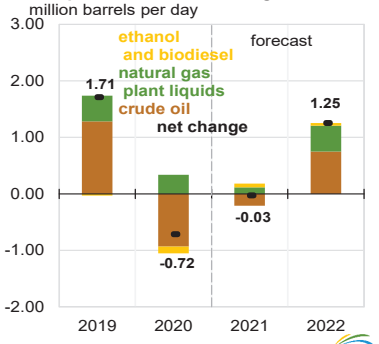


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. crude oil and liquid fuels production
million barrels per day

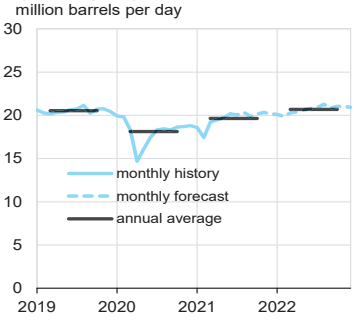


Components of annual change
million barrels per day

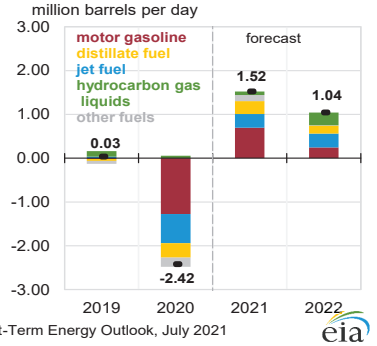


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. liquid fuels product supplied (consumption)
million barrels per day

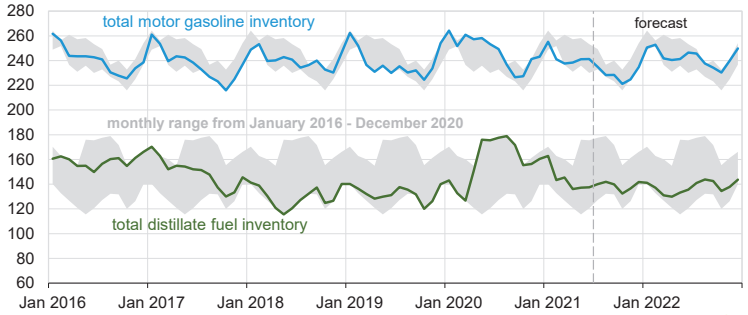


Components of annual change
million barrels per day



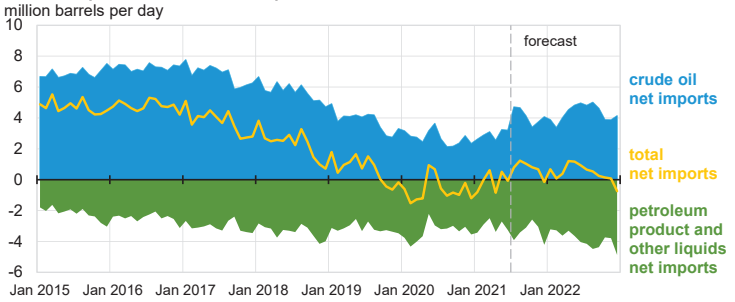
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. gasoline and distillate inventories
million barrels



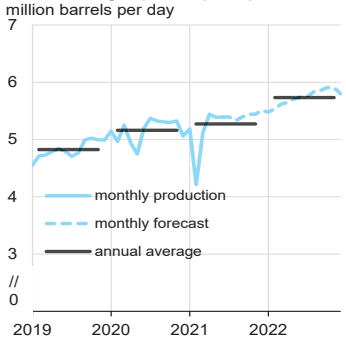
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

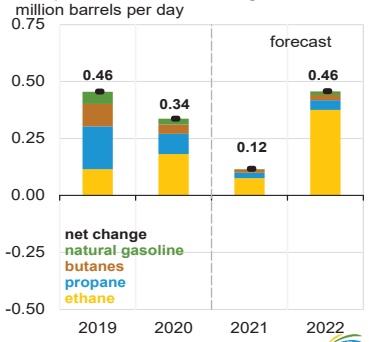


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

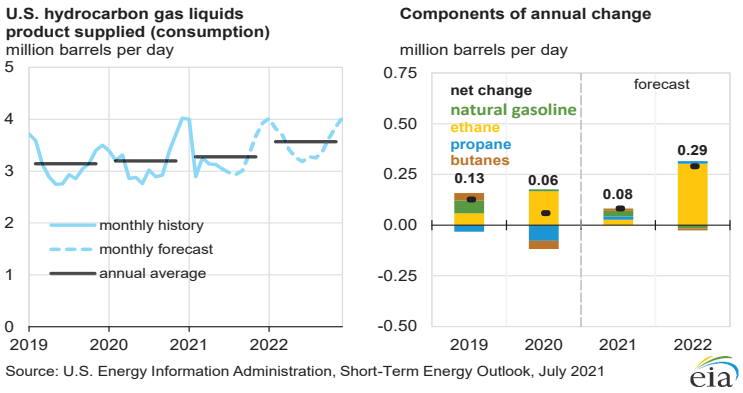
U.S. natural gas plant liquids production
million barrels per day



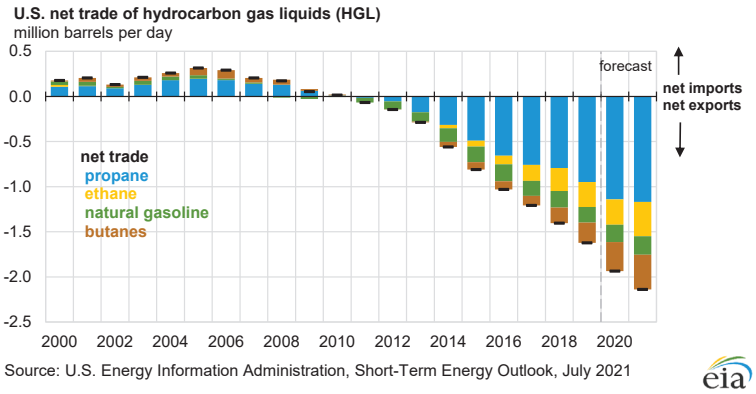
Components of annual change
million barrels per day



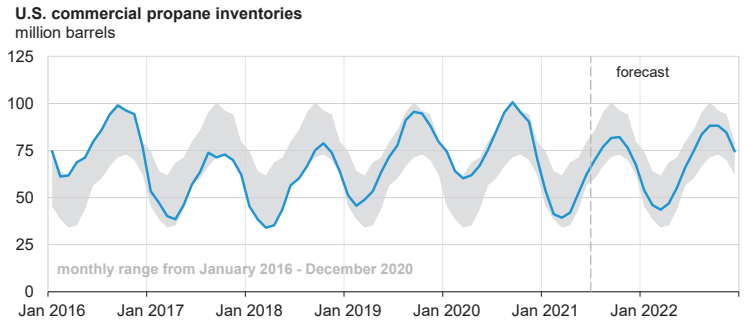
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



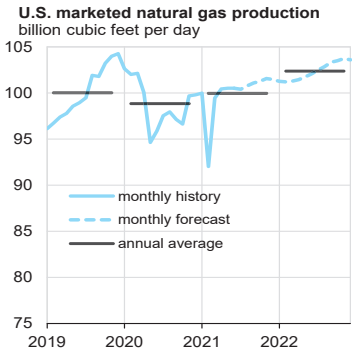
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

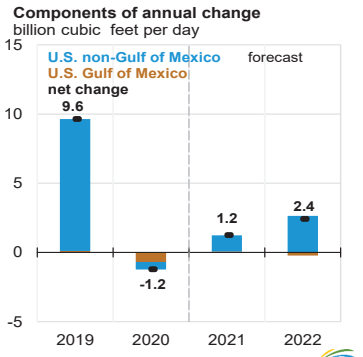


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

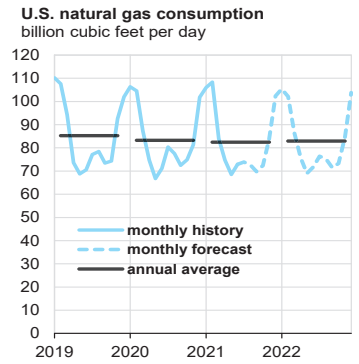


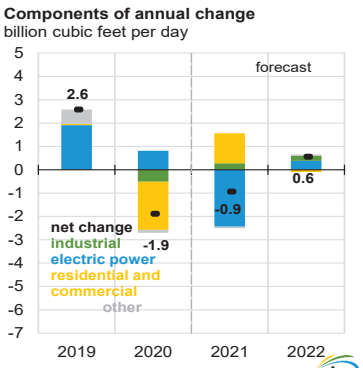
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



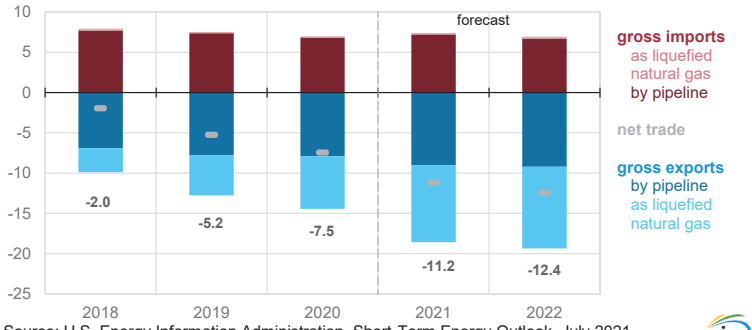


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



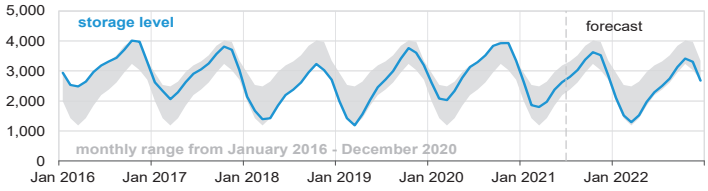
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. annual natural gas trade
billion cubic feet per day

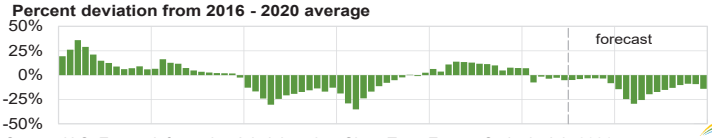


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. working natural gas in storage
billion cubic feet

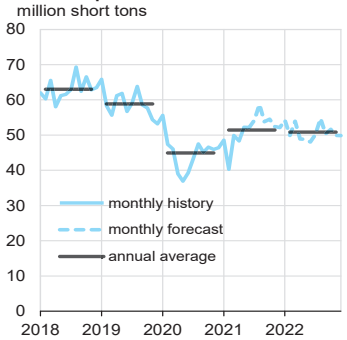


Percent deviation from 2016 - 2020 average

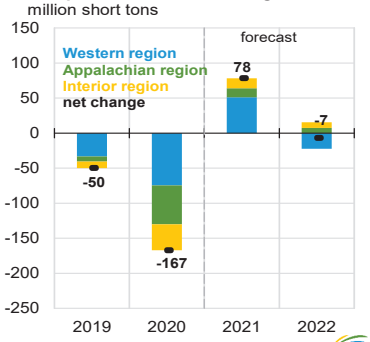


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

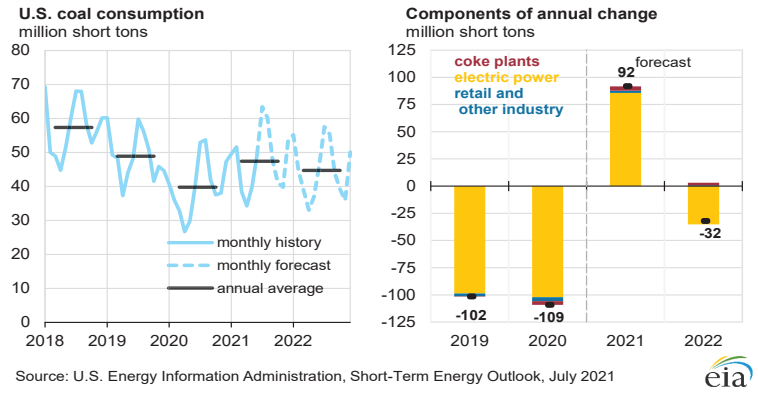
U.S. coal production
million short tons



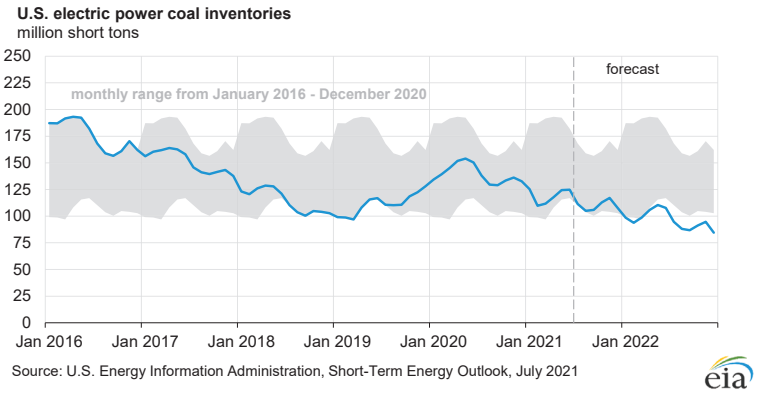
Components of annual change
million short tons



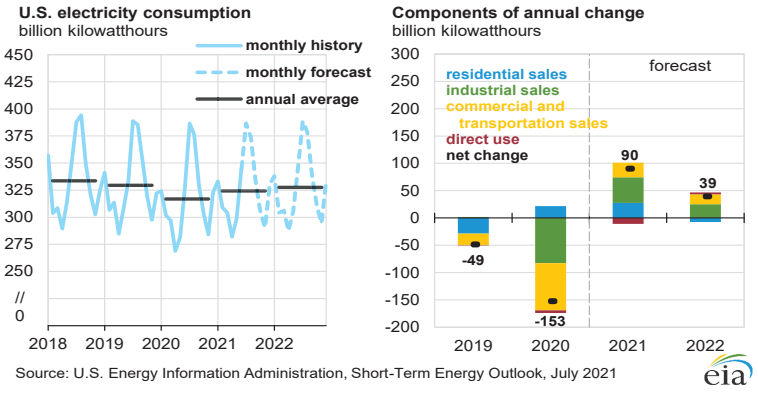
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



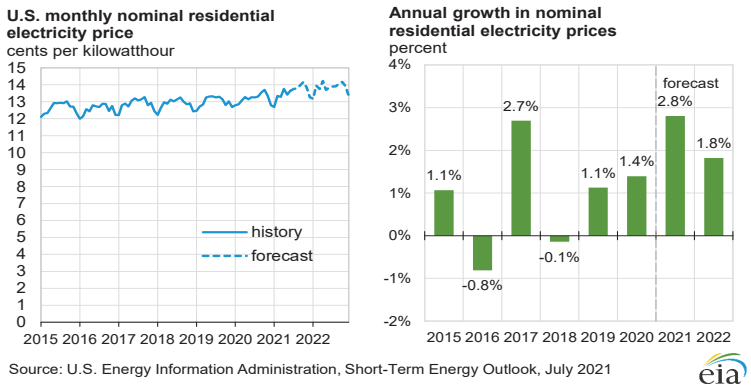
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



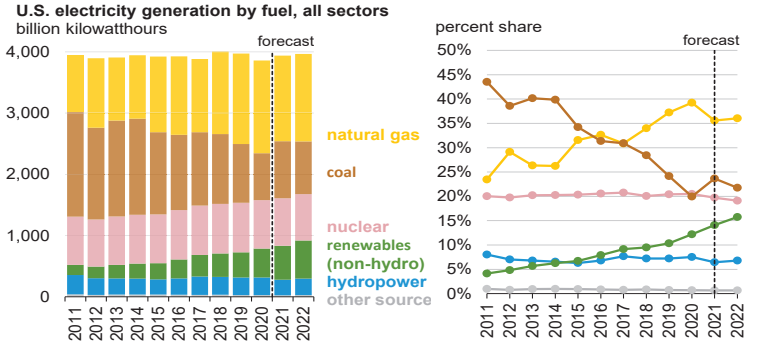
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



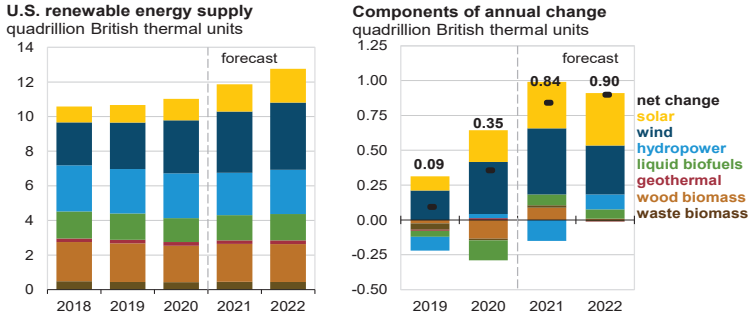
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



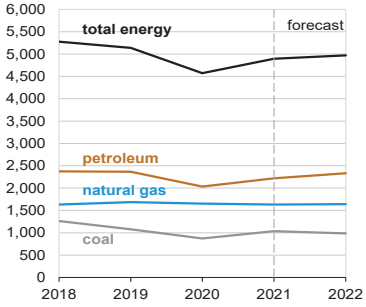
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021



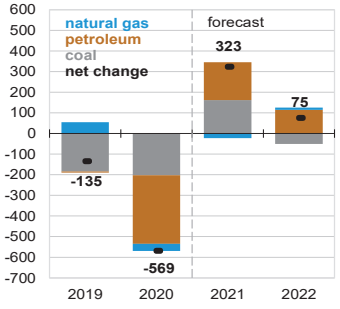
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. annual CO2 emissions by source
million metric tons

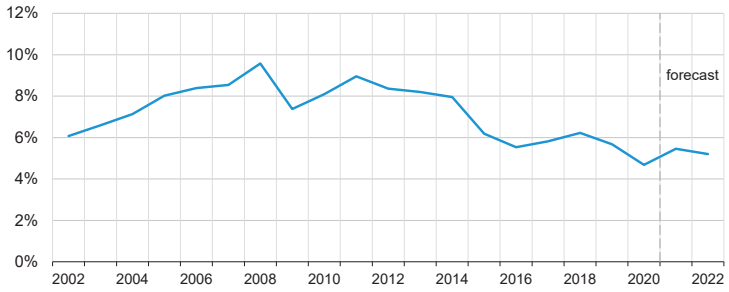


Components of annual change
million metric tons



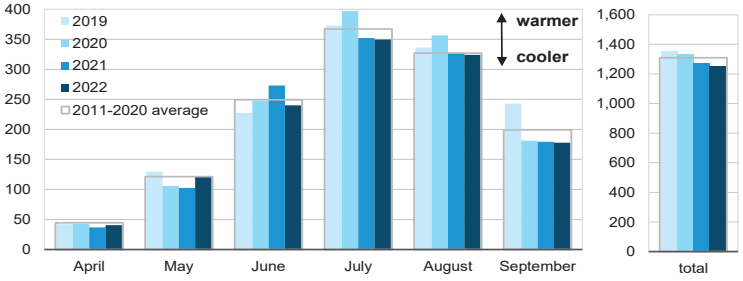
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

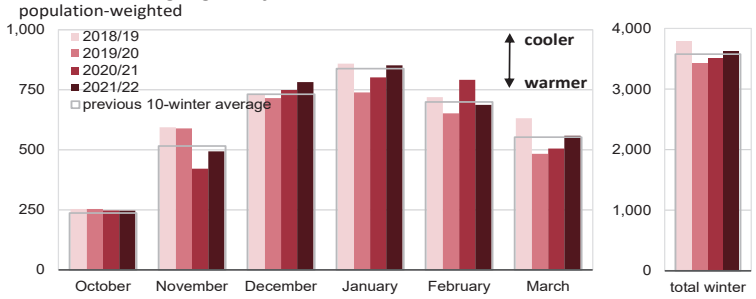
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

U.S. winter heating degree days
population-weighted

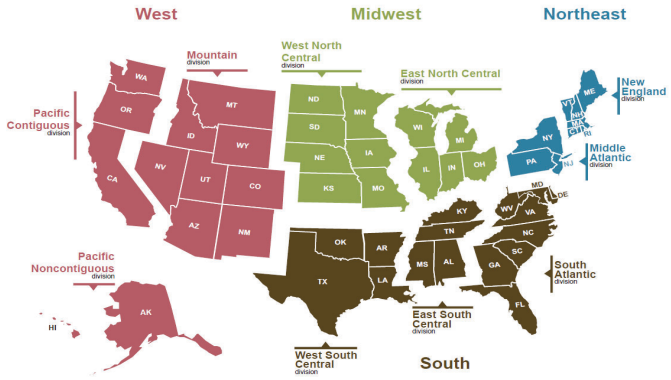


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2021

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.75**	**10.81**	**10.81**	**10.90**	**10.70**	**11.20**	*11.17*	*11.34*	*11.54*	*11.72*	*11.95*	*12.20*	**11.31**	*11.10*	*11.85*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.68**	**89.83**	**91.15**	**90.31**	**92.88**	*93.17*	*93.80*	*93.65*	*94.10*	*95.16*	*95.82*	**91.35**	*92.55*	*94.69*
Coal Production															
(million short tons)	**149**	**115**	**136**	**139**	**139**	**153**	*167*	*159*	*158*	*146*	*155*	*151*	**539**	*617*	*610*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**19.78**	*20.09*	*20.23*	*20.10*	*20.62*	*21.00*	*21.00*	**18.12**	*19.64*	*20.68*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.84**	**76.83**	**86.08**	**99.17**	**72.04**	*72.16*	*86.16*	*97.90*	*72.10*	*74.38*	*87.33*	**83.25**	*82.32*	*82.87*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**140**	**124**	*171*	*135*	*139*	*116*	*157*	*125*	**477**	*569*	*537*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	**10.17**	*11.89*	*10.07*	*10.54*	*10.31*	*12.01*	*10.21*	**10.39**	*10.66*	*10.77*
Renewables (c)															
(quadrillion Btu)	**2.92**	**3.00**	**2.83**	**2.91**	**2.95**	**3.31**	*3.10*	*3.18*	*3.30*	*3.57*	*3.28*	*3.33*	**11.65**	*12.54*	*13.47*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.10**	**20.63**	**23.42**	**23.79**	**24.99**	**22.91**	*24.15*	*24.64*	*25.49*	*23.39*	*24.58*	*25.05*	**92.94**	*96.68*	*98.50*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	*70.86*	*67.79*	*65.13*	*63.82*	*62.01*	*61.00*	**39.17**	*65.85*	*62.97*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	*3.22*	*3.15*	*3.17*	*2.90*	*2.94*	*2.99*	**2.03**	*3.22*	*3.00*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.89**	*1.89*	*1.85*	*1.87*	*1.86*	*1.84*	*1.82*	**1.92**	*1.88*	*1.85*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,088**	**19,620**	*20,019*	*20,410*	*20,597*	*20,732*	*20,824*	*20,917*	**18,426**	*19,784*	*20,767*
Percent change from prior year	**0.3**	**-9.0**	**-2.8**	**-2.4**	**0.4**	**13.4**	*7.6*	*8.6*	*7.9*	*5.7*	*4.0*	*2.5*	**-3.5**	*7.4*	*5.0*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.6**	**117.0**	*117.6*	*118.2*	*118.7*	*119.3*	*120.0*	*120.6*	**113.6**	*117.1*	*119.6*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.3**	**2.0**	**3.7**	*3.3*	*3.3*	*2.7*	*2.0*	*2.0*	*2.1*	**1.2**	*3.1*	*2.2*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,541**	**17,521**	**16,202**	*15,819*	*15,706*	*15,899*	*16,017*	*16,107*	*16,154*	**15,771**	*16,312*	*16,045*
Percent change from prior year	**1.4**	**12.2**	**6.4**	**3.9**	**16.3**	**-2.6**	*-0.2*	*1.1*	*-9.3*	*-1.1*	*1.8*	*2.9*	**6.0**	*3.4*	*-1.6*
Manufacturing Production Index															
(Index, 2012=100)	**97.6**	**84.2**	**94.2**	**96.7**	**97.2**	**98.7**	*101.2*	*103.8*	*104.9*	*105.5*	*105.8*	*106.0*	**93.2**	*100.2*	*105.6*
Percent change from prior year	**-2.7**	**-15.3**	**-5.2**	**-2.4**	**-0.4**	**17.2**	*7.4*	*7.4*	*7.9*	*6.9*	*4.6*	*2.2*	**-6.4**	*7.6*	*5.3*
Weather															
U.S. Heating Degree-Days	**1,874**	**540**	**70**	**1,418**	**2,099**	**482**	*72*	*1,523*	*2,098*	*484*	*78*	*1,521*	**3,903**	*4,176*	*4,182*
U.S. Cooling Degree-Days	**71**	**396**	**935**	**122**	**50**	**412**	*859*	*95*	*46*	*402*	*852*	*95*	**1,523**	*1,416*	*1,395*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	*70.86*	*67.79*	*65.13*	*63.82*	*62.01*	*61.00*	**39.17**	*65.85*	*62.97*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	**68.90**	*73.35*	*71.29*	*68.63*	*67.32*	*65.67*	*65.00*	**41.69**	*68.78*	*66.64*
U.S. Imported Average	**43.72**	**26.33**	**39.89**	**40.67**	**55.23**	**64.14**	*68.93*	*65.76*	*62.88*	*61.56*	*59.53*	*58.50*	**37.25**	*64.33*	*60.57*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.75**	**40.79**	**42.09**	**57.12**	**65.54**	*69.89*	*66.79*	*63.90*	*62.57*	*60.52*	*59.50*	**39.72**	*65.12*	*61.56*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	**217**	*221*	*201*	*190*	*202*	*200*	*186*	**133**	*206*	*194*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	**202**	*218*	*214*	*205*	*204*	*201*	*199*	**129**	*204*	*202*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	**188**	*209*	*209*	*202*	*194*	*190*	*191*	**125**	*196*	*198*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	**182**	*199*	*202*	*201*	*201*	*198*	*197*	**131**	*189*	*199*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**119**	**162**	**166**	*166*	*160*	*152*	*151*	*145*	*142*	**125**	*164*	*147*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	**297**	*304*	*281*	*266*	*282*	*279*	*268*	**218**	*285*	*274*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	**306**	*315*	*294*	*280*	*295*	*293*	*282*	**227**	*296*	*288*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	**290**	**321**	*325*	*323*	*314*	*307*	*307*	*307*	**255**	*316*	*309*
Heating Oil	**280**	**200**	**214**	**230**	**272**	**283**	*312*	*334*	*325*	*303*	*286*	*287*	**244**	*297*	*305*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	*3.35*	*3.27*	*3.29*	*3.01*	*3.06*	*3.11*	**2.11**	*3.34*	*3.12*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	*3.22*	*3.15*	*3.17*	*2.90*	*2.94*	*2.99*	**2.03**	*3.22*	*3.00*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.77**	**5.72**	**3.96**	*4.29*	*4.47*	*4.67*	*3.98*	*3.89*	*4.20*	**3.29**	*4.63*	*4.20*
Commercial Sector	**7.13**	**7.63**	**8.49**	**7.53**	**7.56**	**8.57**	*9.15*	*8.16*	*7.91*	*8.24*	*8.57*	*7.62*	**7.48**	*8.08*	*7.95*
Residential Sector	**9.46**	**11.89**	**17.65**	**10.60**	**9.79**	**13.56**	*17.81*	*10.92*	*9.87*	*12.62*	*17.33*	*10.54*	**10.83**	*11.24*	*11.01*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.89**	*1.89*	*1.85*	*1.87*	*1.86*	*1.84*	*1.82*	**1.92**	*1.88*	*1.85*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.27**	**3.18**	*3.41*	*3.49*	*3.72*	*3.06*	*3.07*	*3.29*	**2.39**	*4.24*	*3.26*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**12.88**	*13.15*	*13.03*	*12.97*	*13.31*	*12.40*	*12.01*	**9.15**	*12.54*	*12.66*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.54**	*16.72*	*16.55*	*16.09*	*15.87*	*15.59*	*15.49*	**10.73**	*15.29*	*15.79*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**7.00**	*7.20*	*6.61*	*6.96*	*6.96*	*7.21*	*6.60*	**6.66**	*6.99*	*6.94*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.09**	*11.48*	*11.04*	*11.40*	*11.31*	*11.60*	*11.12*	**10.65**	*11.19*	*11.37*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.61**	*13.83*	*13.71*	*13.60*	*13.91*	*13.95*	*13.77*	**13.20**	*13.57*	*13.81*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**32.94**	**29.42**	**29.97**	**30.68**	**30.17**	**30.93**	*31.47*	*31.94*	*32.22*	*32.50*	*32.84*	*33.36*	**30.75**	*31.13*	*32.74*
U.S. (50 States)	**20.22**	**17.58**	**18.30**	**18.31**	**17.63**	**18.99**	*18.94*	*19.15*	*19.44*	*19.85*	*20.27*	*20.58*	**18.60**	*18.68*	*20.04*
Canada	**5.64**	**4.91**	**4.94**	**5.55**	**5.63**	**5.29**	*5.66*	*5.76*	*5.79*	*5.76*	*5.79*	*5.81*	**5.26**	*5.59*	*5.79*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	*1.93*	*1.90*	*1.84*	*1.80*	*1.77*	*1.74*	**1.94**	*1.93*	*1.79*
Other OECD	**5.08**	**4.99**	**4.81**	**4.93**	**4.99**	**4.70**	*4.94*	*5.14*	*5.15*	*5.08*	*5.01*	*5.24*	**4.95**	*4.94*	*5.12*
Non-OECD	**67.68**	**63.02**	**61.06**	**62.09**	**62.55**	**64.15**	*67.36*	*68.01*	*67.77*	*69.09*	*69.77*	*69.64*	**63.45**	*65.54*	*69.07*
OPEC	**33.50**	**30.72**	**28.65**	**30.00**	**30.35**	**30.81**	*33.17*	*34.07*	*34.22*	*34.09*	*34.12*	*34.16*	**30.71**	*32.11*	*34.15*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.53**	*27.82*	*28.67*	*28.63*	*28.63*	*28.63*	*28.63*	**25.60**	*26.79*	*28.63*
Other Liquids (b)	**5.22**	**5.07**	**5.02**	**5.12**	**5.27**	**5.28**	*5.35*	*5.40*	*5.59*	*5.46*	*5.49*	*5.53*	**5.11**	*5.32*	*5.52*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.39**	**13.63**	*13.71*	*13.88*	*14.04*	*14.63*	*14.78*	*14.92*	**13.44**	*13.65*	*14.59*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	**5.06**	*5.01*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.05*	*5.08*
Other Non-OECD	**14.49**	**14.21**	**14.74**	**14.06**	**13.77**	**14.64**	*15.46*	*15.00*	*14.46*	*15.30*	*15.78*	*15.43*	**14.38**	*14.72*	*15.25*
Total World Supply	**100.63**	**92.44**	**91.02**	**92.78**	**92.73**	**95.08**	*98.82*	*99.95*	*99.99*	*101.59*	*102.61*	*103.00*	**94.20**	*96.67*	*101.81*
Non-OPEC Supply	**67.13**	**61.72**	**62.37**	**62.77**	**62.38**	**64.27**	*65.65*	*65.88*	*65.77*	*67.51*	*68.49*	*68.84*	**63.49**	*64.56*	*67.66*
Consumption (million barrels per day) (c)															
OECD	**45.26**	**37.40**	**42.12**	**42.79**	**42.23**	**43.95**	*45.35*	*45.97*	*45.61*	*45.41*	*46.37*	*46.53*	**41.90**	*44.39*	*45.98*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**19.78**	*20.09*	*20.23*	*20.10*	*20.62*	*21.00*	*21.00*	**18.12**	*19.64*	*20.68*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	**0.18**	*0.18*	*0.19*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.01**	**2.16**	*2.30*	*2.30*	*2.26*	*2.21*	*2.31*	*2.30*	**2.10**	*2.19*	*2.27*
Europe	**13.33**	**11.01**	**12.87**	**12.51**	**11.88**	**12.79**	*13.56*	*13.48*	*13.13*	*13.29*	*13.64*	*13.32*	**12.43**	*12.93*	*13.35*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.69**	**2.95**	*3.06*	*3.40*	*3.63*	*2.97*	*3.05*	*3.37*	**3.27**	*3.27*	*3.25*
Other OECD	**6.41**	**5.41**	**5.55**	**5.87**	**6.01**	**6.09**	*6.16*	*6.36*	*6.29*	*6.14*	*6.18*	*6.34*	**5.81**	*6.16*	*6.24*
Non-OECD	**50.33**	**47.45**	**51.21**	**52.59**	**52.27**	**52.79**	*53.68*	*54.19*	*54.19*	*55.61*	*55.76*	*55.88*	**50.40**	*53.24*	*55.37*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	**5.00**	*5.39*	*5.23*	*5.04*	*5.13*	*5.53*	*5.38*	**4.95**	*5.14*	*5.27*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.73**	**0.74**	*0.74*	*0.74*	*0.73*	*0.75*	*0.76*	*0.76*	**0.71**	*0.74*	*0.75*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.03**	**15.48**	*15.21*	*15.53*	*15.83*	*16.07*	*15.76*	*16.02*	**14.43**	*15.31*	*15.92*
Other Asia	**13.35**	**11.63**	**12.60**	**13.61**	**13.83**	**13.45**	*13.50*	*14.06*	*14.44*	*14.69*	*14.28*	*14.71*	**12.80**	*13.71*	*14.53*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.76**	**18.13**	*18.84*	*18.62*	*18.15*	*18.98*	*19.43*	*19.01*	**17.51**	*18.34*	*18.90*
Total World Consumption	**95.59**	**84.85**	**93.33**	**95.39**	**94.50**	**96.74**	*99.03*	*100.15*	*99.81*	*101.02*	*102.13*	*102.41*	**92.30**	*97.63*	*101.35*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.89**	**0.48**	**0.33**	*-0.09*	*0.48*	*0.05*	*-0.55*	*0.02*	*0.43*	**-0.18**	*0.30*	*-0.01*
Other OECD	**-0.51**	**-1.16**	**0.04**	**0.69**	**0.76**	**0.42**	*0.10*	*-0.09*	*-0.07*	*-0.01*	*-0.16*	*-0.32*	**-0.23**	*0.29*	*-0.14*
Other Stock Draws and Balance	**-4.10**	**-4.75**	**1.79**	**1.04**	**0.54**	**0.91**	*0.21*	*-0.18*	*-0.16*	*-0.02*	*-0.35*	*-0.70*	**-1.49**	*0.37*	*-0.31*
Total Stock Draw	**-5.03**	**-7.59**	**2.31**	**2.61**	**1.77**	**1.66**	*0.21*	*0.21*	*-0.18*	*-0.58*	*-0.49*	*-0.59*	**-1.90**	*0.96*	*-0.46*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	**1,302**	**1,288**	*1,297*	*1,257*	*1,257*	*1,312*	*1,313*	*1,283*	**1,344**	*1,257*	*1,283*
OECD Commercial Inventory	**2,964**	**3,201**	**3,167**	**3,026**	**2,915**	**2,864**	*2,863*	*2,832*	*2,838*	*2,894*	*2,909*	*2,908*	**3,026**	*2,832*	*2,908*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.86**	**24.43**	**25.15**	**25.75**	**25.19**	**26.24**	*26.53*	*26.80*	*27.07*	*27.42*	*27.83*	*28.13*	**25.80**	*26.19*	*27.62*
Canada	**5.64**	**4.91**	**4.94**	**5.55**	**5.63**	**5.29**	*5.66*	*5.76*	*5.79*	*5.76*	*5.79*	*5.81*	**5.26**	*5.59*	*5.79*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	*1.93*	*1.90*	*1.84*	*1.80*	*1.77*	*1.74*	**1.94**	*1.93*	*1.79*
United States	**20.22**	**17.58**	**18.30**	**18.31**	**17.63**	**18.99**	*18.94*	*19.15*	*19.44*	*19.85*	*20.27*	*20.58*	**18.60**	*18.68*	*20.04*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.61**	**6.42**	*7.15*	*6.70*	*6.13*	*7.01*	*7.53*	*7.21*	**6.15**	*6.47*	*6.97*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.63**	**0.68**	*0.70*	*0.69*	*0.71*	*0.74*	*0.75*	*0.73*	**0.64**	*0.67*	*0.73*
Brazil	**3.44**	**3.89**	**4.29**	**3.52**	**3.23**	**4.04**	*4.64*	*4.20*	*3.56*	*4.51*	*4.90*	*4.46*	**3.79**	*4.03*	*4.36*
Colombia	**0.90**	**0.78**	**0.77**	**0.79**	**0.77**	**0.76**	*0.79*	*0.79*	*0.84*	*0.73*	*0.76*	*0.79*	**0.81**	*0.78*	*0.78*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	**0.50**	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.51*	*0.53*
Other Central and S. America	**0.45**	**0.42**	**0.41**	**0.45**	**0.47**	**0.45**	*0.49*	*0.49*	*0.49*	*0.50*	*0.59*	*0.69*	**0.43**	*0.47*	*0.57*
Europe	**4.44**	**4.34**	**4.16**	**4.29**	**4.35**	**4.10**	*4.33*	*4.53*	*4.55*	*4.48*	*4.41*	*4.65*	**4.31**	*4.33*	*4.52*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	**2.00**	*2.08*	*2.22*	*2.23*	*2.18*	*2.20*	*2.32*	**2.01**	*2.10*	*2.24*
United Kingdom	**1.18**	**1.15**	**0.99**	**1.06**	**1.05**	**0.86**	*1.00*	*1.05*	*1.06*	*1.04*	*0.93*	*1.04*	**1.10**	*0.99*	*1.02*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.39**	**13.63**	*13.71*	*13.88*	*14.04*	*14.63*	*14.78*	*14.92*	**13.44**	*13.65*	*14.59*
Azerbaijan	**0.76**	**0.69**	**0.66**	**0.69**	**0.74**	**0.69**	*0.70*	*0.74*	*0.76*	*0.77*	*0.75*	*0.78*	**0.70**	*0.72*	*0.76*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	**1.87**	*1.86*	*1.92*	*1.94*	*1.99*	*1.95*	*2.00*	**1.86**	*1.88*	*1.97*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	**10.72**	*10.79*	*10.84*	*10.96*	*11.49*	*11.70*	*11.75*	**10.50**	*10.69*	*11.48*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	**0.24**	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.12**	**0.12**	**0.12**	**0.12**	**0.11**	**0.12**	*0.12*	*0.14*	*0.15*	*0.16*	*0.16*	*0.16*	**0.12**	*0.12*	*0.16*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.16**	**3.17**	*3.21*	*3.22*	*3.27*	*3.26*	*3.26*	*3.25*	**3.13**	*3.19*	*3.26*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	**0.96**	*1.01*	*1.02*	*1.03*	*1.03*	*1.03*	*1.03*	**0.96**	*0.99*	*1.03*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.90**	**1.91**	*1.92*	*1.92*	*1.94*	*1.94*	*1.94*	*1.94*	**1.87**	*1.91*	*1.94*
Asia and Oceania	**9.44**	**9.15**	**9.21**	**9.18**	**9.27**	**9.30**	*9.29*	*9.32*	*9.32*	*9.31*	*9.29*	*9.29*	**9.24**	*9.29*	*9.30*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.47**	**0.50**	*0.51*	*0.50*	*0.50*	*0.50*	*0.49*	*0.48*	**0.49**	*0.49*	*0.49*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	**5.06**	*5.01*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.05*	*5.08*
India	**0.96**	**0.90**	**0.92**	**0.92**	**0.92**	**0.91**	*0.92*	*0.91*	*0.92*	*0.90*	*0.90*	*0.89*	**0.92**	*0.91*	*0.90*
Indonesia	**0.91**	**0.89**	**0.87**	**0.88**	**0.84**	**0.87**	*0.87*	*0.86*	*0.86*	*0.85*	*0.84*	*0.83*	**0.89**	*0.86*	*0.85*
Malaysia	**0.71**	**0.60**	**0.63**	**0.64**	**0.64**	**0.63**	*0.63*	*0.64*	*0.63*	*0.63*	*0.62*	*0.61*	**0.65**	*0.64*	*0.62*
Vietnam	**0.25**	**0.24**	**0.23**	**0.23**	**0.23**	**0.22**	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	*0.21*	**0.23**	*0.22*	*0.21*
Africa	**1.48**	**1.44**	**1.42**	**1.40**	**1.40**	**1.41**	*1.44*	*1.43*	*1.40*	*1.40*	*1.39*	*1.39*	**1.43**	*1.42*	*1.39*
Egypt	**0.62**	**0.61**	**0.60**	**0.58**	**0.58**	**0.62**	*0.64*	*0.64*	*0.61*	*0.61*	*0.61*	*0.61*	**0.60**	*0.62*	*0.61*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	**0.16**	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.13**	**61.72**	**62.37**	**62.77**	**62.38**	**64.27**	*65.65*	*65.88*	*65.77*	*67.51*	*68.49*	*68.84*	**63.49**	*64.56*	*67.66*
OPEC non-crude liquids	**5.22**	**5.07**	**5.02**	**5.12**	**5.27**	**5.28**	*5.35*	*5.40*	*5.59*	*5.46*	*5.49*	*5.53*	**5.11**	*5.32*	*5.52*
Non-OPEC + OPEC non-crude	**72.35**	**66.79**	**67.40**	**67.90**	**67.64**	**69.55**	*71.00*	*71.27*	*71.36*	*72.97*	*73.98*	*74.37*	**68.60**	*69.88*	*73.18*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.55**	**0.68**	**0.31**	-	-	-	-	-	-	**0.59**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	**0.88**	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	**1.08**	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	**0.27**	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	**0.12**	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	**0.17**	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	**2.47**	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	**4.02**	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	**2.36**	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	**1.17**	-	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	**1.32**	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	**8.53**	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	**2.65**	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	**0.51**	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.53**	*27.82*	*28.67*	*28.63*	*28.63*	*28.63*	*28.63*	**25.60**	*26.79*	*28.63*
Other Liquids (a)	**5.22**	**5.07**	**5.02**	**5.12**	**5.27**	**5.28**	*5.35*	*5.40*	*5.59*	*5.46*	*5.49*	*5.53*	**5.11**	*5.32*	*5.52*
Total OPEC Supply	**33.50**	**30.72**	**28.65**	**30.00**	**30.35**	**30.81**	*33.17*	*34.07*	*34.22*	*34.09*	*34.12*	*34.16*	**30.71**	*32.11*	*34.15*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	**26.85**	*27.08*	*27.35*	*27.38*	*27.39*	*27.39*	*27.39*	**25.98**	*26.96*	*27.39*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	**6.70**	*6.48*	*6.10*	*6.01*	*6.01*	*6.01*	*6.01*	**5.81**	*6.50*	*6.01*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	**33.55**	*33.56*	*33.44*	*33.40*	*33.39*	*33.40*	*33.41*	**31.79**	*33.46*	*33.40*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	**6.84**	*5.10*	*4.68*	*4.68*	*4.69*	*4.69*	*4.69*	**5.49**	*5.90*	*4.69*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.19**	**1.18**	*0.63*	*0.09*	*0.08*	*0.08*	*0.08*	*0.08*	**0.70**	*0.77*	*0.08*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.19**	**8.02**	*5.73*	*4.77*	*4.76*	*4.77*	*4.77*	*4.78*	**6.19**	*6.67*	*4.77*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	**2.39**	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.12**	**22.45**	**22.18**	**23.81**	*24.27*	*24.42*	*24.18*	*24.68*	*25.15*	*25.15*	**21.91**	*23.68*	*24.79*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.01**	**2.16**	*2.30*	*2.30*	*2.26*	*2.21*	*2.31*	*2.30*	**2.10**	*2.19*	*2.27*
Mexico	**1.97**	**1.48**	**1.59**	**1.68**	**1.71**	**1.86**	*1.87*	*1.88*	*1.81*	*1.84*	*1.83*	*1.84*	**1.68**	*1.83*	*1.83*
United States	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**19.78**	*20.09*	*20.23*	*20.10*	*20.62*	*21.00*	*21.00*	**18.12**	*19.64*	*20.68*
Central and South America	**6.14**	**5.61**	**6.04**	**6.32**	**6.21**	**6.36**	*6.54*	*6.56*	*6.37*	*6.56*	*6.70*	*6.72*	**6.03**	*6.42*	*6.59*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.95**	**3.06**	*3.19*	*3.19*	*3.03*	*3.14*	*3.24*	*3.25*	**2.90**	*3.10*	*3.17*
Europe	**14.04**	**11.70**	**13.58**	**13.23**	**12.61**	**13.53**	*14.30*	*14.23*	*13.86*	*14.04*	*14.40*	*14.09*	**13.14**	*13.67*	*14.10*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	**5.00**	*5.39*	*5.23*	*5.04*	*5.13*	*5.53*	*5.38*	**4.95**	*5.14*	*5.27*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.71**	**3.82**	*4.14*	*3.97*	*3.80*	*3.92*	*4.25*	*4.10*	**3.74**	*3.91*	*4.02*
Middle East	**7.91**	**7.43**	**8.44**	**8.06**	**7.91**	**8.10**	*8.73*	*8.28*	*7.99*	*8.60*	*9.01*	*8.37*	**7.96**	*8.26*	*8.49*
Asia and Oceania	**34.84**	**32.13**	**33.80**	**35.87**	**36.36**	**35.60**	*35.54*	*36.98*	*37.89*	*37.53*	*36.93*	*38.12*	**34.16**	*36.12*	*37.61*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.03**	**15.48**	*15.21*	*15.53*	*15.83*	*16.07*	*15.76*	*16.02*	**14.43**	*15.31*	*15.92*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.69**	**2.95**	*3.06*	*3.40*	*3.63*	*2.97*	*3.05*	*3.37*	**3.27**	*3.27*	*3.25*
India	**4.83**	**3.76**	**4.17**	**4.93**	**5.00**	**4.43**	*4.48*	*4.87*	*5.15*	*5.24*	*4.89*	*5.21*	**4.42**	*4.69*	*5.12*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.32**	**4.34**	*4.26*	*4.47*	*4.48*	*4.49*	*4.41*	*4.60*	**4.15**	*4.35*	*4.49*
Total OECD Liquid Fuels Consumption	**45.26**	**37.40**	**42.12**	**42.79**	**42.23**	**43.95**	*45.35*	*45.97*	*45.61*	*45.41*	*46.37*	*46.53*	**41.90**	*44.39*	*45.98*
Total non-OECD Liquid Fuels Consumption	**50.33**	**47.45**	**51.21**	**52.59**	**52.27**	**52.79**	*53.68*	*54.19*	*54.19*	*55.61*	*55.76*	*55.88*	**50.40**	*53.24*	*55.37*
Total World Liquid Fuels Consumption	**95.59**	**84.85**	**93.33**	**95.39**	**94.50**	**96.74**	*99.03*	*100.15*	*99.81*	*101.02*	*102.13*	*102.41*	**92.30**	*97.63*	*101.35*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**110.3**	**107.6**	**112.4**	**113.5**	**115.9**	**117.3**	*118.9*	*119.8*	*122.6*	*123.3*	*123.9*	*124.5*	**111.0**	*118.0*	*123.6*
Percent change from prior year	**-3.4**	**-6.1**	**-2.4**	**-1.7**	**5.1**	**9.0**	*5.7*	*5.5*	*5.8*	*5.1*	*4.3*	*3.9*	**-3.4**	*6.3*	*4.8*
OECD Index, 2015 = 100													**103.6**	*109.5*	*114.1*
Percent change from prior year													**-4.8**	*5.7*	*4.2*
Non-OECD Index, 2015 = 100													**116.0**	*123.7*	*130.1*
Percent change from prior year													**-2.2**	*6.6*	*5.1*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	**106.6**	*105.9*	*106.7*	*107.3*	*107.6*	*107.6*	*107.6*	**111.9**	*106.5*	*107.5*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	**-8.0**	*-5.0*	*-1.5*	*0.6*	*0.9*	*1.6*	*0.8*	**1.9**	*-4.8*	*1.0*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.75**	**10.81**	**10.81**	**10.90**	**10.70**	**11.20**	*11.17*	*11.34*	*11.54*	*11.72*	*11.95*	*12.20*	**11.31**	*11.10*	*11.85*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	**0.43**	*0.40*	*0.44*	*0.43*	*0.41*	*0.39*	*0.43*	**0.45**	*0.43*	*0.42*
Federal Gulf of Mexico (b)	**1.96**	**1.69**	**1.45**	**1.52**	**1.80**	**1.77**	*1.74*	*1.73*	*1.77*	*1.74*	*1.75*	*1.78*	**1.66**	*1.76*	*1.76*
Lower 48 States (excl GOM)	**10.31**	**8.71**	**8.92**	**8.91**	**8.44**	**9.00**	*9.03*	*9.17*	*9.34*	*9.56*	*9.81*	*9.99*	**9.21**	*8.91*	*9.68*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.51**	**2.87**	**2.99**	*4.50*	*3.73*	*3.77*	*4.77*	*4.82*	*3.96*	**2.70**	*3.53*	*4.33*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	**0.18**	*0.00*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	**-0.18**	**0.58**	*0.15*	*-0.06*	*-0.29*	*-0.02*	*0.27*	*-0.02*	**-0.14**	*0.12*	*-0.01*
Crude Oil Adjustment (d)	**0.67**	**0.03**	**0.38**	**0.32**	**0.42**	**0.58**	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.35**	*0.35*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.90**	**13.81**	**15.54**	*16.04*	*15.22*	*15.28*	*16.74*	*17.30*	*16.41*	**14.21**	*15.16*	*16.44*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.84**	**1.06**	*1.08*	*1.05*	*1.07*	*1.10*	*1.15*	*1.15*	**0.92**	*1.01*	*1.12*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.23**	**4.86**	**5.41**	*5.37*	*5.46*	*5.54*	*5.70*	*5.82*	*5.87*	**5.16**	*5.28*	*5.73*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.07**	**1.03**	**1.11**	*1.10*	*1.09*	*1.08*	*1.11*	*1.13*	*1.13*	**1.01**	*1.08*	*1.11*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	**1.00**	*1.00*	*0.98*	*0.98*	*1.01*	*1.02*	*1.02*	**0.91**	*0.97*	*1.00*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	**0.21**	*0.21*	*0.21*	*0.21*	*0.22*	*0.23*	*0.23*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.32**	**-2.94**	**-3.12**	*-3.48*	*-3.29*	*-3.38*	*-3.67*	*-4.34*	*-4.14*	**-3.35**	*-3.21*	*-3.88*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.03**	**-2.02**	**-2.21**	*-2.26*	*-2.07*	*-2.11*	*-2.25*	*-2.33*	*-2.18*	**-1.94**	*-2.14*	*-2.22*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.19**	**0.14**	**0.36**	*0.42*	*0.29*	*0.21*	*0.25*	*0.30*	*0.20*	**0.27**	*0.30*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.04**	**-0.08**	**-0.06**	*-0.07*	*-0.08*	*-0.09*	*-0.08*	*-0.08*	*-0.09*	**-0.06**	*-0.07*	*-0.08*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.43**	**0.55**	**0.68**	*0.42*	*0.14*	*0.53*	*0.76*	*0.43*	*0.21*	**0.42**	*0.45*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.78**	**-0.66**	**-0.59**	*-0.61*	*-0.63*	*-0.82*	*-0.68*	*-0.74*	*-0.76*	**-0.62**	*-0.62*	*-0.75*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.07**	**0.03**	**0.09**	*0.11*	*0.13*	*0.00*	*0.03*	*0.12*	*0.19*	**0.05**	*0.09*	*0.09*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.74**	**-0.49**	**-0.85**	*-0.91*	*-0.50*	*-0.53*	*-0.97*	*-1.28*	*-1.09*	**-0.98**	*-0.69*	*-0.97*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.05**	**0.08**	**0.04**	*0.00*	*0.05*	*-0.03*	*-0.08*	*-0.06*	*0.04*	**0.02**	*0.04*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.48**	**-0.49**	**-0.59**	*-0.59*	*-0.62*	*-0.53*	*-0.67*	*-0.70*	*-0.65*	**-0.52**	*-0.57*	*-0.64*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.71**	**0.66**	**-0.43**	*-0.24*	*0.49*	*0.30*	*-0.59*	*-0.28*	*0.35*	**-0.03**	*0.12*	*-0.06*
Total Supply	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**19.78**	*20.09*	*20.23*	*20.10*	*20.62*	*21.00*	*21.00*	**18.12**	*19.64*	*20.68*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.70**	**3.40**	**3.10**	*2.97*	*3.64*	*3.84*	*3.29*	*3.30*	*3.84*	**3.20**	*3.28*	*3.57*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**0.03**	**0.05**	**0.09**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.07**	*0.03*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.02**	**8.00**	**9.02**	*9.13*	*8.74*	*8.45*	*9.22*	*9.29*	*8.92*	**8.03**	*8.73*	*8.97*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.84**	**0.82**	**0.94**	*0.93*	*0.89*	*0.86*	*0.94*	*0.94*	*0.93*	**0.82**	*0.90*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	**1.33**	*1.55*	*1.55*	*1.53*	*1.66*	*1.81*	*1.82*	**1.08**	*1.39*	*1.71*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.92**	**3.97**	**4.01**	*4.06*	*4.24*	*4.30*	*4.25*	*4.19*	*4.28*	**3.78**	*4.07*	*4.26*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.23**	**0.26**	**0.24**	*0.28*	*0.24*	*0.23*	*0.21*	*0.26*	*0.26*	**0.22**	*0.25*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.71**	**1.63**	**1.98**	*2.11*	*1.82*	*1.74*	*1.99*	*2.15*	*1.88*	**1.75**	*1.89*	*1.94*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**19.78**	*20.09*	*20.23*	*20.10*	*20.62*	*21.00*	*21.00*	**18.12**	*19.64*	*20.68*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-0.81**	**-0.07**	**-0.12**	*1.02*	*0.44*	*0.39*	*1.11*	*0.48*	*-0.17*	**-0.65**	*0.32*	*0.45*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.3**	**501.9**	**449.3**	*435.5*	*441.0*	*467.6*	*469.1*	*443.9*	*445.9*	**485.3**	*441.0*	*445.9*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**229.2**	**168.6**	**209.1**	*248.4*	*201.8*	*158.9*	*207.4*	*248.5*	*206.7*	**229.2**	*201.8*	*206.7*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.2**	**93.3**	**91.3**	*90.2*	*83.1*	*93.1*	*90.8*	*90.0*	*83.2*	**78.2**	*83.1*	*83.2*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**29.9**	**29.1**	**27.6**	*27.5*	*27.7*	*29.8*	*28.6*	*28.3*	*28.6*	**29.9**	*27.7*	*28.6*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**243.2**	**237.6**	**241.2**	*228.3*	*234.7*	*241.8*	*246.5*	*234.3*	*249.8*	**243.2**	*234.7*	*249.8*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	**20.3**	**22.4**	*22.4*	*24.5*	*24.1*	*23.9*	*23.2*	*26.2*	**25.3**	*24.5*	*26.2*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**217.9**	**217.4**	**218.8**	*205.9*	*210.2*	*217.7*	*222.6*	*211.2*	*223.6*	**217.9**	*210.2*	*223.6*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.6**	**39.0**	**44.6**	*45.9*	*42.2*	*41.2*	*41.7*	*43.9*	*40.7*	**38.6**	*42.2*	*40.7*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**160.4**	**145.5**	**137.6**	*139.8*	*141.8*	*131.0*	*135.6*	*142.6*	*143.6*	**160.4**	*141.8*	*143.6*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	**30.9**	**31.1**	*30.1*	*31.7*	*31.5*	*32.4*	*30.5*	*32.0*	**30.2**	*31.7*	*32.0*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**49.3**	**55.8**	**56.6**	*51.0*	*53.2*	*62.2*	*60.0*	*50.7*	*52.1*	**49.3**	*53.2*	*52.1*
Total Commercial Inventory	**1320.8**	**1452.8**	**1422.0**	**1344.3**	**1301.7**	**1288.4**	*1296.7*	*1257.3*	*1257.2*	*1312.0*	*1312.7*	*1282.5*	**1344.3**	*1257.3*	*1282.5*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	**620.9**	*620.9*	*616.7*	*612.4*	*608.1*	*605.4*	*595.8*	**638.1**	*616.7*	*595.8*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.06**	**1.87**	**2.17**	*2.09*	*2.22*	*2.34*	*2.45*	*2.49*	*2.57*	**2.01**	*2.09*	*2.46*
Propane	**1.72**	**1.61**	**1.68**	**1.70**	**1.62**	**1.73**	*1.73*	*1.73*	*1.73*	*1.73*	*1.76*	*1.77*	**1.68**	*1.70*	*1.75*
Butanes	**0.91**	**0.86**	**0.90**	**0.89**	**0.85**	**0.92**	*0.93*	*0.92*	*0.91*	*0.92*	*0.94*	*0.94*	**0.89**	*0.90*	*0.93*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.58**	**0.53**	**0.59**	*0.62*	*0.59*	*0.57*	*0.60*	*0.63*	*0.60*	**0.58**	*0.58*	*0.60*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	*0.01*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	**0.28**	*0.31*	*0.30*	*0.30*	*0.30*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	**0.29**	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	**0.24**	*0.20*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.28**	**-0.35**	**-0.41**	*-0.38*	*-0.38*	*-0.43*	*-0.45*	*-0.45*	*-0.47*	**-0.28**	*-0.38*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.29**	**-1.11**	**-1.19**	*-1.26*	*-1.13*	*-1.10*	*-1.21*	*-1.28*	*-1.19*	**-1.14**	*-1.17*	*-1.20*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.33**	**-0.35**	**-0.41**	*-0.42*	*-0.37*	*-0.38*	*-0.41*	*-0.41*	*-0.36*	**-0.32**	*-0.38*	*-0.39*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	**-0.20**	*-0.21*	*-0.19*	*-0.21*	*-0.18*	*-0.19*	*-0.17*	**-0.19**	*-0.21*	*-0.18*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	**0.28**	*0.31*	*0.49*	*0.39*	*0.29*	*0.33*	*0.51*	**0.37**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	**0.16**	*0.17*	*0.16*	*0.17*	*0.18*	*0.18*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.81**	**1.54**	**1.81**	*1.70*	*1.87*	*1.99*	*2.00*	*2.05*	*2.09*	**1.70**	*1.73*	*2.03*
Propane	**1.09**	**0.59**	**0.58**	**0.99**	**1.09**	**0.55**	*0.56*	*1.05*	*1.17*	*0.56*	*0.53*	*1.02*	**0.81**	*0.81*	*0.82*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.30**	**0.29**	**0.30**	*0.29*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.24**	**0.22**	**0.22**	*0.20*	*0.20*	*0.17*	*0.22*	*0.20*	*0.20*	**0.20**	*0.21*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.35**	**0.26**	**0.23**	*0.22*	*0.23*	*0.21*	*0.21*	*0.23*	*0.24*	**0.21**	*0.24*	*0.22*
HGL Inventories (million barrels)															
Ethane	**52.6**	**49.5**	**62.5**	**74.9**	**65.8**	**66.6**	*64.2*	*65.7*	*57.7*	*57.1*	*56.2*	*59.1*	**59.9**	*65.6*	*57.5*
Propane	**60.3**	**75.3**	**100.7**	**70.4**	**39.3**	**62.4**	*81.7*	*67.4*	*43.6*	*66.1*	*88.2*	*74.6*	**70.4**	*67.4*	*74.6*
Propylene (at refineries only)	**1.4**	**1.5**	**1.5**	**1.5**	**1.1**	**1.4**	*1.8*	*1.8*	*1.7*	*1.8*	*2.1*	*1.9*	**1.5**	*1.8*	*1.9*
Butanes/Butylenes	**43.6**	**69.3**	**86.0**	**54.7**	**37.2**	**60.4**	*78.4*	*49.6*	*39.6*	*63.9*	*81.6*	*52.5*	**54.7**	*49.6*	*52.5*
Natural Gasoline (Pentanes Plus)	**24.0**	**35.7**	**38.6**	**32.9**	**22.8**	**21.2**	*21.0*	*19.9*	*17.4*	*18.7*	*19.7*	*19.1*	**32.9**	*19.9*	*19.1*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.90**	**13.81**	**15.54**	*16.04*	*15.22*	*15.28*	*16.74*	*17.30*	*16.41*	**14.21**	*15.16*	*16.44*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	**0.45**	*0.48*	*0.65*	*0.56*	*0.47*	*0.51*	*0.69*	**0.51**	*0.53*	*0.56*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	**1.17**	*1.19*	*1.15*	*1.13*	*1.20*	*1.21*	*1.19*	**1.06**	*1.14*	*1.18*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.20**	**-0.08**	**0.30**	*0.43*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.26*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.46**	**0.71**	**0.91**	*0.66*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.63*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.23**	**16.01**	**18.37**	*18.80*	*17.65*	*17.63*	*19.50*	*19.98*	*18.85*	**16.57**	*17.72*	*19.00*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.84**	**1.06**	*1.08*	*1.05*	*1.07*	*1.10*	*1.15*	*1.15*	**0.92**	*1.01*	*1.12*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	**0.81**	*0.79*	*0.40*	*0.50*	*0.86*	*0.80*	*0.41*	**0.55**	*0.61*	*0.64*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**8.98**	**8.74**	**9.84**	*9.83*	*9.55*	*9.35*	*9.96*	*10.09*	*9.89*	**8.74**	*9.49*	*9.82*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	**1.31**	*1.45*	*1.38*	*1.52*	*1.63*	*1.71*	*1.59*	**1.02**	*1.31*	*1.61*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.46**	**4.29**	**4.73**	*4.91*	*4.69*	*4.69*	*5.22*	*5.49*	*5.33*	**4.74**	*4.66*	*5.19*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.15**	**0.19**	**0.20**	*0.27*	*0.21*	*0.26*	*0.30*	*0.30*	*0.24*	**0.19**	*0.22*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	**2.54**	*2.63*	*2.46*	*2.37*	*2.63*	*2.75*	*2.55*	**2.26**	*2.43*	*2.58*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.15**	**16.86**	**19.43**	*19.88*	*18.70*	*18.69*	*20.61*	*21.13*	*20.00*	**17.49**	*18.72*	*20.12*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.32**	**14.25**	**16.03**	*16.39*	*15.61*	*15.62*	*16.91*	*17.48*	*16.65*	**14.72**	*15.58*	*16.67*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.66**	*18.12*	*18.13*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.79**	**0.88**	*0.90*	*0.86*	*0.86*	*0.93*	*0.96*	*0.92*	**0.79**	*0.86*	*0.92*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**180**	**217**	*221*	*201*	*190*	*202*	*200*	*186*	**133**	*206*	*194*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	**287**	*295*	*276*	*259*	*270*	*273*	*259*	**214**	*278*	*266*
PADD 2	**226**	**179**	**207**	**202**	**247**	**288**	*288*	*265*	*244*	*269*	*265*	*249*	**204**	*273*	*257*
PADD 3	**210**	**162**	**186**	**183**	**228**	**268**	*272*	*250*	*239*	*250*	*247*	*234*	**187**	*256*	*243*
PADD 4	**247**	**201**	**233**	**221**	**247**	**311**	*323*	*289*	*270*	*287*	*288*	*271*	**226**	*293*	*279*
PADD 5	**311**	**258**	**283**	**278**	**312**	**365**	*374*	*348*	*343*	*357*	*345*	*350*	**284**	*351*	*349*
U.S. Average	**241**	**194**	**218**	**215**	**256**	**297**	*304*	*281*	*266*	*282*	*279*	*268*	**218**	*285*	*274*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	**306**	*315*	*294*	*280*	*295*	*293*	*282*	**227**	*296*	*288*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**68.5**	**65.1**	**70.3**	*60.2*	*60.0*	*65.4*	*68.1*	*63.8*	*69.2*	**68.5**	*60.0*	*69.2*
PADD 2	**60.2**	**52.6**	**46.2**	**50.9**	**50.7**	**51.0**	*50.2*	*50.2*	*53.4*	*52.3*	*50.7*	*51.1*	**50.9**	*50.2*	*51.1*
PADD 3	**84.8**	**90.5**	**79.7**	**83.7**	**81.9**	**84.3**	*81.3*	*85.5*	*85.1*	*88.9*	*83.0*	*89.7*	**83.7**	*85.5*	*89.7*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	**6.2**	*7.2*	*8.0*	*7.9*	*7.8*	*7.5*	*8.2*	**8.7**	*8.0*	*8.2*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	**31.4**	**29.4**	*29.5*	*31.1*	*30.0*	*29.5*	*29.4*	*31.7*	**31.4**	*31.1*	*31.7*
U.S. Total	**260.8**	**253.3**	**226.5**	**243.2**	**237.6**	**241.2**	*228.3*	*234.7*	*241.8*	*246.5*	*234.3*	*249.8*	**243.2**	*234.7*	*249.8*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	**20.3**	**22.4**	*22.4*	*24.5*	*24.1*	*23.9*	*23.2*	*26.2*	**25.3**	*24.5*	*26.2*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**217.9**	**217.4**	**218.8**	*205.9*	*210.2*	*217.7*	*222.6*	*211.2*	*223.6*	**217.9**	*210.2*	*223.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.70**	**97.33**	**100.49**	*100.76*	*101.43*	*101.26*	*101.75*	*102.89*	*103.61*	**98.83**	*100.01*	*102.39*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	**0.85**	*0.73*	*0.88*	*0.92*	*0.80*	*0.73*	*0.87*	**0.92**	*0.87*	*0.83*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.73**	**2.26**	**2.23**	*2.10*	*2.03*	*2.04*	*1.97*	*1.87*	*1.84*	**2.09**	*2.16*	*1.93*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**95.99**	**94.05**	**97.41**	*97.92*	*98.51*	*98.30*	*98.98*	*100.29*	*100.90*	**95.81**	*96.99*	*99.63*
Total Dry Gas Production	**94.79**	**89.68**	**89.83**	**91.15**	**90.31**	**92.88**	*93.17*	*93.80*	*93.65*	*94.10*	*95.16*	*95.82*	**91.35**	*92.55*	*94.69*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	**0.12**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.16*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	**9.89**	*9.24*	*9.83*	*10.47*	*9.73*	*9.41*	*11.00*	**6.53**	*9.56*	*10.15*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.68**	**6.68**	*6.71*	*6.84*	*7.38*	*6.36*	*6.38*	*6.71*	**6.84**	*7.22*	*6.70*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.21**	**8.31**	**8.70**	*9.45*	*9.56*	*9.36*	*8.67*	*9.39*	*9.38*	**7.91**	*9.01*	*9.20*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.18**	**0.18**	**0.18**	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.17**	*0.18*	*0.18*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	**-9.09**	*-8.14*	*5.69*	*17.35*	*-11.01*	*-9.13*	*4.98*	**-0.46**	*1.35*	*0.49*
Total Supply	**99.49**	**71.12**	**76.78**	**87.06**	**98.92**	**72.18**	*73.41*	*87.31*	*99.05*	*71.40*	*73.97*	*87.51*	**83.61**	*82.90*	*82.93*
Balancing Item (b)	**-0.18**	**-0.29**	**0.05**	**-0.98**	**0.25**	**-0.14**	*-1.25*	*-1.15*	*-1.15*	*0.69*	*0.41*	*-0.18*	**-0.35**	*-0.58*	*-0.05*
Total Primary Supply	**99.31**	**70.84**	**76.83**	**86.08**	**99.17**	**72.04**	*72.16*	*86.16*	*97.90*	*72.10*	*74.38*	*87.33*	**83.25**	*82.32*	*82.87*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.82**	**16.00**	**25.59**	**7.45**	*3.73*	*16.86*	*25.06*	*7.90*	*3.69*	*16.92*	**12.70**	*13.35*	*13.34*
Commercial	**13.93**	**5.82**	**4.36**	**10.31**	**14.81**	**6.49**	*4.76*	*10.95*	*14.84*	*6.27*	*4.71*	*10.85*	**8.60**	*9.23*	*9.14*
Industrial	**24.65**	**20.62**	**21.15**	**23.83**	**24.05**	**21.83**	*21.26*	*24.24*	*24.72*	*22.08*	*21.49*	*23.92*	**22.56**	*22.84*	*23.05*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.65**	**28.85**	*35.09*	*26.56*	*25.52*	*28.37*	*37.00*	*27.75*	**31.74**	*29.30*	*29.69*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	**4.92**	**5.08**	*5.09*	*5.13*	*5.12*	*5.14*	*5.20*	*5.24*	**5.00**	*5.06*	*5.18*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.61**	**3.01**	**2.19**	*2.08*	*2.28*	*2.47*	*2.16*	*2.12*	*2.49*	**2.53**	*2.39*	*2.31*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	**0.14**	**0.15**	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.84**	**76.83**	**86.08**	**99.17**	**72.04**	*72.16*	*86.16*	*97.90*	*72.10*	*74.38*	*87.33*	**83.25**	*82.32*	*82.87*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,030**	**3,133**	**3,840**	**3,341**	**1,801**	**2,628**	*3,377*	*2,853*	*1,291*	*2,294*	*3,134*	*2,675*	**3,341**	*2,853*	*2,675*
East Region (d)	**385**	**655**	**890**	**763**	**313**	**528**	*826*	*623*	*115*	*399*	*659*	*448*	**763**	*623*	*448*
Midwest Region (d)	**472**	**747**	**1,053**	**918**	**395**	**639**	*972*	*787*	*202*	*484*	*863*	*732*	**918**	*787*	*732*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	**1,010**	*1,068*	*1,005*	*660*	*921*	*1,011*	*941*	**1,155**	*1,005*	*941*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	**177**	*216*	*175*	*117*	*166*	*230*	*210*	**195**	*175*	*210*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	**248**	*269*	*238*	*172*	*298*	*344*	*319*	**282**	*238*	*319*
Alaska	**23**	**25**	**31**	**28**	**23**	**26**	*26*	*26*	*26*	*26*	*26*	*26*	**28**	*26*	*26*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	*3.35*	*3.27*	*3.29*	*3.01*	*3.06*	*3.11*	**2.11**	*3.34*	*3.12*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**14.64**	**14.78**	**15.80**	*17.97*	*13.70*	*13.24*	*14.07*	*16.90*	*12.97*	**14.47**	*14.82*	*13.52*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.77**	**10.41**	**13.34**	*17.41*	*11.19*	*10.14*	*12.38*	*17.05*	*11.14*	**11.76**	*11.43*	*11.23*
E. N. Central	**6.99**	**9.50**	**18.15**	**8.02**	**7.41**	**11.79**	*17.32*	*8.82*	*7.98*	*10.76*	*16.37*	*8.11*	**8.39**	*8.91*	*8.91*
W. N. Central	**6.85**	**9.89**	**17.26**	**8.66**	**7.59**	**11.04**	*17.36*	*9.42*	*8.14*	*10.91*	*16.94*	*8.98*	**8.48**	*9.05*	*9.26*
S. Atlantic	**12.12**	**15.52**	**24.15**	**14.20**	**12.10**	**17.26**	*23.18*	*12.79*	*11.38*	*16.41*	*22.55*	*12.37*	**14.23**	*13.73*	*13.17*
E. S. Central	**9.69**	**13.34**	**20.85**	**10.63**	**9.53**	**14.48**	*22.28*	*13.55*	*10.61*	*14.99*	*22.03*	*13.19*	**11.15**	*11.61*	*12.70*
W. S. Central	**8.52**	**14.22**	**20.83**	**11.67**	**9.32**	**14.90**	*20.82*	*11.88*	*9.05*	*14.46*	*20.27*	*11.35*	**11.40**	*11.75*	*11.44*
Mountain	**7.55**	**9.37**	**12.60**	**8.15**	**7.90**	**10.19**	*14.10*	*8.83*	*8.28*	*9.94*	*13.68*	*8.51*	**8.43**	*8.89*	*9.02*
Pacific	**13.41**	**14.47**	**14.50**	**13.70**	**14.28**	**15.17**	*15.31*	*13.84*	*13.87*	*14.49*	*15.22*	*14.15*	**13.82**	*14.43*	*14.23*
U.S. Average	**9.46**	**11.89**	**17.65**	**10.60**	**9.79**	**13.56**	*17.81*	*10.92*	*9.87*	*12.62*	*17.33*	*10.54*	**10.83**	*11.24*	*11.01*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**10.06**	**10.38**	**10.85**	*11.08*	*10.37*	*10.65*	*10.62*	*10.26*	*10.03*	**10.16**	*10.51*	*10.41*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.53**	**7.87**	**8.04**	*7.36*	*7.73*	*8.02*	*7.73*	*7.19*	*7.64*	**7.50**	*7.79*	*7.75*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.21**	**6.12**	**8.16**	*9.66*	*7.37*	*7.02*	*7.68*	*8.60*	*6.43*	**6.28**	*7.06*	*7.05*
W. N. Central	**5.43**	**6.53**	**8.12**	**6.55**	**6.38**	**7.50**	*9.11*	*7.45*	*7.22*	*7.61*	*8.79*	*6.92*	**6.14**	*7.07*	*7.29*
S. Atlantic	**8.51**	**9.21**	**9.55**	**8.88**	**8.79**	**9.63**	*10.14*	*9.08*	*8.66*	*9.29*	*9.47*	*8.36*	**8.87**	*9.18*	*8.77*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	**8.43**	**9.56**	*10.44*	*9.23*	*8.54*	*9.44*	*9.94*	*8.76*	**8.78**	*9.05*	*8.89*
W. S. Central	**5.99**	**7.18**	**8.13**	**7.46**	**7.01**	**7.56**	*8.72*	*8.11*	*7.25*	*7.64*	*8.01*	*7.24*	**6.92**	*7.63*	*7.43*
Mountain	**6.09**	**6.85**	**7.42**	**6.45**	**6.50**	**7.50**	*8.51*	*7.44*	*7.17*	*7.46*	*8.23*	*7.04*	**6.46**	*7.15*	*7.29*
Pacific	**9.58**	**9.30**	**9.59**	**9.70**	**10.50**	**10.24**	*10.36*	*9.59*	*9.42*	*9.18*	*9.57*	*9.14*	**9.57**	*10.15*	*9.31*
U.S. Average	**7.13**	**7.63**	**8.49**	**7.53**	**7.56**	**8.57**	*9.15*	*8.16*	*7.91*	*8.24*	*8.57*	*7.62*	**7.48**	*8.08*	*7.95*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.67**	**8.58**	**8.25**	*7.15*	*8.00*	*8.39*	*7.67*	*6.65*	*7.61*	**7.54**	*8.09*	*7.72*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.61**	**7.70**	**7.33**	*7.49*	*7.62*	*8.08*	*7.72*	*7.55*	*7.93*	**7.28**	*7.58*	*7.91*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.10**	**5.39**	**7.20**	*6.20*	*5.85*	*6.05*	*5.69*	*5.54*	*5.48*	**4.86**	*5.92*	*5.76*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.13**	**5.20**	**4.18**	*4.63*	*5.13*	*5.33*	*4.54*	*4.38*	*4.85*	**3.68**	*4.83*	*4.82*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	**5.05**	**4.69**	*5.18*	*5.34*	*5.46*	*4.74*	*4.65*	*4.89*	**4.06**	*5.07*	*4.96*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.04**	**4.64**	**4.23**	*4.78*	*5.05*	*5.14*	*4.48*	*4.25*	*4.59*	**3.65**	*4.68*	*4.65*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.89**	**5.75**	**3.13**	*3.65*	*3.49*	*3.48*	*3.18*	*3.24*	*3.27*	**2.31**	*3.90*	*3.29*
Mountain	**4.40**	**4.59**	**4.67**	**4.91**	**5.00**	**5.23**	*5.90*	*5.94*	*5.91*	*5.57*	*5.66*	*5.45*	**4.64**	*5.46*	*5.66*
Pacific	**7.46**	**6.28**	**6.18**	**7.23**	**8.30**	**7.23**	*7.31*	*7.22*	*7.18*	*6.58*	*6.78*	*6.79*	**6.86**	*7.50*	*6.85*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.77**	**5.72**	**3.96**	*4.29*	*4.47*	*4.67*	*3.98*	*3.89*	*4.20*	**3.29**	*4.63*	*4.20*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.1**	**115.2**	**135.8**	**139.0**	**138.7**	**152.7**	*166.7*	*159.1*	*158.0*	*145.8*	*155.1*	*151.4*	**539.1**	*617.3*	*610.4*
Appalachia	**39.7**	**29.3**	**33.9**	**35.5**	**34.8**	**38.2**	*38.8*	*39.3*	*41.5*	*40.6*	*37.8*	*38.8*	**138.3**	*151.2*	*158.7*
Interior	**25.8**	**19.2**	**23.2**	**22.3**	**22.4**	**25.3**	*28.7*	*28.3*	*29.0*	*27.3*	*28.3*	*27.8*	**90.4**	*104.6*	*112.5*
Western	**83.6**	**66.7**	**78.8**	**81.2**	**81.5**	**89.2**	*99.2*	*91.6*	*87.5*	*77.8*	*89.1*	*84.8*	**310.3**	*361.6*	*339.2*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-0.9**	**0.3**	**1.1**	*2.3*	*-1.9*	*-1.3*	*-2.1*	*-0.9*	*-5.3*	**2.8**	*1.8*	*-9.6*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	**1.5**	*1.5*	*1.3*	*1.0*	*1.1*	*1.3*	*1.3*	**5.1**	*5.5*	*4.7*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	**18.5**	*20.2*	*24.5*	*30.2*	*20.9*	*21.2*	*26.7*	**69.1**	*83.8*	*99.1*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	**10.0**	*12.9*	*13.6*	*16.8*	*12.1*	*13.8*	*14.7*	**42.1**	*46.9*	*57.4*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	**8.5**	*7.2*	*10.9*	*13.4*	*8.9*	*7.5*	*12.0*	**27.0**	*36.9*	*41.7*
Total Primary Supply	**130.9**	**102.9**	**123.8**	**120.3**	**119.5**	**136.9**	*150.4*	*134.1*	*127.6*	*123.7*	*134.4*	*120.7*	**477.9**	*540.8*	*506.4*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-3.3**	**20.2**	**-13.3**	*18.8*	*-1.5*	*9.1*	*-9.3*	*20.7*	*2.6*	**-3.5**	*24.2*	*23.0*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	**2.0**	*2.0*	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.2**	**99.4**	**147.3**	**119.3**	**141.6**	**125.6**	*171.2*	*134.5*	*138.5*	*116.3*	*156.9*	*125.1*	**482.1**	*573.0*	*536.8*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**4.4**	**5.1**	*4.3*	*4.6*	*6.1*	*5.0*	*4.6*	*5.1*	**14.4**	*18.3*	*20.7*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**128.1**	**111.7**	*159.8*	*122.5*	*124.9*	*104.1*	*145.2*	*112.8*	**436.5**	*522.2*	*487.0*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.2**	**7.0**	**7.0**	*7.1*	*7.4*	*7.5*	*7.2*	*7.1*	*7.3*	**26.4**	*28.5*	*29.1*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.8*
Other Industrial	**7.1**	**5.6**	**5.9**	**7.0**	**6.8**	**6.8**	*6.9*	*7.2*	*7.3*	*7.0*	*6.9*	*7.1*	**25.6**	*27.7*	*28.4*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	**139.5**	**123.8**	*171.2*	*134.5*	*138.5*	*116.3*	*156.9*	*125.1*	**477.3**	*569.0*	*536.8*
Discrepancy (c)	**6.7**	**2.9**	**-1.3**	**-3.5**	**2.1**	**1.9**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**4.8**	*4.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	**28.1**	**27.0**	*24.7*	*26.6*	*27.9*	*30.1*	*30.9*	*36.2*	**28.5**	*26.6*	*36.2*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**137.5**	**117.3**	**130.6**	*111.8*	*113.3*	*104.2*	*113.5*	*92.8*	*90.2*	**137.5**	*113.3*	*90.2*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**124.8**	*105.9*	*107.7*	*98.7*	*107.7*	*86.9*	*84.5*	**132.7**	*107.7*	*84.5*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**3.8**	**3.6**	*3.6*	*3.4*	*3.7*	*3.5*	*3.5*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.5**	**2.0**	*2.1*	*2.0*	*1.7*	*2.1*	*2.3*	*2.2*	**1.7**	*2.0*	*2.2*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	**6.32**	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	*0.284*	*0.321*	*0.314*	*0.270*	*0.271*	*0.280*	**0.216**	*0.277*	*0.283*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.89**	*1.89*	*1.85*	*1.87*	*1.86*	*1.84*	*1.82*	**1.92**	*1.88*	*1.85*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**989**	**984**	*1,134*	*970*	*981*	*994*	*1,148*	*983*	**4,009**	*4,077*	*4,107*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	**948**	*1,098*	*935*	*945*	*958*	*1,109*	*946*	**3,853**	*3,933*	*3,959*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	**32**	*33*	*32*	*32*	*32*	*35*	*34*	**143**	*131*	*134*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**10**	**11**	**15**	**12**	**9**	**11**	*14*	*11*	*12*	*12*	*14*	*11*	**47**	*45*	*50*
Total Supply	**976**	**944**	**1,163**	**973**	**998**	**995**	*1,148*	*981*	*993*	*1,007*	*1,163*	*994*	**4,056**	*4,122*	*4,157*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**51**	**70**	*54*	*55*	*45*	*68*	*57*	*55*	**254**	*229*	*225*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**914**	**894**	*1,062*	*895*	*917*	*907*	*1,071*	*906*	**3,664**	*3,765*	*3,801*
Residential Sector	**340**	**334**	**453**	**334**	**379**	**334**	*438*	*338*	*366*	*333*	*440*	*344*	**1,462**	*1,489*	*1,482*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	**317**	*365*	*315*	*311*	*324*	*368*	*318*	**1,276**	*1,303*	*1,321*
Industrial Sector	**231**	**216**	**242**	**231**	**229**	**241**	*257*	*240*	*238*	*248*	*262*	*243*	**920**	*966*	*992*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	**31**	*32*	*32*	*32*	*32*	*34*	*33*	**138**	*127*	*131*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	**925**	*1,094*	*926*	*948*	*939*	*1,105*	*939*	**3,802**	*3,892*	*3,932*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,741**	**2,416**	*3,172*	*2,446*	*2,614*	*2,380*	*3,141*	*2,455*	**10,723**	*10,775*	*10,590*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**124.8**	*105.9*	*107.7*	*98.7*	*107.7*	*86.9*	*84.5*	**132.7**	*107.7*	*84.5*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	**8.0**	*8.2*	*8.4*	*7.9*	*7.9*	*7.9*	*8.3*	**8.3**	*8.4*	*8.3*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**15.9**	**15.6**	*15.6*	*15.9*	*15.8*	*15.6*	*15.6*	*15.9*	**16.8**	*15.9*	*15.9*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.89**	*1.89*	*1.85*	*1.87*	*1.86*	*1.84*	*1.82*	**1.92**	*1.88*	*1.85*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.27**	**3.18**	*3.41*	*3.49*	*3.72*	*3.06*	*3.07*	*3.29*	**2.39**	*4.24*	*3.26*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**12.88**	*13.15*	*13.03*	*12.97*	*13.31*	*12.40*	*12.01*	**9.15**	*12.54*	*12.66*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.54**	*16.72*	*16.55*	*16.09*	*15.87*	*15.59*	*15.49*	**10.73**	*15.29*	*15.79*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.61**	*13.83*	*13.71*	*13.60*	*13.91*	*13.95*	*13.77*	**13.20**	*13.57*	*13.81*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.09**	*11.48*	*11.04*	*11.40*	*11.31*	*11.60*	*11.12*	**10.65**	*11.19*	*11.37*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**7.00**	*7.20*	*6.61*	*6.96*	*6.96*	*7.21*	*6.60*	**6.66**	*6.99*	*6.94*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	**39.74**	*23.90*	*24.77*	*28.82*	*32.38*	*33.83*	*27.14*	**26.99**	*176.19*	*30.54*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	**36.90**	*50.44*	*41.16*	*42.90*	*40.41*	*44.28*	*39.43*	**38.15**	*43.31*	*41.75*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	**33.67**	*36.59*	*40.90*	*53.00*	*29.87*	*31.81*	*35.94*	**26.52**	*41.61*	*37.65*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	**31.85**	*36.08*	*35.01*	*40.42*	*31.86*	*33.63*	*31.65*	**22.85**	*36.92*	*34.39*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	**33.71**	*35.18*	*32.97*	*34.62*	*32.62*	*36.24*	*33.10*	**24.49**	*34.24*	*34.15*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	**33.82**	*35.25*	*32.24*	*32.74*	*32.73*	*35.72*	*32.28*	**25.43**	*36.57*	*33.37*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	**30.86**	*33.97*	*28.28*	*28.33*	*28.18*	*33.97*	*28.34*	**22.55**	*85.85*	*29.70*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	**32.93**	*31.92*	*31.31*	*30.80*	*30.54*	*32.52*	*29.54*	**22.62**	*34.32*	*30.85*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	**32.17**	*31.68*	*30.71*	*30.62*	*28.62*	*29.25*	*28.73*	**23.48**	*30.57*	*29.30*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	**51.51**	*44.05*	*37.94*	*39.55*	*35.98*	*38.99*	*35.94*	**25.46**	*42.01*	*37.61*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	**46.57**	*44.83*	*33.33*	*33.56*	*33.40*	*35.26*	*31.62*	**39.64**	*41.61*	*33.46*

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**12.9**	**10.9**	*13.8*	*11.2*	*12.4*	*10.5*	*13.0*	*11.1*	**48.2**	*48.9*	*47.0*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**36.1**	**30.1**	*40.9*	*31.6*	*36.8*	*29.9*	*39.3*	*31.6*	**137.1**	*138.6*	*137.6*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.2**	**43.3**	*54.1*	*44.8*	*48.5*	*42.5*	*53.7*	*45.3*	**190.0**	*192.3*	*189.9*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.9**	**23.9**	*29.9*	*25.8*	*31.5*	*24.5*	*31.5*	*27.2*	**105.8**	*109.6*	*114.7*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**95.2**	**87.7**	*112.4*	*85.6*	*91.3*	*87.2*	*111.5*	*86.7*	**370.6**	*381.0*	*376.8*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.8**	**25.8**	*37.0*	*27.4*	*32.7*	*26.4*	*37.6*	*27.8*	**118.8**	*124.0*	*124.4*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**56.8**	**51.7**	*74.2*	*49.2*	*51.4*	*53.8*	*77.6*	*50.8*	**226.5**	*231.9*	*233.7*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.7**	**26.2**	*33.6*	*23.8*	*23.0*	*25.1*	*33.7*	*24.1*	**108.4**	*107.3*	*106.0*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**39.0**	**33.1**	*41.3*	*37.4*	*36.8*	*32.0*	*40.5*	*37.5*	**151.5**	*150.8*	*146.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**378.9**	**333.9**	*438.4*	*338.1*	*365.7*	*333.1*	*439.6*	*343.5*	**1,462.0**	*1,489.4*	*1,482.0*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	**11.3**	*12.9*	*11.4*	*11.7*	*11.1*	*12.6*	*11.4*	**47.5**	*47.3*	*46.8*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.6**	**33.5**	*39.5*	*34.5*	*36.0*	*34.4*	*39.7*	*35.0*	**138.9**	*142.1*	*145.0*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.7**	**41.7**	*47.5*	*42.2*	*42.8*	*42.3*	*47.7*	*42.3*	**169.7**	*173.1*	*175.1*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.0**	**23.7**	*27.3*	*24.3*	*25.0*	*24.3*	*27.9*	*24.7*	**96.0**	*99.4*	*101.9*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.8**	**75.7**	*86.1*	*72.7*	*71.9*	*77.0*	*86.5*	*73.2*	**300.2**	*305.3*	*308.7*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.9**	**21.7**	*25.8*	*20.8*	*21.2*	*22.3*	*26.1*	*20.9*	**85.8**	*89.2*	*90.4*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.4**	**49.7**	*57.1*	*47.3*	*43.2*	*51.6*	*58.2*	*47.9*	**189.4**	*196.5*	*200.9*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	**24.3**	*27.3*	*23.1*	*22.4*	*24.4*	*27.5*	*23.3*	**94.7**	*96.7*	*97.7*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**35.2**	**34.6**	*40.5*	*37.7*	*35.8*	*35.2*	*40.3*	*37.7*	**148.3**	*148.0*	*149.0*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	*1.3*	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	**5.2**	*5.2*	*5.4*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.6**	**317.4**	*365.3*	*315.4*	*311.3*	*323.9*	*367.9*	*317.7*	**1,275.7**	*1,302.7*	*1,320.9*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.8**	**3.9**	*4.0*	*3.8*	*3.9*	*3.9*	*4.0*	*3.7*	**14.8**	*15.4*	*15.5*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.6**	**17.4**	*19.2*	*18.1*	*18.3*	*17.9*	*19.7*	*18.4*	**70.4**	*72.3*	*74.2*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.8**	**44.7**	*47.9*	*44.4*	*47.5*	*46.3*	*48.9*	*44.9*	**168.7**	*181.7*	*187.5*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.0**	**23.1**	*25.4*	*23.5*	*24.6*	*24.4*	*26.1*	*24.0*	**87.3**	*95.0*	*99.0*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.4**	**34.4**	*35.6*	*34.5*	*34.6*	*35.3*	*36.2*	*34.9*	**131.7**	*138.0*	*141.0*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.8**	**24.2**	*24.8*	*23.6*	*24.6*	*24.6*	*24.8*	*23.4*	**91.1**	*96.4*	*97.5*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**44.1**	**50.5**	*52.4*	*51.4*	*45.7*	*52.6*	*54.1*	*53.1*	**188.1**	*198.4*	*205.5*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.2**	**20.9**	*22.9*	*20.0*	*19.4*	*21.1*	*23.1*	*20.2*	**82.9**	*82.9*	*83.9*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.1**	**20.8**	*23.4*	*19.5*	*18.5*	*21.2*	*23.7*	*19.6*	**80.1**	*81.8*	*83.0*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	**1.1**	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.5*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**228.8**	**241.0**	*256.7*	*239.9*	*238.1*	*248.4*	*261.8*	*243.4*	**919.5**	*966.5*	*991.7*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	**26.2**	*30.9*	*26.5*	*28.1*	*25.6*	*29.7*	*26.3*	**111.0**	*112.0*	*109.7*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.2**	**81.7**	*100.4*	*84.9*	*91.9*	*83.0*	*99.4*	*85.7*	**349.7**	*356.2*	*360.0*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.9**	**129.8**	*149.6*	*131.4*	*138.9*	*131.2*	*150.4*	*132.6*	**528.8**	*547.7*	*553.1*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.0**	**70.8**	*82.6*	*73.7*	*81.0*	*73.2*	*85.6*	*75.9*	**289.2**	*304.0*	*315.7*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.7**	**198.2**	*234.3*	*193.1*	*198.1*	*199.8*	*234.5*	*195.1*	**803.7**	*825.4*	*827.6*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.5**	**71.7**	*87.6*	*71.8*	*78.4*	*73.2*	*88.6*	*72.1*	**295.7**	*309.5*	*312.3*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**143.3**	**152.0**	*183.8*	*148.0*	*140.4*	*158.1*	*190.0*	*151.9*	**604.2**	*627.0*	*640.3*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	**71.5**	*83.8*	*67.0*	*64.9*	*70.7*	*84.4*	*67.7*	**286.2**	*287.1*	*287.7*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**92.5**	**88.7**	*105.3*	*94.7*	*91.4*	*88.5*	*104.7*	*95.0*	**380.6**	*381.3*	*379.6*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	**3.5**	*3.7*	*3.8*	*3.6*	*3.6*	*3.7*	*3.9*	**14.6**	*14.7*	*14.8*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**914.0**	**893.9**	*1,062.0*	*894.9*	*916.8*	*907.0*	*1,070.9*	*906.2*	**3,663.7**	*3,764.9*	*3,800.8*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.38**	**21.61**	*21.96*	*22.40*	*23.43*	*23.77*	*23.95*	*23.99*	**21.20**	*21.83*	*23.78*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.62**	**16.63**	*16.99*	*16.77*	*16.19*	*16.97*	*17.21*	*16.83*	**15.92**	*16.51*	*16.80*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.38**	**14.29**	*13.79*	*14.11*	*13.85*	*14.68*	*14.05*	*14.30*	**13.48**	*13.87*	*14.20*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.88**	**13.05**	*13.62*	*11.71*	*10.66*	*12.64*	*13.08*	*11.39*	**11.99**	*12.30*	*11.92*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.66**	**11.86**	*12.33*	*12.25*	*12.29*	*12.35*	*12.67*	*12.31*	**11.88**	*12.04*	*12.42*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.18**	**12.25**	*11.86*	*11.85*	*11.64*	*12.46*	*11.90*	*11.87*	**11.36**	*11.75*	*11.95*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**11.85**	**11.71**	*12.01*	*12.16*	*12.47*	*11.51*	*11.59*	*11.84*	**11.29**	*11.94*	*11.82*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.53**	**12.18**	*12.40*	*11.88*	*11.82*	*12.43*	*12.54*	*11.97*	**11.88**	*12.04*	*12.23*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.76**	**16.96**	*18.01*	*16.84*	*17.03*	*17.78*	*18.75*	*17.28*	**16.67**	*17.16*	*17.74*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.61**	*13.83*	*13.71*	*13.60*	*13.91*	*13.95*	*13.77*	**13.20**	*13.57*	*13.81*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.28**	**15.55**	*16.51*	*16.47*	*17.23*	*16.44*	*17.24*	*16.95*	**15.90**	*16.22*	*16.98*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.48**	**13.50**	*13.88*	*13.02*	*12.89*	*13.78*	*13.92*	*12.95*	**12.47**	*13.24*	*13.40*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.40**	**10.67**	*10.58*	*10.72*	*10.70*	*10.84*	*10.67*	*10.77*	**10.19**	*10.59*	*10.74*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.10**	**10.40**	*11.16*	*9.55*	*8.87*	*9.83*	*10.51*	*9.17*	**9.66**	*10.08*	*9.62*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.29**	**8.90**	*9.37*	*9.66*	*9.69*	*9.08*	*9.39*	*9.58*	**9.13**	*9.31*	*9.43*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.96**	**11.26**	*11.15*	*11.16*	*11.28*	*11.39*	*11.25*	*11.27*	**10.70**	*11.14*	*11.30*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**11.27**	**8.80**	*8.29*	*7.94*	*11.08*	*8.96*	*8.54*	*8.15*	**7.90**	*8.98*	*9.10*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.11**	**9.88**	*10.31*	*9.45*	*9.21*	*9.96*	*10.30*	*9.42*	**9.58**	*9.73*	*9.75*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.53**	**16.59**	*18.27*	*15.80*	*15.30*	*17.59*	*19.13*	*16.51*	**15.18**	*16.36*	*17.18*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.09**	*11.48*	*11.04*	*11.40*	*11.31*	*11.60*	*11.12*	**10.65**	*11.19*	*11.37*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.49**	**12.67**	*12.81*	*12.51*	*13.91*	*12.97*	*13.02*	*12.64*	**12.26**	*12.87*	*13.14*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.50**	**6.63**	*6.42*	*6.27*	*6.35*	*6.47*	*6.27*	*6.11*	**6.35**	*6.45*	*6.30*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.92**	**6.90**	*6.86*	*6.77*	*6.92*	*6.93*	*6.92*	*6.81*	**6.66**	*6.86*	*6.90*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**6.98**	**7.37**	*7.99*	*6.74*	*6.91*	*7.43*	*8.11*	*6.85*	**7.20**	*7.29*	*7.34*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.24**	**6.29**	*6.67*	*6.20*	*6.27*	*6.23*	*6.64*	*6.16*	**6.17**	*6.35*	*6.33*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.75**	**5.86**	*5.84*	*5.59*	*5.69*	*5.82*	*5.83*	*5.56*	**5.54**	*5.76*	*5.72*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.61**	**5.71**	*5.23*	*4.97*	*6.60*	*5.49*	*5.19*	*4.86*	**5.07**	*5.81*	*5.50*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.24**	**6.60**	*7.00*	*6.00*	*6.27*	*6.61*	*6.99*	*6.02*	**6.21**	*6.48*	*6.49*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.64**	**11.32**	*12.80*	*11.32*	*9.95*	*11.63*	*13.15*	*11.67*	**10.71**	*11.37*	*11.70*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**7.00**	*7.20*	*6.61*	*6.96*	*6.96*	*7.21*	*6.60*	**6.66**	*6.99*	*6.94*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.19**	**17.63**	*18.44*	*18.37*	*19.48*	*18.88*	*19.57*	*19.28*	**17.68**	*18.17*	*19.32*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.56**	**13.18**	*13.71*	*12.97*	*12.91*	*13.35*	*13.70*	*12.91*	**12.58**	*13.12*	*13.23*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.35**	**10.57**	*10.55*	*10.54*	*10.50*	*10.70*	*10.65*	*10.63*	**10.24**	*10.50*	*10.62*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.16**	**10.30**	*11.08*	*9.41*	*8.97*	*9.97*	*10.72*	*9.23*	**9.77**	*10.01*	*9.74*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.91**	**9.76**	*10.38*	*10.19*	*10.29*	*10.00*	*10.53*	*10.18*	**9.91**	*10.07*	*10.26*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.47**	**9.79**	*9.95*	*9.59*	*9.67*	*9.90*	*10.01*	*9.64*	**9.38**	*9.71*	*9.82*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.37**	**8.76**	*8.92*	*8.32*	*10.13*	*8.67*	*8.83*	*8.23*	**8.29**	*9.07*	*8.94*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.15**	**9.76**	*10.24*	*9.28*	*9.26*	*9.84*	*10.29*	*9.31*	**9.48**	*9.65*	*9.71*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.50**	**15.48**	*16.94*	*15.27*	*14.90*	*16.22*	*17.61*	*15.80*	**14.82**	*15.60*	*16.18*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.94**	**10.93**	*11.41*	*10.86*	*11.12*	*11.07*	*11.49*	*10.91*	**10.66**	*11.05*	*11.16*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**318.2**	**341.3**	*416.4*	*322.8*	*307.0*	*338.2*	*441.9*	*339.9*	**1,512.2**	*1,398.6*	*1,427.0*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**230.3**	**196.9**	*286.2*	*216.6*	*225.3*	*182.4*	*257.0*	*196.6*	**768.2**	*930.1*	*861.3*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.5**	**187.3**	*204.0*	*186.3*	*188.7*	*185.1*	*197.1*	*185.8*	**789.9**	*776.0*	*756.7*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**198.0**	**218.7**	*187.9*	*203.7*	*217.8*	*247.9*	*209.1*	*217.9*	**760.6**	*808.3*	*892.7*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**69.8**	*58.7*	*56.0*	*67.2*	*79.2*	*64.7*	*58.6*	**289.9**	*253.9*	*269.7*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**101.8**	*80.3*	*110.5*	*110.8*	*112.3*	*87.2*	*117.2*	**336.7**	*388.9*	*427.6*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.3**	*35.4*	*24.0*	*28.4*	*45.2*	*44.9*	*29.7*	**90.1**	*116.1*	*148.2*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**7.7**	*9.2*	*9.0*	*7.3*	*7.5*	*8.1*	*8.2*	**27.5**	*32.9*	*31.1*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.1**	*4.2*	*4.3*	*4.0*	*3.7*	*4.2*	*4.3*	**16.5**	*16.5*	*16.2*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	**-1.3**	*-2.5*	*-1.2*	*-1.0*	*-1.3*	*-2.4*	*-1.1*	**-5.3**	*-6.1*	*-5.8*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**5.2**	**3.3**	*3.8*	*4.0*	*5.2*	*3.6*	*4.1*	*4.2*	**16.5**	*16.4*	*17.1*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	**0.6**	*0.7*	*0.8*	*0.6*	*0.5*	*0.7*	*0.9*	**3.1**	*2.7*	*2.8*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.9**	**1.7**	*1.6*	*1.8*	*1.8*	*1.8*	*1.7*	*1.9*	**7.5**	*7.0*	*7.1*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**951.8**	**948.5**	*1,098.1*	*934.8*	*945.3*	*958.3*	*1,109.1*	*946.1*	**3,852.8**	*3,933.2*	*3,958.9*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**12.1**	**10.5**	*17.1*	*12.3*	*9.0*	*12.2*	*17.5*	*11.6*	**47.7**	*52.0*	*50.3*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	**0.0**	*0.0*	*0.1*	*0.4*	*0.0*	*0.0*	*0.1*	**0.2**	*0.6*	*0.5*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	**7.1**	*7.2*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.0*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	**1.9**	*1.2*	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*6.8*	*7.4*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.8**	**3.0**	*2.7*	*3.2*	*3.3*	*3.2*	*2.8*	*3.3*	**10.3**	*11.6*	*12.6*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.3**	*0.3*	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	**1.4**	*1.3*	*1.3*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.7**	**22.8**	*28.5*	*23.3*	*22.1*	*24.1*	*29.1*	*24.4*	**92.9**	*99.3*	*99.8*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.3**	**27.1**	*32.1*	*28.3*	*29.4*	*27.4*	*31.6*	*28.4*	**113.0**	*116.8*	*116.9*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**12.8**	**13.7**	*20.2*	*15.5*	*14.9*	*14.9*	*21.2*	*16.5*	**57.1**	*62.2*	*67.5*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.3**	**7.8**	*7.1*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*31.0*	*27.3*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	**7.3**	*7.2*	*7.3*	*7.1*	*7.1*	*7.0*	*7.2*	**31.4**	*29.1*	*28.3*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	**2.0**	*1.8*	*2.2*	*2.0*	*2.2*	*2.0*	*2.6*	**7.6**	*7.9*	*8.9*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	**0.1**	*0.1*	*0.1*	*0.4*	*0.1*	*0.1*	*0.1*	**0.6**	*0.8*	*0.8*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**31.7**	**30.9**	*36.4*	*31.9*	*30.9*	*31.3*	*37.0*	*33.5*	**135.4**	*130.9*	*132.7*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	**35.5**	*43.1*	*36.4*	*37.3*	*36.1*	*42.7*	*36.8*	**145.3**	*151.6*	*153.0*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**72.5**	**75.3**	*83.4*	*71.4*	*79.9*	*79.7*	*99.2*	*83.5*	**315.8**	*302.6*	*342.3*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**50.5**	**40.0**	*58.3*	*44.3*	*51.2*	*35.3*	*44.3*	*34.4*	**148.3**	*193.1*	*165.2*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.4**	**64.6**	*72.4*	*62.4*	*59.0*	*59.2*	*62.9*	*57.7*	**275.7**	*267.7*	*238.8*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	**2.4**	*1.6*	*2.1*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*8.8*	*9.1*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.1**	**11.8**	*8.9*	*12.2*	*12.1*	*12.9*	*9.6*	*12.9*	**39.1**	*44.0*	*47.4*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**1.0**	**0.3**	*0.0*	*0.8*	*1.2*	*0.4*	*0.1*	*1.0*	**2.2**	*2.1*	*2.7*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**206.2**	**194.4**	*224.6*	*193.2*	*206.0*	*190.2*	*217.7*	*191.7*	**791.1**	*818.4*	*805.5*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.0**	**194.4**	**180.4**	*207.1*	*182.2*	*195.4*	*179.1*	*206.7*	*184.2*	**732.4**	*764.2*	*765.3*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**57.6**	**57.2**	*66.6*	*56.1*	*53.5*	*59.5*	*71.7*	*58.7*	**254.2**	*237.6*	*243.4*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	**31.0**	*46.9*	*32.6*	*35.5*	*33.1*	*46.3*	*32.1*	**118.3**	*146.8*	*147.0*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	**52.5**	*55.4*	*52.0*	*54.1*	*55.2*	*58.4*	*56.4*	**210.1**	*213.7*	*224.1*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.8**	**8.3**	*6.9*	*7.9*	*10.2*	*7.6*	*6.7*	*7.8*	**38.7**	*32.8*	*32.3*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.0**	**6.0**	*5.9*	*4.6*	*4.6*	*7.5*	*7.7*	*5.5*	**17.4**	*20.4*	*25.2*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	**-0.4**	*-0.7*	*-0.2*	*0.0*	*-0.3*	*-0.7*	*-0.2*	**-1.1**	*-1.3*	*-1.2*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.4**	**154.6**	*181.0*	*152.9*	*157.8*	*162.4*	*190.1*	*160.4*	**637.6**	*650.0*	*670.7*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.1**	**153.3**	*181.1*	*154.3*	*160.4*	*161.4*	*187.2*	*158.8*	**649.7**	*651.7*	*667.8*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.5**	**41.6**	*43.8*	*34.1*	*31.8*	*43.6*	*46.7*	*36.7*	**179.5**	*154.0*	*158.8*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	**5.1**	*7.0*	*5.1*	*4.4*	*4.0*	*5.0*	*3.6*	**15.9**	*21.9*	*16.9*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	**7.2**	*7.9*	*6.9*	*7.9*	*7.3*	*8.1*	*7.1*	**29.4**	*29.8*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.4**	**3.4**	*4.1*	*4.0*	*3.6*	*3.8*	*3.7*	*3.5*	**8.4**	*13.9*	*14.5*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	**0.7**	*0.8*	*0.6*	*0.8*	*0.7*	*0.8*	*0.6*	**3.3**	*3.0*	*3.0*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**50.3**	**58.1**	*63.7*	*50.7*	*48.5*	*59.5*	*64.3*	*51.6*	**236.7**	*222.8*	*223.8*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.6**	**55.7**	*66.6*	*52.1*	*48.0*	*59.0*	*67.1*	*52.5*	**232.8**	*225.0*	*226.6*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**34.5**	**39.1**	*43.5*	*34.3*	*35.9*	*43.2*	*52.4*	*38.7*	**178.3**	*151.3*	*170.1*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**69.7**	**58.7**	*80.8*	*63.9*	*69.8*	*56.4*	*73.0*	*58.4*	**218.4**	*273.2*	*257.7*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	**22.6**	*23.6*	*24.0*	*23.8*	*22.2*	*23.7*	*23.0*	**95.1**	*93.8*	*92.7*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**2.8**	**2.5**	*2.2*	*2.1*	*2.4*	*2.8*	*2.3*	*2.2*	**11.8**	*9.7*	*9.7*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**24.3**	**24.8**	*19.2*	*27.8*	*26.3*	*26.5*	*20.5*	*28.9*	**81.3**	*96.1*	*102.2*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.8**	**1.0**	*0.9*	*1.2*	*1.8*	*1.2*	*1.1*	*1.4*	**5.2**	*4.9*	*5.5*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**156.7**	**148.6**	*170.2*	*153.5*	*160.0*	*152.3*	*173.0*	*152.6*	**590.0**	*629.0*	*637.9*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.0**	**156.5**	*177.3*	*156.7*	*157.7*	*158.7*	*179.2*	*158.3*	**618.7**	*649.5*	*653.9*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.4**	**14.1**	*20.6*	*12.6*	*13.5*	*14.1*	*22.1*	*13.5*	**71.6**	*59.8*	*63.2*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**21.8**	**19.2**	*28.2*	*19.6*	*21.3*	*17.4*	*28.1*	*20.7*	**79.2**	*88.8*	*87.5*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	**2.8**	*4.4*	*4.4*	*4.3*	*4.4*	*4.1*	*2.5*	**16.8**	*15.8*	*15.3*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	**4.4**	*4.0*	*3.2*	*3.5*	*4.3*	*4.0*	*3.2*	**21.8**	*16.9*	*14.9*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**22.8**	**24.3**	*20.3*	*26.2*	*25.6*	*26.7*	*22.7*	*28.7*	**80.6**	*93.6*	*103.7*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	**0.1**	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.5**	*0.6*	*0.4*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.7**	**65.0**	*77.6*	*66.1*	*68.4*	*66.9*	*80.9*	*68.7*	**270.5**	*275.4*	*284.9*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.7**	**63.8**	*74.8*	*61.5*	*65.4*	*64.9*	*77.8*	*63.8*	**262.1**	*264.8*	*272.0*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.0**	**38.1**	*48.0*	*27.9*	*22.2*	*30.6*	*42.3*	*23.6*	**174.6**	*147.0*	*118.6*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.3**	**16.1**	*24.7*	*19.0*	*15.4*	*15.8*	*24.3*	*17.5*	**67.2**	*76.1*	*73.0*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	**9.9**	*10.3*	*9.5*	*10.7*	*9.9*	*10.6*	*10.8*	**41.4**	*40.1*	*42.0*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.2**	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.8*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**25.2**	**30.7**	*27.9*	*31.4*	*34.9*	*39.6*	*33.9*	*34.8*	**92.6**	*115.2*	*143.3*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	**0.3**	*0.4*	*0.4*	*0.2*	*0.3*	*0.4*	*0.4*	**1.5**	*1.3*	*1.3*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**95.4**	*111.3*	*88.2*	*83.6*	*96.5*	*111.5*	*87.3*	**378.4**	*380.6*	*378.8*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**95.4**	*111.3*	*88.2*	*83.6*	*96.5*	*111.5*	*87.3*	**378.4**	*380.6*	*378.8*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**20.9**	**21.1**	*29.9*	*23.4*	*19.9*	*15.9*	*28.8*	*24.6*	**89.6**	*95.2*	*89.2*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**22.5**	**19.3**	*28.3*	*21.7*	*20.2*	*11.9*	*25.0*	*19.6*	**86.1**	*91.8*	*76.8*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	**1.2**	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.6*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.3**	**35.0**	*27.6*	*27.3*	*33.2*	*41.6*	*31.5*	*28.2*	**136.0**	*124.1*	*134.5*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.3**	**16.8**	*14.7*	*17.0*	*17.0*	*17.8*	*15.5*	*17.8*	**55.6**	*63.8*	*68.1*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**95.6**	**93.7**	*103.0*	*91.9*	*92.8*	*89.8*	*103.3*	*92.8*	**377.4**	*384.2*	*378.8*
Net energy for load (f)	**89.9**	**81.7**	**93.6**	**87.7**	**88.9**	**87.5**	*94.9*	*89.3*	*88.4*	*85.0*	*94.9*	*89.9*	**353.0**	*360.5*	*358.3*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**11.0**	**16.4**	*18.0*	*13.1*	*9.3*	*10.9*	*15.5*	*10.9*	**61.7**	*58.5*	*46.7*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**5.9**	**5.8**	*9.3*	*8.0*	*5.6*	*6.6*	*8.4*	*7.9*	**25.9**	*29.0*	*28.5*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	**7.2**	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*32.0*	*32.0*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.5**	**3.4**	*3.6*	*2.4*	*2.8*	*4.0*	*3.9*	*2.6*	**12.8**	*11.9*	*13.3*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	**4.6**	*3.6*	*3.5*	*4.8*	*6.4*	*4.9*	*4.6*	**10.5**	*14.8*	*20.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.8**	**37.6**	*43.2*	*34.6*	*30.9*	*35.5*	*41.5*	*33.5*	**142.7**	*146.3*	*141.4*
Net energy for load (f)	**19.8**	**25.3**	**32.7**	**21.3**	**19.2**	**25.6**	*32.1*	*21.7*	*19.9*	*25.0*	*32.0*	*21.7*	**99.2**	*98.7*	*98.5*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.6**	**13.4**	*24.6*	*21.4*	*16.3*	*13.1*	*23.9*	*20.9*	**79.9**	*76.0*	*74.2*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	**1.3**	*2.2*	*2.0*	*1.1*	*1.4*	*2.1*	*1.8*	**6.7**	*7.2*	*6.4*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	**4.2**	*4.7*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.5*	*16.7*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.0**	**4.0**	*3.9*	*1.4*	*2.8*	*6.4*	*5.8*	*2.9*	**16.8**	*11.2*	*17.9*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.5**	**21.0**	*19.6*	*15.3*	*16.0*	*21.7*	*20.6*	*16.2*	**65.8**	*71.3*	*74.6*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	**0.2**	*0.1*	*0.1*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.7**	**44.0**	*54.9*	*44.7*	*40.8*	*46.5*	*56.9*	*45.9*	**185.8**	*182.3*	*190.0*
Net energy for load (f)	**58.6**	**59.4**	**74.6**	**61.1**	**57.0**	**62.2**	*74.1*	*60.2*	*56.3*	*61.7*	*74.8*	*60.7*	**253.7**	*253.6*	*253.4*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

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The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

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Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.035**	**0.037**	*0.038*	*0.038*	*0.036*	*0.033*	*0.038*	*0.038*	**0.147**	*0.147*	*0.144*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.617**	**0.656**	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.581**	*2.431*	*2.538*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.195**	**0.321**	*0.322*	*0.218*	*0.259*	*0.412*	*0.408*	*0.270*	**0.820**	*1.057*	*1.349*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.059**	**0.065**	*0.067*	*0.063*	*0.056*	*0.063*	*0.064*	*0.062*	**0.238**	*0.254*	*0.245*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.050**	**0.055**	*0.076*	*0.078*	*0.058*	*0.053*	*0.062*	*0.065*	**0.185**	*0.259*	*0.239*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.927**	*0.731*	*1.006*	*1.009*	*1.023*	*0.794*	*1.067*	**3.065**	*3.541*	*3.892*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.833**	**2.060**	*1.834*	*1.962*	*2.108*	*2.277*	*1.964*	*2.058*	**7.037**	*7.689*	*8.407*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.169**	**0.191**	*0.193*	*0.190*	*0.185*	*0.193*	*0.197*	*0.197*	**0.698**	*0.743*	*0.771*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	**0.011**	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	**0.039**	*0.038*	*0.040*	*0.040*	*0.039*	*0.038*	*0.040*	**0.156**	*0.158*	*0.157*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	**0.339**	*0.356*	*0.360*	*0.350*	*0.348*	*0.360*	*0.363*	**1.376**	*1.393*	*1.421*
Subtotal	**0.594**	**0.520**	**0.558**	**0.588**	**0.555**	**0.577**	*0.595*	*0.597*	*0.583*	*0.588*	*0.603*	*0.608*	**2.261**	*2.325*	*2.381*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.023*	*0.023*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	**0.043**	*0.043*	*0.030*	*0.035*	*0.050*	*0.051*	*0.035*	**0.123**	*0.146*	*0.171*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.036*	*0.036*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.070**	**0.085**	*0.086*	*0.072*	*0.076*	*0.092*	*0.093*	*0.077*	**0.290**	*0.313*	*0.338*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.066**	**0.103**	*0.104*	*0.072*	*0.078*	*0.117*	*0.118*	*0.081*	**0.291**	*0.344*	*0.394*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	**0.114**	*0.115*	*0.115*	*0.112*	*0.114*	*0.115*	*0.115*	**0.458**	*0.456*	*0.456*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	**0.226**	*0.229*	*0.197*	*0.199*	*0.241*	*0.243*	*0.206*	**0.788**	*0.840*	*0.889*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.057**	**0.073**	*0.072*	*0.081*	*0.079*	*0.081*	*0.086*	*0.093*	**0.275**	*0.282*	*0.339*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.258**	**0.244**	**0.286**	*0.286*	*0.274*	*0.257*	*0.286*	*0.289*	*0.284*	**1.002**	*1.090*	*1.115*
Subtotal	**0.318**	**0.284**	**0.340**	**0.334**	**0.301**	**0.359**	*0.358*	*0.355*	*0.336*	*0.367*	*0.375*	*0.377*	**1.277**	*1.372*	*1.454*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.057**	**0.073**	*0.072*	*0.081*	*0.079*	*0.081*	*0.086*	*0.093*	**0.275**	*0.282*	*0.339*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.169**	**0.191**	*0.193*	*0.190*	*0.185*	*0.193*	*0.197*	*0.197*	**0.698**	*0.743*	*0.771*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.268**	**0.254**	**0.297**	*0.297*	*0.284*	*0.267*	*0.297*	*0.300*	*0.295*	**1.041**	*1.132*	*1.158*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	**0.054**	*0.054*	*0.055*	*0.052*	*0.049*	*0.055*	*0.055*	**0.214**	*0.214*	*0.212*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.620**	**0.659**	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.592**	*2.442*	*2.549*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.292**	**0.478**	*0.481*	*0.328*	*0.379*	*0.591*	*0.589*	*0.395*	**1.246**	*1.579*	*1.955*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	**0.112**	*0.114*	*0.113*	*0.104*	*0.111*	*0.111*	*0.111*	**0.430**	*0.447*	*0.438*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	**0.529**	*0.568*	*0.573*	*0.540*	*0.535*	*0.559*	*0.564*	**2.101**	*2.190*	*2.198*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.927**	*0.731*	*1.006*	*1.009*	*1.023*	*0.794*	*1.067*	**3.065**	*3.541*	*3.892*
Total Consumption	**2.923**	**2.995**	**2.826**	**2.907**	**2.947**	**3.307**	*3.101*	*3.183*	*3.303*	*3.565*	*3.277*	*3.326*	**11.652**	*12.539*	*13.471*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,600**	**6,598**	**6,549**	**6,548**	**6,538**	**6,393**	*6,394*	*6,438*	*6,441*	*6,443*	*6,443*	*6,443*	**6,548**	*6,438*	*6,443*
Waste	**3,927**	**3,925**	**3,852**	**3,850**	**3,841**	**3,839**	*3,840*	*3,884*	*3,887*	*3,889*	*3,889*	*3,889*	**3,850**	*3,884*	*3,889*
Wood	**2,673**	**2,673**	**2,697**	**2,697**	**2,697**	**2,554**	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	**2,697**	*2,554*	*2,554*
Conventional Hydroelectric	**79,508**	**79,502**	**79,649**	**79,651**	**79,652**	**79,724**	*79,726*	*79,772*	*79,785*	*79,800*	*79,841*	*79,845*	**79,651**	*79,772*	*79,845*
Geothermal	**2,502**	**2,520**	**2,520**	**2,520**	**2,520**	**2,520**	*2,520*	*2,562*	*2,562*	*2,562*	*2,562*	*2,562*	**2,520**	*2,562*	*2,562*
Large-Scale Solar (b)	**39,102**	**41,195**	**42,996**	**47,567**	**50,233**	**53,117**	*56,778*	*63,532*	*65,566*	*70,609*	*72,726*	*80,308*	**47,567**	*63,532*	*80,308*
Wind	**106,170**	**107,664**	**109,191**	**118,159**	**121,045**	**125,944**	*128,262*	*134,923*	*135,633*	*137,374*	*138,084*	*141,064*	**118,159**	*134,923*	*141,064*
Other Sectors (c)															
Biomass	**6,384**	**6,385**	**6,381**	**6,393**	**6,371**	**6,379**	*6,359*	*6,359*	*6,359*	*6,359*	*6,351*	*6,351*	**6,393**	*6,359*	*6,351*
Waste	**781**	**782**	**778**	**789**	**787**	**790**	*790*	*790*	*790*	*790*	*790*	*790*	**789**	*790*	*790*
Wood	**5,603**	**5,603**	**5,603**	**5,603**	**5,584**	**5,589**	*5,569*	*5,569*	*5,569*	*5,569*	*5,561*	*5,561*	**5,603**	*5,569*	*5,561*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	*284*	*287*	*287*	*287*	*287*	*287*	**289**	*287*	*287*
Large-Scale Solar (b)	**441**	**468**	**473**	**480**	**483**	**498**	*508*	*552*	*554*	*554*	*554*	*554*	**480**	*552*	*554*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**28,888**	**30,142**	*31,372*	*32,571*	*33,796*	*35,027*	*36,263*	*37,543*	**27,724**	*32,571*	*37,543*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,076**	**18,943**	*19,731*	*20,469*	*21,215*	*21,988*	*22,789*	*23,619*	**17,238**	*20,469*	*23,619*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,725**	**9,055**	*9,435*	*9,831*	*10,245*	*10,640*	*11,013*	*11,400*	**8,430**	*9,831*	*11,400*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,088**	**2,145**	*2,207*	*2,271*	*2,335*	*2,399*	*2,461*	*2,524*	**2,056**	*2,271*	*2,524*
Wind	**113**	**339**	**348**	**348**	**348**	**348**	*348*	*598*	*598*	*598*	*598*	*598*	**348**	*598*	*598*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**7.7**	*9.2*	*9.0*	*7.3*	*7.5*	*8.1*	*8.2*	**27.5**	*32.9*	*31.1*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.0**	**4.3**	*4.5*	*4.2*	*3.7*	*4.3*	*4.3*	*4.2*	**16.1**	*17.1*	*16.5*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	**3.3**	*4.7*	*4.8*	*3.5*	*3.3*	*3.8*	*4.0*	**11.4**	*15.9*	*14.6*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**69.8**	*58.7*	*56.0*	*67.2*	*79.2*	*64.7*	*58.6*	**289.9**	*253.9*	*269.7*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.1**	*4.2*	*4.3*	*4.0*	*3.7*	*4.2*	*4.3*	**16.5**	*16.5*	*16.2*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.3**	*35.4*	*24.0*	*28.4*	*45.2*	*44.9*	*29.7*	**90.1**	*116.1*	*148.2*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**101.8**	*80.3*	*110.5*	*110.8*	*112.3*	*87.2*	*117.2*	**336.7**	*388.9*	*427.6*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.0**	**6.9**	*7.0*	*7.1*	*7.0*	*6.9*	*7.0*	*7.1*	**28.6**	*28.0*	*28.0*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.3**	**6.2**	*6.4*	*6.4*	*6.3*	*6.2*	*6.4*	*6.4*	**25.8**	*25.3*	*25.3*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**9.8**	**14.8**	*15.0*	*10.4*	*11.6*	*17.3*	*17.4*	*12.0*	**41.7**	*49.9*	*58.2*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	**9.1**	*9.3*	*6.4*	*7.1*	*10.7*	*10.7*	*7.4*	**25.4**	*30.7*	*35.9*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	**4.5**	*4.6*	*3.1*	*3.6*	*5.3*	*5.3*	*3.7*	**12.9**	*15.3*	*17.9*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	**1.1**	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	**0.3**	*0.2*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	**0.8**	*1.1*	*1.5*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,088**	**19,620**	*20,019*	*20,410*	*20,597*	*20,732*	*20,824*	*20,917*	**18,426**	*19,784*	*20,767*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,925**	**12,999**	**13,352**	**13,770**	*13,932*	*14,098*	*14,249*	*14,368*	*14,475*	*14,577*	**12,726**	*13,788*	*14,417*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,315**	**3,459**	**3,552**	**3,594**	*3,660*	*3,707*	*3,734*	*3,755*	*3,772*	*3,793*	**3,311**	*3,629*	*3,764*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-1**	**60**	**-97**	**-112**	*114*	*282*	*285*	*268*	*232*	*193*	**-73**	*47*	*244*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,320**	**3,367**	**3,445**	*3,441*	*3,451*	*3,451*	*3,453*	*3,444*	*3,440*	**3,341**	*3,426*	*3,447*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,167**	**2,279**	**2,262**	**2,335**	*2,379*	*2,439*	*2,492*	*2,537*	*2,579*	*2,618*	**2,217**	*2,354*	*2,556*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,400**	**3,456**	**3,533**	*3,588*	*3,619*	*3,664*	*3,701*	*3,733*	*3,763*	**3,143**	*3,549*	*3,715*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,541**	**17,521**	**16,202**	*15,819*	*15,706*	*15,899*	*16,017*	*16,107*	*16,154*	**15,771**	*16,312*	*16,045*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	**145.0**	*147.8*	*149.4*	*150.6*	*151.6*	*152.5*	*153.2*	**142.3**	*146.4*	*152.0*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	**5.8**	*5.0*	*4.5*	*4.1*	*3.7*	*3.5*	*3.4*	**8.1**	*5.4*	*3.7*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	**1.56**	*1.58*	*1.51*	*1.48*	*1.46*	*1.43*	*1.41*	**1.40**	*1.57*	*1.45*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**100.0**	**87.1**	**95.5**	**97.4**	**98.2**	**99.9**	*102.2*	*104.3*	*105.4*	*105.9*	*106.2*	*106.5*	**95.0**	*101.2*	*106.0*
Manufacturing	**97.6**	**84.2**	**94.2**	**96.7**	**97.2**	**98.7**	*101.2*	*103.8*	*104.9*	*105.5*	*105.8*	*106.0*	**93.2**	*100.2*	*105.6*
Food	**101.8**	**93.8**	**98.0**	**100.1**	**101.2**	**101.6**	*102.9*	*102.9*	*103.0*	*103.3*	*103.6*	*103.9*	**98.4**	*102.1*	*103.4*
Paper	**99.5**	**91.5**	**90.7**	**94.9**	**94.0**	**94.7**	*96.5*	*97.2*	*97.7*	*98.1*	*98.5*	*98.6*	**94.2**	*95.6*	*98.2*
Petroleum and Coal Products	**98.0**	**77.3**	**84.0**	**86.7**	**90.6**	**95.0**	*96.6*	*97.7*	*98.3*	*98.7*	*98.9*	*98.9*	**86.5**	*95.0*	*98.7*
Chemicals	**95.0**	**89.9**	**92.5**	**94.7**	**91.3**	**96.3**	*98.1*	*99.7*	*100.8*	*101.9*	*102.6*	*103.0*	**93.0**	*96.3*	*102.1*
Nonmetallic Mineral Products	**99.7**	**88.1**	**94.6**	**98.4**	**97.1**	**95.6**	*98.7*	*99.4*	*99.8*	*99.8*	*100.0*	*100.2*	**95.2**	*97.7*	*99.9*
Primary Metals	**95.9**	**72.9**	**83.3**	**90.3**	**92.1**	**96.3**	*96.9*	*98.2*	*98.8*	*99.2*	*99.3*	*98.8*	**85.6**	*95.9*	*99.0*
Coal-weighted Manufacturing (a)	**96.8**	**86.5**	**92.7**	**96.4**	**93.7**	**95.9**	*98.5*	*99.9*	*100.6*	*101.1*	*101.4*	*101.6*	**93.1**	*97.0*	*101.2*
Distillate-weighted Manufacturing (a)	**87.9**	**76.4**	**82.5**	**85.4**	**86.2**	**87.4**	*89.3*	*90.3*	*90.7*	*90.8*	*90.9*	*90.9*	**83.1**	*88.3*	*90.8*
Electricity-weighted Manufacturing (a)	**97.1**	**83.4**	**91.6**	**95.4**	**94.2**	**97.0**	*99.3*	*100.7*	*101.6*	*102.4*	*102.8*	*102.9*	**91.9**	*97.8*	*102.4*
Natural Gas-weighted Manufacturing (a)	**98.0**	**86.1**	**92.2**	**96.3**	**92.8**	**97.2**	*99.5*	*100.8*	*101.6*	*102.3*	*102.7*	*102.8*	**93.2**	*97.6*	*102.3*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	**2.68**	*2.69*	*2.70*	*2.71*	*2.72*	*2.73*	*2.75*	**2.59**	*2.67*	*2.73*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.10**	**2.14**	*2.15*	*2.14*	*2.14*	*2.15*	*2.15*	*2.15*	**1.94**	*2.13*	*2.15*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.50**	**1.89**	**2.16**	*2.23*	*2.12*	*2.02*	*2.06*	*2.03*	*1.96*	**1.43**	*2.10*	*2.02*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.6**	**117.0**	*117.6*	*118.2*	*118.7*	*119.3*	*120.0*	*120.6*	**113.6**	*117.1*	*119.6*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,762**	**6,880**	**8,262**	**8,009**	**7,678**	**8,840**	*8,995*	*8,787*	*8,231*	*9,252*	*9,292*	*9,051*	**7,730**	*8,579*	*8,960*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**363**	**478**	**537**	**537**	**649**	*642*	*669*	*664*	*722*	*739*	*710*	**502**	*625*	*709*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**238**	**245**	**306**	*357*	*390*	*413*	*459*	*467*	*444*	**231**	*325*	*446*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	**219.1**	*192.8*	*197.9*	*203.0*	*223.3*	*223.6*	*240.9*	**217.5**	*202.0*	*222.7*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	*0.284*	*0.321*	*0.314*	*0.270*	*0.271*	*0.280*	**0.216**	*0.277*	*0.283*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**553**	**442**	**518**	**522**	**516**	**555**	*574*	*573*	*562*	*581*	*596*	*594*	**2,035**	*2,218*	*2,333*
Natural Gas	**490**	**349**	**383**	**429**	**485**	**355**	*360*	*430*	*479*	*355*	*371*	*436*	**1,651**	*1,629*	*1,640*
Coal	**201**	**177**	**271**	**224**	**247**	**228**	*313*	*247*	*247*	*215*	*289*	*233*	**873**	*1,035*	*985*
Total Energy (c)	**1,247**	**971**	**1,174**	**1,178**	**1,251**	**1,141**	*1,249*	*1,253*	*1,291*	*1,154*	*1,258*	*1,265*	**4,571**	*4,894*	*4,969*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2009)															
New England	**993**	**901**	**969**	**981**	**999**	**1,027**	*1,046*	*1,065*	*1,073*	*1,080*	*1,084*	*1,088*	**961**	*1,034*	*1,082*
Middle Atlantic	**2,774**	**2,486**	**2,669**	**2,695**	**2,737**	**2,821**	*2,879*	*2,939*	*2,966*	*2,988*	*3,004*	*3,016*	**2,656**	*2,844*	*2,994*
E. N. Central	**2,502**	**2,266**	**2,458**	**2,480**	**2,523**	**2,589**	*2,636*	*2,685*	*2,704*	*2,719*	*2,727*	*2,735*	**2,427**	*2,608*	*2,721*
W. N. Central	**1,188**	**1,084**	**1,168**	**1,184**	**1,202**	**1,232**	*1,254*	*1,276*	*1,285*	*1,293*	*1,298*	*1,301*	**1,156**	*1,241*	*1,294*
S. Atlantic	**3,388**	**3,114**	**3,337**	**3,369**	**3,415**	**3,500**	*3,567*	*3,633*	*3,666*	*3,690*	*3,705*	*3,722*	**3,302**	*3,529*	*3,696*
E. S. Central	**828**	**742**	**809**	**820**	**833**	**852**	*868*	*883*	*890*	*895*	*899*	*903*	**800**	*859*	*897*
W. S. Central	**2,317**	**2,125**	**2,267**	**2,303**	**2,337**	**2,404**	*2,455*	*2,507*	*2,534*	*2,552*	*2,567*	*2,582*	**2,253**	*2,426*	*2,559*
Mountain	**1,283**	**1,177**	**1,265**	**1,280**	**1,304**	**1,341**	*1,369*	*1,395*	*1,408*	*1,417*	*1,423*	*1,430*	**1,251**	*1,352*	*1,420*
Pacific	**3,769**	**3,436**	**3,684**	**3,714**	**3,770**	**3,886**	*3,977*	*4,062*	*4,104*	*4,133*	*4,151*	*4,174*	**3,651**	*3,924*	*4,141*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**96.7**	**83.2**	**92.5**	**95.4**	**90.4**	**92.0**	*94.1*	*96.5*	*97.4*	*97.9*	*98.0*	*98.1*	**91.9**	*93.2*	*97.8*
Middle Atlantic	**95.6**	**79.7**	**90.8**	**93.3**	**88.7**	**90.3**	*92.7*	*95.2*	*96.2*	*96.8*	*97.1*	*97.2*	**89.8**	*91.7*	*96.8*
E. N. Central	**96.5**	**79.5**	**92.7**	**95.1**	**97.6**	**98.8**	*101.1*	*104.0*	*105.4*	*106.2*	*106.6*	*106.9*	**90.9**	*100.4*	*106.3*
W. N. Central	**98.6**	**86.6**	**95.6**	**97.9**	**98.0**	**99.5**	*101.6*	*104.1*	*105.0*	*105.3*	*105.6*	*105.8*	**94.7**	*100.8*	*105.4*
S. Atlantic	**99.2**	**86.4**	**96.1**	**99.1**	**103.0**	**104.8**	*107.5*	*110.2*	*111.3*	*111.9*	*112.1*	*112.1*	**95.2**	*106.3*	*111.8*
E. S. Central	**97.2**	**80.5**	**94.5**	**97.5**	**103.4**	**104.9**	*107.3*	*110.0*	*111.0*	*111.5*	*111.8*	*111.9*	**92.4**	*106.4*	*111.5*
W. S. Central	**100.8**	**89.5**	**96.6**	**98.7**	**93.0**	**94.5**	*97.0*	*99.7*	*101.1*	*101.9*	*102.3*	*102.5*	**96.4**	*96.0*	*101.9*
Mountain	**103.4**	**92.8**	**102.2**	**104.9**	**111.5**	**113.4**	*115.9*	*118.7*	*119.8*	*120.3*	*120.6*	*120.8*	**100.8**	*114.9*	*120.4*
Pacific	**97.0**	**84.6**	**92.5**	**94.1**	**94.0**	**95.2**	*97.8*	*100.3*	*101.8*	*102.8*	*103.2*	*103.7*	**92.0**	*96.8*	*102.9*
Real Personal Income (Billion $2009)															
New England	**891**	**980**	**932**	**912**	**1,018**	**952**	*934*	*925*	*936*	*943*	*949*	*952*	**929**	*957*	*945*
Middle Atlantic	**2,313**	**2,517**	**2,429**	**2,342**	**2,612**	**2,446**	*2,400*	*2,374*	*2,404*	*2,423*	*2,437*	*2,443*	**2,400**	*2,458*	*2,427*
E. N. Central	**2,455**	**2,698**	**2,578**	**2,534**	**2,838**	**2,631**	*2,572*	*2,563*	*2,591*	*2,610*	*2,624*	*2,631*	**2,566**	*2,651*	*2,614*
W. N. Central	**1,159**	**1,259**	**1,180**	**1,194**	**1,310**	**1,234**	*1,209*	*1,206*	*1,218*	*1,226*	*1,232*	*1,235*	**1,198**	*1,240*	*1,228*
S. Atlantic	**3,265**	**3,506**	**3,411**	**3,372**	**3,761**	**3,512**	*3,449*	*3,429*	*3,470*	*3,497*	*3,519*	*3,534*	**3,389**	*3,538*	*3,505*
E. S. Central	**910**	**990**	**937**	**935**	**1,060**	**979**	*956*	*952*	*963*	*970*	*975*	*977*	**943**	*987*	*971*
W. S. Central	**2,037**	**2,201**	**2,099**	**2,082**	**2,322**	**2,167**	*2,113*	*2,121*	*2,151*	*2,169*	*2,184*	*2,194*	**2,105**	*2,181*	*2,174*
Mountain	**1,211**	**1,316**	**1,257**	**1,248**	**1,388**	**1,299**	*1,275*	*1,270*	*1,285*	*1,296*	*1,303*	*1,309*	**1,258**	*1,308*	*1,298*
Pacific	**2,832**	**3,039**	**2,977**	**2,932**	**3,238**	**3,030**	*2,984*	*2,964*	*3,001*	*3,025*	*3,044*	*3,056*	**2,945**	*3,054*	*3,032*
Households (Thousands)															
New England	**5,897**	**5,858**	**5,961**	**5,952**	**5,952**	**5,957**	*5,970*	*5,984*	*5,996*	*6,007*	*6,018*	*6,028*	**5,952**	*5,984*	*6,028*
Middle Atlantic	**16,163**	**16,049**	**16,333**	**16,310**	**16,311**	**16,324**	*16,359*	*16,397*	*16,426*	*16,456*	*16,482*	*16,509*	**16,310**	*16,397*	*16,509*
E. N. Central	**18,866**	**18,752**	**19,098**	**19,077**	**19,085**	**19,110**	*19,162*	*19,219*	*19,262*	*19,294*	*19,322*	*19,353*	**19,077**	*19,219*	*19,353*
W. N. Central	**8,647**	**8,603**	**8,768**	**8,773**	**8,784**	**8,801**	*8,829*	*8,859*	*8,881*	*8,906*	*8,929*	*8,948*	**8,773**	*8,859*	*8,948*
S. Atlantic	**25,672**	**25,565**	**26,084**	**26,122**	**26,185**	**26,263**	*26,376*	*26,498*	*26,597*	*26,701*	*26,796*	*26,884*	**26,122**	*26,498*	*26,884*
E. S. Central	**7,660**	**7,622**	**7,769**	**7,775**	**7,786**	**7,801**	*7,827*	*7,855*	*7,877*	*7,900*	*7,921*	*7,938*	**7,775**	*7,855*	*7,938*
W. S. Central	**14,889**	**14,831**	**15,138**	**15,168**	**15,208**	**15,257**	*15,327*	*15,400*	*15,462*	*15,524*	*15,585*	*15,639*	**15,168**	*15,400*	*15,639*
Mountain	**9,465**	**9,439**	**9,644**	**9,673**	**9,710**	**9,753**	*9,809*	*9,867*	*9,917*	*9,964*	*10,009*	*10,048*	**9,673**	*9,867*	*10,048*
Pacific	**18,782**	**18,678**	**19,034**	**19,039**	**19,056**	**19,082**	*19,136*	*19,195*	*19,243*	*19,289*	*19,336*	*19,373*	**19,039**	*19,195*	*19,373*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.9**	**7.0**	**7.0**	**7.1**	*7.3*	*7.3*	*7.4*	*7.5*	*7.5*	*7.5*	**6.9**	*7.2*	*7.5*
Middle Atlantic	**20.1**	**16.8**	**18.0**	**18.3**	**18.4**	**18.7**	*19.1*	*19.3*	*19.5*	*19.7*	*19.9*	*19.9*	**18.3**	*18.9*	*19.8*
E. N. Central	**22.3**	**19.4**	**20.8**	**21.0**	**21.1**	**21.3**	*21.7*	*21.9*	*22.0*	*22.2*	*22.3*	*22.4*	**20.9**	*21.5*	*22.2*
W. N. Central	**10.8**	**9.8**	**10.2**	**10.3**	**10.4**	**10.5**	*10.6*	*10.7*	*10.8*	*10.8*	*10.9*	*10.9*	**10.3**	*10.6*	*10.8*
S. Atlantic	**29.3**	**26.3**	**27.6**	**27.9**	**28.0**	**28.3**	*28.9*	*29.2*	*29.4*	*29.6*	*29.7*	*29.9*	**27.8**	*28.6*	*29.7*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.1**	**8.1**	**8.1**	*8.2*	*8.3*	*8.3*	*8.4*	*8.4*	*8.4*	**8.0**	*8.2*	*8.4*
W. S. Central	**17.9**	**16.3**	**16.8**	**17.1**	**17.2**	**17.4**	*17.7*	*17.9*	*18.0*	*18.1*	*18.2*	*18.3*	**17.0**	*17.6*	*18.2*
Mountain	**11.2**	**10.1**	**10.6**	**10.7**	**10.8**	**10.9**	*11.1*	*11.2*	*11.3*	*11.4*	*11.5*	*11.5*	**10.6**	*11.0*	*11.4*
Pacific	**24.0**	**21.0**	**21.8**	**22.0**	**22.1**	**22.5**	*23.0*	*23.3*	*23.6*	*23.8*	*23.9*	*24.0*	**22.2**	*22.7*	*23.8*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,734**	**971**	**115**	**1,996**	**3,009**	**823**	*123*	*2,139*	*3,108*	*866*	*152*	*2,139*	**5,816**	*6,095*	*6,265*
Middle Atlantic	**2,470**	**837**	**85**	**1,828**	**2,816**	**692**	*75*	*1,968*	*2,886*	*694*	*99*	*1,968*	**5,221**	*5,551*	*5,646*
E. N. Central	**2,787**	**847**	**127**	**2,101**	**3,088**	**730**	*118*	*2,249*	*3,156*	*736*	*136*	*2,249*	**5,861**	*6,185*	*6,276*
W. N. Central	**3,037**	**799**	**167**	**2,313**	**3,226**	**728**	*154*	*2,449*	*3,249*	*706*	*162*	*2,449*	**6,317**	*6,557*	*6,567*
South Atlantic	**1,107**	**253**	**17**	**876**	**1,341**	**215**	*12*	*949*	*1,373*	*193*	*14*	*947*	**2,253**	*2,516*	*2,527*
E. S. Central	**1,482**	**337**	**20**	**1,226**	**1,795**	**324**	*20*	*1,308*	*1,811*	*249*	*20*	*1,309*	**3,065**	*3,446*	*3,389*
W. S. Central	**971**	**102**	**8**	**740**	**1,299**	**124**	*4*	*789*	*1,143*	*82*	*4*	*789*	**1,821**	*2,217*	*2,018*
Mountain	**2,207**	**669**	**126**	**1,763**	**2,289**	**647**	*141*	*1,824*	*2,208*	*688*	*142*	*1,823*	**4,765**	*4,900*	*4,861*
Pacific	**1,537**	**527**	**64**	**1,087**	**1,561**	**500**	*97*	*1,227*	*1,533*	*576*	*86*	*1,228*	**3,216**	*3,386*	*3,424*
U.S. Average	**1,874**	**540**	**70**	**1,418**	**2,099**	**482**	*72*	*1,523*	*2,098*	*484*	*78*	*1,521*	**3,903**	*4,176*	*4,182*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**823**	**105**	**2,128**	**3,133**	**856**	*107*	*2,099*	*3,100*	*857*	*111*	*2,125*	**6,207**	*6,195*	*6,193*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,913**	**677**	*72*	*1,911*	*2,887*	*687*	*73*	*1,932*	**5,606**	*5,573*	*5,579*
E. N. Central	**3,197**	**698**	**102**	**2,197**	**3,157**	**731**	*105*	*2,170*	*3,133*	*730*	*102*	*2,198*	**6,194**	*6,162*	*6,163*
W. N. Central	**3,287**	**702**	**132**	**2,379**	**3,247**	**728**	*133*	*2,367*	*3,218*	*727*	*131*	*2,398*	**6,500**	*6,475*	*6,474*
South Atlantic	**1,459**	**169**	**10**	**952**	**1,393**	**180**	*11*	*914*	*1,377*	*187*	*11*	*919*	**2,589**	*2,498*	*2,494*
E. S. Central	**1,850**	**214**	**15**	**1,277**	**1,772**	**231**	*16*	*1,249*	*1,764*	*244*	*15*	*1,255*	**3,356**	*3,268*	*3,278*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	**86**	*3*	*786*	*1,145*	*94*	*3*	*784*	**2,078**	*2,016*	*2,026*
Mountain	**2,192**	**718**	**135**	**1,844**	**2,181**	**701**	*134*	*1,842*	*2,172*	*680*	*134*	*1,828*	**4,889**	*4,857*	*4,815*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	**553**	*81*	*1,148*	*1,455*	*524*	*81*	*1,139*	**3,284**	*3,243*	*3,200*
U.S. Average	**2,149**	**472**	**64**	**1,509**	**2,108**	**482**	*65*	*1,484*	*2,090*	*479*	*64*	*1,491*	**4,194**	*4,138*	*4,125*
Cooling Degree Days															
New England	**0**	**102**	**543**	**0**	**0**	**146**	*449*	*2*	*0*	*82*	*387*	*2*	**645**	*596*	*471*
Middle Atlantic	**0**	**157**	**684**	**4**	**0**	**187**	*574*	*5*	*0*	*150*	*517*	*5*	**845**	*766*	*672*
E. N. Central	**2**	**218**	**605**	**2**	**2**	**238**	*542*	*7*	*0*	*214*	*521*	*7*	**827**	*789*	*742*
W. N. Central	**6**	**295**	**662**	**3**	**8**	**311**	*669*	*10*	*3*	*263*	*666*	*10*	**967**	*998*	*942*
South Atlantic	**195**	**619**	**1,232**	**300**	**153**	**627**	*1,174*	*236*	*132*	*653*	*1,159*	*236*	**2,346**	*2,190*	*2,180*
E. S. Central	**73**	**424**	**1,057**	**80**	**40**	**433**	*1,032*	*66*	*29*	*511*	*1,046*	*66*	**1,634**	*1,571*	*1,652*
W. S. Central	**173**	**837**	**1,500**	**209**	**90**	**765**	*1,475*	*204*	*93*	*870*	*1,506*	*204*	**2,719**	*2,534*	*2,673*
Mountain	**10**	**469**	**1,089**	**120**	**11**	**513**	*939*	*78*	*19*	*431*	*939*	*78*	**1,689**	*1,540*	*1,467*
Pacific	**24**	**195**	**717**	**124**	**23**	**255**	*574*	*59*	*27*	*169*	*592*	*59*	**1,061**	*911*	*847*
U.S. Average	**71**	**396**	**935**	**122**	**50**	**412**	*859*	*95*	*46*	*402*	*852*	*95*	**1,523**	*1,416*	*1,395*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	**80**	*474*	*1*	*0*	*88*	*471*	*1*	**554**	*555*	*560*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	**163**	*610*	*6*	*0*	*163*	*603*	*7*	**785**	*779*	*772*
E. N. Central	**3**	**240**	**579**	**8**	**3**	**234**	*572*	*7*	*3*	*236*	*562*	*7*	**829**	*816*	*809*
W. N. Central	**7**	**296**	**696**	**11**	**7**	**294**	*686*	*10*	*7*	*299*	*674*	*10*	**1,010**	*998*	*990*
South Atlantic	**127**	**696**	**1,202**	**247**	**143**	**680**	*1,195*	*261*	*147*	*670*	*1,190*	*265*	**2,272**	*2,279*	*2,272*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	**532**	*1,064*	*74*	*44*	*518*	*1,058*	*78*	**1,747**	*1,713*	*1,697*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	**880**	*1,567*	*210*	*113*	*852*	*1,536*	*212*	**2,774**	*2,771*	*2,713*
Mountain	**24**	**432**	**939**	**81**	**24**	**445**	*955*	*86*	*24*	*460*	*949*	*86*	**1,476**	*1,510*	*1,519*
Pacific	**31**	**185**	**624**	**78**	**31**	**193**	*647*	*85*	*31*	*208*	*650*	*85*	**917**	*956*	*974*
U.S. Average	**47**	**420**	**892**	**100**	**52**	**415**	*894*	*104*	*53*	*414*	*887*	*106*	**1,459**	*1,466*	*1,460*

- = no data available

Notes: EIA completed modeling and analysis for this report on Thursday July 1, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

August 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The August *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. U.S. economic activity continues to rise after reaching multiyear lows in the second quarter of 2020 (2Q20). U.S. gross domestic product (GDP) declined by 3.5% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 6.6% in 2021 and by 5.0% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. Our forecast assumes continuing economic growth and increasing mobility. Any developments that would cause deviations from these assumptions would likely cause energy consumption and prices to deviate from our forecast.

- Brent crude oil spot prices averaged $75 per barrel (b) in July, up $2/b from June and up $25/b from the end of 2020. Brent prices have been rising this year as result of steady draws on global oil inventories, which averaged 1.8 million barrels per day (b/d) during the first half of 2021 (1H21) and remained at almost 1.4 million b/d in July. We expect Brent prices will remain near current levels for the remainder of 2021, averaging $72/b from August through November. However, in 2022, we expect that continuing growth in production from OPEC+ and accelerating growth in U.S. tight oil production—along with other supply growth—will outpace decelerating growth in global oil consumption and contribute to Brent prices declining to an average of $66/b in 2022.

- We estimate that 98.8 million b/d of petroleum and liquid fuels were consumed globally in July, an increase of 6.0 million b/d from July 2020 but 3.4 million b/d less than in July 2019. We forecast that global consumption of petroleum and liquid fuels will average 97.6 million b/d for all of 2021, which is a 5.3 million b/d increase from 2020. We forecast that global consumption of petroleum and liquid fuels will increase by 3.6 million b/d in 2022 to average 101.2 million b/d.

- U.S. gasoline consumption averaged 8.6 million b/d in 1H21, up from 8.3 million b/d in 2H20 but below the 9.3 million b/d in 2H19. Our latest estimates show that gasoline consumption in May through July was higher than we had previously expected. Growth in employment and increasing mobility have led to rising gasoline consumption so far in 2021. In this STEO, forecast U.S. gasoline consumption averages 8.8 million b/d in 2021, up from 8.0 million b/d in 2020. We expect the trend of rising employment and mobility

to continue into next year, and as a result, we forecast gasoline consumption to average almost 9.0 million b/d in 2022. However, our assumption that a relatively high share of the workforce will continue working from home next year compared with before the pandemic keeps our forecast gasoline consumption below the 2019 level of 9.3 million b/d.

- U.S. regular gasoline retail prices averaged $3.14 per gallon (gal) in July, the highest monthly average price since October 2014. Recent gasoline price increases reflect rising crude oil prices and rising wholesale gasoline margins, amid relatively low gasoline inventories. We expect that prices will average $3.12/gal in August before falling to $2.82/gal, on average, in 4Q21. The expected drop in retail gasoline prices reflects our forecast that gasoline margins will decline from elevated levels, as is typical in the United States during the second half of the year.

- We forecast OPEC crude oil production will average 26.5 million b/d in 2021, up from 25.6 million b/d in 2020. OPEC crude oil production in the forecast rises from 25.0 million b/d in April to an average of 27.1 million b/d in 3Q21. Our expectation of rising OPEC production is primarily based on our assumption that OPEC will raise production through the end of 2021 in line with targets it announced on July 18. We expect OPEC crude oil production will rise to an average of 28.7 million b/d in 2022

- EIA's most recent monthly data show U.S. crude oil production was 11.2 million b/d in May. We expect production to be relatively flat through October before it starts rising in November and December and throughout 2022. Forecast U.S. crude oil production for 2022 averages 11.8 million b/d, up from 11.1 million b/d in 2021.

Natural Gas

- In July, the natural gas spot price at Henry Hub averaged $3.84 per million British thermal units (MMBtu), which is up from the June average of $3.26/MMBtu. We expect the Henry Hub spot price will average $3.71/MMBtu in 3Q21 and $3.42/MMBtu for all of 2021, which is up from the 2020 average of $2.03/MMBtu. Higher natural gas prices this year primarily reflect two factors: growth in liquefied natural gas (LNG) exports and rising domestic natural gas consumption for sectors other than electric power. In 2022, we expect the Henry Hub price will average $3.08/MMBtu amid rising U.S. natural gas production.

- We expect that U.S. consumption of natural gas will average 82.5 billion cubic feet per day (Bcf/d) in 2021, down 1.0% from 2020. U.S. natural gas consumption declines in the forecast, in part, because electric power generators switch to coal from natural gas as a result of rising natural gas prices. In 2021, we expect residential and commercial natural gas consumption combined will rise by 1.2 Bcf/d from 2020 and industrial consumption will rise by 0.2 Bcf/d from 2020. Rising natural gas consumption in sectors other than

the electric power results from expanding economic activity and colder winter temperatures in 2021 compared with 2020. We expect U.S. natural gas consumption will average 83.8 Bcf/d in 2022.

- We estimate that U.S. natural gas inventories ended July 2021 at almost 2.8 trillion cubic feet (Tcf), which is 6% lower than the five-year (2016–20) average for this time of year. More natural gas was withdrawn from storage during the winter of 2020–21 than the previous five-year average, largely as a result of the colder-than-average February temperatures that constrained natural gas production while it increased consumption. We forecast that inventories will end the 2021 injection season (end of October) at 3.6 Tcf, which would be 4% below the five-year average.

- We expect dry natural gas production will average 92.9 Bcf/d in the United States during 2H21—up from 91.4 Bcf/d in 1H21—and then rise to 94.9 Bcf/d in 2022, driven by natural gas and crude oil prices, which we expect to remain at levels that will support enough drilling to sustain production growth.

Electricity, coal, renewables, and emissions

- We forecast that U.S. retail sales of electricity will increase by 2.7% in 2021 after falling by 3.9% in 2020. The largest forecast increase in electricity consumption occurs in the industrial sector, driven by rising levels of economic output. We forecast U.S. retail sales of electricity to the industrial sector will grow by 5.3% this year. Retail sales of electricity to the commercial sector also grow in the forecast, but they grow at the slightly slower pace of 2.2% in 2021 because some workers will continue working from home instead of in office buildings. We forecast U.S. residential electricity sales will grow by 1.5% in 2021 as a result of colder temperatures in 1Q21 compared with 1Q20 and because of hot temperatures in June.

- We expect the share of electric power generation produced by natural gas in the United States will average 36% in 2021 and 37% in 2022, down from 39% in 2020. The forecast share for natural gas as a generation fuel declines in response to our expectation of a higher delivered natural gas price for electricity generators, which we forecast will average $4.46/MMBtu in 2021 compared with an average of $2.39/MMBtu in 2020. As a result of the higher expected natural gas prices, the forecast share of generation from coal rises from 20% in 2020 to 23% this year but falls to 21% next year. New additions of solar and wind generating capacity are offset somewhat by reduced generation from hydropower this year, resulting in the forecast share of all renewables in U.S. generation to average 20% in 2021, about the same as last year, before rising to nearly 23% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022 as a result of retiring capacity at some nuclear power plants.

- We forecast that planned additions to U.S. wind and solar generating capacity in 2021 and 2022 will increase electricity generation from those sources. We estimate that the U.S. electric power sector added 14.7 gigawatts (GW) of new wind capacity in 2020. We expect 17.6 GW of new wind capacity will come online in 2021 and 6.3 GW in 2022. Utility-scale solar capacity rose by an estimated 10.6 GW in 2020. Our forecast for added utility-scale solar capacity is 16.2 GW in 2021 and 16.6 GW for 2022. We expect significant solar capacity additions in Texas during the forecast period. In addition, about 5 GW of small-scale solar capacity (systems less than 1 megawatt) will come online each year during 2021–22 in the STEO forecast.

- Coal production in our forecast totals 607 million short tons (MMst) in 2021, an increase of 13% over 2020. We expect total consumption of coal to be 33 MMst greater than primary coal supply in 2021, contributing to significant inventory draws. In 2022, we expect coal production to decline by 7 MMst (1%).

- We expect coal consumption for electricity generation to grow by 75 MMst (17%) in 2021 as a result of relatively high natural gas prices that make coal more competitive for dispatch in the electric power sector. Forecast electric power sector demand for coal then falls by 47 MMst (9%) in 2022. We expect demand for coal for other uses to rise by 5 MMst (13%) in 2021 and by 3 MMst (7%) in 2022. This increase is mostly for coking coal, which is used in steelmaking.

- We expect coal exports to total 90 MMst in 2021, a 21 MMst (30%) increase from 2020. In 2022, forecast coal exports rise an additional 16 MMst to 106 MMst. High global steel prices are driving these increases in coal exports, and trade tensions between China and Australia continue to support U.S. thermal coal exports.

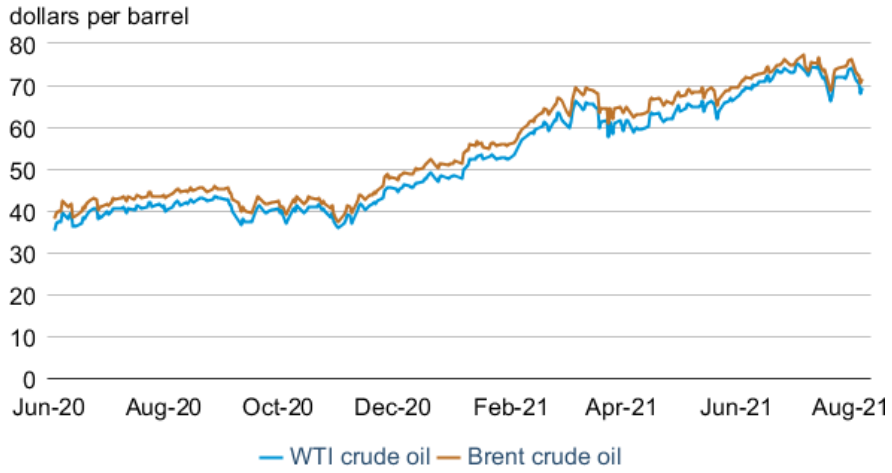
- We estimate that U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption related to reduced economic activity and responses to COVID-19. For 2021, we forecast energy-related CO_2 emissions will increase about 7% from the 2020 level as economic activity increases and leads to rising energy use. We also expect energy-related CO_2 emissions to rise in 2022 but by a slower rate, 1%. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 17% in 2021 and then decrease by 7% in 2022. Short-term changes in energy-related CO_2 can be affected by temperature. A recent STEO supplement examines these dynamics.

Petroleum and natural gas markets review

Crude oil

Prices: The front month futures price for Brent crude oil settled at $71.29 per barrel (b) on August 5, 2021, down $4.55/b from $75.84/b on July 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $6.14/b during the same period, settling at $69.09/b on August 5 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia Sources: Graph by EIA, based on CME Group and Intercontinental Exchange, compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

After several months of steadily increasing crude oil prices, price volatility increased in July when members of OPEC+ concluded their ministerial meeting on July 5 without reaching an agreement on future production cuts and adjustments to baseline production levels. On Sunday, July 18, the OPEC+ members met again and announced they had reached an agreement after concluding another round of discussion. They decided to ease production cuts by 400,000 barrels per day (b/d) each month, beginning in August 2021. The agreement also included adjustments to the baseline crude production levels of some OPEC+ members, including Saudi Arabia, Russia, and the United Arab Emirates, to take effect in May 2022, though more specific details of the implementation have not been announced. Rising cases of the Delta variant of the COVID-19 virus present an additional downside price risk because of potentially lower demand for petroleum, which add to the volatility. Potential increases in crude oil supply, combined with the risk of lower demand contributed to lower prices in late July and early August, with prices decreasing to their monthly lows of $69/b for Brent and $66/b for WTI on July 19, the first trading day after the OPEC+ deal was announced, and a $5/b decrease compared with their closing price from the previous trading day.

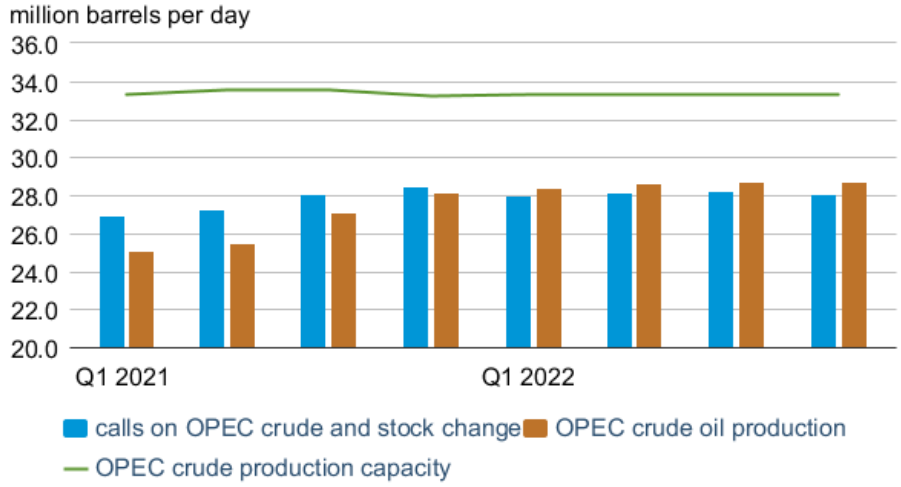
Our Brent crude oil price outlook for the 2021 average has increased to $68.71/b, $0.07/b (0.1%) lower than the July STEO, while the price forecast for 2022 is $0.60/b (0.9%) lower at

$66.04/b, based on concerns about future demand and lower crude oil prices in late July and early August. In our July STEO, we anticipated a larger increase in OPEC production levels than the organization announced, as well as some degree of new crude oil production in response to rising crude oil demand globally. In this month's STEO we have adjusted OPEC crude production in 2021 down by 300,000 b/d (0.9%) and production in 2022 up by 40,000 b/d (0.1%) in response to the final OPEC+ announcement, while global production has been reduced by 290,000 b/d (0.3%) in 2021 and by 20,000 b/d (less than 0.1%) in 2022.

Calls on OPEC and OPEC production: In the August STEO, we expect increased crude oil production by OPEC members is happening within the context of a broad trend of increasing global petroleum consumption. To estimate how much crude oil the global market will need from OPEC member states, we calculate the call on OPEC crude oil production by subtracting non-OPEC production of petroleum and other liquids and OPEC production of non-crude oil liquids from our forecast of global consumption of crude oil and other liquids. This metric assumes that petroleum production from non-OPEC countries is at its maximum level, leaving OPEC or available petroleum inventories to fill the gap between supply and demand. This metric does not account for spare production capacity from non-OPEC members of the OPEC+ agreement, most notably, Russia. Nonetheless, calls on OPEC can serve as one measure of whether OPEC crude oil production is less than or greater than global markets would otherwise demand. If calls on OPEC are greater than forecast OPEC crude oil production, it implies that the market will be short crude oil, and conversely, if calls on OPEC are less than expected OPEC crude oil production, it implies that the market will build crude oil inventories.

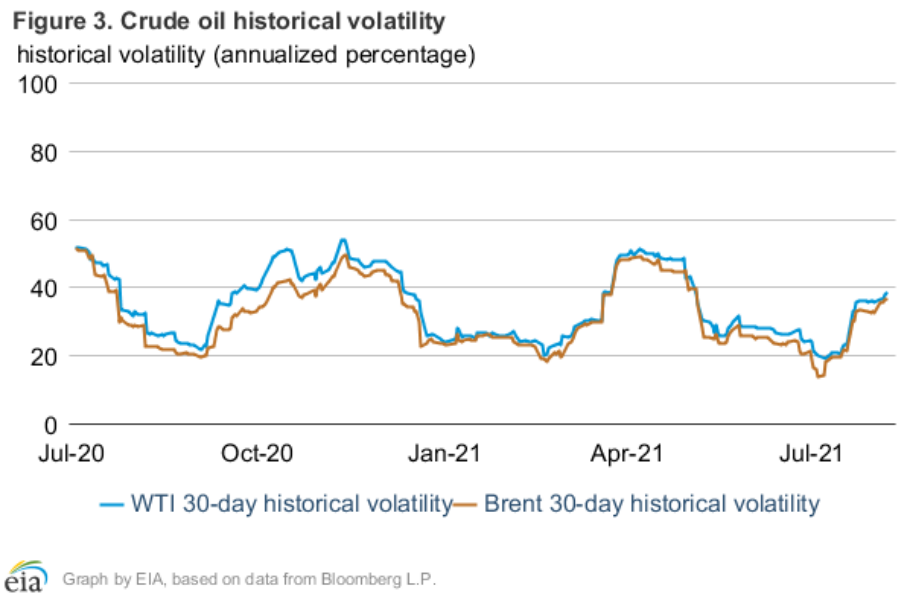
In the August STEO, we estimate that OPEC crude oil production will remain lower than calls on OPEC through the third quarter (3Q) and fourth quarter (4Q) of 2021 **(Figure 2)**. In 3Q21, we estimate calls on OPEC will exceed OPEC production by 1.0 million b/d, and this difference will drop to 0.3 million b/d in 4Q21. However, beginning in 1Q22, we forecast OPEC crude oil production will outpace calls on OPEC production, contributing to increased crude oil inventories and lower crude oil prices. OPEC+ leaders are expected to reconvene in December 2021, when we expect some adjustments to their curtailment plan. Any significant changes in future OPEC+ production decisions would present noteworthy uncertainty for our forecast.

Figure 2. STEO OPEC crude oil production

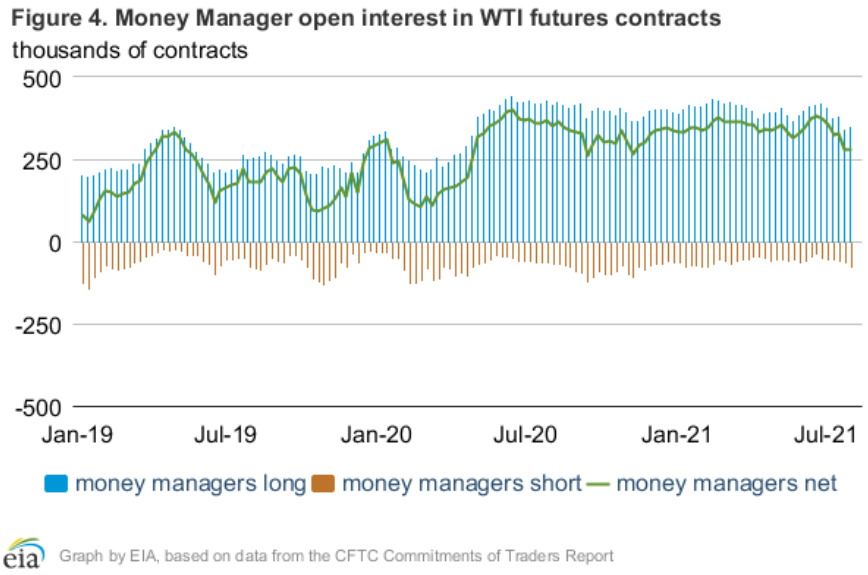


Source: U.S. Energy Information Administration, Short-Term Energy Outlook
Note: Calls on OPEC = total world consumption minus non-OPEC supply and OPEC other liquids production

Crude oil historical volatility: July's OPEC+ announcements and heightened uncertainty in the COVID-19 outlook with rising cases of new viral variants have likely contributed to heightened uncertainty and price volatility. The 30-day historical volatility for WTI crude oil futures prices rose above 30% on July 19, and volatility for Brent crude oil followed suit the following day, on July 20. Both benchmarks had historical volatility less than 30% throughout June and most of May **(Figure 3)**. As of August 5, WTI 30-day historical volatility was 38%, and Brent 30-day historical volatility was 36%, up 18 percentage points and 23 percentage points, respectively, compared with the beginning of July. The increasing volatility coincides with the substantial drop in crude oil prices on July 19, before they returned to the previous week's levels by the end of the week. The drop in crude oil prices on August 2 contributed to additional volatility, as the rolling 30-day historical volatility for Brent crude oil moved higher than 35% and WTI increased to higher than 36% (its highest level since early May, 2021). So far, volatility remains below its 2021 peak in early April, when it was just over 51% for WTI and just under 49% for Brent. Volatility in early April was lower than the high volatility in early November 2020, at just under 54% for WTI and just over 49% for Brent.

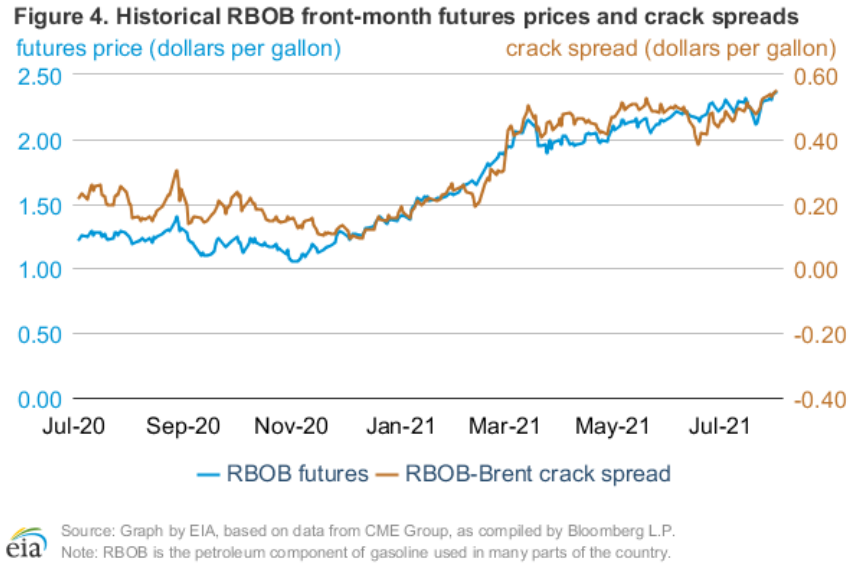


Money Manager open interest in WTI futures: Some of the factors that contributed to price declines in late July may also be affecting long positions held by Money Managers, particularly the risk of lower demand as a result of increases in COVID-19 cases. On July 20, 2021, open interest long positions held by Money Managers in the WTI futures contract decreased to 344,000 contracts, their lowest level since April 2020 **(Figure 4)**. 2020 and 2021 have seen a greater-than-average volume of Money Managers' long positions, according to the weekly Commitments of Traders report from the Commodity Futures Trading Commission (CFTC). Although open interest long positions held by Money Managers have been generally declining since late June, they remain elevated compared with contract open interest prior to the onset of the COVID-19 pandemic. For comparison, the average number of long positions during 2019 was 256,000. The recent decrease in long positions was matched by an increase in short positions to 76,000 contracts, the largest volume of short positions since February 2, 2021. Increased short positions and lower long positions both contributed to a decrease in net long open interest, which totaled 278,000 contracts on July 27, down from 383,000 contracts at the previous month's high on June 21.



Petroleum products

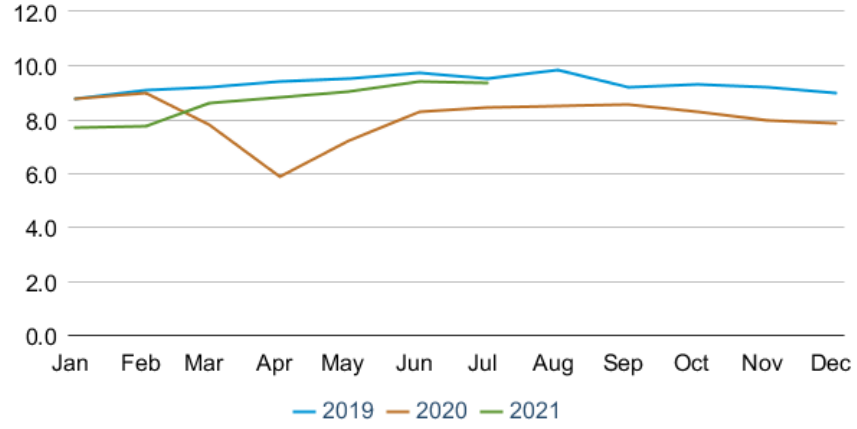
Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.29 per gallon (gal) on August 5, up 3 cents/gal from July 1 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 13 cents/gal to settle at 60 cents/gal during the same period. The crack spread on July 30 of 55 cents/gal was the highest July crack spread since July 31, 2015.



July's high RBOB–Brent crack spread reflected increasing demand and decreasing inventories. We estimate U.S. gasoline consumption averaged 9.4 million barrels per day (b/d) in July, which is 0.9 million b/d (11%) higher than in July 2020, and only 0.2 million b/d (2%) lower than the

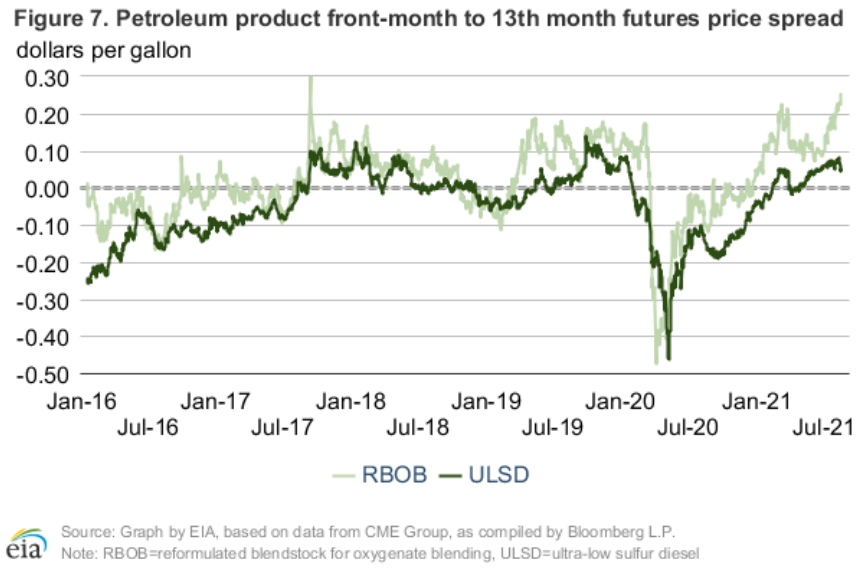
pre-COVID-19 July 2019 level. The increase in gasoline demand likely reflects typical seasonal factors such as increased summer driving demand, especially around the July 4th holiday weekend. For the week ending July 2, we reported in our *Weekly Petroleum Status Report* that gasoline product supplied was 10.0 million b/d, a record high in our data, which goes back to 1991. Product supplied is the volume of petroleum products delivered out of the primary supply chain, rather than the actual amount of gasoline consumed by end users that week. An individual week's amount of product supplied could be affected by a number of factors, such as the timing of when import or export cargoes clear customs. Nevertheless, this record product supplied level likely indicates that driving demand was high in late June and early July. Although gasoline consumption remains below 2019 levels, the July 2021 estimate is the closest gasoline consumption has been to its corresponding 2019 level so far in 2021 **(Figure 6)**. The relatively high consumption has contributed to gasoline stocks decreasing to 228.5 million barrels in July, the lowest July level since 2015. We forecast lower gasoline stocks between August and November, which will likely continue to support relatively high crack spreads.

Figure 6. U.S. gasoline consumption



eia Source: U.S. Energy Information Administration, Short-Term Energy Outlook

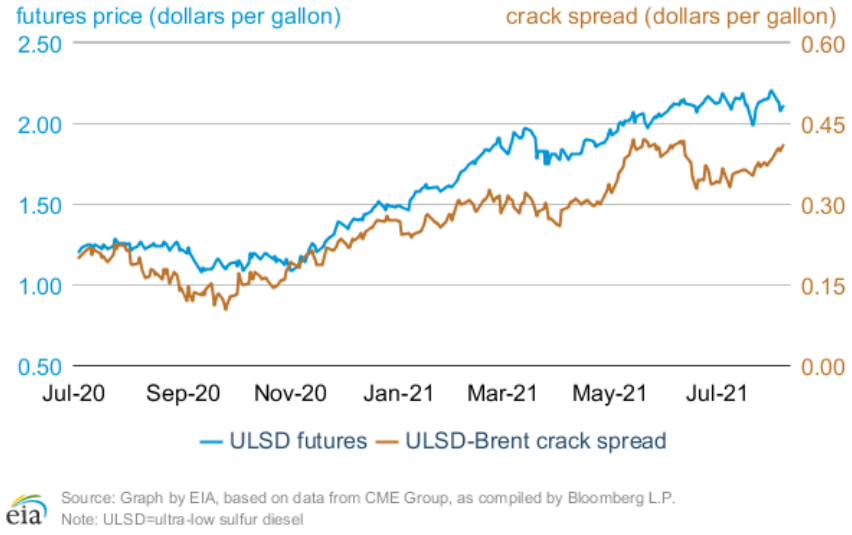
RBOB 1st to 13th contract spread: The RBOB 1st to 13th futures price spread settled at 25 cents/gal on August 5, the highest level of backwardation (when near-term contract prices are higher than farther-dated ones) since August 31, 2017, which was when Hurricane Harvey disrupted U.S. Gulf Coast refineries. The 1st to 13th futures price spread for ULSD has also been increasing but is not at multiyear highs like the RBOB spread **(Figure 7)**.



Recent inventory draws for gasoline have contributed to the high 1st to 13th futures price spread. We estimate that gasoline inventories in July were 228.5 million barrels, which is the lowest they have been since October 2020 and is 4% lower than the five-year (2016–2020) average for the month of July. Expectations of continued strong gasoline demand through August and lower gasoline production in the fall are contributing to our expectations of low gasoline stocks in the short term. Distillate stocks are also lower than average, but they have been relatively flat in the summer and we expect them to increase in August in advance of growth in demand in the fall and winter, when diesel-powered agricultural equipment is used to harvest crops and the winter heating season begins. The futures price spread is likely lower for distillate than gasoline because distillate stocks are relatively flat, whereas gasoline stocks have been decreasing due to high summer demand.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.11/gal on August 5, down 5 cent/gal from July 1 **(Figure 8)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 6 cents/gal, settling at 41 cents/gal during the same period.

Figure 8. Historical ULSD front-month futures prices and crack spreads



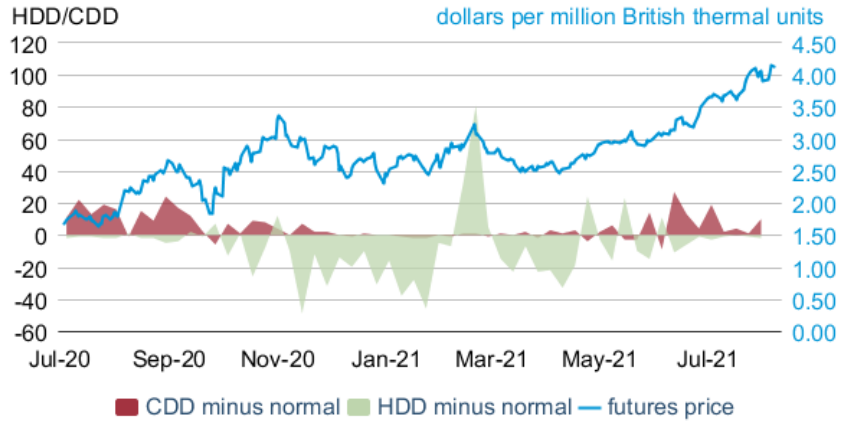
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

Seasonally low production has not kept up with distillate demand and has likely helped sustain the above-average ULSD–Brent crack spread. We estimate distillate production was 4.8 million b/d in July, which would be the lowest for that month since 2012. In contrast, our distillate consumption estimate of 3.8 million b/d is 2% higher than the five-year average. Several months of seasonally low production and relatively average demand has led to low distillate stocks. We estimate distillate stocks of 138.9 million barrels in July, which is 7% lower than the five-year average.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $4.14 per million British thermal units (MMBtu) on August 5, 2021, which was up 48 cents/MMBtu from July 1, 2021 **(Figure 9)**. The average price for front-month natural gas futures contracts in July was $3.82/MMBtu, the highest July average since 2014.

Figure 9. Natural gas front-month futures prices and actual minus historical average HDD and CDD



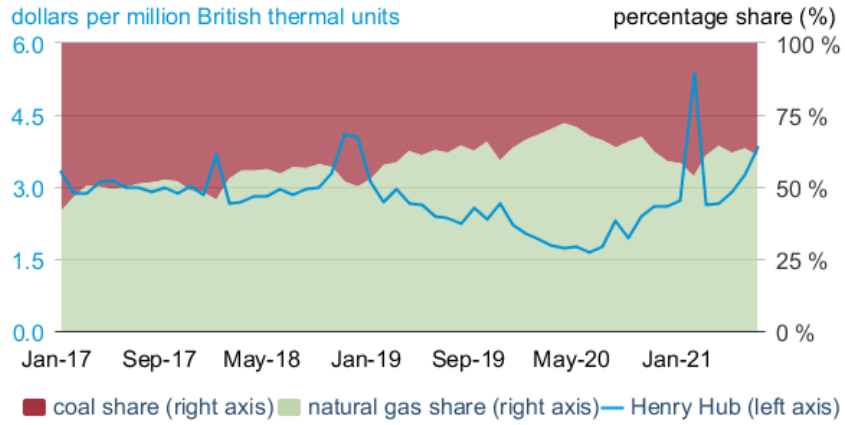
Sources: Graph by EIA, based on data from CME Group and NOAA, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

Henry Hub natural gas futures prices increased in July as cooling demand increased, especially in the western United States. We estimate that U.S. consumption of natural gas in July increased by 3.9 billion cubic feet per day (Bcf/d) from June to 75.8 Bcf/d, driven by an increase in consumption in the electric power sector. Cooling demand was particularly strong in the western United States (Pacific and Mountain regions) which had 684 cooling degree days in July, 9% more than the 10-year average. Regional prices in the West increased along with the demand increase. The price at PG&E Citygate in California increased 16% from June to July to $5.16/MMBtu, a 107% increase over the July 2020 price, according to data from Natural Gas Intelligence.

Natural gas exports (pipeline and LNG) also increased in July from 17.8 Bcf/d in June to 18.2 Bcf/d in July. At the same time, dry production of natural gas declined slightly from 92.7 Bcf/d in June to 92.5 Bcf/d in July, prompting an increase in the Henry Hub price. The 17.9% increase in the Henry Hub price from June to July is the largest month-on-month percentage change for June to July since 2012, when the price increased 20.3%.

Natural gas consumption amid high prices: The relative share of fossil-fuel electricity generation from natural gas was greater than coal in the eastern United States (United States excluding the Pacific and Mountain regions) in July despite relatively high natural gas prices **(Figure 10)**. Typically, higher natural gas prices will prompt gas-to-coal switching for electricity generation. For example, in February–September 2018, when the Henry Hub price was less than $3.00/MMBtu, natural gas made up an average of 56% of the share of fossil-fuel generation. In November and December of the same year, when the price increased to more than $4.00/MMBtu, the natural gas share of fossil-fuel generation decreased to 51%.

Figure 10. Shares of thermal electricity generation in the eastern United States and Henry Hub spot price



Source: U.S. Energy Information Administration, Short-Term Energy Outlook
Note: Eastern United States is the United States minus the Pacific and Mountain regions.

In the first half of 2020, natural gas made up a 69% share of fossil-fuel generation and Henry Hub prices averaged $1.81/MMBtu. For the same period in 2021, natural gas made up a 60% share of fossil fuel generation, and Henry Hub prices averaged $3.25/MMBtu. Since March 2021, the Henry Hub price has steadily increased, approaching $4.00/MMBtu, yet the natural gas share of fossil-fuel generation has remained higher than 60%. Except for the February price spike as a result of extremely cold weather, July Henry Hub prices were at their highest this year. Natural gas made up a 61% share of fossil-fuel generation and coal made up 39%. This difference is partially because of a longer-term trend of decreasing capacity for coal-fired electricity generation and increasing natural gas-fired capacity. Capacity for coal-fired electricity generation has decreased every year since 2011, and natural gas-fired capacity has increased every year since at least 2009.

Notable forecast changes

- We expect OPEC crude oil production to average 27.6 million barrels per day (b/d) in the second half of 2021 (2H21), about 0.6 million b/d lower compared with our previous forecast. Our forecast of lower OPEC crude oil production reflects the July 18 OPEC+ announcement that calls for participating countries to collectively increase supply by 0.4 million b/d per month from August to December 2021, a production increase that is lower than we previously anticipated. Forecast OPEC crude oil production in 2022 is about 0the same as our July forecast, with higher-than-expected output in the second half of the year offsetting lower forecast production in 1Q22, which is consistent with higher OPEC production baselines that were also announced on July 18.

- In our August STEO, we revised down our 2022 jet fuel consumption forecast by 80,000 b/d to 1.6 million b/d. The lower jet fuel forecast reflects a lower GDP forecast by IHS Markit. It also reflects our assumption that increases in jet fuel consumption will occur more slowly than we has previously forecast. The largest downward revision is for 2H22, when we forecast jet fuel consumption will average 1.7 million b/d, down from 1.8 million b/d in the July forecast.

- We forecast Henry Hub spot prices will average $3.59 per million British thermal unit (MMBtu) in 2H21, an increase of 40 cents/MMBtu from last month's STEO. High demand for electricity generation because of record-high temperatures in June led to strong consumption of natural gas in the electric power sector, supporting higher prices into July and August. We expect Henry Hub spot prices to decline over the forecast period as temperatures return closer to historical averages, U.S. dry natural gas production increases, and growth in liquefied natural gas export growth slows.

- We have updated our modeling of electricity generation to better account for regional emissions restrictions and fuel contracts. These changes have the general effect of limiting future growth in coal-fired generation. As a result, the impact on forecast coal-fired generation in 2021 from our increased forecast for natural gas prices is generally offset by the effect of the new model constraints that limit growth in coal-fired generation. Thus, our forecast for U.S. coal and natural gas generation are relatively unchanged from last STEO.

- We corrected calculations for several of the industrial production indexes in tables 9a and 9b. Most of the changes were minor. For more information on these corrections please contact us.

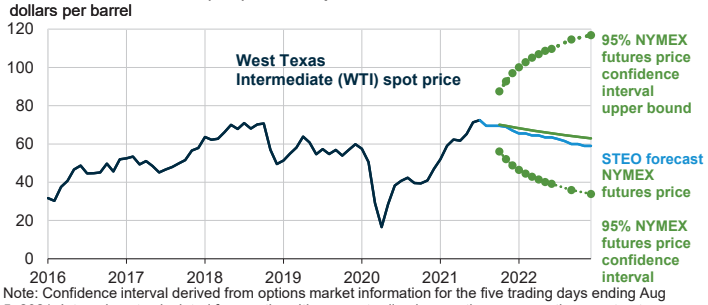
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

August 10, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

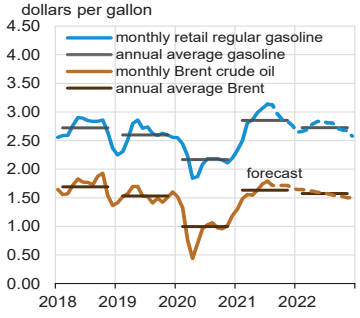


Note: Confidence interval derived from options market information for the five trading days ending Aug 5, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

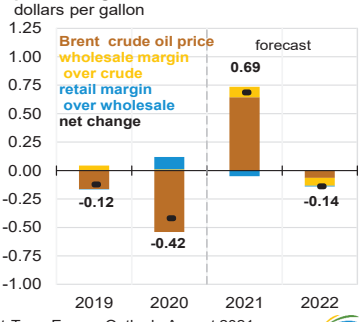
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



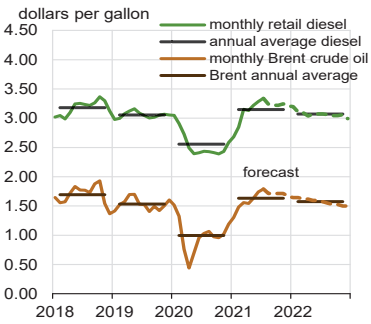
Components of annual gasoline price changes
dollars per gallon



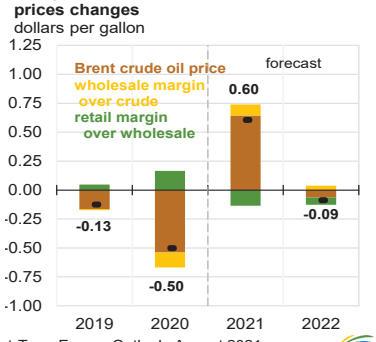
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, and Refinitiv an LSEG Business

eia

U.S. diesel and crude oil prices



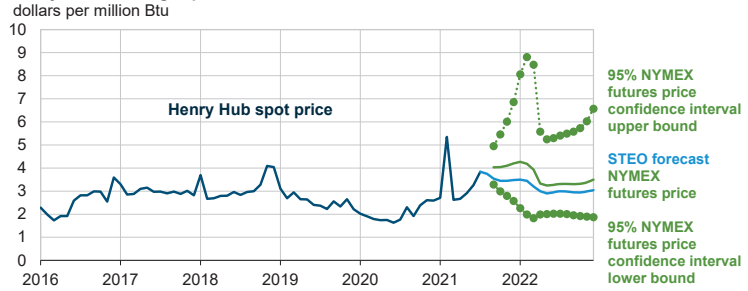
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

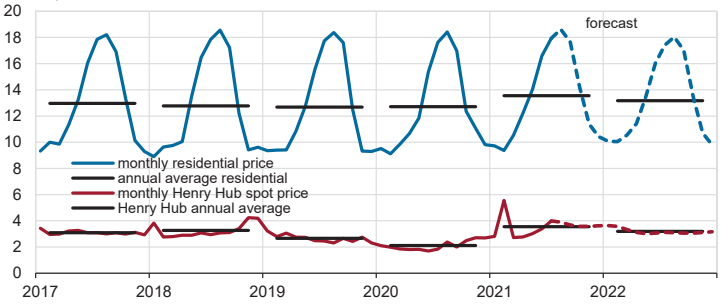


Note: Confidence interval derived from options market information for the five trading days ending Aug 5, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

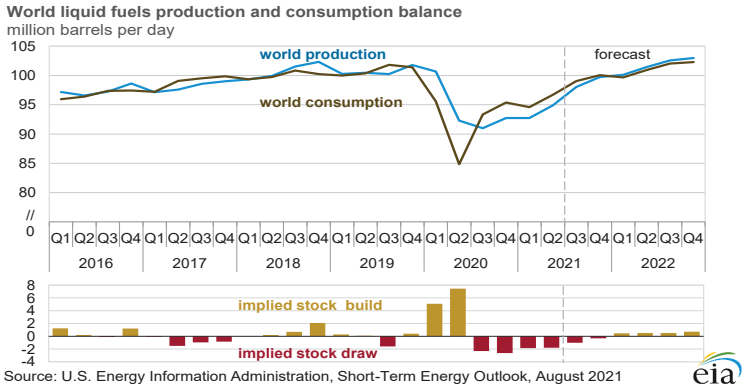
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, CME Group, and Refinitiv an LSEG Business

U.S. natural gas prices

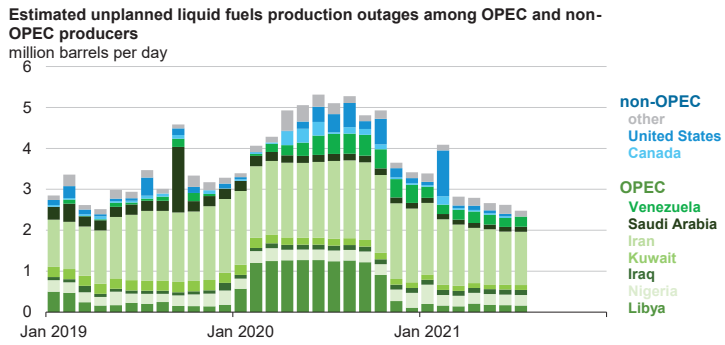
dollars per thousand cubic feet



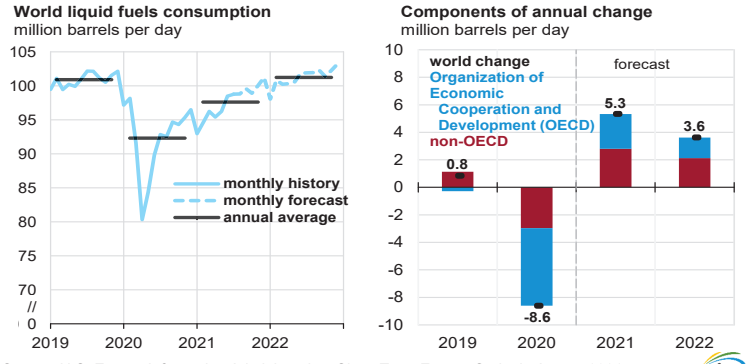
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, and Refinitiv an LSEG Business



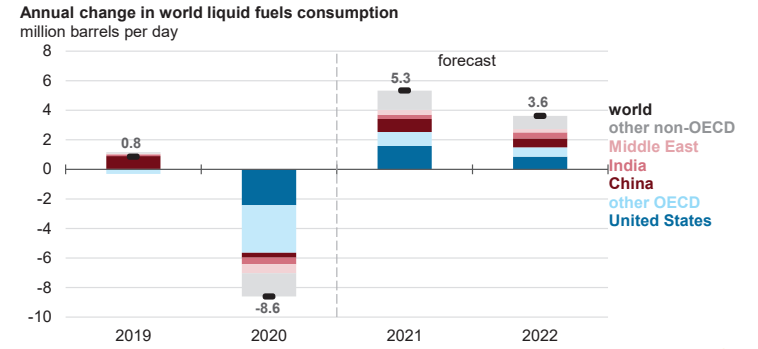
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



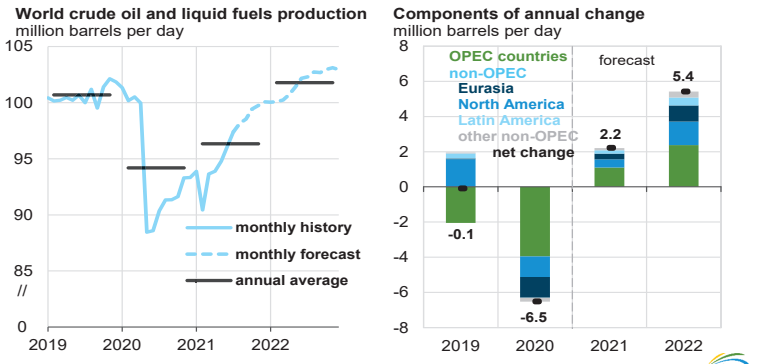
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



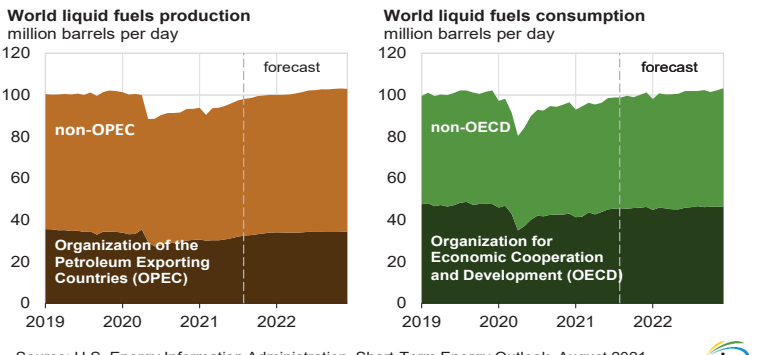
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

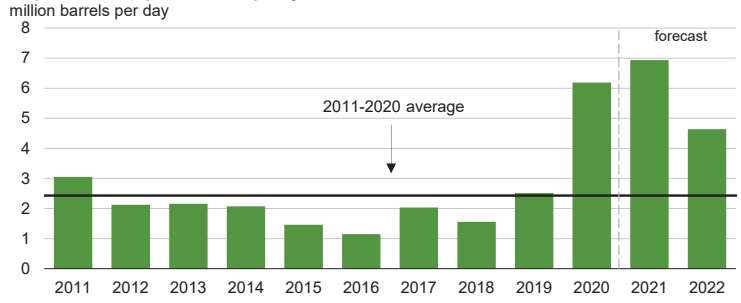


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



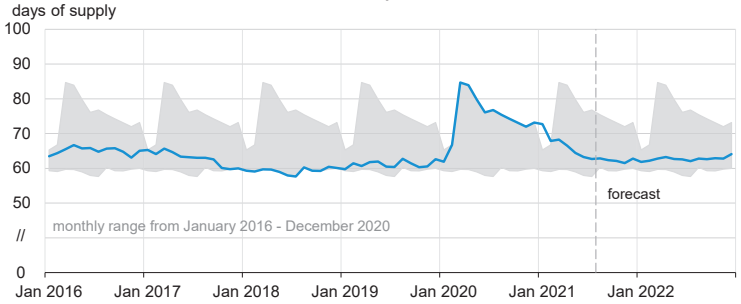
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



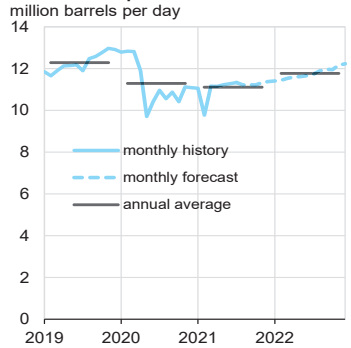
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

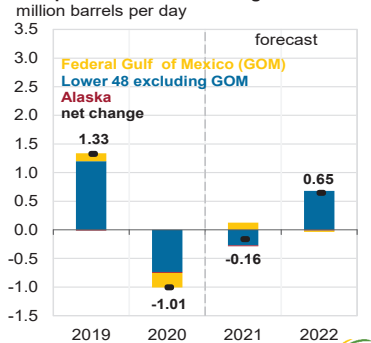


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. crude oil production
million barrels per day

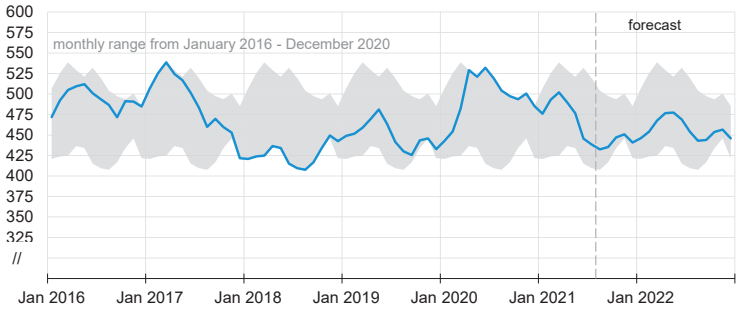


Components of annual change
million barrels per day



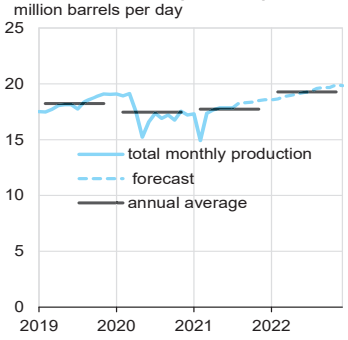
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. commercial crude oil inventories
million barrels

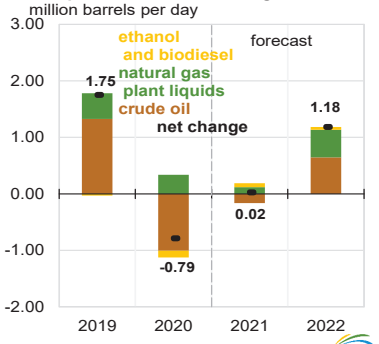


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. crude oil and liquid fuels production
million barrels per day

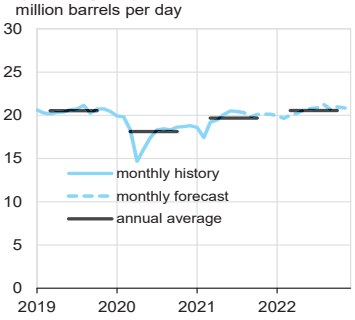


Components of annual change
million barrels per day

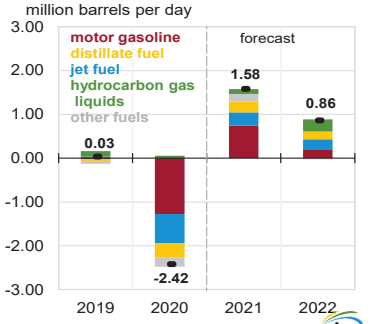


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. liquid fuels product supplied (consumption)
million barrels per day

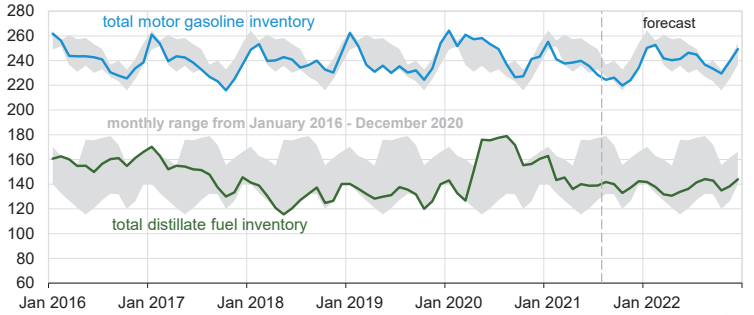


Components of annual change
million barrels per day



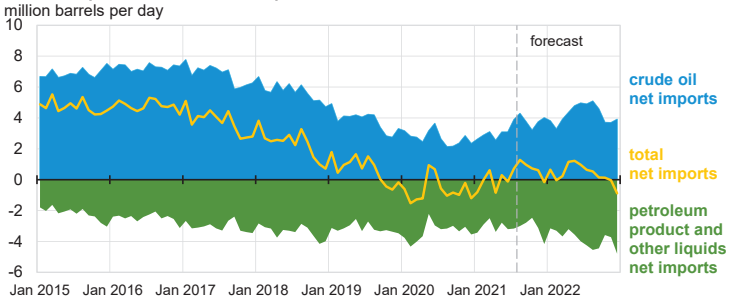
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. gasoline and distillate inventories
million barrels



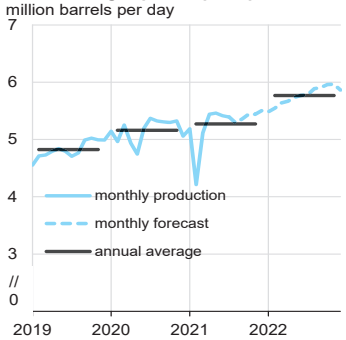
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

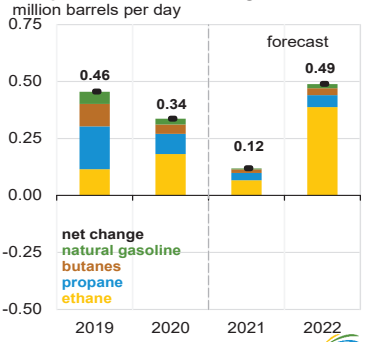


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

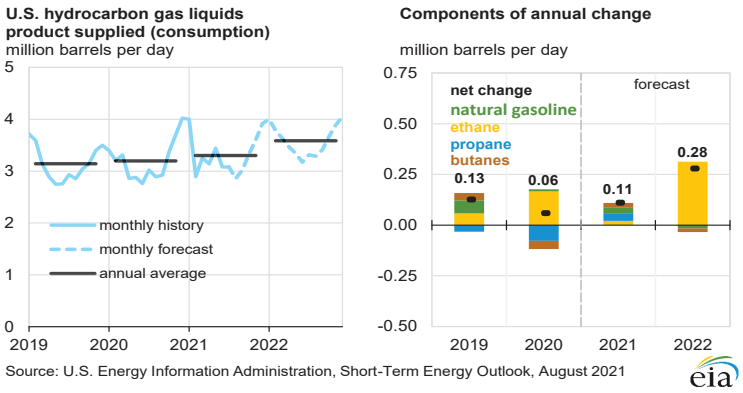
U.S. natural gas plant liquids production
million barrels per day



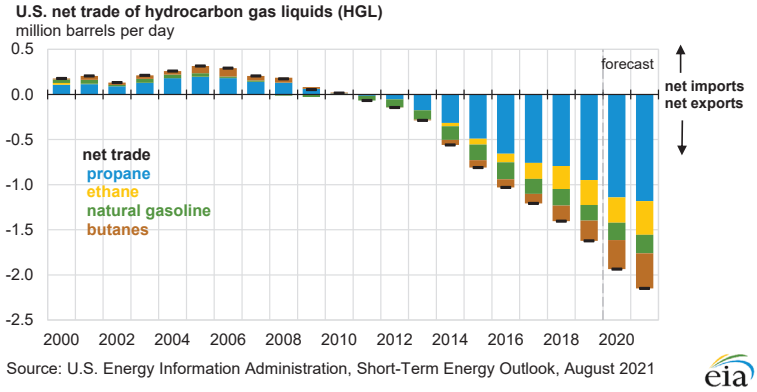
Components of annual change
million barrels per day



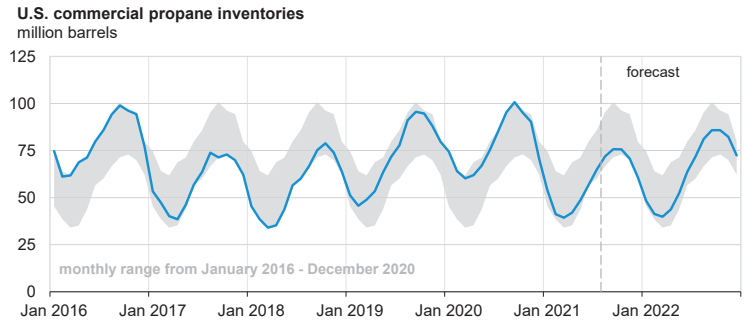
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



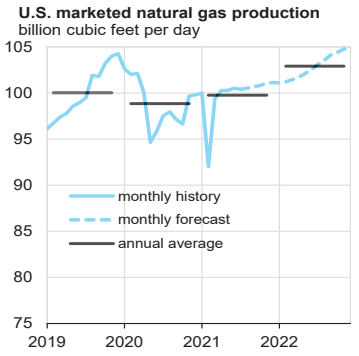
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

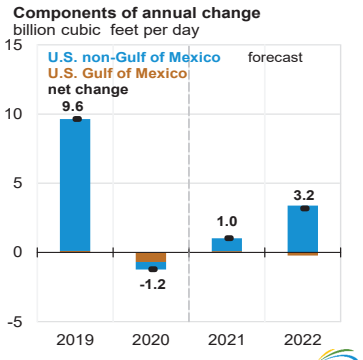


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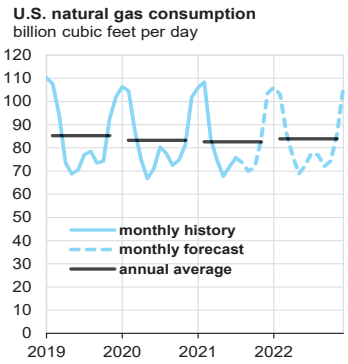


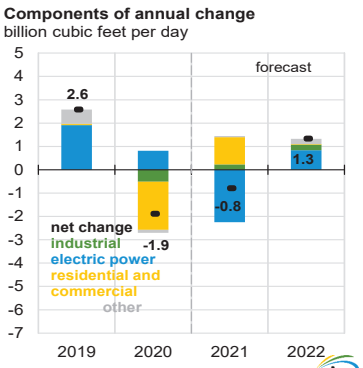
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



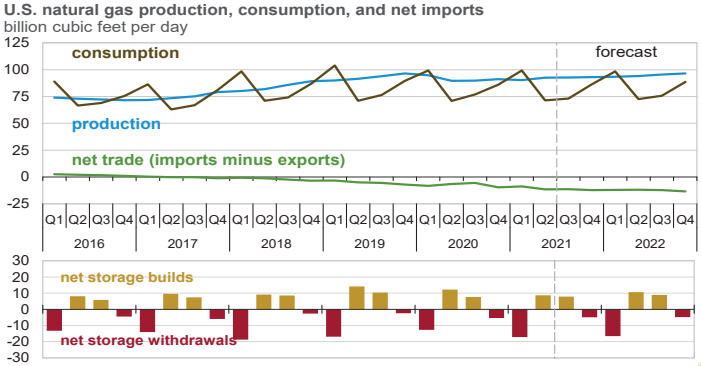


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



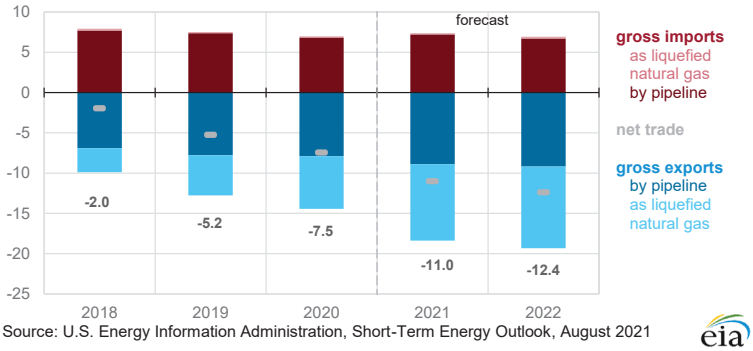


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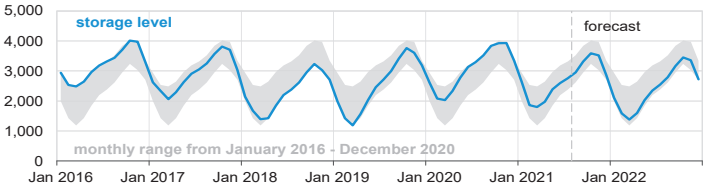
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. annual natural gas trade
billion cubic feet per day

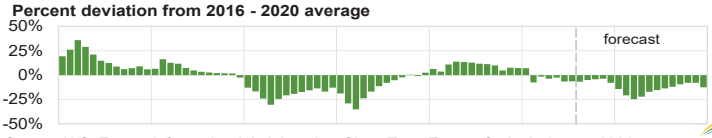


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. working natural gas in storage
billion cubic feet

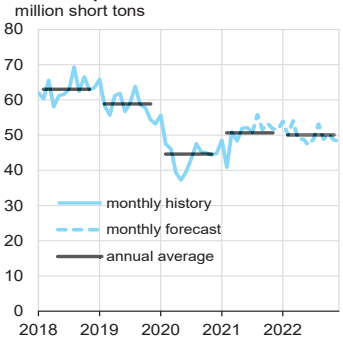


Percent deviation from 2016 - 2020 average

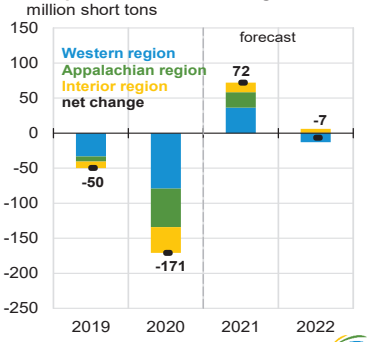


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

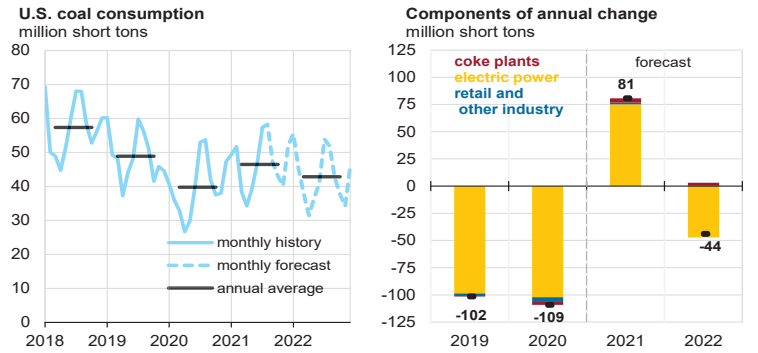
U.S. coal production
million short tons



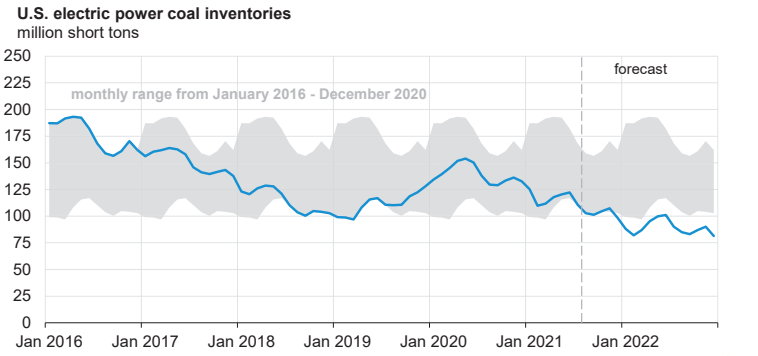
Components of annual change
million short tons



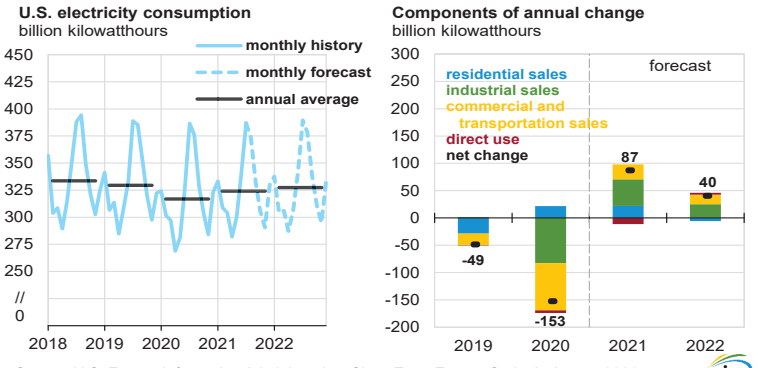
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



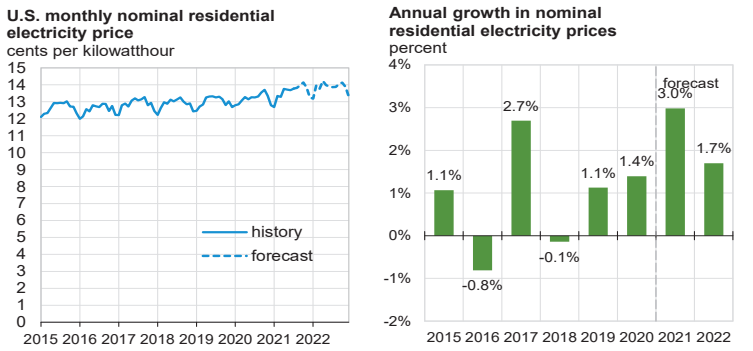
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



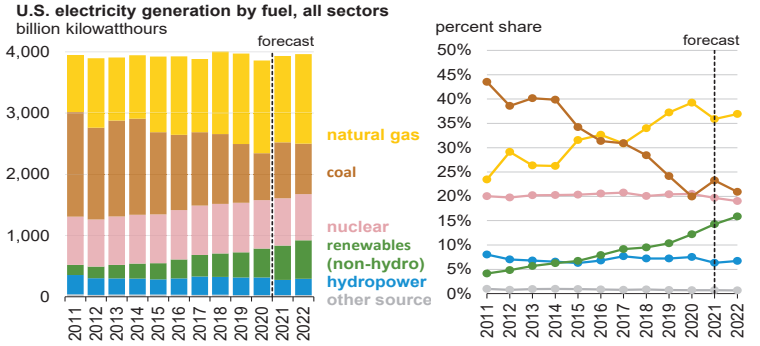
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



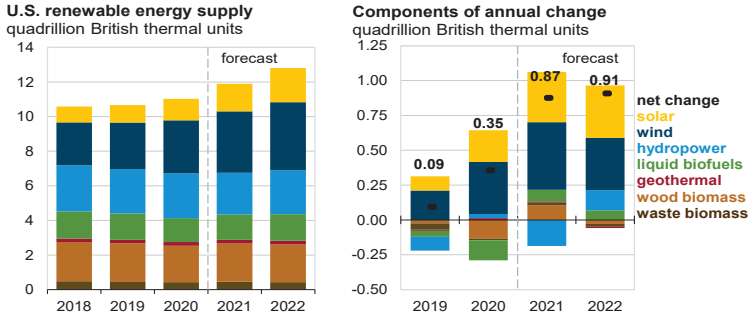
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



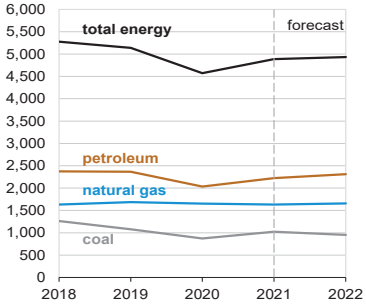
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



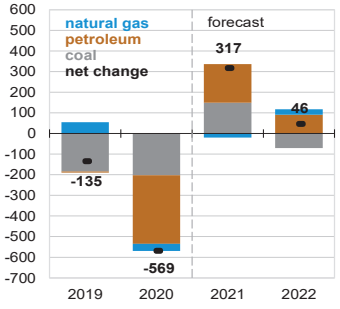
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. annual CO2 emissions by source
million metric tons

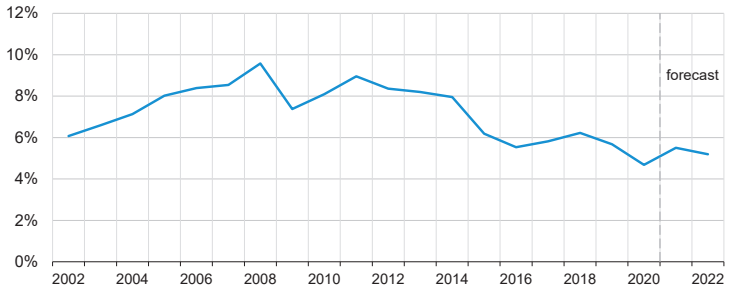


Components of annual change
million metric tons



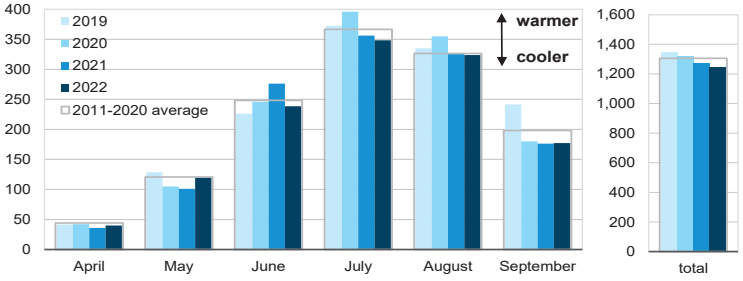
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

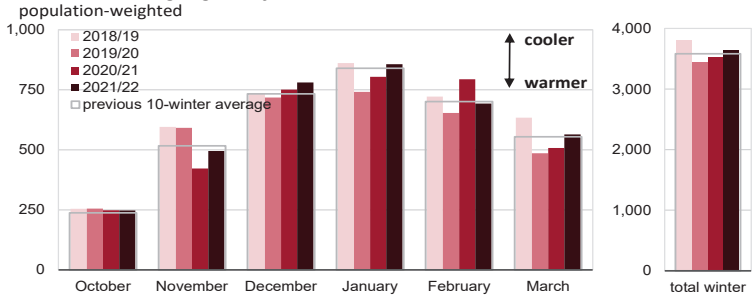
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

U.S. winter heating degree days
population-weighted

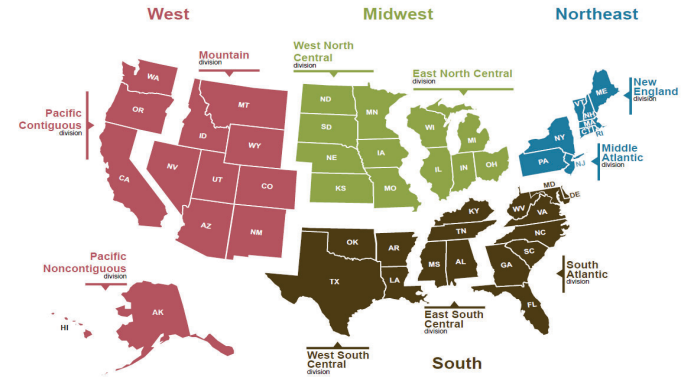


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

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Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.22**	*11.26*	*11.30*	*11.46*	*11.62*	*11.86*	*12.11*	**11.28**	*11.12*	*11.77*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.79**	**89.68**	**89.83**	**91.15**	**90.29**	**92.49**	*92.67*	*93.11*	*93.34*	*94.15*	*95.51*	*96.47*	**91.35**	*92.15*	*94.88*
Coal Production															
(million short tons)	**149**	**116**	**136**	**134**	**140**	**152**	*158*	*157*	*158*	*145*	*151*	*147*	**535**	*607*	*601*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**20.02**	*20.18*	*20.12*	*19.88*	*20.55*	*20.93*	*20.85*	**18.12**	*19.70*	*20.56*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.84**	**76.83**	**86.08**	**99.17**	**71.43**	*73.15*	*86.33*	*98.42*	*72.58*	*75.67*	*88.66*	**83.25**	*82.46*	*83.78*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**139**	**120**	*163*	*135*	*139*	*109*	*148*	*118*	**477**	*558*	*514*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	**10.14**	*11.89*	*10.07*	*10.53*	*10.28*	*12.02*	*10.22*	**10.39**	*10.65*	*10.77*
Renewables (c)															
(quadrillion Btu)	**2.92**	**3.00**	**2.83**	**2.91**	**2.95**	**3.30**	*3.14*	*3.17*	*3.29*	*3.59*	*3.30*	*3.31*	**11.65**	*12.56*	*13.50*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.10**	**20.63**	**23.42**	**23.79**	**25.04**	**22.97**	*24.19*	*24.63*	*25.44*	*23.31*	*24.54*	*24.95*	**92.94**	*96.83*	*98.24*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	*70.51*	*68.45*	*65.13*	*63.82*	*61.32*	*59.33*	**39.17**	*65.93*	*62.37*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	*3.71*	*3.46*	*3.38*	*2.95*	*2.98*	*2.99*	**2.03**	*3.42*	*3.08*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.88**	*1.89*	*1.86*	*1.89*	*1.88*	*1.84*	*1.82*	**1.92**	*1.89*	*1.86*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,086**	**19,456**	*19,810*	*20,197*	*20,388*	*20,569*	*20,703*	*20,829*	**18,426**	*19,637*	*20,622*
Percent change from prior year	**0.3**	**-9.0**	**-2.8**	**-2.4**	**0.4**	**12.4**	*6.5*	*7.5*	*6.8*	*5.7*	*4.5*	*3.1*	**-3.5**	*6.6*	*5.0*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.6**	**117.3**	*118.3*	*118.8*	*119.3*	*119.8*	*120.4*	*121.1*	**113.6**	*117.5*	*120.2*
Percent change from prior year	**1.7**	**0.6**	**1.1**	**1.3**	**2.0**	**4.0**	*3.9*	*3.8*	*3.1*	*2.1*	*1.8*	*1.9*	**1.2**	*3.4*	*2.3*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,541**	**17,530**	**16,154**	*15,768*	*15,743*	*15,815*	*15,961*	*16,079*	*16,146*	**15,771**	*16,299*	*16,001*
Percent change from prior year	**1.4**	**12.2**	**6.4**	**3.9**	**16.4**	**-2.9**	*-0.5*	*1.3*	*-9.8*	*-1.2*	*2.0*	*2.6*	**6.0**	*3.3*	*-1.8*
Manufacturing Production Index															
(Index, 2017=100)	**97.6**	**84.2**	**94.2**	**96.7**	**97.2**	**98.2**	*100.5*	*103.0*	*104.2*	*105.2*	*105.8*	*106.4*	**93.2**	*99.7*	*105.4*
Percent change from prior year	**-2.7**	**-15.3**	**-5.2**	**-2.4**	**-0.4**	**16.5**	*6.7*	*6.5*	*7.1*	*7.1*	*5.4*	*3.3*	**-6.4**	*7.0*	*5.7*
Weather															
U.S. Heating Degree-Days	**1,881**	**543**	**71**	**1,422**	**2,106**	**472**	*70*	*1,523*	*2,114*	*488*	*77*	*1,521*	**3,916**	*4,171*	*4,201*
U.S. Cooling Degree-Days	**70**	**393**	**931**	**121**	**49**	**413**	*858*	*95*	*46*	*398*	*850*	*97*	**1,514**	*1,415*	*1,390*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109;
Petroleum Supply Annual , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130;
Electric Power Monthly , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	*70.51*	*68.45*	*65.13*	*63.82*	*61.32*	*59.33*	**39.17**	*65.93*	*62.37*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	**68.91**	*73.07*	*71.29*	*68.63*	*67.32*	*64.98*	*63.33*	**41.69**	*68.71*	*66.04*
U.S. Imported Average	**43.72**	**26.33**	**39.89**	**40.67**	**55.27**	**64.73**	*68.48*	*66.41*	*62.88*	*61.56*	*58.88*	*56.83*	**37.25**	*64.32*	*60.01*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.75**	**40.79**	**42.09**	**57.12**	**65.94**	*69.53*	*67.45*	*63.90*	*62.57*	*59.86*	*57.83*	**39.72**	*65.27*	*60.97*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	**217**	*224*	*202*	*190*	*202*	*198*	*182*	**133**	*207*	*193*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	**205**	*214*	*213*	*205*	*203*	*199*	*195*	**129**	*203*	*201*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	**183**	*205*	*208*	*202*	*193*	*188*	*187*	**125**	*194*	*196*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	**182**	*195*	*202*	*200*	*200*	*196*	*193*	**131**	*187*	*197*
No. 6 Residual Fuel Oil (a)	**176**	**93**	**116**	**119**	**162**	**174**	*166*	*161*	*152*	*151*	*144*	*138*	**125**	*166*	*146*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	**297**	*308*	*282*	*267*	*282*	*278*	*264*	**218**	*287*	*273*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	**306**	*318*	*295*	*280*	*295*	*291*	*278*	**227**	*297*	*286*
On-highway Diesel Fuel	**289**	**243**	**243**	**246**	**290**	**321**	*327*	*323*	*313*	*306*	*306*	*303*	**255**	*316*	*307*
Heating Oil	**280**	**200**	**214**	**230**	**272**	**283**	*311*	*333*	*326*	*302*	*284*	*283*	**244**	*297*	*304*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	*3.85*	*3.59*	*3.52*	*3.07*	*3.09*	*3.11*	**2.11**	*3.55*	*3.20*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	*3.71*	*3.46*	*3.38*	*2.95*	*2.98*	*2.99*	**2.03**	*3.42*	*3.08*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.77**	**5.72**	**4.06**	*4.73*	*4.89*	*5.01*	*4.16*	*4.00*	*4.29*	**3.29**	*4.87*	*4.38*
Commercial Sector	**7.13**	**7.63**	**8.49**	**7.53**	**7.56**	**8.74**	*9.41*	*8.50*	*8.21*	*8.48*	*8.70*	*7.70*	**7.48**	*8.24*	*8.15*
Residential Sector	**9.46**	**11.89**	**17.65**	**10.60**	**9.79**	**13.53**	*18.05*	*11.30*	*10.19*	*12.86*	*17.46*	*10.64*	**10.83**	*11.36*	*11.23*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.88**	*1.89*	*1.86*	*1.89*	*1.88*	*1.84*	*1.82*	**1.92**	*1.89*	*1.86*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.23**	*3.88*	*3.81*	*3.94*	*3.10*	*3.08*	*3.27*	**2.39**	*4.46*	*3.31*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**12.85**	*13.09*	*12.92*	*12.94*	*13.29*	*12.34*	*11.82*	**9.15**	*12.50*	*12.59*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.79**	*16.51*	*16.49*	*16.05*	*15.79*	*15.45*	*15.20*	**10.73**	*15.36*	*15.67*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.88**	*7.15*	*6.58*	*6.94*	*6.83*	*7.13*	*6.57*	**6.66**	*6.94*	*6.88*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.06**	*11.48*	*11.08*	*11.46*	*11.33*	*11.62*	*11.14*	**10.65**	*11.19*	*11.39*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.71**	*13.84*	*13.70*	*13.61*	*14.01*	*13.92*	*13.73*	**13.20**	*13.59*	*13.82*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**33.00**	**29.28**	**29.95**	**30.66**	**30.16**	**30.95**	*31.56*	*31.93*	*32.17*	*32.47*	*32.84*	*33.36*	**30.72**	*31.16*	*32.71*
U.S. (50 States)	**20.28**	**17.44**	**18.29**	**18.28**	**17.62**	**19.03**	*19.00*	*19.11*	*19.35*	*19.78*	*20.23*	*20.53*	**18.57**	*18.69*	*19.98*
Canada	**5.64**	**4.91**	**4.94**	**5.55**	**5.63**	**5.41**	*5.63*	*5.78*	*5.81*	*5.78*	*5.81*	*5.83*	**5.26**	*5.61*	*5.81*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	*1.93*	*1.89*	*1.84*	*1.80*	*1.77*	*1.73*	**1.94**	*1.92*	*1.78*
Other OECD	**5.08**	**4.99**	**4.81**	**4.93**	**4.98**	**4.56**	*5.00*	*5.15*	*5.17*	*5.11*	*5.03*	*5.26*	**4.95**	*4.92*	*5.14*
Non-OECD	**67.68**	**63.02**	**61.06**	**62.09**	**62.56**	**63.96**	*66.47*	*67.82*	*67.96*	*68.96*	*69.73*	*69.64*	**63.45**	*65.22*	*69.08*
OPEC	**33.50**	**30.72**	**28.65**	**30.00**	**30.37**	**30.78**	*32.46*	*33.59*	*34.03*	*34.11*	*34.28*	*34.32*	**30.71**	*31.81*	*34.18*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.51**	*27.10*	*28.16*	*28.43*	*28.65*	*28.76*	*28.76*	**25.60**	*26.47*	*28.65*
Other Liquids (b)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.28**	*5.36*	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.38**	**13.63**	*13.79*	*14.23*	*14.45*	*14.66*	*14.77*	*14.97*	**13.44**	*13.76*	*14.71*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	**5.09**	*5.01*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.05*	*5.08*
Other Non-OECD	**14.49**	**14.21**	**14.74**	**14.06**	**13.77**	**14.47**	*15.21*	*14.94*	*14.43*	*15.11*	*15.60*	*15.23*	**14.37**	*14.60*	*15.10*
Total World Supply	**100.69**	**92.30**	**91.01**	**92.75**	**92.72**	**94.92**	*98.03*	*99.75*	*100.12*	*101.43*	*102.57*	*103.00*	**94.17**	*96.38*	*101.79*
Non-OPEC Supply	**67.19**	**61.58**	**62.36**	**62.75**	**62.35**	**64.14**	*65.57*	*66.15*	*66.10*	*67.32*	*68.29*	*68.69*	**63.46**	*64.57*	*67.61*
Consumption (million barrels per day) (c)															
OECD	**45.26**	**37.39**	**42.12**	**42.79**	**42.24**	**43.89**	*45.51*	*45.99*	*45.47*	*45.39*	*46.34*	*46.43*	**41.89**	*44.42*	*45.91*
U.S. (50 States)	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**20.02**	*20.18*	*20.12*	*19.88*	*20.55*	*20.93*	*20.85*	**18.12**	*19.70*	*20.56*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	**0.18**	*0.18*	*0.20*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.03**	**2.06**	*2.29*	*2.31*	*2.27*	*2.23*	*2.33*	*2.31*	**2.10**	*2.17*	*2.28*
Europe	**13.33**	**11.00**	**12.87**	**12.50**	**11.88**	**12.72**	*13.75*	*13.59*	*13.19*	*13.33*	*13.67*	*13.35*	**12.43**	*12.99*	*13.39*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.69**	**2.96**	*3.04*	*3.42*	*3.63*	*2.96*	*3.05*	*3.36*	**3.27**	*3.27*	*3.25*
Other OECD	**6.41**	**5.41**	**5.55**	**5.87**	**5.99**	**5.95**	*6.07*	*6.36*	*6.29*	*6.14*	*6.18*	*6.35*	**5.81**	*6.09*	*6.24*
Non-OECD	**50.33**	**47.44**	**51.21**	**52.59**	**52.36**	**52.82**	*53.55*	*54.07*	*54.20*	*55.54*	*55.71*	*55.86*	**50.40**	*53.21*	*55.34*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.91**	**4.99**	*5.39*	*5.24*	*5.04*	*5.13*	*5.53*	*5.39*	**4.95**	*5.14*	*5.27*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.73**	**0.73**	*0.74*	*0.75*	*0.74*	*0.75*	*0.76*	*0.76*	**0.71**	*0.74*	*0.75*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.26**	**15.46**	*15.17*	*15.39*	*15.81*	*16.06*	*15.77*	*16.05*	**14.43**	*15.32*	*15.92*
Other Asia	**13.35**	**11.63**	**12.59**	**13.61**	**13.79**	**13.38**	*13.30*	*13.99*	*14.39*	*14.60*	*14.20*	*14.63*	**12.80**	*13.62*	*14.45*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.67**	**18.26**	*18.94*	*18.70*	*18.23*	*19.01*	*19.45*	*19.04*	**17.51**	*18.40*	*18.93*
Total World Consumption	**95.59**	**84.84**	**93.33**	**95.38**	**94.60**	**96.71**	*99.06*	*100.06*	*99.67*	*100.93*	*102.06*	*102.29*	**92.30**	*97.63*	*101.25*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.43**	**-1.68**	**0.49**	**0.89**	**0.48**	**0.49**	*-0.15*	*0.46*	*0.01*	*-0.57*	*0.03*	*0.42*	**-0.18**	*0.32*	*-0.02*
Other OECD	**-0.51**	**-1.16**	**0.04**	**0.69**	**0.76**	**0.16**	*0.38*	*-0.05*	*-0.15*	*0.02*	*-0.17*	*-0.36*	**-0.23**	*0.31*	*-0.16*
Other Stock Draws and Balance	**-4.17**	**-4.62**	**1.80**	**1.06**	**0.64**	**1.15**	*0.80*	*-0.10*	*-0.32*	*0.05*	*-0.37*	*-0.78*	**-1.47**	*0.62*	*-0.36*
Total Stock Draw	**-5.10**	**-7.46**	**2.32**	**2.63**	**1.87**	**1.80**	*1.03*	*0.31*	*-0.45*	*-0.50*	*-0.51*	*-0.71*	**-1.88**	*1.25*	*-0.55*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,321**	**1,453**	**1,422**	**1,344**	**1,302**	**1,274**	*1,287*	*1,250*	*1,253*	*1,309*	*1,309*	*1,279*	**1,344**	*1,250*	*1,279*
OECD Commercial Inventory	**2,964**	**3,201**	**3,167**	**3,026**	**2,916**	**2,873**	*2,852*	*2,819*	*2,835*	*2,889*	*2,904*	*2,908*	**3,026**	*2,819*	*2,908*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.93**	**24.29**	**25.14**	**25.73**	**25.18**	**26.39**	*26.56*	*26.78*	*27.00*	*27.36*	*27.80*	*28.10*	**25.77**	*26.23*	*27.57*
Canada	**5.64**	**4.91**	**4.94**	**5.55**	**5.63**	**5.41**	*5.63*	*5.78*	*5.81*	*5.78*	*5.81*	*5.83*	**5.26**	*5.61*	*5.81*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	*1.93*	*1.89*	*1.84*	*1.80*	*1.77*	*1.73*	**1.94**	*1.92*	*1.78*
United States	**20.28**	**17.44**	**18.29**	**18.28**	**17.62**	**19.03**	*19.00*	*19.11*	*19.35*	*19.78*	*20.23*	*20.53*	**18.57**	*18.69*	*19.98*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.61**	**6.27**	*6.93*	*6.63*	*6.11*	*6.83*	*7.35*	*7.02*	**6.15**	*6.37*	*6.83*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.63**	**0.66**	*0.70*	*0.69*	*0.71*	*0.72*	*0.75*	*0.73*	**0.64**	*0.67*	*0.73*
Brazil	**3.44**	**3.89**	**4.29**	**3.52**	**3.23**	**3.92**	*4.48*	*4.15*	*3.54*	*4.37*	*4.76*	*4.29*	**3.79**	*3.95*	*4.24*
Colombia	**0.90**	**0.78**	**0.77**	**0.79**	**0.77**	**0.75**	*0.74*	*0.78*	*0.84*	*0.72*	*0.71*	*0.78*	**0.81**	*0.76*	*0.76*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	**0.50**	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.51*	*0.53*
Other Central and S. America	**0.45**	**0.42**	**0.41**	**0.45**	**0.47**	**0.44**	*0.49*	*0.49*	*0.49*	*0.50*	*0.59*	*0.69*	**0.43**	*0.47*	*0.57*
Europe	**4.44**	**4.35**	**4.16**	**4.29**	**4.35**	**3.94**	*4.34*	*4.50*	*4.51*	*4.44*	*4.37*	*4.60*	**4.31**	*4.28*	*4.48*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	**1.91**	*2.08*	*2.21*	*2.23*	*2.18*	*2.20*	*2.32*	**2.01**	*2.08*	*2.23*
United Kingdom	**1.17**	**1.16**	**0.99**	**1.06**	**1.05**	**0.82**	*1.06*	*1.07*	*1.07*	*1.06*	*0.95*	*1.05*	**1.10**	*1.00*	*1.03*
Eurasia	**14.73**	**13.18**	**12.72**	**13.13**	**13.38**	**13.63**	*13.79*	*14.23*	*14.45*	*14.66*	*14.77*	*14.97*	**13.44**	*13.76*	*14.71*
Azerbaijan	**0.76**	**0.69**	**0.66**	**0.69**	**0.74**	**0.70**	*0.70*	*0.76*	*0.79*	*0.78*	*0.75*	*0.78*	**0.70**	*0.72*	*0.78*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	**1.86**	*1.86*	*1.95*	*1.99*	*1.99*	*1.95*	*2.00*	**1.86**	*1.88*	*1.98*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	**10.72**	*10.86*	*11.14*	*11.30*	*11.51*	*11.69*	*11.80*	**10.50**	*10.79*	*11.57*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	**0.24**	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.12**	**0.12**	**0.12**	**0.12**	**0.10**	**0.11**	*0.12*	*0.14*	*0.15*	*0.16*	*0.16*	*0.15*	**0.12**	*0.12*	*0.16*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.15**	**3.17**	*3.19*	*3.22*	*3.26*	*3.26*	*3.26*	*3.25*	**3.13**	*3.18*	*3.26*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	**0.97**	*0.99*	*1.02*	*1.03*	*1.03*	*1.03*	*1.03*	**0.96**	*0.98*	*1.03*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.89**	**1.91**	*1.92*	*1.92*	*1.94*	*1.94*	*1.94*	*1.94*	**1.87**	*1.91*	*1.94*
Asia and Oceania	**9.44**	**9.15**	**9.21**	**9.17**	**9.28**	**9.33**	*9.33*	*9.37*	*9.36*	*9.36*	*9.34*	*9.35*	**9.24**	*9.33*	*9.35*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.47**	**0.47**	*0.51*	*0.51*	*0.51*	*0.51*	*0.51*	*0.50*	**0.49**	*0.49*	*0.51*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	**5.09**	*5.01*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.05*	*5.08*
India	**0.96**	**0.90**	**0.92**	**0.92**	**0.92**	**0.91**	*0.92*	*0.91*	*0.91*	*0.90*	*0.90*	*0.89*	**0.92**	*0.91*	*0.90*
Indonesia	**0.91**	**0.89**	**0.87**	**0.88**	**0.84**	**0.87**	*0.88*	*0.87*	*0.87*	*0.86*	*0.85*	*0.84*	**0.89**	*0.86*	*0.85*
Malaysia	**0.71**	**0.60**	**0.63**	**0.64**	**0.65**	**0.62**	*0.64*	*0.65*	*0.64*	*0.63*	*0.62*	*0.61*	**0.65**	*0.64*	*0.63*
Vietnam	**0.25**	**0.24**	**0.23**	**0.23**	**0.23**	**0.23**	*0.23*	*0.22*	*0.22*	*0.22*	*0.21*	*0.21*	**0.23**	*0.23*	*0.22*
Africa	**1.48**	**1.44**	**1.42**	**1.40**	**1.41**	**1.40**	*1.42*	*1.43*	*1.40*	*1.40*	*1.39*	*1.39*	**1.43**	*1.41*	*1.39*
Egypt	**0.62**	**0.61**	**0.60**	**0.58**	**0.58**	**0.61**	*0.64*	*0.64*	*0.61*	*0.61*	*0.61*	*0.61*	**0.60**	*0.62*	*0.61*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	**0.16**	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Total non-OPEC liquids	**67.19**	**61.58**	**62.36**	**62.75**	**62.35**	**64.14**	*65.57*	*66.15*	*66.10*	*67.32*	*68.29*	*68.69*	**63.46**	*64.57*	*67.61*
OPEC non-crude liquids	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.28**	*5.36*	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Non-OPEC + OPEC non-crude	**72.41**	**66.65**	**67.38**	**67.87**	**67.64**	**69.41**	*70.94*	*71.59*	*71.69*	*72.79*	*73.81*	*74.24*	**68.57**	*69.91*	*73.14*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.55**	**0.68**	**0.32**	-	-	-	-	-	-	**0.59**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	**0.88**	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	**1.08**	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	**0.27**	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	**0.12**	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	**0.17**	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	**2.47**	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	**3.98**	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	**2.36**	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	**1.16**	-	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	**1.32**	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	**8.53**	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	**2.65**	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	**0.53**	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.51**	*27.10*	*28.16*	*28.43*	*28.65*	*28.76*	*28.76*	**25.60**	*26.47*	*28.65*
Other Liquids (a)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.28**	*5.36*	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Total OPEC Supply	**33.50**	**30.72**	**28.65**	**30.00**	**30.37**	**30.78**	*32.46*	*33.59*	*34.03*	*34.11*	*34.28*	*34.32*	**30.71**	*31.81*	*34.18*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	**26.85**	*26.98*	*27.28*	*27.38*	*27.39*	*27.39*	*27.39*	**25.98**	*26.92*	*27.39*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	**6.71**	*6.57*	*5.95*	*5.88*	*5.90*	*5.91*	*5.91*	**5.81**	*6.49*	*5.90*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	**33.56**	*33.55*	*33.23*	*33.27*	*33.28*	*33.30*	*33.31*	**31.79**	*33.40*	*33.29*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	**6.87**	*5.60*	*4.99*	*4.76*	*4.57*	*4.47*	*4.47*	**5.49**	*6.11*	*4.57*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.19**	**1.18**	*0.85*	*0.08*	*0.07*	*0.07*	*0.07*	*0.07*	**0.70**	*0.83*	*0.07*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.19**	**8.06**	*6.45*	*5.07*	*4.83*	*4.64*	*4.54*	*4.55*	**6.19**	*6.93*	*4.64*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	**2.38**	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.64**	**19.44**	**22.12**	**22.45**	**22.21**	**23.90**	*24.36*	*24.33*	*23.98*	*24.63*	*25.10*	*25.01*	**21.91**	*23.70*	*24.68*
Canada	**2.33**	**1.88**	**2.16**	**2.05**	**2.03**	**2.06**	*2.29*	*2.31*	*2.27*	*2.23*	*2.33*	*2.31*	**2.10**	*2.17*	*2.28*
Mexico	**1.97**	**1.48**	**1.59**	**1.68**	**1.72**	**1.80**	*1.88*	*1.89*	*1.82*	*1.84*	*1.83*	*1.85*	**1.68**	*1.82*	*1.84*
United States	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**20.02**	*20.18*	*20.12*	*19.88*	*20.55*	*20.93*	*20.85*	**18.12**	*19.70*	*20.56*
Central and South America	**6.14**	**5.61**	**6.04**	**6.32**	**6.19**	**6.33**	*6.56*	*6.60*	*6.40*	*6.57*	*6.72*	*6.73*	**6.03**	*6.42*	*6.61*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.97**	**3.08**	*3.22*	*3.23*	*3.06*	*3.16*	*3.27*	*3.28*	**2.90**	*3.13*	*3.19*
Europe	**14.04**	**11.69**	**13.58**	**13.22**	**12.61**	**13.45**	*14.50*	*14.33*	*13.93*	*14.07*	*14.43*	*14.12*	**13.13**	*13.73*	*14.14*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.91**	**4.99**	*5.39*	*5.24*	*5.04*	*5.13*	*5.53*	*5.39*	**4.95**	*5.14*	*5.27*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.70**	**3.81**	*4.14*	*3.98*	*3.80*	*3.91*	*4.25*	*4.10*	**3.74**	*3.91*	*4.02*
Middle East	**7.91**	**7.43**	**8.44**	**8.06**	**7.81**	**8.22**	*8.82*	*8.31*	*8.04*	*8.62*	*9.02*	*8.38*	**7.96**	*8.29*	*8.52*
Asia and Oceania	**34.84**	**32.13**	**33.79**	**35.87**	**36.55**	**35.48**	*35.18*	*36.78*	*37.80*	*37.42*	*36.85*	*38.06*	**34.16**	*36.00*	*37.53*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.26**	**15.46**	*15.17*	*15.39*	*15.81*	*16.06*	*15.77*	*16.05*	**14.43**	*15.32*	*15.92*
Japan	**3.69**	**2.89**	**3.03**	**3.50**	**3.69**	**2.96**	*3.04*	*3.42*	*3.63*	*2.96*	*3.05*	*3.36*	**3.27**	*3.27*	*3.25*
India	**4.83**	**3.76**	**4.17**	**4.93**	**5.00**	**4.45**	*4.50*	*4.89*	*5.16*	*5.23*	*4.88*	*5.19*	**4.42**	*4.71*	*5.11*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.33**	**4.35**	*4.25*	*4.47*	*4.48*	*4.49*	*4.41*	*4.60*	**4.15**	*4.35*	*4.50*
Total OECD Liquid Fuels Consumption	**45.26**	**37.39**	**42.12**	**42.79**	**42.24**	**43.89**	*45.51*	*45.99*	*45.47*	*45.39*	*46.34*	*46.43*	**41.89**	*44.42*	*45.91*
Total non-OECD Liquid Fuels Consumption	**50.33**	**47.44**	**51.21**	**52.59**	**52.36**	**52.82**	*53.55*	*54.07*	*54.20*	*55.54*	*55.71*	*55.86*	**50.40**	*53.21*	*55.34*
Total World Liquid Fuels Consumption	**95.59**	**84.84**	**93.33**	**95.38**	**94.60**	**96.71**	*99.06*	*100.06*	*99.67*	*100.93*	*102.06*	*102.29*	**92.30**	*97.63*	*101.25*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**110.3**	**107.6**	**112.4**	**113.5**	**115.9**	**117.2**	*118.6*	*119.6*	*122.5*	*123.2*	*123.8*	*124.3*	**111.0**	*117.8*	*123.5*
Percent change from prior year	**-3.4**	**-6.1**	**-2.4**	**-1.7**	**5.1**	**8.9**	*5.5*	*5.4*	*5.7*	*5.1*	*4.4*	*4.0*	**-3.4**	*6.2*	*4.8*
OECD Index, 2015 = 100													**103.6**	*109.5*	*114.0*
Percent change from prior year													**-4.8**	*5.7*	*4.1*
Non-OECD Index, 2015 = 100													**116.0**	*123.5*	*130.0*
Percent change from prior year													**-2.3**	*6.4*	*5.3*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	**106.3**	*107.3*	*107.7*	*108.0*	*108.1*	*108.0*	*107.9*	**111.9**	*107.0*	*108.0*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	**-8.3**	*-3.8*	*-0.5*	*1.2*	*1.7*	*0.7*	*0.2*	**1.9**	*-4.3*	*0.9*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.22**	*11.26*	*11.30*	*11.46*	*11.62*	*11.86*	*12.11*	**11.28**	*11.12*	*11.77*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	**0.43**	*0.40*	*0.44*	*0.43*	*0.41*	*0.39*	*0.43*	**0.45**	*0.43*	*0.42*
Federal Gulf of Mexico (b)	**1.99**	**1.66**	**1.43**	**1.50**	**1.80**	**1.78**	*1.76*	*1.73*	*1.76*	*1.73*	*1.74*	*1.77*	**1.64**	*1.77*	*1.75*
Lower 48 States (excl GOM)	**10.35**	**8.60**	**8.92**	**8.91**	**8.44**	**9.00**	*9.09*	*9.14*	*9.27*	*9.48*	*9.73*	*9.92*	**9.19**	*8.92*	*9.60*
Crude Oil Net Imports (c)	**2.90**	**3.08**	**2.31**	**2.51**	**2.87**	**2.91**	*3.98*	*3.65*	*3.68*	*4.70*	*4.86*	*3.77*	**2.70**	*3.35*	*4.25*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	**0.18**	*0.00*	*0.05*	*0.05*	*0.05*	*0.03*	*0.11*	**-0.01**	*0.06*	*0.06*
Commercial Inventory Net Withdrawals	**-0.55**	**-0.54**	**0.38**	**0.13**	**-0.18**	**0.62**	*0.11*	*-0.06*	*-0.30*	*-0.02*	*0.27*	*-0.02*	**-0.14**	*0.12*	*-0.01*
Crude Oil Adjustment (d)	**0.61**	**0.18**	**0.39**	**0.34**	**0.43**	**0.72**	*0.34*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.38**	*0.41*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.03**	**13.90**	**13.81**	**15.65**	*15.68*	*15.10*	*15.11*	*16.57*	*17.25*	*16.13*	**14.21**	*15.06*	*16.27*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.84**	**1.03**	*1.07*	*1.04*	*1.06*	*1.09*	*1.15*	*1.13*	**0.92**	*1.00*	*1.11*
Natural Gas Plant Liquids Production	**5.12**	**4.96**	**5.33**	**5.23**	**4.86**	**5.44**	*5.35*	*5.46*	*5.56*	*5.73*	*5.86*	*5.93*	**5.16**	*5.28*	*5.77*
Renewables and Oxygenate Production (e)	**1.11**	**0.80**	**1.03**	**1.07**	**1.03**	**1.13**	*1.12*	*1.09*	*1.08*	*1.12*	*1.14*	*1.14*	**1.01**	*1.09*	*1.12*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	**1.00**	*1.01*	*0.98*	*0.98*	*1.02*	*1.03*	*1.02*	**0.91**	*0.97*	*1.01*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	**0.21**	*0.21*	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-4.03**	**-2.94**	**-3.12**	**-3.32**	**-2.94**	**-3.12**	*-2.99*	*-3.26*	*-3.38*	*-3.58*	*-4.42*	*-4.04*	**-3.35**	*-3.08*	*-3.86*
Hydrocarbon Gas Liquids	**-1.99**	**-1.86**	**-1.86**	**-2.03**	**-2.02**	**-2.24**	*-2.23*	*-2.10*	*-2.13*	*-2.22*	*-2.34*	*-2.21*	**-1.94**	*-2.15*	*-2.23*
Unfinished Oils	**0.31**	**0.25**	**0.34**	**0.19**	**0.14**	**0.32**	*0.39*	*0.29*	*0.20*	*0.25*	*0.30*	*0.20*	**0.27**	*0.29*	*0.24*
Other HC/Oxygenates	**-0.10**	**-0.05**	**-0.04**	**-0.04**	**-0.08**	**-0.05**	*-0.07*	*-0.09*	*-0.10*	*-0.08*	*-0.08*	*-0.09*	**-0.06**	*-0.07*	*-0.09*
Motor Gasoline Blend Comp.	**0.39**	**0.36**	**0.48**	**0.43**	**0.55**	**0.73**	*0.54*	*0.16*	*0.53*	*0.76*	*0.42*	*0.22*	**0.42**	*0.49*	*0.48*
Finished Motor Gasoline	**-0.72**	**-0.40**	**-0.58**	**-0.78**	**-0.66**	**-0.61**	*-0.41*	*-0.60*	*-0.83*	*-0.60*	*-0.68*	*-0.70*	**-0.62**	*-0.57*	*-0.70*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.07**	**0.03**	**0.10**	*0.09*	*0.11*	*-0.03*	*-0.02*	*0.03*	*0.10*	**0.05**	*0.08*	*0.02*
Distillate Fuel Oil	**-1.19**	**-0.86**	**-1.15**	**-0.74**	**-0.49**	**-0.91**	*-0.81*	*-0.48*	*-0.52*	*-0.97*	*-1.32*	*-1.01*	**-0.98**	*-0.67*	*-0.96*
Residual Fuel Oil	**-0.02**	**0.02**	**0.05**	**0.05**	**0.08**	**0.04**	*0.01*	*0.06*	*-0.02*	*-0.07*	*-0.06*	*0.04*	**0.02**	*0.05*	*-0.03*
Other Oils (g)	**-0.65**	**-0.49**	**-0.49**	**-0.48**	**-0.49**	**-0.49**	*-0.51*	*-0.60*	*-0.49*	*-0.63*	*-0.69*	*-0.58*	**-0.52**	*-0.52*	*-0.60*
Product Inventory Net Withdrawals	**0.12**	**-0.91**	**-0.04**	**0.71**	**0.66**	**-0.31**	*-0.26*	*0.47*	*0.26*	*-0.60*	*-0.27*	*0.34*	**-0.03**	*0.14*	*-0.07*
Total Supply	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**20.02**	*20.18*	*20.12*	*19.88*	*20.55*	*20.93*	*20.85*	**18.12**	*19.70*	*20.56*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.31**	**2.83**	**2.95**	**3.70**	**3.40**	**3.22**	*2.99*	*3.62*	*3.81*	*3.33*	*3.34*	*3.87*	**3.20**	*3.31*	*3.58*
Unfinished Oils	**0.14**	**0.11**	**0.01**	**0.03**	**0.05**	**0.07**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.07**	*0.03*	*0.00*
Motor Gasoline	**8.49**	**7.11**	**8.50**	**8.02**	**8.00**	**9.10**	*9.25*	*8.73*	*8.37*	*9.25*	*9.34*	*8.87*	**8.03**	*8.78*	*8.96*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.72**	**0.87**	**0.84**	**0.82**	**0.95**	*0.93*	*0.89*	*0.85*	*0.94*	*0.95*	*0.92*	**0.82**	*0.90*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	**1.34**	*1.53*	*1.52*	*1.48*	*1.60*	*1.71*	*1.71*	**1.08**	*1.38*	*1.63*
Distillate Fuel Oil	**3.97**	**3.51**	**3.70**	**3.92**	**3.97**	**3.96**	*3.97*	*4.18*	*4.24*	*4.17*	*4.13*	*4.25*	**3.78**	*4.02*	*4.20*
Residual Fuel Oil	**0.17**	**0.15**	**0.32**	**0.23**	**0.26**	**0.23**	*0.29*	*0.24*	*0.23*	*0.21*	*0.26*	*0.26*	**0.22**	*0.26*	*0.24*
Other Oils (g)	**1.68**	**1.68**	**1.91**	**1.71**	**1.63**	**2.09**	*2.15*	*1.82*	*1.75*	*1.99*	*2.15*	*1.89*	**1.75**	*1.93*	*1.95*
Total Consumption	**19.33**	**16.08**	**18.36**	**18.71**	**18.45**	**20.02**	*20.18*	*20.12*	*19.88*	*20.55*	*20.93*	*20.85*	**18.12**	*19.70*	*20.56*
Total Petroleum and Other Liquids Net Imports	**-1.13**	**0.14**	**-0.81**	**-0.81**	**-0.07**	**-0.22**	*0.99*	*0.39*	*0.29*	*1.12*	*0.44*	*-0.27*	**-0.65**	*0.27*	*0.39*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**482.5**	**531.9**	**497.3**	**485.3**	**501.9**	**445.5**	*435.3*	*440.9*	*467.5*	*469.1*	*443.8*	*445.8*	**485.3**	*440.9*	*445.8*
Hydrocarbon Gas Liquids	**180.8**	**233.9**	**299.1**	**229.2**	**168.6**	**201.5**	*240.2*	*192.8*	*152.6*	*202.3*	*243.4*	*201.9*	**229.2**	*192.8*	*201.9*
Unfinished Oils	**100.1**	**91.9**	**81.4**	**78.2**	**93.3**	**90.7**	*90.5*	*83.1*	*93.1*	*90.7*	*90.0*	*83.2*	**78.2**	*83.1*	*83.2*
Other HC/Oxygenates	**33.6**	**26.2**	**25.2**	**29.9**	**29.1**	**26.8**	*28.2*	*28.4*	*30.5*	*29.3*	*29.0*	*29.3*	**29.9**	*28.4*	*29.3*
Total Motor Gasoline	**260.8**	**253.3**	**226.5**	**243.2**	**237.6**	**235.5**	*226.1*	*234.2*	*241.7*	*246.4*	*233.3*	*249.4*	**243.2**	*234.2*	*249.4*
Finished Motor Gasoline	**22.6**	**23.5**	**22.4**	**25.3**	**20.3**	**20.5**	*22.2*	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.3**	*24.4*	*26.2*
Motor Gasoline Blend Comp.	**238.3**	**229.8**	**204.1**	**217.9**	**217.4**	**215.0**	*203.9*	*209.8*	*217.6*	*222.5*	*210.3*	*223.2*	**217.9**	*209.8*	*223.2*
Jet Fuel	**39.9**	**41.5**	**40.1**	**38.6**	**39.0**	**45.1**	*44.1*	*40.8*	*40.2*	*40.9*	*43.2*	*40.1*	**38.6**	*40.8*	*40.1*
Distillate Fuel Oil	**126.7**	**175.4**	**171.7**	**160.4**	**145.5**	**138.7**	*140.1*	*142.4*	*131.7*	*136.2*	*142.9*	*144.1*	**160.4**	*142.4*	*144.1*
Residual Fuel Oil	**34.4**	**39.6**	**32.1**	**30.2**	**30.9**	**31.6**	*29.3*	*31.2*	*31.2*	*32.1*	*30.4*	*31.8*	**30.2**	*31.2*	*31.8*
Other Oils (g)	**62.0**	**59.2**	**48.6**	**49.3**	**55.8**	**58.5**	*53.6*	*55.7*	*64.4*	*62.0*	*52.6*	*53.9*	**49.3**	*55.7*	*53.9*
Total Commercial Inventory	**1320.8**	**1452.8**	**1422.0**	**1344.3**	**1301.7**	**1273.8**	*1287.5*	*1249.7*	*1252.9*	*1308.9*	*1308.6*	*1279.4*	**1344.3**	*1249.7*	*1279.4*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	**621.3**	*621.3*	*617.0*	*612.8*	*608.5*	*605.8*	*596.1*	**638.1**	*617.0*	*596.1*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.93**	**1.92**	**2.14**	**2.06**	**1.87**	**2.17**	*2.06*	*2.21*	*2.33*	*2.45*	*2.50*	*2.57*	**2.01**	*2.08*	*2.47*
Propane	**1.72**	**1.61**	**1.68**	**1.70**	**1.62**	**1.74**	*1.74*	*1.74*	*1.73*	*1.74*	*1.78*	*1.79*	**1.68**	*1.71*	*1.76*
Butanes	**0.91**	**0.86**	**0.90**	**0.89**	**0.85**	**0.92**	*0.93*	*0.92*	*0.92*	*0.93*	*0.95*	*0.95*	**0.89**	*0.91*	*0.94*
Natural Gasoline (Pentanes Plus)	**0.56**	**0.57**	**0.62**	**0.58**	**0.53**	**0.60**	*0.62*	*0.59*	*0.57*	*0.60*	*0.63*	*0.61*	**0.58**	*0.59*	*0.60*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	*0.01*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	**0.30**	*0.31*	*0.31*	*0.30*	*0.30*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	**0.30**	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	**0.24**	*0.20*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.28**	**-0.27**	**-0.28**	**-0.35**	**-0.40**	*-0.38*	*-0.38*	*-0.43*	*-0.45*	*-0.45*	*-0.46*	**-0.28**	*-0.37*	*-0.45*
Propane/Propylene	**-1.12**	**-1.08**	**-1.08**	**-1.29**	**-1.11**	**-1.22**	*-1.23*	*-1.17*	*-1.12*	*-1.18*	*-1.28*	*-1.20*	**-1.14**	*-1.18*	*-1.19*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.36**	**-0.33**	**-0.35**	**-0.42**	*-0.42*	*-0.37*	*-0.38*	*-0.42*	*-0.42*	*-0.38*	**-0.32**	*-0.39*	*-0.40*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	**-0.21**	*-0.21*	*-0.19*	*-0.20*	*-0.18*	*-0.19*	*-0.17*	**-0.19**	*-0.21*	*-0.19*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	**0.28**	*0.31*	*0.48*	*0.39*	*0.29*	*0.33*	*0.50*	**0.37**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	**0.16**	*0.17*	*0.16*	*0.17*	*0.18*	*0.18*	*0.18*	**0.13**	*0.16*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.70**	**1.65**	**1.66**	**1.81**	**1.54**	**1.82**	*1.67*	*1.86*	*1.99*	*2.01*	*2.05*	*2.10*	**1.70**	*1.72*	*2.04*
Propane	**1.09**	**0.59**	**0.58**	**0.99**	**1.09**	**0.61**	*0.60*	*1.02*	*1.13*	*0.59*	*0.56*	*1.04*	**0.81**	*0.83*	*0.83*
Propylene (refinery-grade)	**0.26**	**0.27**	**0.27**	**0.30**	**0.29**	**0.32**	*0.29*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.17**	**0.24**	**0.22**	**0.25**	*0.20*	*0.20*	*0.18*	*0.22*	*0.20*	*0.20*	**0.20**	*0.22*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.35**	**0.26**	**0.22**	*0.23*	*0.24*	*0.21*	*0.21*	*0.23*	*0.24*	**0.21**	*0.24*	*0.22*
HGL Inventories (million barrels)															
Ethane	**52.6**	**49.5**	**62.5**	**74.9**	**65.8**	**67.2**	*65.4*	*66.3*	*58.2*	*57.5*	*56.6*	*59.5*	**59.9**	*66.2*	*57.9*
Propane	**60.3**	**75.3**	**100.7**	**70.4**	**39.3**	**56.8**	*75.7*	*60.7*	*39.8*	*63.6*	*85.8*	*72.4*	**70.4**	*60.7*	*72.4*
Propylene (at refineries only)	**1.4**	**1.5**	**1.5**	**1.5**	**1.1**	**1.2**	*1.7*	*1.7*	*1.6*	*1.8*	*2.0*	*1.9*	**1.5**	*1.7*	*1.9*
Butanes/Butylenes	**43.6**	**69.3**	**86.0**	**54.7**	**37.2**	**56.7**	*74.4*	*45.6*	*35.7*	*60.1*	*77.8*	*48.7*	**54.7**	*45.6*	*48.7*
Natural Gasoline (Pentanes Plus)	**24.0**	**35.7**	**38.6**	**32.9**	**22.8**	**22.4**	*22.1*	*20.9*	*18.4*	*19.6*	*20.5*	*19.8*	**32.9**	*20.9*	*19.8*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.03**	**13.90**	**13.81**	**15.65**	*15.68*	*15.10*	*15.11*	*16.57*	*17.25*	*16.13*	**14.21**	*15.06*	*16.27*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	**0.44**	*0.48*	*0.65*	*0.55*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	**1.18**	*1.19*	*1.15*	*1.12*	*1.21*	*1.21*	*1.18*	**1.06**	*1.14*	*1.18*
Unfinished Oils	**0.05**	**0.23**	**0.44**	**0.20**	**-0.08**	**0.28**	*0.39*	*0.37*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.24*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.48**	**0.85**	**0.46**	**0.71**	**0.93**	*0.77*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.67*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.97**	**15.17**	**16.90**	**16.23**	**16.01**	**18.47**	*18.51*	*17.53*	*17.44*	*19.33*	*19.93*	*18.57*	**16.57**	*17.64*	*18.82*
Refinery Processing Gain	**1.02**	**0.82**	**0.94**	**0.92**	**0.84**	**1.03**	*1.07*	*1.04*	*1.06*	*1.09*	*1.15*	*1.13*	**0.92**	*1.00*	*1.11*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	**0.85**	*0.79*	*0.40*	*0.50*	*0.86*	*0.80*	*0.41*	**0.55**	*0.62*	*0.64*
Finished Motor Gasoline	**9.30**	**7.52**	**9.14**	**8.98**	**8.74**	**9.85**	*9.78*	*9.52*	*9.29*	*9.91*	*10.08*	*9.79*	**8.74**	*9.48*	*9.77*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	**1.31**	*1.43*	*1.37*	*1.50*	*1.62*	*1.71*	*1.57*	**1.02**	*1.30*	*1.60*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.46**	**4.29**	**4.77**	*4.71*	*4.62*	*4.61*	*5.15*	*5.46*	*5.22*	**4.74**	*4.60*	*5.11*
Residual Fuel	**0.23**	**0.18**	**0.19**	**0.15**	**0.19**	**0.20**	*0.25*	*0.21*	*0.26*	*0.29*	*0.30*	*0.23*	**0.19**	*0.21*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	**2.53**	*2.61*	*2.44*	*2.33*	*2.60*	*2.74*	*2.49*	**2.26**	*2.42*	*2.54*
Total Refinery and Blender Net Production	**18.99**	**15.99**	**17.84**	**17.15**	**16.86**	**19.51**	*19.58*	*18.57*	*18.50*	*20.42*	*21.08*	*19.70*	**17.49**	*18.63*	*19.93*
Refinery Distillation Inputs	**16.36**	**13.65**	**14.55**	**14.32**	**14.25**	**16.16**	*16.14*	*15.51*	*15.47*	*16.76*	*17.44*	*16.41*	**14.72**	*15.52*	*16.52*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.66**	*18.12*	*18.13*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.79**	**0.89**	*0.89*	*0.86*	*0.85*	*0.92*	*0.96*	*0.91*	**0.79**	*0.86*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**180**	**217**	*224*	*202*	*190*	*202*	*198*	*182*	**133**	*207*	*193*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	**287**	*296*	*277*	*260*	*270*	*271*	*255*	**214**	*279*	*264*
PADD 2	**226**	**179**	**207**	**202**	**247**	**288**	*296*	*266*	*244*	*269*	*263*	*245*	**204**	*275*	*256*
PADD 3	**210**	**162**	**186**	**183**	**228**	**268**	*274*	*251*	*239*	*250*	*246*	*230*	**187**	*257*	*241*
PADD 4	**247**	**201**	**233**	**221**	**247**	**311**	*345*	*293*	*271*	*287*	*287*	*268*	**226**	*300*	*279*
PADD 5	**311**	**258**	**283**	**278**	**312**	**366**	*379*	*349*	*343*	*356*	*344*	*347*	**284**	*353*	*347*
U.S. Average	**241**	**194**	**218**	**215**	**256**	**297**	*308*	*282*	*267*	*282*	*278*	*264*	**218**	*287*	*273*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	**306**	*318*	*295*	*280*	*295*	*291*	*278*	**227**	*297*	*286*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.0**	**61.6**	**68.5**	**65.1**	**69.0**	*58.6*	*59.7*	*65.3*	*68.1*	*63.3*	*68.9*	**68.5**	*59.7*	*68.9*
PADD 2	**60.2**	**52.6**	**46.2**	**50.9**	**50.7**	**51.0**	*49.5*	*50.0*	*53.4*	*52.2*	*50.4*	*51.0*	**50.9**	*50.0*	*51.0*
PADD 3	**84.8**	**90.5**	**79.7**	**83.7**	**81.9**	**80.5**	*81.1*	*85.4*	*85.1*	*88.7*	*82.8*	*89.6*	**83.7**	*85.4*	*89.6*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	**6.0**	*7.0*	*7.9*	*7.9*	*7.9*	*7.4*	*8.1*	**8.7**	*7.9*	*8.1*
PADD 5	**35.6**	**29.4**	**31.5**	**31.4**	**31.4**	**28.9**	*29.8*	*31.2*	*30.1*	*29.5*	*29.4*	*31.7*	**31.4**	*31.2*	*31.7*
U.S. Total	**260.8**	**253.3**	**226.5**	**243.2**	**237.6**	**235.5**	*226.1*	*234.2*	*241.7*	*246.4*	*233.3*	*249.4*	**243.2**	*234.2*	*249.4*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.4**	**25.3**	**20.3**	**20.5**	*22.2*	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.3**	*24.4*	*26.2*
Gasoline Blending Components Inventories															
U.S. Total	**238.3**	**229.8**	**204.1**	**217.9**	**217.4**	**215.0**	*203.9*	*209.8*	*217.6*	*222.5*	*210.3*	*223.2*	**217.9**	*209.8*	*223.2*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.70**	**97.31**	**100.36**	*100.53*	*101.00*	*101.26*	*102.14*	*103.61*	*104.65*	**98.83**	*99.81*	*102.92*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	**0.90**	*0.74*	*0.88*	*0.92*	*0.81*	*0.73*	*0.87*	**0.92**	*0.88*	*0.83*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.73**	**2.27**	**2.23**	*2.19*	*2.09*	*2.09*	*2.01*	*1.90*	*1.87*	**2.09**	*2.19*	*1.97*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**95.99**	**94.03**	**97.23**	*97.61*	*98.03*	*98.25*	*99.32*	*100.98*	*101.91*	**95.81**	*96.74*	*100.12*
Total Dry Gas Production	**94.79**	**89.68**	**89.83**	**91.15**	**90.29**	**92.49**	*92.67*	*93.11*	*93.34*	*94.15*	*95.51*	*96.47*	**91.35**	*92.15*	*94.88*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	**0.08**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.15*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	**9.84**	*8.99*	*9.83*	*10.47*	*9.73*	*9.41*	*11.00*	**6.53**	*9.48*	*10.15*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.68**	**6.67**	*6.71*	*6.84*	*7.38*	*6.36*	*6.38*	*6.71*	**6.84**	*7.22*	*6.71*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.21**	**8.31**	**8.50**	*9.27*	*9.47*	*9.31*	*8.65*	*9.37*	*9.37*	**7.91**	*8.89*	*9.18*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.18**	**0.18**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	**0.17**	*0.17*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	**-8.67**	*-7.83*	*4.89*	*16.51*	*-10.64*	*-8.90*	*4.82*	**-0.46**	*1.34*	*0.39*
Total Supply	**99.50**	**71.12**	**76.78**	**87.06**	**98.90**	**72.38**	*73.65*	*85.89*	*97.95*	*71.85*	*74.56*	*88.00*	**83.61**	*82.65*	*83.04*
Balancing Item (b)	**-0.19**	**-0.28**	**0.05**	**-0.98**	**0.27**	**-0.96**	*-0.50*	*0.43*	*0.48*	*0.73*	*1.11*	*0.66*	**-0.35**	*-0.19*	*0.75*
Total Primary Supply	**99.31**	**70.84**	**76.83**	**86.08**	**99.17**	**71.43**	*73.15*	*86.33*	*98.42*	*72.58*	*75.67*	*88.66*	**83.25**	*82.46*	*83.78*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.82**	**16.00**	**25.59**	**7.36**	*3.66*	*16.83*	*25.08*	*7.96*	*3.61*	*16.88*	**12.70**	*13.31*	*13.33*
Commercial	**13.93**	**5.82**	**4.36**	**10.31**	**14.81**	**6.23**	*4.75*	*10.93*	*14.91*	*6.25*	*4.70*	*10.84*	**8.60**	*9.16*	*9.15*
Industrial	**24.65**	**20.62**	**21.15**	**23.83**	**24.05**	**21.67**	*21.21*	*24.27*	*24.61*	*22.08*	*21.52*	*23.96*	**22.56**	*22.80*	*23.04*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.65**	**28.78**	*36.08*	*26.40*	*25.51*	*28.76*	*38.13*	*28.80*	**31.74**	*29.49*	*30.33*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	**4.92**	**5.07**	*5.08*	*5.11*	*5.12*	*5.16*	*5.24*	*5.29*	**5.00**	*5.05*	*5.20*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.61**	**3.01**	**2.17**	*2.22*	*2.65*	*3.04*	*2.21*	*2.30*	*2.72*	**2.53**	*2.51*	*2.57*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	**0.14**	**0.15**	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.84**	**76.83**	**86.08**	**99.17**	**71.43**	*73.15*	*86.33*	*98.42*	*72.58*	*75.67*	*88.66*	**83.25**	*82.46*	*83.78*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,029**	**3,133**	**3,840**	**3,341**	**1,801**	**2,595**	*3,315*	*2,865*	*1,379*	*2,347*	*3,166*	*2,722*	**3,341**	*2,865*	*2,722*
East Region (d)	**385**	**655**	**890**	**763**	**313**	**519**	*815*	*649*	*148*	*419*	*672*	*472*	**763**	*649*	*472*
Midwest Region (d)	**471**	**747**	**1,053**	**918**	**395**	**634**	*971*	*809*	*250*	*512*	*879*	*745*	**918**	*809*	*745*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	**995**	*1,038*	*990*	*684*	*938*	*1,023*	*956*	**1,155**	*990*	*956*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	**176**	*196*	*153*	*99*	*153*	*221*	*203*	**195**	*153*	*203*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	**245**	*267*	*236*	*170*	*297*	*342*	*318*	**282**	*236*	*318*
Alaska	**23**	**25**	**31**	**28**	**23**	**26**	*28*	*28*	*28*	*28*	*28*	*28*	**28**	*28*	*28*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	*3.85*	*3.59*	*3.52*	*3.07*	*3.09*	*3.11*	**2.11**	*3.55*	*3.20*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**14.64**	**14.78**	**16.01**	*18.31*	*14.10*	*13.58*	*14.35*	*17.09*	*13.09*	**14.47**	*14.99*	*13.78*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.77**	**10.41**	**13.30**	*17.53*	*11.50*	*10.38*	*12.52*	*17.11*	*11.15*	**11.76**	*11.54*	*11.38*
E. N. Central	**6.99**	**9.50**	**18.15**	**8.02**	**7.41**	**12.07**	*17.74*	*9.23*	*8.32*	*11.07*	*16.56*	*8.24*	**8.39**	*9.12*	*9.18*
W. N. Central	**6.85**	**9.89**	**17.26**	**8.66**	**7.59**	**11.32**	*17.75*	*9.84*	*8.51*	*11.24*	*17.14*	*9.11*	**8.48**	*9.23*	*9.55*
S. Atlantic	**12.12**	**15.52**	**24.15**	**14.20**	**12.10**	**17.58**	*23.64*	*13.29*	*11.77*	*16.70*	*22.71*	*12.51*	**14.23**	*13.99*	*13.46*
E. S. Central	**9.69**	**13.34**	**20.85**	**10.63**	**9.53**	**14.47**	*22.27*	*13.96*	*10.92*	*15.24*	*22.14*	*13.29*	**11.15**	*11.71*	*12.98*
W. S. Central	**8.52**	**14.22**	**20.83**	**11.67**	**9.32**	**14.80**	*20.87*	*12.24*	*9.32*	*14.72*	*20.39*	*11.43*	**11.40**	*11.86*	*11.66*
Mountain	**7.55**	**9.37**	**12.60**	**8.15**	**7.90**	**10.49**	*14.56*	*9.20*	*8.55*	*10.12*	*13.76*	*8.55*	**8.43**	*9.08*	*9.19*
Pacific	**13.41**	**14.47**	**14.50**	**13.70**	**14.28**	**15.01**	*15.28*	*14.05*	*14.10*	*14.67*	*15.32*	*14.21*	**13.82**	*14.46*	*14.38*
U.S. Average	**9.46**	**11.89**	**17.65**	**10.60**	**9.79**	**13.53**	*18.05*	*11.30*	*10.19*	*12.86*	*17.46*	*10.64*	**10.83**	*11.36*	*11.23*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**10.06**	**10.38**	**10.92**	*11.28*	*10.70*	*10.93*	*10.83*	*10.36*	*10.07*	**10.16**	*10.64*	*10.58*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.53**	**7.87**	**7.95**	*7.40*	*7.92*	*8.22*	*7.89*	*7.30*	*7.70*	**7.50**	*7.84*	*7.89*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.21**	**6.12**	**8.44**	*9.99*	*7.77*	*7.38*	*7.99*	*8.77*	*6.53*	**6.28**	*7.26*	*7.30*
W. N. Central	**5.43**	**6.53**	**8.12**	**6.55**	**6.38**	**7.62**	*9.40*	*7.81*	*7.53*	*7.83*	*8.89*	*6.97*	**6.14**	*7.22*	*7.49*
S. Atlantic	**8.51**	**9.21**	**9.55**	**8.88**	**8.79**	**9.70**	*10.35*	*9.43*	*8.99*	*9.55*	*9.61*	*8.47*	**8.87**	*9.32*	*9.00*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	**8.43**	**9.80**	*10.78*	*9.62*	*8.88*	*9.67*	*10.06*	*8.82*	**8.78**	*9.24*	*9.10*
W. S. Central	**5.99**	**7.18**	**8.13**	**7.46**	**7.01**	**8.23**	*9.32*	*8.58*	*7.60*	*7.89*	*8.13*	*7.30*	**6.92**	*7.96*	*7.64*
Mountain	**6.09**	**6.85**	**7.42**	**6.45**	**6.50**	**7.83**	*9.03*	*7.91*	*7.57*	*7.78*	*8.45*	*7.19*	**6.46**	*7.40*	*7.57*
Pacific	**9.58**	**9.30**	**9.59**	**9.70**	**10.50**	**10.30**	*10.54*	*9.87*	*9.68*	*9.40*	*9.71*	*9.25*	**9.57**	*10.28*	*9.50*
U.S. Average	**7.13**	**7.63**	**8.49**	**7.53**	**7.56**	**8.74**	*9.41*	*8.50*	*8.21*	*8.48*	*8.70*	*7.70*	**7.48**	*8.24*	*8.15*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.67**	**8.58**	**7.93**	*7.10*	*8.26*	*8.67*	*7.91*	*6.77*	*7.68*	**7.54**	*8.07*	*7.91*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.61**	**7.70**	**7.47**	*7.78*	*8.00*	*8.35*	*7.86*	*7.59*	*7.92*	**7.28**	*7.77*	*8.05*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.10**	**5.39**	**7.77**	*6.69*	*6.24*	*6.34*	*5.87*	*5.61*	*5.51*	**4.86**	*6.17*	*5.92*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.13**	**5.20**	**4.37**	*4.99*	*5.50*	*5.60*	*4.68*	*4.43*	*4.86*	**3.68**	*5.05*	*4.94*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	**5.05**	**4.71**	*5.53*	*5.71*	*5.72*	*4.87*	*4.70*	*4.91*	**4.06**	*5.25*	*5.09*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.04**	**4.64**	**4.23**	*5.13*	*5.42*	*5.39*	*4.61*	*4.30*	*4.60*	**3.65**	*4.84*	*4.76*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.89**	**5.75**	**3.20**	*4.09*	*3.84*	*3.71*	*3.26*	*3.27*	*3.28*	**2.31**	*4.15*	*3.38*
Mountain	**4.40**	**4.59**	**4.67**	**4.91**	**5.00**	**5.53**	*6.36*	*6.36*	*6.26*	*5.84*	*5.83*	*5.56*	**4.64**	*5.72*	*5.89*
Pacific	**7.46**	**6.28**	**6.18**	**7.23**	**8.30**	**7.13**	*7.39*	*7.49*	*7.44*	*6.78*	*6.89*	*6.86*	**6.86**	*7.58*	*7.01*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.77**	**5.72**	**4.06**	*4.73*	*4.89*	*5.01*	*4.16*	*4.00*	*4.29*	**3.29**	*4.87*	*4.38*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.2**	**116.2**	**135.9**	**134.1**	**140.3**	**152.3**	*158.1*	*156.7*	*157.9*	*144.8*	*150.7*	*147.1*	**535.3**	*607.4*	*600.6*
Appalachia	**39.8**	**29.5**	**33.9**	**35.5**	**40.8**	**38.1**	*40.7*	*41.0*	*43.1*	*41.9*	*37.7*	*38.5*	**138.7**	*160.6*	*161.1*
Interior	**25.8**	**20.0**	**23.2**	**21.8**	**25.0**	**25.3**	*27.0*	*27.3*	*28.7*	*26.9*	*27.5*	*27.1*	**90.7**	*104.5*	*110.2*
Western	**83.6**	**66.7**	**78.8**	**76.8**	**74.5**	**88.9**	*90.4*	*88.4*	*86.2*	*76.0*	*85.6*	*81.5*	**305.9**	*342.2*	*329.3*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-0.9**	**0.3**	**1.7**	*2.4*	*-1.9*	*-1.2*	*-2.1*	*-0.9*	*-5.3*	**2.8**	*2.5*	*-9.4*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	**1.5**	*1.4*	*1.2*	*0.9*	*0.9*	*1.1*	*1.1*	**5.1**	*5.2*	*4.1*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	**21.3**	*21.9*	*25.9*	*32.3*	*22.3*	*22.4*	*28.6*	**69.1**	*89.7*	*105.6*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	**10.6**	*13.0*	*13.9*	*17.6*	*13.1*	*14.6*	*15.8*	**42.1**	*47.9*	*61.1*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	**10.6**	*8.8*	*12.0*	*14.7*	*9.1*	*7.9*	*12.8*	**27.0**	*41.8*	*44.5*
Total Primary Supply	**131.0**	**103.9**	**123.9**	**115.4**	**121.0**	**134.3**	*139.9*	*130.1*	*125.4*	*121.4*	*128.6*	*114.4*	**474.2**	*525.3*	*489.7*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-3.3**	**21.3**	**-11.9**	*20.9*	*3.2*	*11.4*	*-14.4*	*17.9*	*2.0*	**-3.5**	*33.5*	*16.8*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	**2.0**	*2.0*	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.3**	**100.3**	**147.3**	**114.4**	**144.3**	**124.4**	*162.9*	*135.3*	*138.6*	*108.8*	*148.3*	*118.2*	**478.4**	*566.9*	*513.9*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**4.4**	**5.1**	*4.3*	*4.6*	*6.1*	*5.1*	*4.6*	*5.1*	**14.4**	*18.4*	*20.9*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**128.1**	**108.5**	*151.6*	*123.4*	*125.1*	*96.7*	*136.7*	*105.9*	**436.5**	*511.7*	*464.5*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.2**	**6.8**	**6.9**	*6.9*	*7.3*	*7.3*	*7.0*	*7.0*	*7.2*	**26.4**	*27.9*	*28.5*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.8*	*0.7*
Other Industrial	**7.1**	**5.6**	**5.9**	**7.0**	**6.6**	**6.7**	*6.8*	*7.0*	*7.2*	*6.9*	*6.8*	*7.0*	**25.6**	*27.1*	*27.8*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	**139.4**	**120.5**	*162.9*	*135.3*	*138.6*	*108.8*	*148.3*	*118.2*	**477.3**	*558.0*	*513.9*
Discrepancy (c)	**6.8**	**3.9**	**-1.2**	**-8.4**	**5.0**	**3.9**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**1.1**	*8.9*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	**28.1**	**26.4**	*24.0*	*25.9*	*27.2*	*29.2*	*30.1*	*35.4*	**28.5**	*25.9*	*35.4*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**137.5**	**116.1**	**128.0**	*107.1*	*103.9*	*92.6*	*107.0*	*89.1*	*87.1*	**137.5**	*103.9*	*87.1*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**122.3**	*101.3*	*98.3*	*87.1*	*101.2*	*83.2*	*81.4*	**132.7**	*98.3*	*81.4*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**2.6**	**3.6**	*3.6*	*3.4*	*3.7*	*3.5*	*3.5*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.5**	**2.0**	*2.1*	*2.0*	*1.7*	*2.1*	*2.3*	*2.2*	**1.7**	*2.0*	*2.2*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	**6.32**	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	*0.282*	*0.325*	*0.320*	*0.280*	*0.276*	*0.286*	**0.216**	*0.278*	*0.290*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.88**	*1.89*	*1.86*	*1.89*	*1.88*	*1.84*	*1.82*	**1.92**	*1.89*	*1.86*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**989**	**977**	*1,134*	*970*	*981*	*990*	*1,149*	*984*	**4,009**	*4,070*	*4,104*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	**941**	*1,098*	*935*	*945*	*955*	*1,110*	*947*	**3,853**	*3,926*	*3,957*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	**33**	*32*	*32*	*32*	*32*	*35*	*34*	**143**	*131*	*134*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**10**	**11**	**15**	**12**	**11**	**11**	*13*	*10*	*12*	*13*	*15*	*11*	**47**	*46*	*50*
Total Supply	**976**	**944**	**1,163**	**973**	**999**	**988**	*1,148*	*981*	*992*	*1,003*	*1,164*	*995*	**4,056**	*4,116*	*4,154*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**53**	**65**	*54*	*55*	*45*	*67*	*57*	*55*	**254**	*227*	*225*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**914**	**891**	*1,062*	*895*	*916*	*904*	*1,072*	*907*	**3,664**	*3,762*	*3,799*
Residential Sector	**340**	**334**	**453**	**334**	**379**	**327**	*439*	*339*	*366*	*327*	*441*	*344*	**1,462**	*1,484*	*1,478*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	**319**	*365*	*315*	*311*	*325*	*368*	*318*	**1,276**	*1,303*	*1,321*
Industrial Sector	**231**	**216**	**242**	**231**	**229**	**243**	*256*	*240*	*238*	*251*	*261*	*243*	**920**	*968*	*993*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	**1**	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	**32**	*32*	*31*	*32*	*31*	*34*	*33*	**138**	*127*	*131*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	**923**	*1,094*	*926*	*948*	*936*	*1,106*	*940*	**3,802**	*3,889*	*3,929*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,743**	**2,371**	*3,177*	*2,452*	*2,619*	*2,339*	*3,155*	*2,463*	**10,723**	*10,744*	*10,576*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**122.3**	*101.3*	*98.3*	*87.1*	*101.2*	*83.2*	*81.4*	**132.7**	*98.3*	*81.4*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	**7.9**	*8.2*	*8.5*	*7.9*	*7.9*	*7.9*	*8.3*	**8.3**	*8.5*	*8.3*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**15.9**	**15.6**	*15.6*	*15.9*	*15.7*	*15.6*	*15.6*	*15.9*	**16.8**	*15.9*	*15.9*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.88**	*1.89*	*1.86*	*1.89*	*1.88*	*1.84*	*1.82*	**1.92**	*1.89*	*1.86*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.23**	*3.88*	*3.81*	*3.94*	*3.10*	*3.08*	*3.27*	**2.39**	*4.46*	*3.31*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**12.85**	*13.09*	*12.92*	*12.94*	*13.29*	*12.34*	*11.82*	**9.15**	*12.50*	*12.59*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.79**	*16.51*	*16.49*	*16.05*	*15.79*	*15.45*	*15.20*	**10.73**	*15.36*	*15.67*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.71**	*13.84*	*13.70*	*13.61*	*14.01*	*13.92*	*13.73*	**13.20**	*13.59*	*13.82*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.06**	*11.48*	*11.08*	*11.46*	*11.33*	*11.62*	*11.14*	**10.65**	*11.19*	*11.39*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.88**	*7.15*	*6.58*	*6.94*	*6.83*	*7.13*	*6.57*	**6.66**	*6.94*	*6.88*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	**39.74**	*26.67*	*21.96*	*26.23*	*27.17*	*27.85*	*25.59*	**26.99**	*176.17*	*26.71*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	**36.90**	*59.70*	*42.20*	*40.60*	*41.53*	*44.09*	*36.14*	**38.15**	*45.88*	*40.59*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	**33.67**	*40.85*	*42.80*	*54.02*	*33.47*	*34.44*	*38.44*	**26.52**	*43.15*	*40.09*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	**31.85**	*39.67*	*35.30*	*40.08*	*32.51*	*33.71*	*31.40*	**22.85**	*37.89*	*34.42*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	**33.71**	*38.23*	*33.87*	*34.70*	*31.68*	*35.84*	*32.35*	**24.49**	*35.22*	*33.64*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	**33.82**	*38.00*	*33.00*	*32.95*	*31.64*	*35.14*	*31.53*	**25.43**	*37.45*	*32.81*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	**30.86**	*37.90*	*29.02*	*28.79*	*28.10*	*33.77*	*28.32*	**22.55**	*87.02*	*29.74*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	**32.93**	*35.18*	*31.60*	*31.10*	*29.94*	*32.60*	*29.26*	**22.62**	*35.20*	*30.72*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	**32.17**	*35.37*	*31.37*	*31.24*	*29.22*	*29.20*	*28.94*	**23.48**	*31.66*	*29.65*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	**51.51**	*69.07*	*38.64*	*38.33*	*36.60*	*39.49*	*34.63*	**25.46**	*48.44*	*37.26*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	**46.57**	*60.79*	*34.79*	*34.42*	*34.64*	*36.58*	*31.88*	**39.64**	*45.97*	*34.38*

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**12.9**	**10.8**	*13.8*	*11.2*	*12.5*	*10.4*	*13.3*	*11.1*	**48.2**	*48.7*	*47.2*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**36.1**	**29.8**	*41.4*	*31.6*	*37.0*	*29.8*	*39.6*	*31.7*	**137.1**	*138.8*	*138.1*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.2**	**42.7**	*54.4*	*44.9*	*48.4*	*41.6*	*53.5*	*45.5*	**190.0**	*192.2*	*189.0*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.9**	**23.7**	*29.9*	*26.0*	*31.7*	*24.6*	*31.6*	*27.5*	**105.8**	*109.5*	*115.3*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**95.2**	**85.6**	*111.6*	*85.7*	*91.4*	*85.4*	*111.6*	*87.0*	**370.6**	*378.1*	*375.3*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.8**	**25.4**	*37.0*	*27.4*	*32.6*	*25.9*	*37.7*	*27.8*	**118.8**	*123.5*	*124.0*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**56.8**	**49.7**	*73.0*	*49.5*	*51.5*	*51.9*	*78.2*	*51.2*	**226.5**	*229.0*	*232.8*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.7**	**26.2**	*34.0*	*23.9*	*23.0*	*24.7*	*33.8*	*24.1*	**108.4**	*107.8*	*105.6*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**39.0**	**32.5**	*42.6*	*37.3*	*37.0*	*31.4*	*40.4*	*37.1*	**151.5**	*151.4*	*146.0*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**378.9**	**327.5**	*438.9*	*338.7*	*366.1*	*326.9*	*441.0*	*344.3*	**1,462.0**	*1,484.0*	*1,478.3*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	**11.3**	*12.8*	*11.4*	*11.7*	*11.2*	*12.7*	*11.4*	**47.5**	*47.3*	*47.0*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.6**	**33.5**	*39.3*	*34.3*	*35.8*	*34.4*	*39.5*	*34.9*	**138.9**	*141.8*	*144.6*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.7**	**41.6**	*47.3*	*42.0*	*42.6*	*42.1*	*47.4*	*42.2*	**169.7**	*172.6*	*174.3*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.0**	**24.0**	*27.3*	*24.3*	*24.9*	*24.5*	*28.0*	*24.8*	**96.0**	*99.6*	*102.1*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.8**	**76.6**	*86.1*	*72.5*	*71.7*	*77.8*	*86.9*	*73.2*	**300.2**	*306.0*	*309.6*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.9**	**21.7**	*25.9*	*20.8*	*21.2*	*22.3*	*26.3*	*21.0*	**85.8**	*89.3*	*90.8*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.4**	**50.1**	*56.6*	*47.2*	*43.1*	*51.9*	*58.0*	*47.8*	**189.4**	*196.3*	*200.8*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	**24.5**	*27.3*	*23.1*	*22.4*	*24.4*	*27.4*	*23.3*	**94.7**	*96.9*	*97.6*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**35.2**	**34.5**	*40.9*	*37.8*	*35.9*	*35.0*	*40.4*	*37.7*	**148.3**	*148.4*	*149.0*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	*1.4*	**5.2**	*5.3*	*5.5*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.6**	**319.1**	*364.9*	*314.8*	*310.6*	*324.9*	*368.0*	*317.7*	**1,275.7**	*1,303.5*	*1,321.2*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.8**	**3.9**	*4.0*	*3.8*	*3.8*	*4.0*	*4.0*	*3.7*	**14.8**	*15.5*	*15.5*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.6**	**17.9**	*19.2*	*18.0*	*18.2*	*18.4*	*19.6*	*18.4*	**70.4**	*72.8*	*74.6*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.8**	**45.7**	*47.5*	*44.2*	*47.3*	*47.3*	*48.5*	*44.8*	**168.7**	*182.2*	*187.9*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.0**	**23.8**	*25.6*	*23.5*	*24.6*	*25.1*	*26.3*	*24.0*	**87.3**	*95.9*	*99.9*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.4**	**34.5**	*35.7*	*34.4*	*34.5*	*35.3*	*36.3*	*34.8*	**131.7**	*138.0*	*141.0*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.8**	**24.5**	*25.0*	*23.7*	*24.7*	*25.0*	*25.2*	*23.7*	**91.1**	*97.0*	*98.5*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**44.1**	**49.8**	*52.0*	*51.4*	*45.7*	*51.9*	*53.6*	*52.9*	**188.1**	*197.3*	*204.1*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.2**	**21.1**	*22.7*	*19.9*	*19.3*	*21.3*	*23.0*	*20.2*	**82.9**	*82.9*	*83.9*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.1**	**20.9**	*23.4*	*19.5*	*18.5*	*21.4*	*23.7*	*19.6*	**80.1**	*81.9*	*83.1*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	**1.2**	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.5**	*4.6*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**228.8**	**243.3**	*256.4*	*239.6*	*237.7*	*250.8*	*261.3*	*243.2*	**919.5**	*968.1*	*993.0*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	**26.2**	*30.8*	*26.4*	*28.2*	*25.6*	*30.2*	*26.3*	**111.0**	*111.9*	*110.2*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.2**	**82.0**	*100.7*	*84.8*	*91.8*	*83.4*	*99.5*	*85.7*	**349.7**	*356.6*	*360.5*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.9**	**130.1**	*149.4*	*131.1*	*138.4*	*131.1*	*149.6*	*132.6*	**528.8**	*547.5*	*551.7*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.0**	**71.5**	*82.7*	*73.9*	*81.1*	*74.1*	*85.9*	*76.3*	**289.2**	*305.1*	*317.4*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.7**	**196.9**	*233.7*	*192.9*	*197.9*	*198.8*	*235.1*	*195.3*	**803.7**	*823.2*	*827.0*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.5**	**71.6**	*87.9*	*72.0*	*78.4*	*73.2*	*89.1*	*72.4*	**295.7**	*309.9*	*313.2*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**143.3**	**149.7**	*181.7*	*148.1*	*140.3*	*155.7*	*189.8*	*152.0*	**604.2**	*622.7*	*637.9*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	**71.9**	*84.1*	*66.9*	*64.7*	*70.5*	*84.3*	*67.7*	**286.2**	*287.8*	*287.2*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**92.5**	**88.1**	*107.1*	*94.7*	*91.6*	*87.9*	*104.7*	*94.6*	**380.6**	*382.3*	*378.8*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	**3.6**	*3.7*	*3.9*	*3.7*	*3.7*	*3.8*	*3.9*	**14.6**	*14.8*	*15.0*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**914.0**	**891.4**	*1,061.7*	*894.7*	*916.1*	*904.1*	*1,071.9*	*906.8*	**3,663.7**	*3,761.8*	*3,798.8*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.38**	**20.30**	*21.07*	*22.13*	*23.39*	*22.42*	*23.11*	*23.87*	**21.20**	*21.22*	*23.21*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.62**	**16.15**	*16.74*	*16.74*	*16.22*	*16.50*	*16.92*	*16.74*	**15.92**	*16.32*	*16.60*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.38**	**14.25**	*13.76*	*14.11*	*13.87*	*14.67*	*14.04*	*14.28*	**13.48**	*13.85*	*14.20*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.88**	**12.73**	*13.61*	*11.73*	*10.66*	*12.28*	*13.00*	*11.36*	**11.99**	*12.23*	*11.82*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.66**	**12.38**	*12.52*	*12.30*	*12.32*	*12.90*	*12.86*	*12.34*	**11.88**	*12.22*	*12.62*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.18**	**12.24**	*11.82*	*11.84*	*11.64*	*12.45*	*11.86*	*11.84*	**11.36**	*11.73*	*11.92*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**11.85**	**11.77**	*12.04*	*12.12*	*12.41*	*11.48*	*11.47*	*11.72*	**11.29**	*11.95*	*11.73*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.53**	**12.18**	*12.41*	*11.91*	*11.85*	*12.47*	*12.57*	*11.99*	**11.88**	*12.05*	*12.26*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.76**	**17.62**	*17.97*	*16.77*	*17.00*	*18.47*	*18.77*	*17.27*	**16.67**	*17.29*	*17.88*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.71**	*13.84*	*13.70*	*13.61*	*14.01*	*13.92*	*13.73*	**13.20**	*13.59*	*13.82*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.28**	**15.46**	*16.46*	*16.48*	*17.28*	*16.41*	*17.25*	*17.03*	**15.90**	*16.18*	*17.00*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.48**	**13.26**	*13.81*	*13.04*	*12.91*	*13.54*	*13.82*	*12.93*	**12.47**	*13.17*	*13.31*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.40**	**10.74**	*10.60*	*10.75*	*10.73*	*10.92*	*10.67*	*10.75*	**10.19**	*10.62*	*10.76*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.10**	**10.16**	*11.15*	*9.58*	*8.90*	*9.58*	*10.45*	*9.16*	**9.66**	*10.04*	*9.55*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.29**	**9.15**	*9.41*	*9.70*	*9.73*	*9.34*	*9.41*	*9.58*	**9.13**	*9.38*	*9.51*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.96**	**11.23**	*11.15*	*11.18*	*11.30*	*11.37*	*11.22*	*11.24*	**10.70**	*11.13*	*11.28*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**11.28**	**8.98**	*8.30*	*7.98*	*11.20*	*9.29*	*8.73*	*8.27*	**7.90**	*9.04*	*9.30*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.11**	**9.77**	*10.24*	*9.45*	*9.23*	*9.88*	*10.25*	*9.40*	**9.58**	*9.68*	*9.72*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.53**	**16.05**	*18.25*	*15.88*	*15.40*	*17.10*	*19.12*	*16.56*	**15.18**	*16.25*	*17.10*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.06**	*11.48*	*11.08*	*11.46*	*11.33*	*11.62*	*11.14*	**10.65**	*11.19*	*11.39*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.49**	**12.35**	*12.58*	*12.43*	*13.89*	*12.66*	*12.81*	*12.58*	**12.26**	*12.70*	*12.98*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.50**	**6.40**	*6.42*	*6.28*	*6.35*	*6.23*	*6.23*	*6.10*	**6.35**	*6.40*	*6.22*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.92**	**6.89**	*6.90*	*6.78*	*6.92*	*6.91*	*6.91*	*6.80*	**6.66**	*6.87*	*6.89*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**6.97**	**7.22**	*8.01*	*6.75*	*6.91*	*7.28*	*8.10*	*6.84*	**7.20**	*7.25*	*7.30*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.24**	**6.37**	*6.74*	*6.21*	*6.28*	*6.32*	*6.64*	*6.16*	**6.17**	*6.39*	*6.35*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.75**	**5.82**	*5.85*	*5.59*	*5.69*	*5.78*	*5.81*	*5.55*	**5.54**	*5.76*	*5.71*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.60**	**5.38**	*4.95*	*4.84*	*6.52*	*5.10*	*4.90*	*4.75*	**5.07**	*5.62*	*5.28*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.23**	**6.55**	*6.99*	*5.99*	*6.26*	*6.57*	*6.95*	*6.01*	**6.21**	*6.46*	*6.47*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.64**	**10.99**	*12.73*	*11.30*	*9.94*	*11.31*	*13.00*	*11.63*	**10.71**	*11.26*	*11.56*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.88**	*7.15*	*6.58*	*6.94*	*6.83*	*7.13*	*6.57*	**6.66**	*6.94*	*6.88*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.19**	**16.96**	*17.98*	*18.26*	*19.49*	*18.23*	*19.21*	*19.25*	**17.68**	*17.86*	*19.07*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.56**	**12.80**	*13.59*	*12.97*	*12.94*	*12.98*	*13.56*	*12.88*	**12.58**	*13.00*	*13.10*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.35**	**10.53**	*10.57*	*10.56*	*10.52*	*10.66*	*10.65*	*10.62*	**10.24**	*10.50*	*10.62*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.16**	**10.03**	*11.07*	*9.43*	*8.98*	*9.70*	*10.67*	*9.23*	**9.77**	*9.95*	*9.66*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.91**	**10.07**	*10.49*	*10.23*	*10.32*	*10.33*	*10.62*	*10.19*	**9.91**	*10.19*	*10.38*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.48**	**9.74**	*9.92*	*9.59*	*9.68*	*9.85*	*9.96*	*9.61*	**9.38**	*9.69*	*9.78*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.37**	**8.71**	*8.84*	*8.28*	*10.12*	*8.63*	*8.78*	*8.21*	**8.29**	*9.03*	*8.90*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.15**	**9.70**	*10.24*	*9.29*	*9.27*	*9.78*	*10.28*	*9.31*	**9.48**	*9.64*	*9.70*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.50**	**15.42**	*16.92*	*15.28*	*14.94*	*16.17*	*17.59*	*15.80*	**14.82**	*15.58*	*16.17*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.94**	**10.89**	*11.41*	*10.87*	*11.14*	*11.05*	*11.47*	*10.90*	**10.66**	*11.04*	*11.16*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**318.2**	**340.4**	*428.6*	*321.5*	*307.6*	*343.2*	*455.6*	*353.8*	**1,512.2**	*1,408.8*	*1,460.2*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**230.3**	**192.8**	*272.0*	*218.9*	*226.4*	*171.2*	*243.4*	*186.3*	**768.2**	*914.0*	*827.3*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.5**	**185.6**	*202.7*	*186.3*	*187.1*	*185.1*	*197.1*	*184.2*	**789.9**	*773.0*	*753.4*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**198.0**	**217.2**	*190.7*	*202.7*	*217.2*	*250.4*	*210.1*	*216.8*	**760.6**	*808.7*	*894.6*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**65.8**	*57.9*	*55.3*	*66.5*	*78.4*	*63.7*	*58.2*	**289.9**	*248.4*	*266.9*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**102.0**	*80.7*	*111.0*	*111.3*	*113.8*	*87.9*	*118.4*	**336.7**	*390.0*	*431.3*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**37.0**	*36.8*	*24.0*	*28.4*	*46.8*	*45.6*	*29.3*	**90.1**	*119.2*	*150.1*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**7.8**	*10.8*	*8.2*	*7.0*	*7.5*	*8.5*	*7.0*	**27.5**	*33.8*	*30.0*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.6**	*4.6*	*4.2*	*3.9*	*3.9*	*4.4*	*4.0*	**16.5**	*17.3*	*16.2*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	**-1.5**	*-2.5*	*-1.2*	*-1.0*	*-1.4*	*-2.4*	*-1.1*	**-5.3**	*-6.2*	*-5.8*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**5.2**	**4.0**	*4.4*	*4.1*	*5.0*	*4.1*	*4.0*	*4.1*	**16.5**	*17.7*	*17.2*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	**0.6**	*0.6*	*0.8*	*0.7*	*0.5*	*0.7*	*0.8*	**3.1**	*2.8*	*2.7*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.9**	**1.7**	*1.6*	*1.8*	*1.8*	*1.8*	*1.7*	*1.9*	**7.5**	*7.0*	*7.1*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**951.8**	**941.0**	*1,098.1*	*934.9*	*944.9*	*954.9*	*1,110.3*	*946.7*	**3,852.8**	*3,925.7*	*3,956.8*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**12.1**	**11.2**	*16.7*	*12.7*	*9.7*	*12.2*	*17.4*	*11.3*	**47.7**	*52.7*	*50.6*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	**0.0**	*0.0*	*0.1*	*0.5*	*0.0*	*0.0*	*0.1*	**0.2**	*0.6*	*0.6*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	**7.1**	*7.2*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.0*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	**1.7**	*1.2*	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*6.6*	*7.4*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.8**	**2.8**	*2.7*	*3.3*	*3.3*	*3.1*	*2.8*	*3.3*	**10.3**	*11.5*	*12.5*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.3**	*0.2*	*0.4*	*0.3*	*0.3*	*0.2*	*0.4*	**1.4**	*1.3*	*1.2*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.7**	**23.2**	*28.1*	*23.7*	*22.9*	*24.1*	*29.0*	*24.1*	**92.9**	*99.7*	*100.0*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.3**	**26.9**	*31.6*	*28.1*	*29.3*	*27.2*	*31.8*	*28.3*	**113.0**	*116.0*	*116.6*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**12.8**	**14.4**	*21.9*	*15.2*	*15.3*	*15.3*	*21.6*	*16.0*	**57.1**	*64.3*	*68.1*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.3**	**7.7**	*7.2*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*31.0*	*27.3*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	**7.1**	*7.0*	*7.2*	*7.0*	*7.0*	*7.0*	*7.1*	**31.4**	*28.7*	*28.1*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	**2.0**	*1.8*	*2.2*	*2.0*	*2.2*	*2.1*	*2.6*	**7.6**	*7.9*	*8.9*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	**0.1**	*0.1*	*0.1*	*0.4*	*0.1*	*0.1*	*0.1*	**0.6**	*0.8*	*0.7*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**31.7**	**31.3**	*38.0*	*31.5*	*31.2*	*31.6*	*37.4*	*32.9*	**135.4**	*132.6*	*133.1*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	**34.8**	*42.8*	*36.2*	*37.1*	*35.9*	*42.7*	*36.7*	**145.3**	*150.4*	*152.5*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**72.5**	**72.3**	*90.0*	*75.9*	*81.6*	*84.0*	*102.5*	*89.1*	**315.8**	*310.6*	*357.2*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**50.5**	**34.8**	*47.6*	*37.3*	*46.7*	*27.1*	*40.6*	*31.1*	**148.3**	*170.2*	*145.6*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.4**	**64.7**	*71.5*	*62.3*	*59.0*	*59.2*	*62.9*	*57.7*	**275.7**	*266.9*	*238.8*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	**2.3**	*1.6*	*2.1*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*8.7*	*9.1*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.1**	**11.3**	*9.0*	*12.3*	*12.3*	*12.6*	*9.6*	*13.0*	**39.1**	*43.7*	*47.6*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**1.0**	**0.4**	*0.0*	*0.8*	*1.2*	*0.5*	*0.1*	*0.9*	**2.2**	*2.3*	*2.7*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**206.2**	**185.7**	*219.6*	*190.8*	*203.5*	*186.1*	*217.3*	*194.0*	**791.1**	*802.4*	*800.9*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.0**	**194.4**	**178.1**	*206.8*	*180.9*	*194.0*	*177.8*	*206.1*	*183.6*	**732.4**	*760.2*	*761.5*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**57.6**	**56.5**	*66.1*	*55.3*	*57.1*	*56.8*	*71.4*	*61.3*	**254.2**	*235.4*	*246.6*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	**34.0**	*46.0*	*35.5*	*36.2*	*33.2*	*46.0*	*32.5*	**118.3**	*151.7*	*147.9*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	**51.0**	*55.5*	*52.0*	*52.5*	*55.2*	*58.4*	*54.9*	**210.1**	*212.3*	*221.0*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.8**	**8.4**	*7.0*	*7.9*	*10.2*	*7.6*	*6.7*	*7.8*	**38.7**	*32.9*	*32.2*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.0**	**6.1**	*6.0*	*4.5*	*4.6*	*7.5*	*7.6*	*5.4*	**17.4**	*20.6*	*25.1*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	**-0.4**	*-0.8*	*-0.2*	*0.0*	*-0.4*	*-0.7*	*-0.2*	**-1.1**	*-1.4*	*-1.3*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.4**	**155.5**	*179.8*	*155.0*	*160.5*	*159.8*	*189.5*	*161.7*	**637.6**	*651.6*	*671.5*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.1**	**153.9**	*179.2*	*153.4*	*159.7*	*159.7*	*186.9*	*158.3*	**649.7**	*649.6*	*664.6*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.5**	**42.4**	*44.6*	*34.3*	*32.1*	*43.7*	*47.8*	*37.7*	**179.5**	*155.9*	*161.2*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	**5.1**	*5.8*	*4.9*	*4.3*	*6.9*	*5.0*	*3.2*	**15.9**	*20.5*	*19.4*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	**7.2**	*7.9*	*6.9*	*7.9*	*7.3*	*8.1*	*7.1*	**29.4**	*29.8*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.4**	**3.4**	*4.7*	*3.0*	*3.3*	*3.9*	*3.8*	*2.8*	**8.4**	*13.4*	*13.8*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	**0.8**	*0.8*	*0.6*	*0.8*	*0.8*	*0.8*	*0.6*	**3.3**	*3.0*	*3.0*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**50.3**	**58.9**	*63.9*	*49.7*	*48.3*	*62.7*	*65.6*	*51.4*	**236.7**	*222.8*	*228.0*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.6**	**52.6**	*65.7*	*51.9*	*47.7*	*58.5*	*67.0*	*52.6*	**232.8**	*220.8*	*225.8*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**34.5**	**38.8**	*44.8*	*29.4*	*30.9*	*42.4*	*53.6*	*38.7*	**178.3**	*147.4*	*165.6*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**69.7**	**58.7**	*80.4*	*67.5*	*71.3*	*55.4*	*70.6*	*55.1*	**218.4**	*276.3*	*252.4*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	**22.6**	*22.8*	*24.0*	*23.8*	*22.2*	*23.7*	*23.0*	**95.1**	*93.0*	*92.6*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**2.8**	**2.8**	*2.4*	*2.2*	*2.4*	*2.8*	*2.3*	*2.1*	**11.8**	*10.2*	*9.7*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**24.3**	**25.1**	*19.4*	*27.9*	*26.0*	*26.9*	*20.6*	*29.0*	**81.3**	*96.7*	*102.5*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.8**	**1.3**	*0.9*	*1.2*	*1.8*	*1.4*	*1.1*	*1.3*	**5.2**	*5.2*	*5.6*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**156.7**	**149.2**	*170.7*	*152.2*	*156.1*	*151.2*	*171.9*	*149.3*	**590.0**	*628.8*	*628.5*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.0**	**154.4**	*177.0*	*157.0*	*157.6*	*158.0*	*179.1*	*158.5*	**618.7**	*647.4*	*653.2*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.4**	**13.6**	*18.8*	*12.6*	*11.5*	*13.8*	*21.7*	*14.0*	**71.6**	*57.4*	*60.9*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**21.8**	**18.7**	*29.3*	*18.9*	*22.9*	*17.1*	*28.2*	*19.8*	**79.2**	*88.6*	*88.1*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	**2.8**	*4.4*	*4.4*	*4.3*	*4.4*	*4.1*	*2.5*	**16.8**	*15.8*	*15.3*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	**4.8**	*4.3*	*3.3*	*3.6*	*4.3*	*4.0*	*3.2*	**21.8**	*17.7*	*15.0*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**22.8**	**24.8**	*20.4*	*26.5*	*25.6*	*27.4*	*22.9*	*29.0*	**80.6**	*94.4*	*104.9*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	**0.1**	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	**0.5**	*0.6*	*0.4*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.7**	**64.8**	*77.2*	*65.9*	*68.0*	*67.1*	*80.9*	*68.6*	**270.5**	*274.6*	*284.6*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.7**	**63.2**	*74.2*	*61.3*	*65.2*	*65.2*	*77.9*	*63.9*	**262.1**	*263.5*	*272.3*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.0**	**39.9**	*51.4*	*28.6*	*23.1*	*29.9*	*45.6*	*25.2*	**174.6**	*152.9*	*123.8*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.3**	**17.0**	*23.7*	*20.6*	*16.4*	*17.7*	*22.5*	*17.1*	**67.2**	*77.7*	*73.7*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	**9.9**	*10.3*	*9.5*	*10.7*	*9.9*	*10.6*	*10.8*	**41.4**	*40.1*	*42.0*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.3**	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.8*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**25.2**	**29.7**	*27.8*	*31.8*	*35.5*	*40.0*	*34.2*	*35.3*	**92.6**	*114.6*	*145.0*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	**0.3**	*0.4*	*0.4*	*0.2*	*0.3*	*0.4*	*0.4*	**1.5**	*1.3*	*1.3*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**97.1**	*113.7*	*91.0*	*86.0*	*98.1*	*113.4*	*88.9*	**378.4**	*387.4*	*386.4*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**97.1**	*113.7*	*91.0*	*86.0*	*98.1*	*113.4*	*88.9*	**378.4**	*387.4*	*386.4*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**20.9**	**19.8**	*25.7*	*18.0*	*14.2*	*14.3*	*25.2*	*18.3*	**89.6**	*84.3*	*72.1*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**22.5**	**17.2**	*26.3*	*23.9*	*20.9*	*8.3*	*20.6*	*20.1*	**86.1**	*90.0*	*70.0*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	**1.2**	*2.5*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.6*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.3**	**31.3**	*27.5*	*27.2*	*33.0*	*41.2*	*30.9*	*28.2*	**136.0**	*120.3*	*133.5*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.3**	**16.6**	*14.0*	*16.5*	*16.8*	*17.0*	*14.1*	*18.0*	**55.6**	*62.4*	*66.0*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.3**	*0.2*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.8*	*0.6*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**95.6**	**86.4**	*96.1*	*88.2*	*87.6*	*83.5*	*93.4*	*87.3*	**377.4**	*366.4*	*351.8*
Net energy for load (f)	**89.9**	**81.7**	**93.6**	**87.7**	**88.9**	**86.1**	*95.9*	*89.0*	*88.3*	*84.4*	*94.7*	*89.4*	**353.0**	*359.9*	*356.7*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**11.0**	**16.3**	*21.4*	*15.8*	*9.9*	*15.9*	*22.2*	*15.0*	**61.7**	*64.4*	*63.0*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**5.9**	**5.6**	*10.1*	*7.2*	*5.0*	*3.7*	*7.1*	*4.3*	**25.9**	*28.7*	*20.0*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	**7.2**	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.8*	*32.1*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.5**	**3.3**	*3.4*	*2.3*	*2.7*	*4.0*	*3.9*	*2.6*	**12.8**	*11.6*	*13.2*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	**4.2**	*4.3*	*3.7*	*4.9*	*5.9*	*5.7*	*5.0*	**10.5**	*15.2*	*21.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.2**	*0.2*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.4*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.8**	**36.8**	*47.9*	*36.6*	*31.0*	*36.9*	*47.6*	*34.4*	**142.7**	*152.1*	*149.9*
Net energy for load (f)	**19.8**	**25.3**	**32.7**	**21.3**	**19.2**	**25.5**	*32.3*	*22.2*	*20.3*	*25.4*	*32.4*	*22.1*	**99.2**	*99.2*	*100.2*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.6**	**14.9**	*26.7*	*23.1*	*21.4*	*14.4*	*26.0*	*26.5*	**79.9**	*81.3*	*88.2*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	**1.3**	*2.3*	*2.6*	*1.9*	*1.3*	*2.3*	*2.3*	**6.7**	*7.9*	*7.8*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	**4.2**	*4.8*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.6*	*16.7*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.0**	**3.3**	*3.0*	*0.7*	*2.3*	*6.0*	*5.5*	*2.6*	**16.8**	*9.1*	*16.4*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.5**	**25.1**	*22.3*	*15.3*	*15.9*	*25.0*	*22.5*	*14.7*	**65.8**	*78.1*	*78.1*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	*0.2*	*0.1*	*0.0*	*-0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.2*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.7**	**48.8**	*59.4*	*46.4*	*46.0*	*50.4*	*60.7*	*50.3*	**185.8**	*193.2*	*207.4*
Net energy for load (f)	**58.6**	**59.4**	**74.6**	**61.1**	**57.0**	**60.4**	*75.1*	*60.0*	*56.0*	*61.2*	*74.6*	*60.5*	**253.7**	*252.6*	*252.2*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.035**	**0.041**	*0.041*	*0.038*	*0.035*	*0.034*	*0.039*	*0.036*	**0.147**	*0.154*	*0.144*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.617**	**0.619**	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.581**	*2.394*	*2.538*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.195**	**0.337**	*0.335*	*0.218*	*0.259*	*0.426*	*0.416*	*0.266*	**0.820**	*1.085*	*1.367*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.059**	**0.065**	*0.072*	*0.063*	*0.055*	*0.061*	*0.065*	*0.058*	**0.238**	*0.258*	*0.238*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.050**	**0.056**	*0.097*	*0.065*	*0.054*	*0.056*	*0.068*	*0.050*	**0.185**	*0.267*	*0.228*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.929**	*0.734*	*1.010*	*1.013*	*1.036*	*0.800*	*1.078*	**3.065**	*3.551*	*3.926*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.833**	**2.046**	*1.877*	*1.953*	*2.107*	*2.307*	*1.984*	*2.043*	**7.037**	*7.709*	*8.441*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.169**	**0.191**	*0.196*	*0.190*	*0.185*	*0.195*	*0.199*	*0.198*	**0.698**	*0.746*	*0.775*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	**0.011**	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	**0.039**	*0.038*	*0.040*	*0.040*	*0.039*	*0.038*	*0.040*	**0.156**	*0.158*	*0.158*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	**0.348**	*0.358*	*0.359*	*0.348*	*0.346*	*0.358*	*0.361*	**1.376**	*1.402*	*1.413*
Subtotal	**0.594**	**0.520**	**0.558**	**0.588**	**0.555**	**0.586**	*0.599*	*0.597*	*0.580*	*0.588*	*0.603*	*0.606*	**2.261**	*2.337*	*2.377*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.023*	*0.023*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	**0.043**	*0.044*	*0.031*	*0.035*	*0.051*	*0.051*	*0.035*	**0.123**	*0.147*	*0.172*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.070**	**0.085**	*0.086*	*0.072*	*0.076*	*0.092*	*0.093*	*0.077*	**0.290**	*0.313*	*0.339*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.066**	**0.102**	*0.104*	*0.073*	*0.079*	*0.120*	*0.120*	*0.083*	**0.291**	*0.345*	*0.403*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	**0.114**	*0.115*	*0.115*	*0.112*	*0.114*	*0.115*	*0.115*	**0.458**	*0.456*	*0.456*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	**0.226**	*0.229*	*0.198*	*0.201*	*0.243*	*0.245*	*0.208*	**0.788**	*0.840*	*0.898*
Transportation Sector															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.057**	**0.069**	*0.064*	*0.075*	*0.075*	*0.078*	*0.083*	*0.091*	**0.275**	*0.266*	*0.327*
Ethanol (f)	**0.257**	**0.220**	**0.267**	**0.258**	**0.244**	**0.288**	*0.284*	*0.273*	*0.255*	*0.287*	*0.290*	*0.282*	**1.002**	*1.089*	*1.114*
Subtotal	**0.318**	**0.284**	**0.340**	**0.334**	**0.301**	**0.357**	*0.349*	*0.349*	*0.329*	*0.365*	*0.373*	*0.373*	**1.277**	*1.355*	*1.441*
All Sectors Total															
Biomass-based Diesel (f)	**0.061**	**0.064**	**0.073**	**0.076**	**0.057**	**0.069**	*0.064*	*0.075*	*0.075*	*0.078*	*0.083*	*0.091*	**0.275**	*0.266*	*0.327*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.169**	**0.191**	*0.196*	*0.190*	*0.185*	*0.195*	*0.199*	*0.198*	**0.698**	*0.746*	*0.775*
Ethanol (f)	**0.267**	**0.228**	**0.278**	**0.268**	**0.254**	**0.299**	*0.295*	*0.284*	*0.265*	*0.298*	*0.301*	*0.293*	**1.041**	*1.131*	*1.157*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	**0.058**	*0.058*	*0.054*	*0.052*	*0.051*	*0.056*	*0.052*	**0.214**	*0.221*	*0.211*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.620**	**0.621**	*0.602*	*0.562*	*0.694*	*0.697*	*0.600*	*0.558*	**2.592**	*2.405*	*2.549*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.292**	**0.490**	*0.494*	*0.329*	*0.381*	*0.609*	*0.599*	*0.393*	**1.246**	*1.606*	*1.982*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	**0.112**	*0.119*	*0.112*	*0.104*	*0.109*	*0.112*	*0.107*	**0.430**	*0.452*	*0.431*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	**0.537**	*0.590*	*0.559*	*0.535*	*0.536*	*0.562*	*0.546*	**2.101**	*2.207*	*2.178*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.929**	*0.734*	*1.010*	*1.013*	*1.036*	*0.800*	*1.078*	**3.065**	*3.551*	*3.926*
Total Consumption	**2.923**	**2.995**	**2.826**	**2.907**	**2.947**	**3.299**	*3.141*	*3.168*	*3.294*	*3.595*	*3.299*	*3.308*	**11.652**	*12.555*	*13.496*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,600**	**6,598**	**6,549**	**6,548**	**6,538**	**6,393**	*6,397*	*6,438*	*6,441*	*6,443*	*6,443*	*6,443*	**6,548**	*6,438*	*6,443*
Waste	**3,927**	**3,925**	**3,852**	**3,850**	**3,841**	**3,839**	*3,843*	*3,884*	*3,887*	*3,889*	*3,889*	*3,889*	**3,850**	*3,884*	*3,889*
Wood	**2,673**	**2,673**	**2,697**	**2,697**	**2,697**	**2,554**	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	**2,697**	*2,554*	*2,554*
Conventional Hydroelectric	**79,488**	**79,482**	**79,629**	**79,631**	**79,632**	**79,695**	*79,706*	*79,723*	*79,755*	*79,770*	*79,811*	*79,814*	**79,631**	*79,723*	*79,814*
Geothermal	**2,502**	**2,520**	**2,520**	**2,520**	**2,520**	**2,520**	*2,520*	*2,562*	*2,562*	*2,562*	*2,562*	*2,562*	**2,520**	*2,562*	*2,562*
Large-Scale Solar (b)	**39,107**	**41,199**	**43,000**	**47,596**	**50,264**	**52,759**	*56,810*	*63,802*	*65,720*	*70,595*	*72,791*	*80,427*	**47,596**	*63,802*	*80,427*
Wind	**106,143**	**107,637**	**109,164**	**118,132**	**121,018**	**124,835**	*128,523*	*135,721*	*136,430*	*138,172*	*138,882*	*141,988*	**118,132**	*135,721*	*141,988*
Other Sectors (c)															
Biomass	**6,384**	**6,385**	**6,381**	**6,393**	**6,371**	**6,379**	*6,359*	*6,359*	*6,359*	*6,359*	*6,351*	*6,351*	**6,393**	*6,359*	*6,351*
Waste	**781**	**782**	**778**	**789**	**787**	**790**	*790*	*790*	*790*	*790*	*790*	*790*	**789**	*790*	*790*
Wood	**5,603**	**5,603**	**5,603**	**5,603**	**5,584**	**5,589**	*5,569*	*5,569*	*5,569*	*5,569*	*5,561*	*5,561*	**5,603**	*5,569*	*5,561*
Conventional Hydroelectric	**289**	**289**	**289**	**289**	**289**	**289**	*284*	*287*	*287*	*287*	*287*	*287*	**289**	*287*	*287*
Large-Scale Solar (b)	**442**	**469**	**474**	**481**	**484**	**487**	*509*	*552*	*555*	*555*	*555*	*555*	**481**	*552*	*555*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**28,888**	**30,244**	*31,638*	*33,011*	*34,379*	*35,699*	*36,999*	*38,348*	**27,724**	*33,011*	*38,348*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,076**	**19,014**	*19,942*	*20,852*	*21,740*	*22,599*	*23,423*	*24,276*	**17,238**	*20,852*	*24,276*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,725**	**9,092**	*9,495*	*9,895*	*10,310*	*10,708*	*11,121*	*11,552*	**8,430**	*9,895*	*11,552*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,088**	**2,138**	*2,202*	*2,265*	*2,329*	*2,392*	*2,455*	*2,520*	**2,056**	*2,265*	*2,520*
Wind	**113**	**339**	**348**	**348**	**348**	**348**	*348*	*348*	*348*	*348*	*348*	*348*	**348**	*348*	*348*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**7.8**	*10.8*	*8.2*	*7.0*	*7.5*	*8.5*	*7.0*	**27.5**	*33.8*	*30.0*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.0**	**4.4**	*4.8*	*4.2*	*3.7*	*4.1*	*4.4*	*3.9*	**16.1**	*17.4*	*16.1*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	**3.4**	*5.9*	*4.0*	*3.3*	*3.4*	*4.1*	*3.1*	**11.4**	*16.4*	*14.0*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**65.8**	*57.9*	*55.3*	*66.5*	*78.4*	*63.7*	*58.2*	**289.9**	*248.4*	*266.9*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.6**	*4.6*	*4.2*	*3.9*	*3.9*	*4.4*	*4.0*	**16.5**	*17.3*	*16.2*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**37.0**	*36.8*	*24.0*	*28.4*	*46.8*	*45.6*	*29.3*	**90.1**	*119.2*	*150.1*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**102.0**	*80.7*	*111.0*	*111.3*	*113.8*	*87.9*	*118.4*	**336.7**	*390.0*	*431.3*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.0**	**6.8**	*7.0*	*7.1*	*7.0*	*6.8*	*7.0*	*7.1*	**28.6**	*27.9*	*27.9*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.3**	**6.2**	*6.4*	*6.4*	*6.3*	*6.2*	*6.4*	*6.4*	**25.8**	*25.2*	*25.2*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**9.8**	**14.8**	*15.0*	*10.5*	*11.8*	*17.6*	*17.7*	*12.2*	**41.7**	*50.1*	*59.3*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	**9.1**	*9.3*	*6.5*	*7.2*	*11.0*	*11.0*	*7.6*	**25.4**	*30.9*	*36.8*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	**4.5**	*4.6*	*3.2*	*3.7*	*5.3*	*5.4*	*3.7*	**12.9**	*15.3*	*18.1*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	**1.1**	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	**0.3**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*1.0*	*0.9*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,011**	**17,303**	**18,597**	**18,794**	**19,086**	**19,456**	*19,810*	*20,197*	*20,388*	*20,569*	*20,703*	*20,829*	**18,426**	*19,637*	*20,622*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,118**	**11,860**	**12,925**	**12,999**	**13,353**	**13,712**	*13,765*	*13,936*	*14,077*	*14,228*	*14,364*	*14,487*	**12,726**	*13,692*	*14,289*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,375**	**3,096**	**3,315**	**3,459**	**3,559**	**3,564**	*3,628*	*3,681*	*3,707*	*3,730*	*3,753*	*3,781*	**3,311**	*3,608*	*3,743*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-52**	**-298**	**-1**	**60**	**-92**	**-104**	*120*	*247*	*253*	*255*	*236*	*214*	**-73**	*43*	*240*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,348**	**3,369**	**3,327**	**3,320**	**3,367**	**3,398**	*3,430*	*3,445*	*3,454*	*3,452*	*3,442*	*3,438*	**3,341**	*3,410*	*3,446*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,495**	**1,927**	**2,167**	**2,279**	**2,266**	**2,320**	*2,359*	*2,423*	*2,483*	*2,532*	*2,576*	*2,618*	**2,217**	*2,342*	*2,552*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,283**	**2,702**	**3,186**	**3,400**	**3,479**	**3,523**	*3,577*	*3,593*	*3,641*	*3,681*	*3,726*	*3,770*	**3,143**	*3,543*	*3,704*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,061**	**16,630**	**15,851**	**15,541**	**17,530**	**16,154**	*15,768*	*15,743*	*15,815*	*15,961*	*16,079*	*16,146*	**15,771**	*16,299*	*16,001*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	**145.0**	*147.3*	*149.0*	*150.1*	*151.1*	*152.1*	*152.9*	**142.3**	*146.2*	*151.6*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	**5.9**	*5.5*	*4.9*	*4.6*	*4.3*	*4.0*	*3.8*	**8.1**	*5.6*	*4.2*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	**1.57**	*1.60*	*1.52*	*1.47*	*1.44*	*1.41*	*1.40*	**1.40**	*1.57*	*1.43*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**100.0**	**87.1**	**95.5**	**97.4**	**98.2**	**99.6**	*102.0*	*103.9*	*105.0*	*105.8*	*106.3*	*106.9*	**95.0**	*100.9*	*106.0*
Manufacturing	**97.6**	**84.2**	**94.2**	**96.7**	**97.2**	**98.2**	*100.5*	*103.0*	*104.2*	*105.2*	*105.8*	*106.4*	**93.2**	*99.7*	*105.4*
Food	**101.8**	**93.8**	**98.0**	**100.1**	**101.2**	**100.5**	*100.9*	*101.4*	*101.7*	*102.0*	*102.5*	*102.9*	**98.4**	*101.0*	*102.3*
Paper	**99.5**	**91.5**	**90.7**	**94.9**	**94.0**	**93.9**	*94.8*	*95.5*	*96.1*	*96.7*	*97.1*	*97.3*	**94.2**	*94.5*	*96.8*
Petroleum and Coal Products	**98.0**	**77.3**	**84.0**	**86.7**	**90.6**	**96.0**	*97.4*	*98.4*	*98.9*	*99.2*	*99.4*	*99.4*	**86.5**	*95.6*	*99.2*
Chemicals	**95.0**	**89.9**	**92.5**	**94.7**	**91.3**	**96.7**	*99.3*	*100.7*	*101.8*	*102.9*	*103.5*	*103.9*	**93.0**	*97.0*	*103.0*
Nonmetallic Mineral Products	**99.7**	**88.1**	**94.6**	**98.4**	**97.1**	**93.6**	*95.7*	*96.8*	*97.3*	*97.5*	*97.6*	*97.8*	**95.2**	*95.8*	*97.6*
Primary Metals	**95.9**	**72.9**	**83.3**	**90.3**	**92.3**	**97.2**	*98.2*	*98.8*	*99.2*	*99.8*	*100.1*	*99.9*	**85.6**	*96.6*	*99.8*
Coal-weighted Manufacturing (a)	**97.1**	**86.7**	**93.0**	**96.6**	**93.9**	**95.3**	*97.6*	*99.1*	*100.0*	*100.7*	*101.2*	*101.6*	**93.3**	*96.5*	*100.9*
Distillate-weighted Manufacturing (a)	**97.0**	**84.4**	**92.0**	**95.7**	**94.3**	**95.7**	*97.7*	*98.8*	*99.5*	*100.1*	*100.3*	*100.4*	**92.3**	*96.6*	*100.1*
Electricity-weighted Manufacturing (a)	**97.1**	**83.4**	**91.6**	**95.4**	**94.3**	**96.7**	*98.8*	*100.1*	*101.1*	*102.0*	*102.5*	*102.8*	**91.9**	*97.5*	*102.1*
Natural Gas-weighted Manufacturing (a)	**95.5**	**84.1**	**89.7**	**93.7**	**90.2**	**94.6**	*97.0*	*98.0*	*98.8*	*99.6*	*100.1*	*100.3*	**90.8**	*95.0*	*99.7*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	**2.69**	*2.71*	*2.73*	*2.73*	*2.75*	*2.76*	*2.78*	**2.59**	*2.69*	*2.75*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.10**	**2.19**	*2.20*	*2.17*	*2.15*	*2.15*	*2.14*	*2.13*	**1.94**	*2.17*	*2.14*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.50**	**1.89**	**2.18**	*2.23*	*2.12*	*2.02*	*2.06*	*2.02*	*1.92*	**1.43**	*2.10*	*2.00*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**112.9**	**113.8**	**114.4**	**115.6**	**117.3**	*118.3*	*118.8*	*119.3*	*119.8*	*120.4*	*121.1*	**113.6**	*117.5*	*120.2*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,762**	**6,880**	**8,262**	**8,009**	**7,679**	**8,881**	*9,035*	*8,748*	*8,163*	*9,199*	*9,322*	*9,008*	**7,730**	*8,590*	*8,926*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**363**	**478**	**537**	**537**	**623**	*649*	*664*	*647*	*690*	*689*	*650*	**502**	*619*	*669*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**152**	**208**	**238**	**245**	**311**	*351*	*381*	*404*	*452*	*451*	*409*	**231**	*322*	*429*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	**243.3**	*228.2*	*226.9*	*229.6*	*253.7*	*250.7*	*266.4*	**217.5**	*224.2*	*250.1*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	*0.282*	*0.325*	*0.320*	*0.280*	*0.276*	*0.286*	**0.216**	*0.278*	*0.290*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**553**	**442**	**518**	**522**	**516**	**559**	*576*	*570*	*556*	*577*	*592*	*588*	**2,035**	*2,222*	*2,313*
Natural Gas	**490**	**349**	**383**	**429**	**485**	**352**	*365*	*431*	*481*	*358*	*377*	*442*	**1,651**	*1,632*	*1,658*
Coal	**201**	**177**	**271**	**224**	**255**	**222**	*298*	*248*	*256*	*202*	*274*	*221*	**873**	*1,023*	*952*
Total Energy (c)	**1,247**	**971**	**1,174**	**1,178**	**1,259**	**1,136**	*1,241*	*1,252*	*1,295*	*1,139*	*1,245*	*1,254*	**4,571**	*4,887*	*4,933*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

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	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2012)															
New England	**982**	**891**	**959**	**971**	**986**	**1,005**	*1,022*	*1,041*	*1,050*	*1,059*	*1,066*	*1,072*	**951**	*1,014*	*1,062*
Middle Atlantic	**2,745**	**2,459**	**2,641**	**2,667**	**2,708**	**2,763**	*2,814*	*2,869*	*2,899*	*2,929*	*2,953*	*2,970*	**2,628**	*2,789*	*2,938*
E. N. Central	**2,476**	**2,241**	**2,432**	**2,454**	**2,494**	**2,527**	*2,570*	*2,619*	*2,639*	*2,661*	*2,675*	*2,689*	**2,401**	*2,552*	*2,666*
W. N. Central	**1,175**	**1,072**	**1,156**	**1,172**	**1,191**	**1,210**	*1,229*	*1,251*	*1,260*	*1,269*	*1,276*	*1,282*	**1,144**	*1,220*	*1,272*
S. Atlantic	**3,352**	**3,080**	**3,302**	**3,334**	**3,388**	**3,445**	*3,504*	*3,568*	*3,600*	*3,630*	*3,651*	*3,673*	**3,267**	*3,476*	*3,639*
E. S. Central	**819**	**734**	**801**	**812**	**825**	**838**	*851*	*866*	*873*	*879*	*884*	*889*	**791**	*845*	*881*
W. S. Central	**2,293**	**2,101**	**2,243**	**2,279**	**2,304**	**2,354**	*2,396*	*2,447*	*2,474*	*2,498*	*2,518*	*2,536*	**2,229**	*2,375*	*2,506*
Mountain	**1,270**	**1,165**	**1,252**	**1,266**	**1,291**	**1,317**	*1,341*	*1,366*	*1,379*	*1,391*	*1,399*	*1,408*	**1,238**	*1,329*	*1,394*
Pacific	**3,729**	**3,399**	**3,645**	**3,676**	**3,732**	**3,827**	*3,909*	*3,993*	*4,035*	*4,072*	*4,098*	*4,127*	**3,612**	*3,865*	*4,083*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**96.1**	**82.6**	**91.6**	**94.6**	**94.9**	**90.6**	*92.7*	*94.8*	*95.8*	*96.6*	*97.0*	*97.4*	**91.3**	*93.3*	*96.7*
Middle Atlantic	**95.0**	**79.2**	**89.9**	**92.5**	**92.8**	**89.0**	*91.3*	*93.7*	*94.8*	*95.8*	*96.4*	*96.9*	**89.2**	*91.7*	*96.0*
E. N. Central	**95.9**	**79.0**	**91.8**	**94.4**	**94.9**	**97.0**	*99.2*	*102.0*	*103.5*	*104.7*	*105.5*	*106.3*	**90.3**	*98.3*	*105.0*
W. N. Central	**98.0**	**86.0**	**94.7**	**97.1**	**97.9**	**98.0**	*100.1*	*102.6*	*103.5*	*104.2*	*104.9*	*105.4*	**94.0**	*99.7*	*104.5*
S. Atlantic	**98.6**	**85.8**	**95.2**	**98.4**	**98.7**	**103.2**	*105.7*	*108.3*	*109.5*	*110.5*	*111.1*	*111.5*	**94.5**	*104.0*	*110.6*
E. S. Central	**96.6**	**79.9**	**93.6**	**96.7**	**97.7**	**103.3**	*105.6*	*108.1*	*109.1*	*110.0*	*110.7*	*111.3*	**91.7**	*103.7*	*110.3*
W. S. Central	**100.2**	**88.9**	**95.7**	**97.9**	**98.7**	**93.3**	*95.6*	*98.3*	*99.7*	*100.9*	*101.6*	*102.2*	**95.7**	*96.5*	*101.1*
Mountain	**102.8**	**92.2**	**101.3**	**104.0**	**105.1**	**112.1**	*114.5*	*117.1*	*118.2*	*119.2*	*119.8*	*120.4*	**100.1**	*112.2*	*119.4*
Pacific	**96.4**	**84.0**	**91.6**	**93.3**	**93.3**	**94.1**	*96.4*	*98.8*	*100.2*	*101.6*	*102.4*	*103.2*	**91.3**	*95.6*	*101.9*
Real Personal Income (Billion $2012)															
New England	**892**	**978**	**929**	**922**	**1,008**	**947**	*931*	*931*	*935*	*943*	*950*	*954*	**930**	*954*	*945*
Middle Atlantic	**2,314**	**2,522**	**2,430**	**2,340**	**2,589**	**2,420**	*2,376*	*2,365*	*2,375*	*2,398*	*2,416*	*2,425*	**2,402**	*2,437*	*2,404*
E. N. Central	**2,457**	**2,700**	**2,580**	**2,535**	**2,864**	**2,631**	*2,571*	*2,570*	*2,582*	*2,604*	*2,622*	*2,634*	**2,568**	*2,659*	*2,610*
W. N. Central	**1,159**	**1,260**	**1,180**	**1,192**	**1,328**	**1,241**	*1,214*	*1,217*	*1,219*	*1,229*	*1,237*	*1,240*	**1,198**	*1,250*	*1,231*
S. Atlantic	**3,267**	**3,507**	**3,411**	**3,363**	**3,755**	**3,495**	*3,433*	*3,428*	*3,448*	*3,479*	*3,506*	*3,526*	**3,387**	*3,528*	*3,490*
E. S. Central	**911**	**991**	**938**	**934**	**1,070**	**986**	*962*	*961*	*964*	*971*	*977*	*980*	**943**	*994*	*973*
W. S. Central	**2,038**	**2,202**	**2,101**	**2,069**	**2,338**	**2,165**	*2,110*	*2,132*	*2,144*	*2,168*	*2,188*	*2,202*	**2,102**	*2,186*	*2,176*
Mountain	**1,211**	**1,317**	**1,257**	**1,253**	**1,406**	**1,309**	*1,282*	*1,282*	*1,289*	*1,301*	*1,311*	*1,318*	**1,260**	*1,320*	*1,304*
Pacific	**2,833**	**3,036**	**2,977**	**2,955**	**3,214**	**3,030**	*2,984*	*2,980*	*2,994*	*3,022*	*3,046*	*3,061*	**2,950**	*3,052*	*3,031*
Households (Thousands)															
New England	**5,896**	**5,855**	**5,961**	**5,954**	**5,955**	**5,958**	*5,965*	*5,978*	*5,991*	*6,003*	*6,015*	*6,026*	**5,954**	*5,978*	*6,026*
Middle Atlantic	**16,157**	**16,042**	**16,343**	**16,333**	**16,341**	**16,353**	*16,379*	*16,418*	*16,452*	*16,485*	*16,516*	*16,549*	**16,333**	*16,418*	*16,549*
E. N. Central	**18,873**	**18,757**	**19,104**	**19,077**	**19,084**	**19,100**	*19,132*	*19,183*	*19,228*	*19,259*	*19,289*	*19,322*	**19,077**	*19,183*	*19,322*
W. N. Central	**8,651**	**8,606**	**8,770**	**8,771**	**8,783**	**8,796**	*8,815*	*8,843*	*8,868*	*8,894*	*8,920*	*8,941*	**8,771**	*8,843*	*8,941*
S. Atlantic	**25,667**	**25,560**	**26,072**	**26,111**	**26,170**	**26,235**	*26,325*	*26,442*	*26,550*	*26,660*	*26,765*	*26,865*	**26,111**	*26,442*	*26,865*
E. S. Central	**7,662**	**7,625**	**7,772**	**7,776**	**7,787**	**7,799**	*7,820*	*7,847*	*7,872*	*7,897*	*7,922*	*7,943*	**7,776**	*7,847*	*7,943*
W. S. Central	**14,881**	**14,825**	**15,125**	**15,153**	**15,189**	**15,228**	*15,284*	*15,354*	*15,421*	*15,486*	*15,551*	*15,610*	**15,153**	*15,354*	*15,610*
Mountain	**9,461**	**9,436**	**9,641**	**9,670**	**9,708**	**9,747**	*9,794*	*9,852*	*9,905*	*9,955*	*10,005*	*10,049*	**9,670**	*9,852*	*10,049*
Pacific	**18,795**	**18,691**	**19,041**	**19,043**	**19,051**	**19,063**	*19,095*	*19,146*	*19,196*	*19,239*	*19,283*	*19,317*	**19,043**	*19,146*	*19,317*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.8**	**6.9**	**7.0**	**7.1**	*7.2*	*7.3*	*7.3*	*7.4*	*7.4*	*7.5*	**6.9**	*7.1*	*7.4*
Middle Atlantic	**20.1**	**16.7**	**17.9**	**18.2**	**18.3**	**18.5**	*18.9*	*19.1*	*19.3*	*19.5*	*19.7*	*19.8*	**18.2**	*18.7*	*19.6*
E. N. Central	**22.3**	**19.3**	**20.7**	**20.8**	**20.9**	**21.1**	*21.4*	*21.6*	*21.8*	*21.9*	*22.1*	*22.2*	**20.8**	*21.3*	*22.0*
W. N. Central	**10.8**	**9.7**	**10.2**	**10.2**	**10.3**	**10.4**	*10.5*	*10.6*	*10.7*	*10.7*	*10.8*	*10.8*	**10.2**	*10.5*	*10.8*
S. Atlantic	**29.3**	**26.2**	**27.4**	**27.8**	**27.9**	**28.1**	*28.5*	*28.8*	*29.0*	*29.2*	*29.4*	*29.6*	**27.7**	*28.3*	*29.3*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	**8.0**	**8.1**	*8.2*	*8.2*	*8.3*	*8.3*	*8.3*	*8.4*	**7.9**	*8.1*	*8.3*
W. S. Central	**17.9**	**16.2**	**16.7**	**17.0**	**17.1**	**17.3**	*17.6*	*17.8*	*17.9*	*18.0*	*18.1*	*18.2*	**17.0**	*17.4*	*18.0*
Mountain	**11.2**	**10.0**	**10.5**	**10.6**	**10.7**	**10.9**	*11.0*	*11.2*	*11.2*	*11.3*	*11.4*	*11.4*	**10.6**	*11.0*	*11.3*
Pacific	**24.0**	**20.9**	**21.6**	**21.9**	**21.9**	**22.4**	*22.9*	*23.2*	*23.4*	*23.6*	*23.8*	*23.9*	**22.1**	*22.6*	*23.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,731**	**970**	**115**	**1,994**	**3,007**	**777**	*136*	*2,122*	*3,120*	*867*	*141*	*2,132*	**5,809**	*6,042*	*6,260*
Middle Atlantic	**2,471**	**837**	**85**	**1,830**	**2,818**	**666**	*78*	*1,952*	*2,909*	*695*	*90*	*1,961*	**5,222**	*5,514*	*5,656*
E. N. Central	**2,785**	**847**	**126**	**2,099**	**3,086**	**709**	*121*	*2,244*	*3,161*	*738*	*134*	*2,259*	**5,857**	*6,160*	*6,291*
W. N. Central	**3,038**	**800**	**167**	**2,314**	**3,228**	**719**	*144*	*2,446*	*3,253*	*709*	*165*	*2,456*	**6,319**	*6,538*	*6,584*
South Atlantic	**1,111**	**254**	**17**	**879**	**1,346**	**211**	*12*	*938*	*1,375*	*195*	*13*	*936*	**2,261**	*2,507*	*2,519*
E. S. Central	**1,480**	**337**	**20**	**1,224**	**1,792**	**314**	*21*	*1,298*	*1,809*	*252*	*21*	*1,298*	**3,061**	*3,425*	*3,380*
W. S. Central	**970**	**102**	**8**	**738**	**1,299**	**121**	*5*	*788*	*1,150*	*83*	*4*	*787*	**1,818**	*2,213*	*2,025*
Mountain	**2,220**	**676**	**127**	**1,780**	**2,303**	**666**	*131*	*1,839*	*2,228*	*696*	*143*	*1,836*	**4,804**	*4,939*	*4,903*
Pacific	**1,536**	**527**	**64**	**1,080**	**1,555**	**483**	*83*	*1,232*	*1,547*	*577*	*86*	*1,210*	**3,207**	*3,353*	*3,419*
U.S. Average	**1,881**	**543**	**71**	**1,422**	**2,106**	**472**	*70*	*1,523*	*2,114*	*488*	*77*	*1,521*	**3,916**	*4,171*	*4,201*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**822**	**105**	**2,127**	**3,133**	**855**	*107*	*2,099*	*3,099*	*852*	*113*	*2,123*	**6,207**	*6,194*	*6,187*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,913**	**678**	*71*	*1,911*	*2,887*	*684*	*74*	*1,931*	**5,606**	*5,573*	*5,576*
E. N. Central	**3,198**	**698**	**102**	**2,197**	**3,157**	**731**	*105*	*2,170*	*3,133*	*728*	*102*	*2,198*	**6,195**	*6,162*	*6,160*
W. N. Central	**3,288**	**703**	**132**	**2,380**	**3,248**	**728**	*133*	*2,368*	*3,219*	*726*	*131*	*2,398*	**6,502**	*6,477*	*6,474*
South Atlantic	**1,461**	**169**	**10**	**953**	**1,395**	**181**	*11*	*916*	*1,380*	*187*	*11*	*919*	**2,593**	*2,503*	*2,497*
E. S. Central	**1,849**	**214**	**15**	**1,277**	**1,771**	**231**	*16*	*1,249*	*1,763*	*243*	*15*	*1,254*	**3,356**	*3,267*	*3,275*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	**86**	*3*	*786*	*1,145*	*93*	*3*	*784*	**2,078**	*2,015*	*2,025*
Mountain	**2,198**	**721**	**136**	**1,850**	**2,188**	**704**	*135*	*1,850*	*2,180*	*686*	*134*	*1,838*	**4,905**	*4,877*	*4,838*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,461**	**553**	*80*	*1,146*	*1,454*	*523*	*79*	*1,138*	**3,283**	*3,241*	*3,194*
U.S. Average	**2,153**	**473**	**64**	**1,512**	**2,112**	**483**	*65*	*1,487*	*2,095*	*479*	*64*	*1,494*	**4,202**	*4,147*	*4,133*
Cooling Degree Days															
New England	**0**	**103**	**545**	**0**	**0**	**148**	*409*	*3*	*0*	*82*	*398*	*2*	**648**	*559*	*481*
Middle Atlantic	**0**	**156**	**683**	**4**	**0**	**185**	*587*	*5*	*0*	*150*	*527*	*5*	**844**	*777*	*682*
E. N. Central	**2**	**218**	**606**	**2**	**2**	**252**	*551*	*7*	*0*	*212*	*520*	*6*	**828**	*812*	*738*
W. N. Central	**6**	**295**	**662**	**3**	**8**	**311**	*665*	*10*	*3*	*261*	*658*	*9*	**966**	*994*	*931*
South Atlantic	**194**	**618**	**1,228**	**299**	**151**	**625**	*1,161*	*241*	*133*	*651*	*1,162*	*247*	**2,339**	*2,178*	*2,193*
E. S. Central	**74**	**425**	**1,062**	**81**	**41**	**436**	*1,019*	*64*	*29*	*508*	*1,040*	*66*	**1,641**	*1,560*	*1,643*
W. S. Central	**173**	**838**	**1,500**	**210**	**89**	**768**	*1,427*	*200*	*90*	*868*	*1,504*	*202*	**2,720**	*2,483*	*2,664*
Mountain	**10**	**460**	**1,074**	**116**	**10**	**528**	*939*	*76*	*18*	*426*	*932*	*77*	**1,660**	*1,554*	*1,452*
Pacific	**25**	**196**	**716**	**127**	**24**	**254**	*636*	*60*	*27*	*171*	*595*	*61*	**1,065**	*975*	*854*
U.S. Average	**70**	**393**	**931**	**121**	**49**	**413**	*858*	*95*	*46*	*398*	*850*	*97*	**1,514**	*1,415*	*1,390*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	**81**	*474*	*1*	*0*	*88*	*467*	*1*	**554**	*556*	*556*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	**163**	*610*	*6*	*0*	*162*	*604*	*7*	**786**	*779*	*773*
E. N. Central	**3**	**240**	**579**	**8**	**3**	**234**	*572*	*7*	*3*	*238*	*563*	*7*	**829**	*816*	*811*
W. N. Central	**7**	**296**	**696**	**11**	**7**	**294**	*686*	*10*	*7*	*299*	*673*	*10*	**1,010**	*997*	*989*
South Atlantic	**127**	**695**	**1,201**	**247**	**143**	**679**	*1,194*	*260*	*147*	*669*	*1,188*	*265*	**2,270**	*2,276*	*2,268*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	**532**	*1,065*	*74*	*44*	*518*	*1,058*	*77*	**1,747**	*1,714*	*1,697*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	**880**	*1,567*	*210*	*113*	*852*	*1,531*	*212*	**2,775**	*2,771*	*2,708*
Mountain	**24**	**430**	**934**	**80**	**24**	**441**	*948*	*85*	*23*	*458*	*943*	*85*	**1,468**	*1,498*	*1,509*
Pacific	**31**	**185**	**624**	**78**	**31**	**193**	*647*	*86*	*31*	*208*	*657*	*86*	**919**	*958*	*982*
U.S. Average	**47**	**419**	**891**	**99**	**52**	**413**	*892*	*104*	*53*	*413*	*884*	*105*	**1,455**	*1,461*	*1,455*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the August 2021 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	June 2021	July 2021	Jun 2021 – July 2021 Average	Jun 2020 – July 2020 Average	2018 - 2020 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	96.1	97.4	96.8	89.5	98.5
Global Petroleum and Other Liquids Consumption (b)	98.5	98.8	98.6	91.4	97.7
Biofuels Production (c)	3.1	3.2	3.1	3.0	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.6	3.6	3.6	2.9	3.6
Iran Liquid Fuels Consumption	1.8	1.8	1.8	1.7	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	89.5	90.7	90.1	83.6	92.2
Consumption (d)	94.1	94.4	94.2	87.1	93.4
Production minus Consumption	-4.7	-3.7	-4.2	-3.5	-1.1
World Inventory Net Withdrawals Including Iran	2.4	1.4	1.9	1.9	-0.8
Estimated OECD Inventory Level (e) (million barrels)	2,873	2,860	2,866	3,204	2,942
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	7.6	6.9	7.2	8.8	3.4

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	June 2021	July 2021	June 2021 – July 2021 Average	June 2020 - July 2020 Average	2018 - 2020 Average
Brent Front Month Futures Price ($ per barrel)	73.41	74.29	73.84	42.00	59.69
WTI Front Month Futures Price ($ per barrel)	71.35	72.43	71.88	39.54	53.76
Dubai Front Month Futures Price ($ per barrel)	71.75	72.83	72.28	42.75	59.01
Brent 1st - 13th Month Futures Spread ($ per barrel)	5.83	6.43	6.12	16.08	1.01
WTI 1st - 13th Month Futures Spread ($ per barrel)	6.92	7.61	7.26	11.09	0.57
RBOB Front Month Futures Price ($ per gallon)	2.21	2.27	2.24	1.22	1.61
Heating Oil Front Month Futures Price ($ per gallon)	2.12	2.13	2.12	1.19	1.76
RBOB - Brent Futures Crack Spread ($ per gallon)	0.46	0.50	0.48	0.22	0.19
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.37	0.36	0.37	0.19	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

September 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The September *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. U.S. economic activity continues to rise after reaching multiyear lows in the second quarter of 2020 (2Q20). U.S. gross domestic product (GDP) declined by 3.4% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 6.0% in 2021 and by 4.4% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. Our forecast assumes continuing economic growth and increasing mobility. Any developments that would cause deviations from these assumptions would likely cause energy consumption and prices to deviate from our forecast.

- Brent crude oil spot prices averaged $71 per barrel (b) in August, down $4/b from July but up $26/b from August 2020. Brent prices have risen over the past year as result of steady draws on global oil inventories, which averaged 1.8 million barrels per day (b/d) during the first half of 2021 (1H21). We expect Brent prices will remain near current levels for the remainder of 2021, averaging $71/b during the fourth quarter of 2021 (4Q21). In 2022, we expect that growth in production from OPEC+, U.S. tight oil, and other non-OPEC countries will outpace slowing growth in global oil consumption and contribute to Brent prices declining to an annual average of $66/b.

- More than 90% of crude oil production in the Federal Offshore Gulf of Mexico (GOM) was offline in late August following Hurricane Ida. As a result of the outage, GOM production averaged 1.5 million b/d in August, down 0.3 million b/d from July. We expect that crude oil production in the GOM will gradually come back online during September and average 1.2 million b/d for the month before returning to an average of 1.7 million b/d in 4Q21.

- Total U.S. crude oil production averaged 11.3 million b/d in June—the most recent monthly historical data point. We forecast it will remain near that level through the end of 2021 before increasing to an average of 11.7 million b/d in 2022, driven by growth in onshore tight oil production. We expect growth will result from operators beginning to increase rig additions, offsetting production decline rates.

- We estimate that 98.4 million b/d of petroleum and liquid fuels was consumed globally in August, an increase of 5.7 million b/d from August 2020 but still 4.0 million b/d less than in August 2019. We forecast that global consumption of petroleum and liquid fuels will average 97.4 million b/d for all of 2021, which is a 5.0 million b/d increase from 2020, and by an additional 3.6 million b/d in 2022 to average 101.0 million b/d, almost even with 2019 levels.

- U.S. regular gasoline retail prices averaged $3.16 per gallon (gal) in August, the highest monthly average price since October 2014. Recent gasoline price increases reflect rising wholesale gasoline margins amid relatively low gasoline inventories. In addition, recent impacts from Hurricane Ida on several U.S. Gulf Coast refineries are adding upward price pressures in the near term. Estimated gasoline margins surpassed 70 cents/gal in late August. We expect margins will remain elevated in the coming weeks as refining operations as U.S. Gulf Coast remain disrupted. We forecast that retail gasoline prices will average $3.14/gal in September before falling to $2.91/gal, on average, in 4Q21. The expected drop in retail gasoline prices reflects our forecast that gasoline margins will decline from currently elevated levels, both as a result of rising refinery runs as operations return in the first half of September following Hurricane Ida and because of typical seasonality.

- Propane net exports in our forecast average close to 1.2 million b/d for the remainder of 2021, reflecting elevated global demand for U.S. propane and reduced supply from other sources related to ongoing OPEC+ production cuts. In 1H22, we assume global production of propane and butanes will rise as OPEC+ countries increase crude oil production. We expect this increase will limit additional demand for U.S. propane exports, despite growing global propane demand, and keep U.S. net propane exports close to 1.2 million b/d in 2022.

Natural Gas

- In August, the natural gas spot price at Henry Hub averaged $4.07 per million British thermal units (MMBtu), which is up from the July average of $3.84/MMBtu. The August increase reflects hotter temperatures in August on average across the United States compared with July, which caused demand for natural gas in the electric power sector to be higher than expected. Prices rose further in late August when Hurricane Ida caused a decline in natural gas production in the GOM.

- Henry Hub spot prices in August were $1.77/MMBtu higher than in August 2020. Steadily rising natural gas prices over the past year primarily reflects: growth in liquefied natural gas (LNG) exports, rising domestic natural gas consumption for sectors other than electric power, and relatively flat natural gas production. We expect the Henry Hub spot price will average $4.00/MMBtu in 4Q21, as the factors that drove prices higher during August lessen. Forecast Henry Hub prices this winter reach a monthly average

peak of $4.25/MMBtu in January and generally decline through 2022, averaging $3.47/MMBtu for the year amid rising U.S. natural gas production and slowing growth in LNG exports.

- More than 90% of natural gas production in the GOM was offline in late August following Hurricane Ida. GOM production of marketed natural gas averaged 1.9 billion cubic feet per day (Bcf/d) in August, down 0.4 Bcf/d from July. We expect that natural gas production in the GOM will gradually come back online during the first half of September and average 1.5 Bcf/d for the month before returning to an average of 2.1 Bcf/d in 4Q21.

- We expect dry natural gas production will average 92.7 Bcf/d in the United States during 2H21—up from 91.7 Bcf/d in 1H21—and then rise to 95.4 Bcf/d in 2022, driven by natural gas and crude oil prices, which we expect to remain at levels that will support enough drilling to sustain production growth.

- We expect that U.S. consumption of natural gas will average 82.5 (Bcf/d) in 2021, down 0.9% from 2020. U.S. natural gas consumption declines in 2021, in part, because electric power generators switch to coal from natural gas as a result of higher natural gas prices. In 2021, we expect residential and commercial natural gas consumption combined will rise by 1.2 Bcf/d from 2020 and industrial consumption will rise by 0.6 Bcf/d from 2020. Rising natural gas consumption in sectors other than the electric power sector results from expanding economic activity and colder winter temperatures in 2021 compared with 2020. We expect U.S. natural gas consumption will average 82.6 Bcf/d in 2022, mostly unchanged from 2021.

- We estimate that U.S. natural gas inventories ended August 2021 at about 2.9 trillion cubic feet (Tcf), which is 7% lower than the five-year (2016–20) average for this time of year. Injections into storage this summer have been below the previous five-year average, largely as a result of hot weather and high exports occurring amid relatively flat natural gas production. We forecast that inventories will end the 2021 injection season (end of October) at almost 3.6 Tcf, which would be 5% below the five-year average.

Electricity, coal, renewables, and emissions

- We expect the share of electricity generation produced by natural gas in the United States will average 35% in 2021 and 34% in 2022, down from 39% in 2020. In 2021, the forecast share for natural gas as a generation fuel declines in response to our expectation of a higher delivered natural gas price for electricity generators, which we forecast will average $4.69/MMBtu in 2021 compared with $2.39/MMBtu in 2020. The share of natural gas as a generation fuel also declines through 2022 because of expected increases in generation from renewable sources. As a result of the higher expected natural gas prices, the forecast share of electricity generation from coal rises from 20%

in 2020 to about 24% in both 2021 and 2022. New additions of solar and wind generating capacity are offset somewhat by reduced generation from hydropower this year, resulting in the forecast share of all renewables in U.S. electricity generation to average 20% in 2021, about the same as last year, before rising to 22% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022 as a result of retiring capacity at some nuclear power plants.

- We forecast that planned additions to U.S. wind and solar generating capacity in 2021 and 2022 will increase electricity generation from those sources. We estimate that the U.S. electric power sector added 14.7 gigawatts (GW) of new wind capacity in 2020. We expect 17.6 GW of new wind capacity will come online in 2021 and 6.3 GW in 2022. Utility-scale solar capacity rose by an estimated 10.5 GW in 2020. Our forecast for added utility-scale solar capacity is 15.9 GW for 2021 and 16.3 GW for 2022. We expect significant solar capacity additions in Texas during the forecast period. In addition, we project that after increasing by 4.5 GW in 2020, small-scale solar capacity (systems less than 1 megawatt) will grow 5.8 GW and 5.7 GW in 2021 and 2022 respectively.

- Coal production in our forecast totals 601 million short tons (MMst) in 2021, 66 MMst more than in 2020. We expect demand for coal from the electric power sector to increase by 100 MMst in 2021 as a result of high natural gas prices, and coal exports to increase by 21 MMSt. However, production is unlikely to match those increases in demand in the near term due to capacity constraints at coal mines and limited available transportation. In 2022, we expect coal production to increase by 47 MMst to 648 MMst, despite our forecast of declines in coal consumption, as the production and transportation constraints experienced in 2021 ease. Secondary inventories of coal at electric utilities decreased in 1H21, and we forecast this trend will continue into 2H21 and 2022.

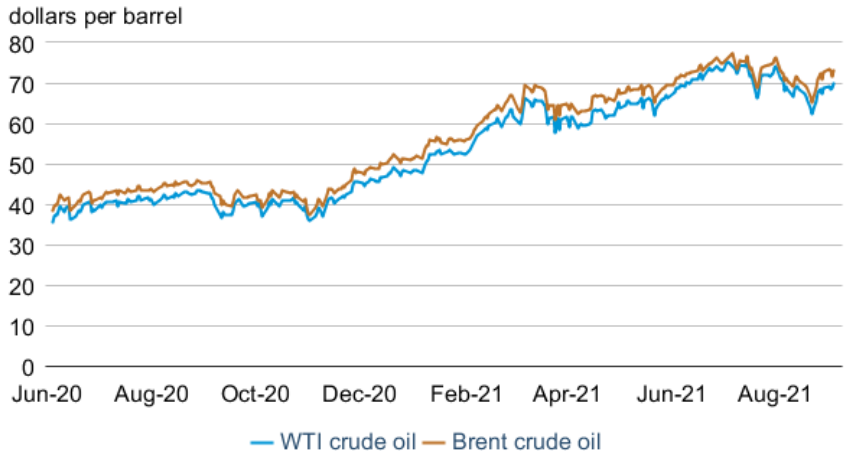
- We estimate that U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption related to reduced economic activity and responses to COVID-19. For 2021, we forecast energy-related CO_2 emissions will increase about 8% from the 2020 level as economic activity increases and leads to rising energy use. We also expect energy-related CO_2 emissions to rise in 2022 but at a slower rate of 2%. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 22% in 2021 and then decrease by 2% in 2022. Short-term changes in energy-related CO_2 can be affected by temperature. A recent STEO supplement examines these dynamics.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $73.03 per barrel (b) on September 2, 2021, up 14 cents/b from $72.89/b on August 2. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $1.27/b during the same period, settling at $69.99/b on September 2 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Sources: Graph by EIA, based on CME Group and Intercontinental Exchange, compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Brent and WTI prices both decreased in the first half of August. Increasing OPEC+ crude oil production and flattening global petroleum demand in response to rising COVID-19 cases contributed to the falling crude oil prices. Both benchmarks reached their low points of the month on August 20: Brent at $65/b and WTI at $62/b. Crude oil prices increased in the latter part of the month, and Brent prices are just above where they started August. On a monthly average basis, the Brent spot price in August decreased $4/b compared with July. Although crude oil prices have been gradually increasing in the wake of the initial COVID-19-induced price decrease, August marks the fourth month since May 2020 in which the price has declined. This price decrease may reflect market concerns about the demand impacts of a possibly continuing COVID-19 pandemic and spread of the Delta variant.

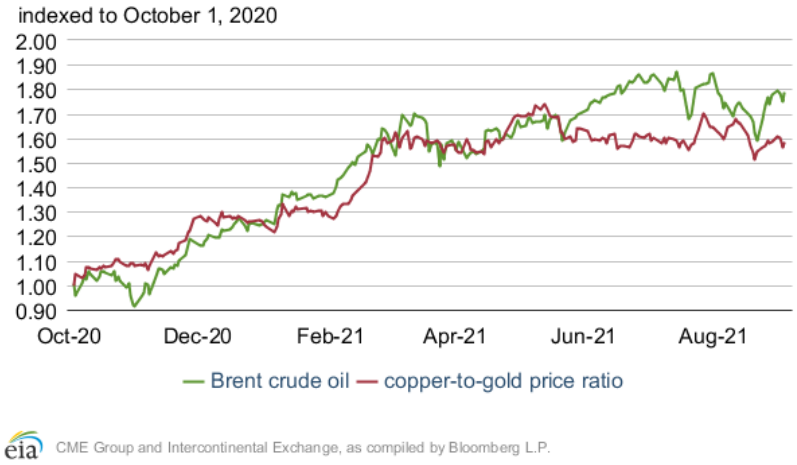
In the September STEO, our outlook for global oil markets is largely unchanged from last month, and we continue to expect Brent prices will average $71/b in the fourth quarter of 2021 (4Q21) and $66/b in 2022. One notable change is that we have revised global oil demand expectations down in 2021, accounting for reactions to the proliferation of the Delta variant. We decreased our oil demand expectations primarily in the middle months of 2021, and we reduced forecast global oil demand by an average of 0.5 million b/d in the 3Q21. We now expect global oil

demand to grow by 5.0 million b/d in 2021, down from expected growth of 5.3 million b/d in last month's forecast.

In the near term, the impact of Hurricane Ida on U.S. offshore production, reported incidents at Mexican offshore facilities, and lower-than-expected production in several non-OPEC countries have contributed to lower crude oil production offsetting some of the price effects of lower-than-expected oil demand. How the market will continue to process news about further COVID-19 outbreaks, even in countries with rising numbers of vaccinated people, remains an important uncertainty in our forecast. The production decisions of OPEC+ given an evolving demand outlook will also be a key driver of oil price formation in the coming months. Our forecast assumes that OPEC+ will generally produce at a level that achieves a relatively balanced oil market.

Brent front-month price and copper-to-gold front-month price ratio: Lower crude oil prices in August reflect flattening global petroleum demand, likely driven by responses to rising COVID-19 cases and the spread of the Delta variant. The decline in global commodity prices was not limited to crude oil, however. The copper-to-gold ratio is a measure of the value of copper relative to the value of gold. Copper is a metal whose value increases during periods of growing industrial production and economic activity. Gold is a metal whose value can increase during periods of economic uncertainty or changes in inflation expectations. On August 19, the copper-to-gold ratio (indexed to October 1, 2020, the start of 4Q20) decreased to its lowest level since February 2021 **(Figure 2)**. After rising mostly in tandem with crude oil prices through May 2021, the ratio weakened slightly over the summer, while crude oil prices continued rising through July. The weaker copper-to-gold ratio reflects lower global copper prices over the summer which declined primarily because of responses to rising COVID-19 cases globally. Unlike the copper-to-gold ratio, global crude oil prices were particularly elevated through the summer, reflecting sector-specific impacts on the global crude oil price that are unrelated to other commodities, such as the sustained OPEC+ crude oil production curtailment. However, the recent decreases in crude oil prices have brought its relative change compared to the beginning 4Q20 closer to the change in the copper-to-gold ratio, illustrating the role of macroeconomic demand factors in global commodities markets and the easing of the role of supply side factors that had supported crude oil prices earlier in the summer. Since the August 19 low point for both crude oil and the copper-to-gold ratio, positive reports of reduced COVID-19 cases in China and some other Asian countries have contributed to stronger expectations for global commodities demand, affecting both copper and oil prices.

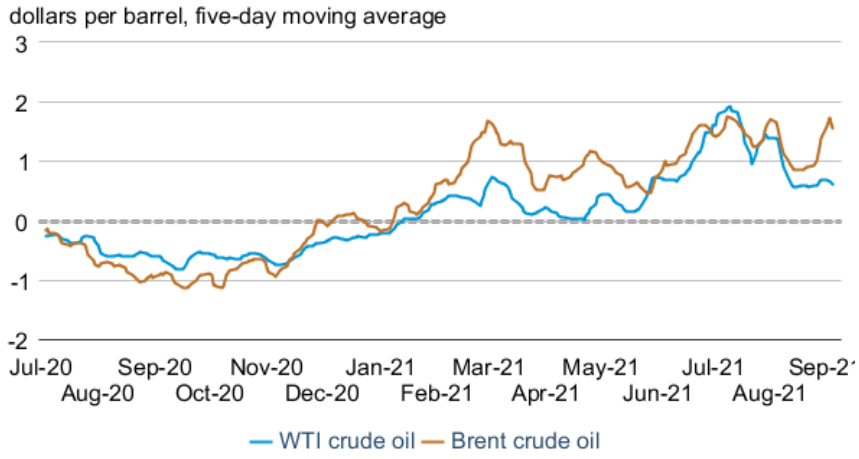
Figure 2. Brent front-month prices and copper-to-gold front-month price ratio



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Crude oil front-month to third-month futures price spread: On August 16, the five-day moving average spread between the front-month and third-month futures price for Brent crude oil fell to its lowest level since May 31, 2021 **(Figure 3)**. Although concerns over rising COVID-19 cases introduced downward price pressure and increased volatility into the market in August, the sustained backwardation (when near-term prices are higher than longer-dated ones) in the 1-3 futures spreads indicate that the global petroleum complex is still relying on petroleum inventories to meet demand. High backwardation typically indicates market participants are selling crude oil from storage, resulting in stock draws. The spread for Brent averaged $1.25/b in June and $1.51/b in July, and rarely narrowed below $1.30/b from mid-June through July. Global oil stocks draws from January through July averaged 1.7 million b/d, bolstered by draws of 2.7 million b/d in June. In August, the Brent 1-3 spread narrowed to less than than 90 cents/b. Although the spread remained positive, the decrease likely reflected lower front-month crude oil prices due to temporarily lower demand expectations. We estimate net global stock draws in August were 1.6 million b/d, and we expect them to continue at 1.3 million b/d in September. In line with sustained inventory withdrawals, the Brent 1-3 spread widened back above $1.00/b on August 25 and was $1.56/b as of September 2. The WTI spread experienced a similarly rapid decline in mid-August, reaching its recent low of $0.55/b on August 12, but unlike Brent, it has not increased as much later in the month and has remained below $1.00/b as of September 2.

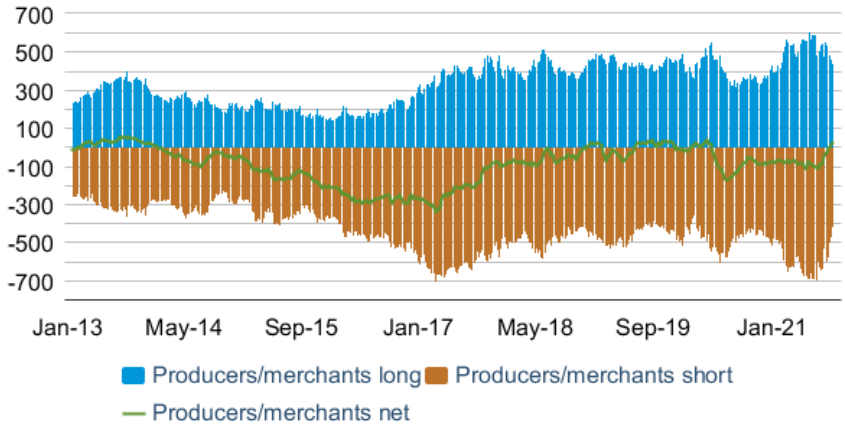
Figure 3. Crude oil front-month to third month futures price spread



Sources: CME Group, Dubai Mercantile Exchange, and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Producer/merchant open interest in WTI futures: Open interest in WTI futures by producers and merchants shifted to a net long position as of the August 24 Commitment of Traders report from the Commodity Futures Trading Commission (CFTC), and overall open interest from producers and merchants has decreased **(Figure 4)**. The lower open interest reflects both an overall reduction in oil commodity futures trading by producers and merchants and a reduction in short positions. Producers and merchants is a CFTC category that include crude oil producers and refiners. These market participants often use futures as a means of financially hedging against crude oil price changes. The net producer/merchant position is often short.

Figure 4. Producer/merchant open interest in WTI futures contracts



Source: U.S. Commodity Futures Trading Commission, Commitment of Traders Report
Note: WTI=West Texas Intermediatee

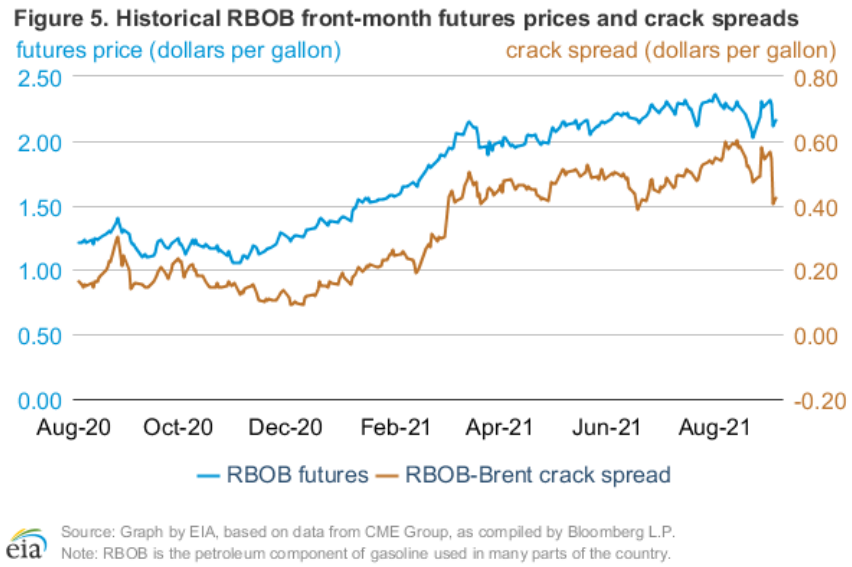
Reduced producer/merchant open interest may reflect an effort by certain upstream producers to reduce their hedged positions because of higher overall crude prices after experiencing particularly high financial losses on hedged crude oil production compared to unhedged barrels

in 1H21. Hedged crude oil can often account for relative losses compared to unhedged production when crude oil prices increase, because producers typically deploy hedges to mitigate downside price risks, but hedged barrels of crude oil do not benefit from any price increases. Because of relatively rapid price increases in 1H21, any barrels that producers hedged at a lower price point resulted in foregoing the benefits of crude oil's rapid price increases during that period.

Some upstream producers such as Devon Energy, Diamondback, and Ovintiv reported losses in their second-quarter financial filings because of hedging at around $50/b. With WTI crude oil spot prices averaging $66/b for the quarter, these companies reported losses on their hedged barrels, usually of around $13/b compared with un-hedged barrels. We previously discussed the decreasing volume of net long positions by money managers in the August STEO, and the decreasing availability of market participants with long positions corresponds with decreased volume of producer/merchant short positions, which had been above 600,000 contracts on a monthly average basis since January 2021, but have since decreased to about 415,000 contracts as of the August 24 report. Producer/merchant open interest in long positions has also decreased compared with earlier in the year, but the overall reduction in long contract volume has been relatively less, contributing to the shift in the net long contract volume to 25,000 contracts. The August 24 report also showed combined producer/merchant open interest had decreased to 856,000 contracts, its lowest volume so far in 2021.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.16 per gallon (gal) on September 2, down 11 cents/gal from August 2 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 11 cents/gal to settle at 42 cents/gal during the same period. The RBOB–Brent crack spread declined by 14 cents/gal on September 1 when the front-month RBOB contract rolled over to October delivery, which reflects winter grade gasoline that is cheaper for refineries to produce. In August, however, the RBOB–Brent crack spread averaged 55 cents/gal, the highest monthly average crack spread since July 2015.

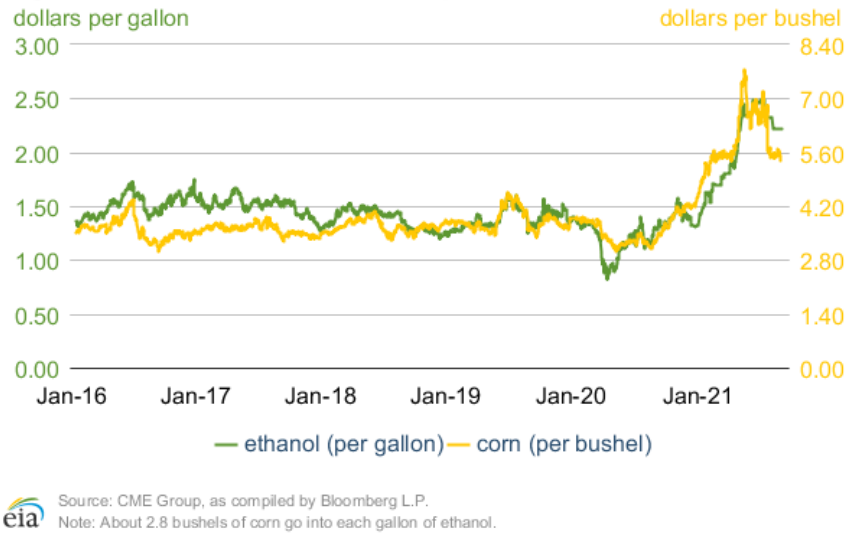


August's high RBOB–Brent crack spread was likely a result of high summer driving demand, low gasoline stocks, refinery disruptions from Hurricane Ida, and relatively high ethanol costs. We estimate U.S. gasoline consumption averaged 9.4 million barrels per day (b/d) in August, which is 0.9 million b/d (10%) higher than in August 2020 but 0.4 million b/d (4%) lower than the August 2019 level. Several months of relatively high gasoline consumption during the summer driving months have combined with low gasoline production to contribute to low gasoline stocks. We estimate gasoline stocks ended August at 225.6 million barrels, the lowest end-of-August level since 2015. Furthermore, refinery disruptions from Hurricane Ida likely supported increased crack spreads at the end of August. The RBOB–Brent crack spread, which was 49 cents/gal on August 24, increased on August 25 and remained around 55 cents/gal through the end of the month. At least nine refineries in Louisiana reduced or shut in operations prior to Hurricane Ida, and we forecast refinery operations in the U.S. Gulf Coast will gradually restart operation over the first half of September. Because of the refinery disruptions, we expect monthly average refinery runs will be about 700,000 b/d lower in September than they would be without the disruptions. Lower refinery runs will likely contribute to continuing declines in gasoline stocks during September and support gasoline crack spreads in the coming weeks.

Recently, record-high prices for renewable identification number (RIN) credits have been another contributing factor to higher-than-average RBOB prices. RINs are the compliance mechanisms used for the Renewable Fuel Standard (RFS) program, which the U.S. Environmental Protection Agency (EPA) administers. For most of the history of RFS, RIN prices have typically been at a level that only minimally affected RBOB prices. In late 2020 and 2021, however, RIN prices have been high in large part because of high biofuel feedstock costs. The higher cost of RFS compliance for gasoline producers and importers as a result of higher RIN prices may pass through to affect RBOB prices. Although RIN prices have decreased from their record highs in August, they still remain high relative to their average levels prior to 2021 and are likely still adding upward pressure to RBOB prices.

Fuel ethanol and corn prices: Corn and ethanol prices have decreased slightly since corn prices peaked at $7.73 per bushel on May 7 and ethanol prices peaked at $2.48/gal in late June. The front-month futures price of corn closed at $5.16 per bushel on September 2, an increase of $1.67 per bushel from September 2, 2020, but $2.57 per bushel lower than the peak price on May 7. The front-month futures price of fuel ethanol settled at $2.22/gal on September 2, 2021, an increase of 86 cents/gal from September 2, 2020, and 6 cents/gal higher than the front-month RBOB contract. The fuel ethanol–corn crush spread (the difference between the price of fuel ethanol and the price of its corn inputs) has been positive since mid-July after a few atypical months of negative spreads **(Figure 6)**.

Figure 6. Corn and fuel ethanol futures prices



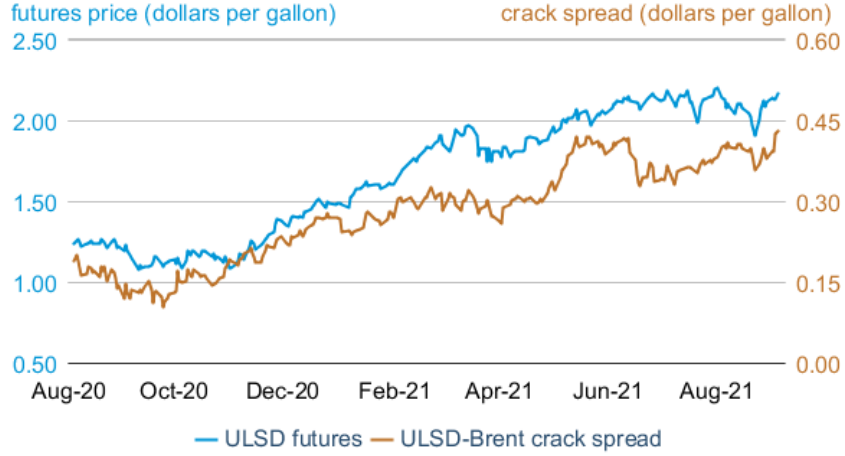
Source: CME Group, as compiled by Bloomberg L.P.
Note: About 2.8 bushels of corn go into each gallon of ethanol.

The decrease in fuel ethanol prices is mostly the result of lower prices for corn, which is the feedstock for fuel ethanol. Corn prices increased in the first half of 2021 because of high demand in China, concerns of low production as a result of cold weather in the Midwest, and a La Niña weather pattern that brought hot and dry weather, which is not ideal for corn production, to major exporters Brazil and Argentina. Corn prices have come down since June because of increased planted acreage of corn and increased production forecasts in the United States as well as uncertain demand in Asia.

Ethanol prices have decreased by less than corn prices because ethanol is primarily used for gasoline blending and therefore ethanol prices are also tied to gasoline demand, which has been relatively high. In addition, the uncertainty concerning RVO levels for 2021 has supported high RIN demand and ethanol prices. The fact that RBOB prices generally increased in July and August, despite lower ethanol prices and lower RIN prices in late August, suggests that gasoline inventory draws in August likely contributed to the crack spread increases seen in the second half of August.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.17/gal on September 2, up 3 cents/gal from August 2 **(Figure 7)**. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 3 cents/gal during the same period, settling at 43 cents/gal.

Figure 7. Historical ULSD front-month futures prices and crack spreads



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

The average ULSD–Brent crack spread increased 3 cents/gal from July to 39 cents/gal in August as a result of higher distillate demand and low production. We estimate that distillate consumption increased by 0.3 million b/d (8%) from July to 4.10 million b/d in August. High freight demand expectations and record congestion at Southern Californian ports suggest that trucking and rail demand will remain high in the upcoming months before winter heating demand provides an additional increase in distillate demand. We forecast distillate demand to exceed 4 million b/d from October 2021 through June 2022.

We also estimate that distillate production in August fell to its lowest level for that month since 2012. Although a reduction in net exports of distillate partly offset the high distillate demand and low distillate production, distillate stocks decreased in August, a month in which distillate stocks typically build.

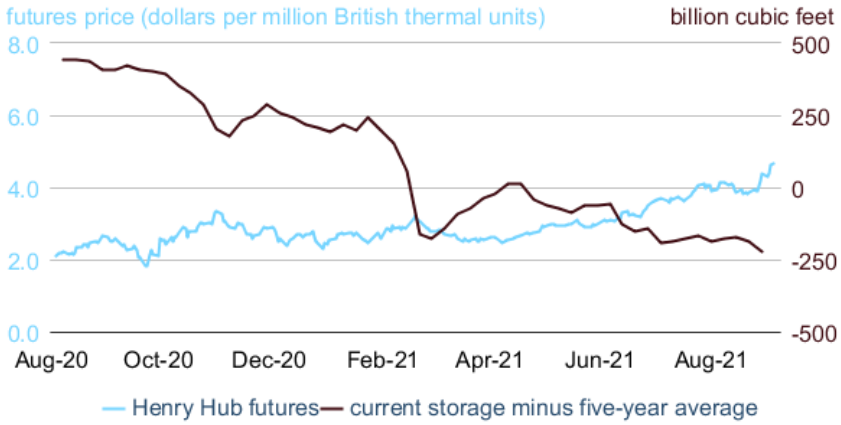
We expect distillate stocks to continue to decrease through November. The forecast decrease partly reflects Hurricane Ida's refinery disruptions on the U.S. Gulf Coast and partly reflects our expectations of high distillate demand during the crop harvesting season. Low inventories and expectations of inventory draws through November are likely supporting current above-average distillate crack spreads.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $4.64 per million British thermal units (MMBtu) on September 2, 2021, which was up 71

cents/MMBtu from August 2, 2021 **(Figure 9)**. The average price for front-month natural gas futures contracts in August was $4.03/MMBtu. August was warmer than normal, with 355 cooling degree days (CDD), 8.6% more than the 2011–2020 average. The United States this summer (June—August) had 3.9% more CDDs than the 2011–20 average. The hot weather this summer combined with record exports of liquefied natural gas (LNG) has contributed to month-on-month increases in the Henry Hub futures price since March 2021, leading to the highest August average since 2010. Further upward price pressures came from the arrival of Hurricane Ida, which resulted in more than 90% of offshore natural gas production in the Federal Offshore Gulf of Mexico being shut in during late August.

Figure 8. U.S. natural gas front-month futures prices and storage deviation from five-year average

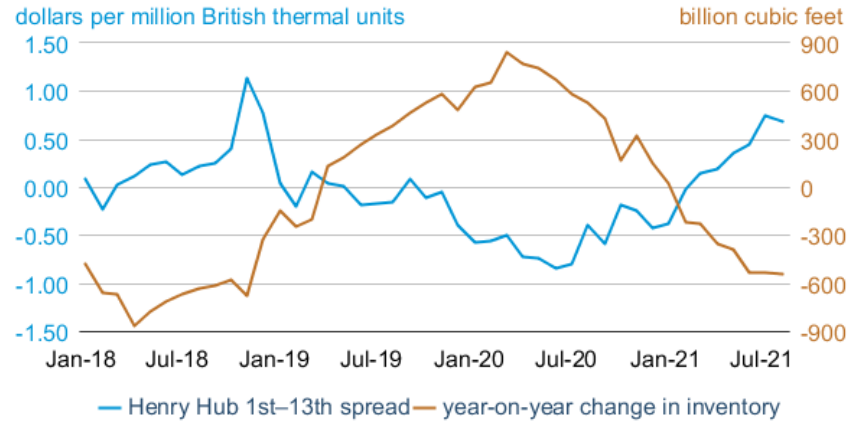


Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

The Henry Hub front-month futures price increased by 47 cents/MMBtu from $3.90/MMBtu on August 25 to $4.37/MMBtu on August 27, as Hurricane Ida approached the U.S. Gulf Coast, leading producers to evacuate personnel from offshore platforms and to shut in production. On August 27, the U.S. Bureau of Safety and Environmental Enforcement (BSEE) began posting daily Gulf of Mexico hurricane impact updates, indicating that from August 27 to August 31, 9.3 billion cubic feet (Bcf), or 1.9 Bcf/d, of natural gas production was shut in. As of September 2, 91.3% of GOM natural gas production remained shut in. Since the arrival of Hurricane Ida, natural gas prices have remained elevated, and they ended August at $4.38/MMBtu.

Futures price spreads: The natural gas 1st–13th trading month price spread averaged 74 cents/MMBtu in July, the most backwardation (where near-term contract prices are higher than longer-dated ones) since December 2018 **(Figure 10)**. In August, the natural gas 1st–13th month price spread averaged 70 cents/MMBtu. Typically, the 1st–13th price spread will increase when natural gas inventories decrease and will decrease when natural gas inventories increase. The August natural gas inventory level was 578 Bcf below last year's August level, its largest year-on-year deficit since November 2018, and 222 Bcf below the 2016–2020 average.

Figure 9. Natural gas 1st–13th futures spread and year-on-year change in inventory

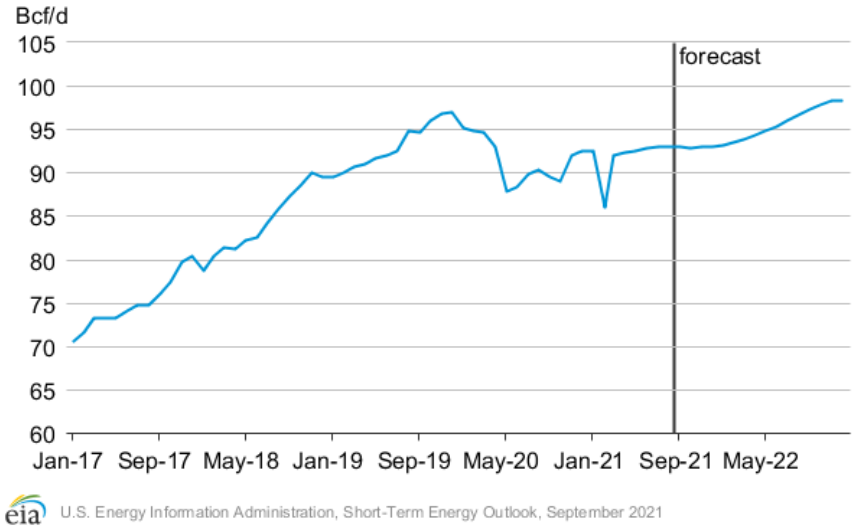


Source: CME Group, as complied by Bloomberg L.P.; U.S. Energy Information Administration
Note: Futures spreads are monthly averages.

Above-average withdrawals of U.S. natural gas from storage during the 2020–2021 winter heating season and below-average injections into storage this summer contributed to our forecast of below-average inventories of natural gas. Relatively flat dry natural gas production and high natural gas exports also contributed to the forecast low inventories. U.S. dry natural gas production and U.S. exports of natural gas (by pipeline and as LNG) were relatively flat from July to August. We expect storage to begin the winter heating season (November 1) at 3,570 Bcf, 182 Bcf below the 2016–2020 average and 359 Bcf below the 2020 level, when natural gas inventories were at near-record highs.

Production: U.S. dry natural gas production has been almost flat this year after its brief decline in February because of severely cold weather in Texas, and we expect production to remain relatively flat for the rest of 2021 **(Figure 11)**. Although production has been increasing, the increase has been relatively small. We expect U.S. dry natural gas production in 2021 to average 92.2 Bcf/d, a 0.8 Bcf/d increase from 2020, compared with an annual average increase of 3.3 Bcf/d from 2011 through 2020. In our forecast, production increases accelerate in 2022, driven by the increase in Henry Hub prices this year. In 2022, we expect production to average 95.4 Bcf/d, an increase of 3.2 Bcf/d from 2021. The increase in production from 2021 to 2022 will put some downward pressure on the Henry Hub price, which we expect to average $3.47/MMBtu next year, a decrease of 16 cents/MMBtu from the average forecast price for 2021.

Figure 10. U.S. dry natural gas production



eia U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

Notable forecast changes

- In the September STEO, we revised our global liquid fuels consumption forecast down by 0.2 million barrels per day in both 2021 and 2022. The decreased consumption reflects a lower GDP forecast as well as expectations of lower consumption because of travel and other restrictions in response to increases in COVID-19 cases.
- We forecast OPEC crude oil production will average 26.4 million b/d in 2021, down 0.1 million b/d from the August STEO, reflecting our expectation that Iran's crude oil production will be lower in the second half of 2021 (2H21) than we previously expected. We expect OPEC to produce 28.3 million b/d in 2022, down 0.3 million b/d compared with the August STEO. The downward revision to supply growth is driven by lower global oil demand growth, and we expect some producers to continue to restrain output to maintain relatively balanced oil markets in 2022.
- We forecast Henry Hub spot prices will average $4.00 per million British thermal unit (MMBtu) in 2H21, an increase of 41 cents/MMBtu from last month's STEO. Forecast prices average $3.47/MMBtu in 2022, an increase of 39 cents from last month's STEO. The increase largely reflects a higher starting point for our price forecast.
- We forecast U.S. coal production to total 648 million short tons (MMst) in 2022, up 47 MMst (8%) from last month's STEO. Higher U.S. coal production in this forecast is the result of a 54 MMst increase in our forecast for electric power sector demand for coal in 2022.

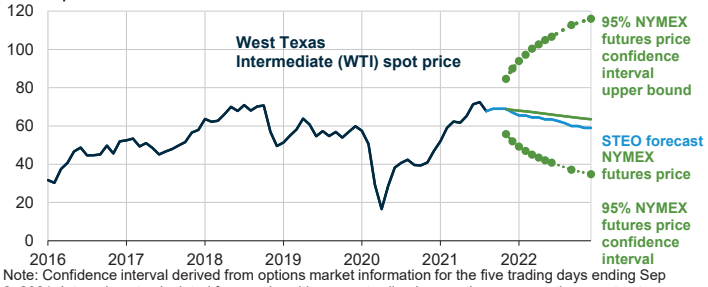
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

September 8, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

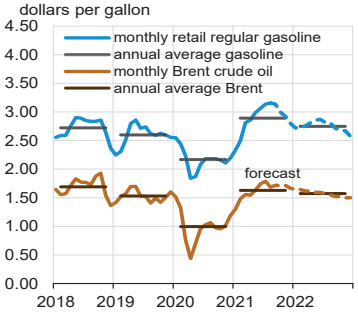


Note: Confidence interval derived from options market information for the five trading days ending Sep 2, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

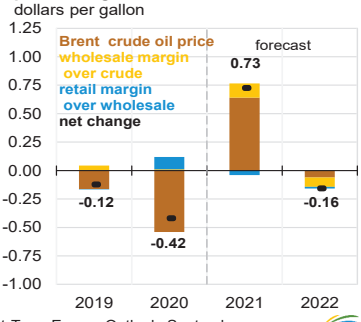
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



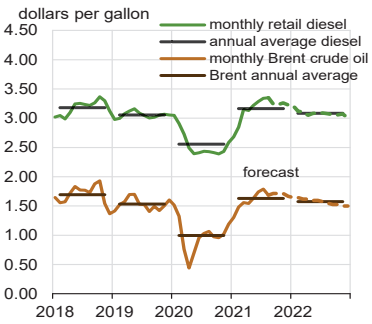
Components of annual gasoline price changes
dollars per gallon



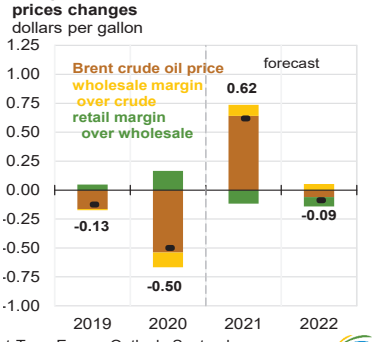
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices



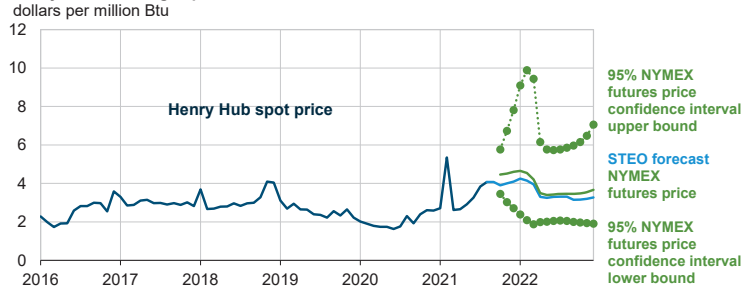
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

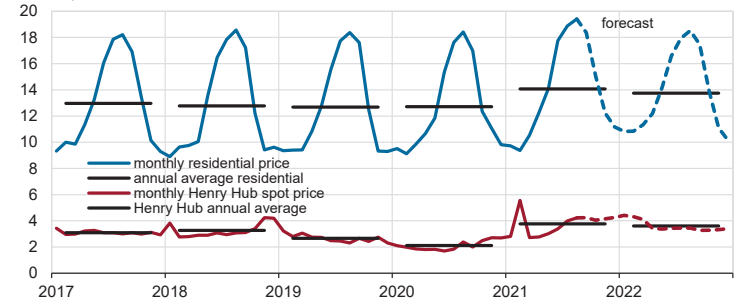


Note: Confidence interval derived from options market information for the five trading days ending Sep 2, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

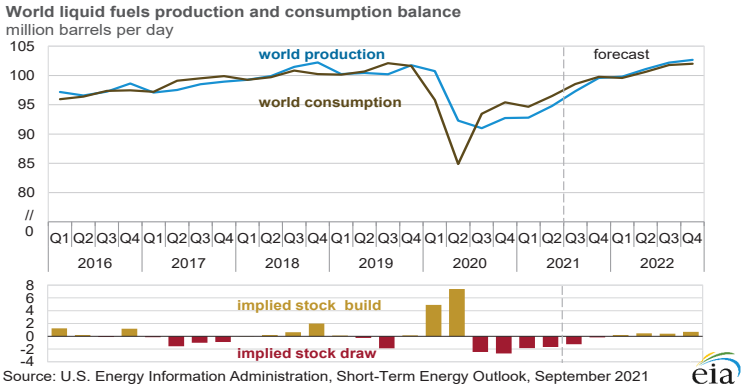
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021, CME Group, and Refinitiv an LSEG Business

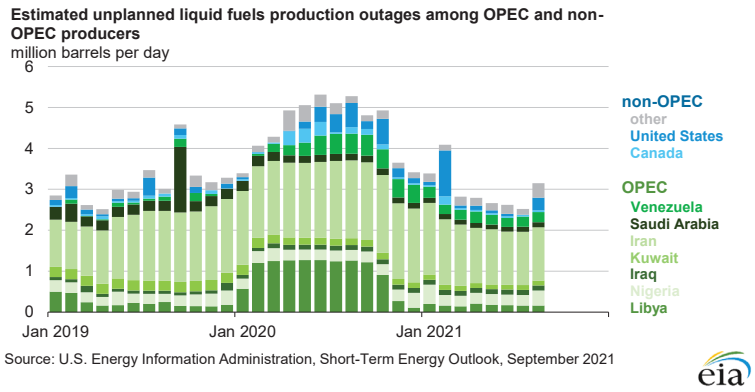
U.S. natural gas prices

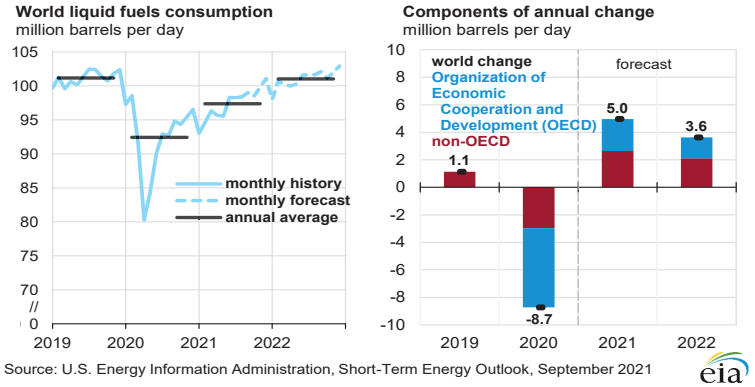
dollars per thousand cubic feet

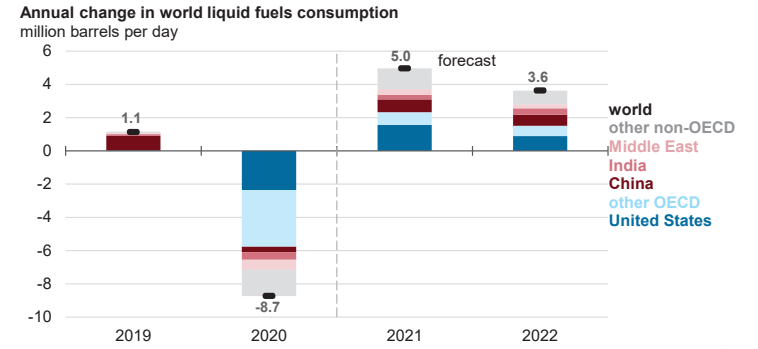


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021, and Refinitiv an LSEG Business

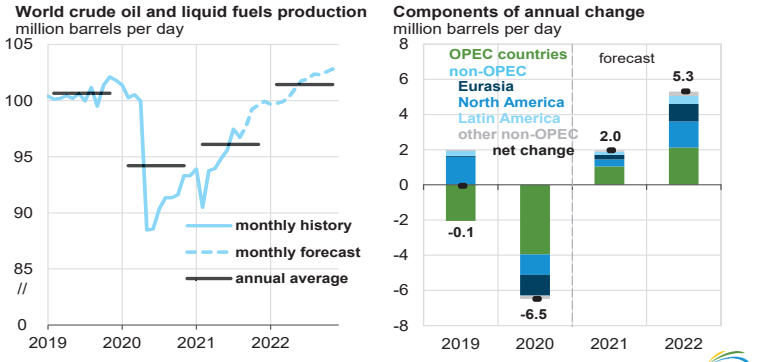

World liquid fuels production and consumption balance
million barrels per day
world production
world consumption
forecast
implied stock build
implied stock draw
Q1 Q2 Q3 Q4
2016
2017
2018
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Jan 2019
Jan 2020
Jan 2021
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021
eia

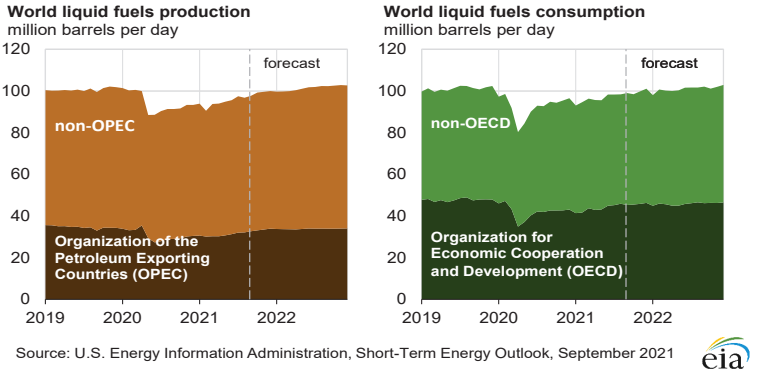

World liquid fuels consumption
million barrels per day
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
forecast
1.1
-8.7
5.0
3.6
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

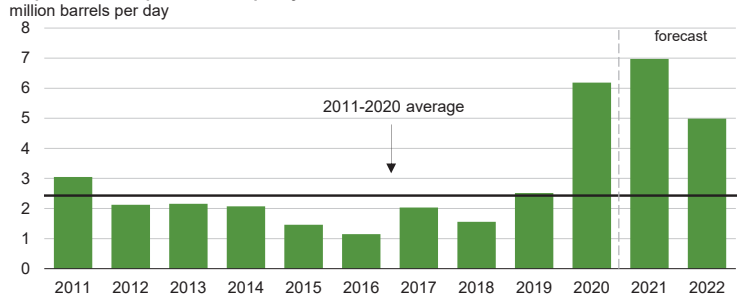


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



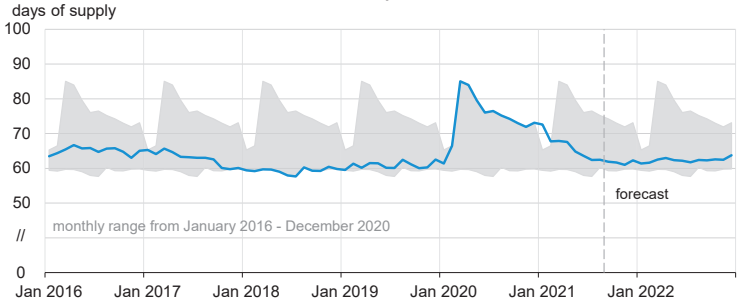
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



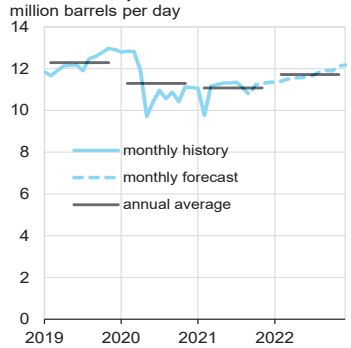
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

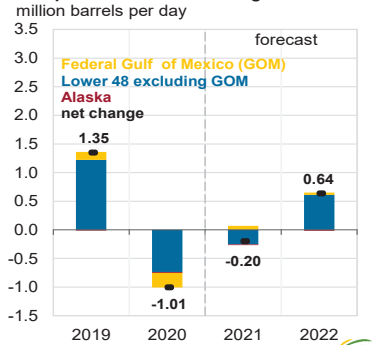


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. crude oil production
million barrels per day

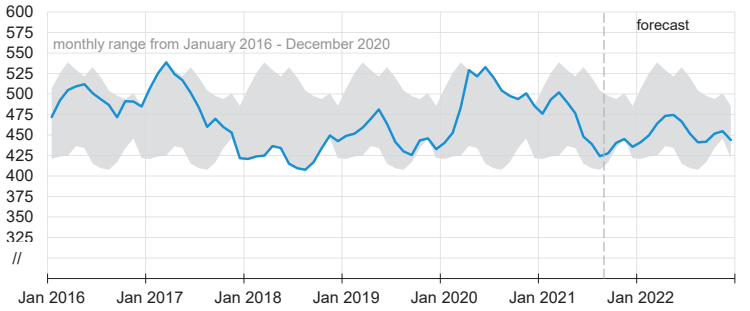


Components of annual change
million barrels per day



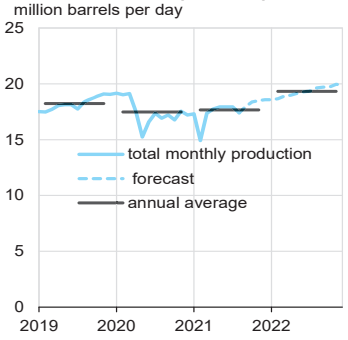
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. commercial crude oil inventories
million barrels

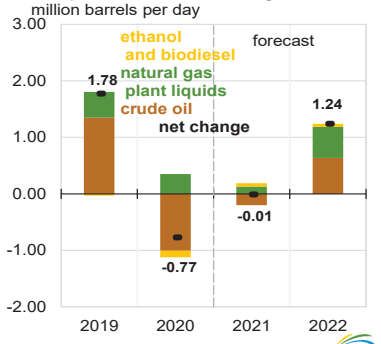


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. crude oil and liquid fuels production
million barrels per day

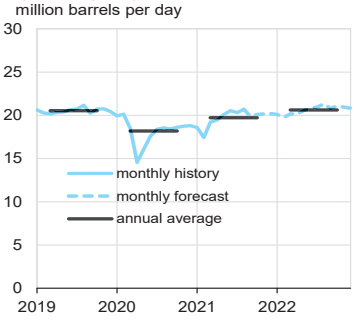


Components of annual change
million barrels per day

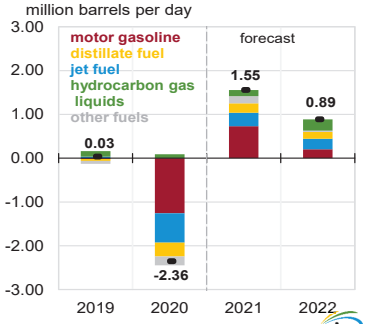


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September

U.S. liquid fuels product supplied (consumption)
million barrels per day

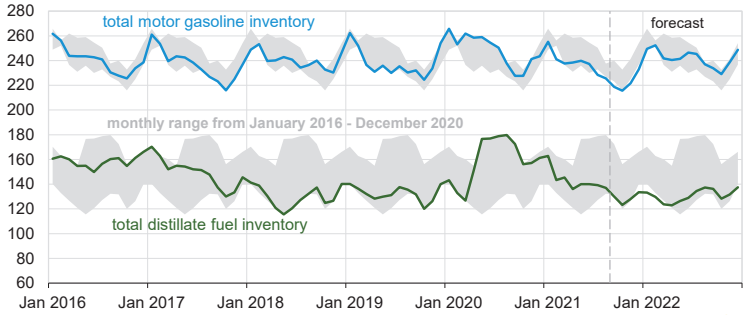


Components of annual change
million barrels per day



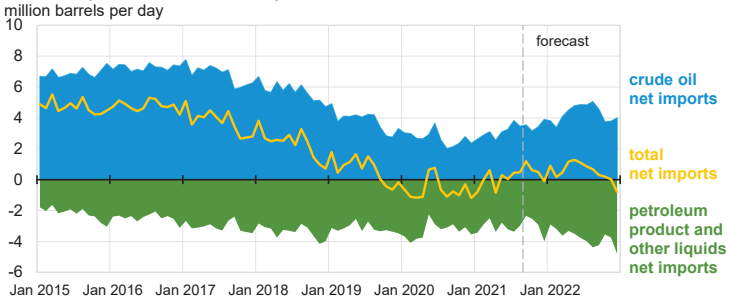
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. gasoline and distillate inventories
million barrels



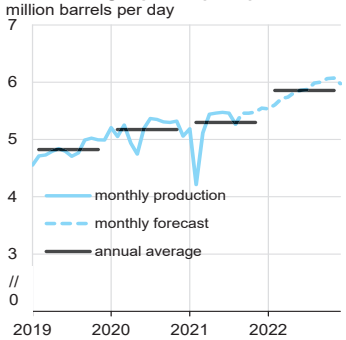
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

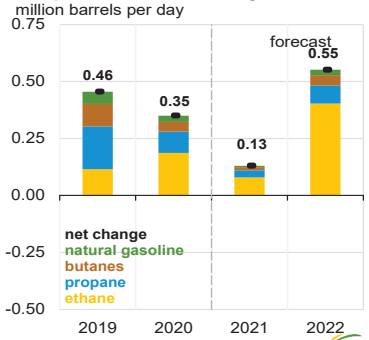


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

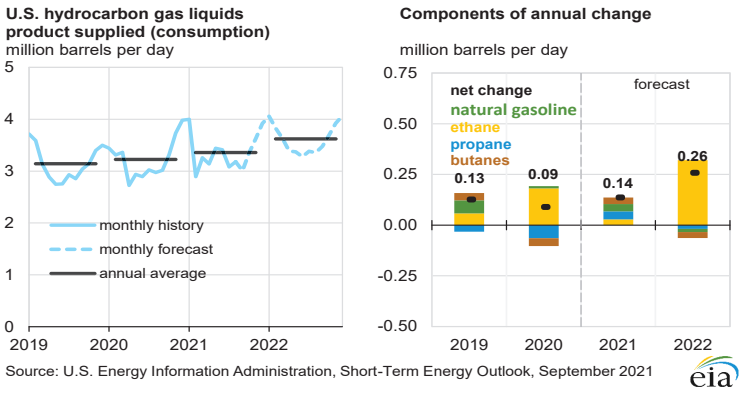
U.S. natural gas plant liquids production
million barrels per day



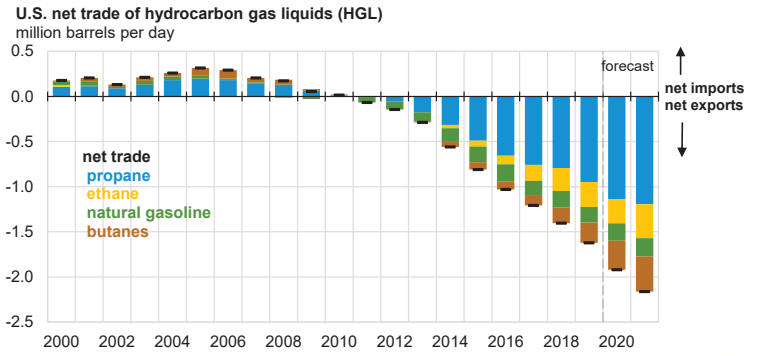
Components of annual change
million barrels per day



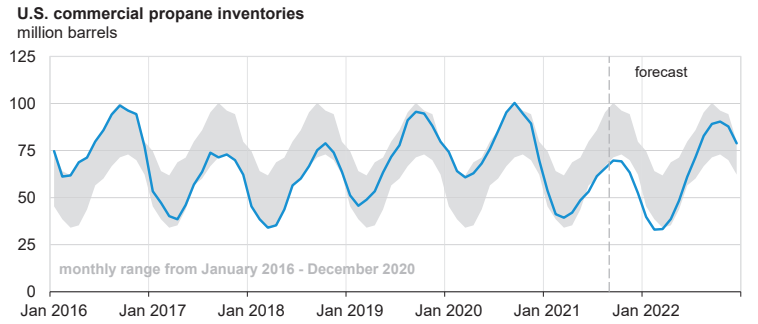
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



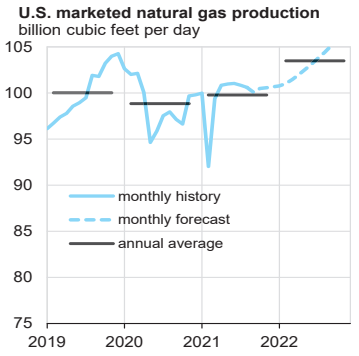
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

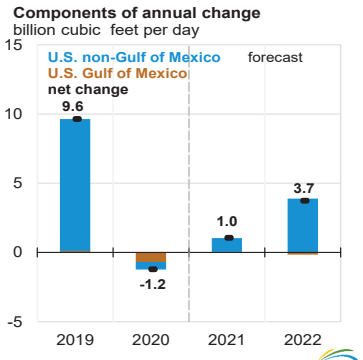


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

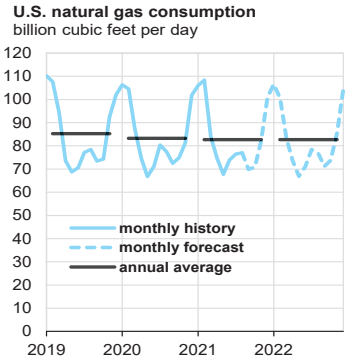


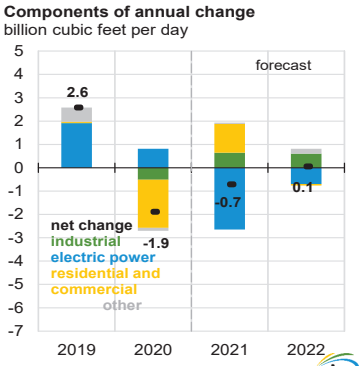
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



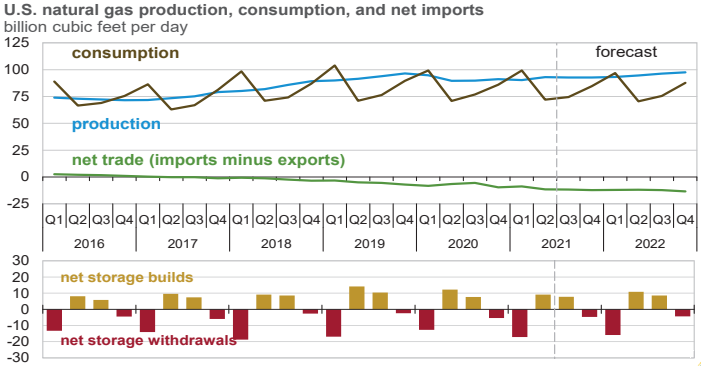


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



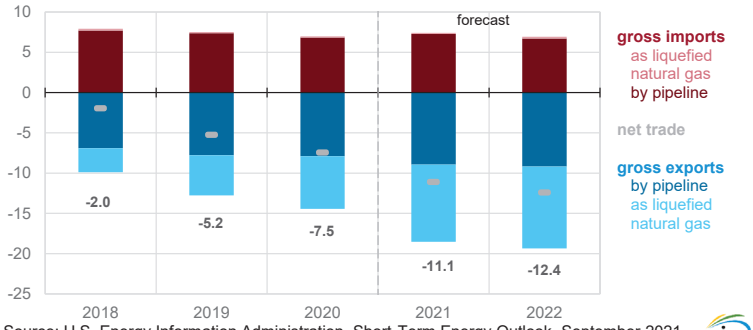


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



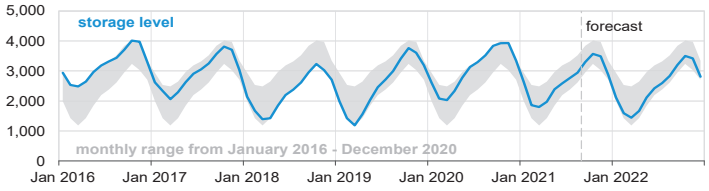
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. annual natural gas trade
billion cubic feet per day

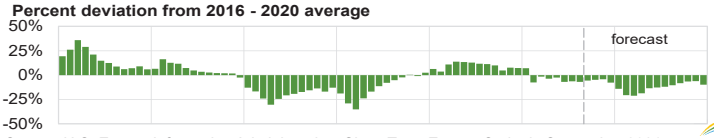


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. working natural gas in storage
billion cubic feet

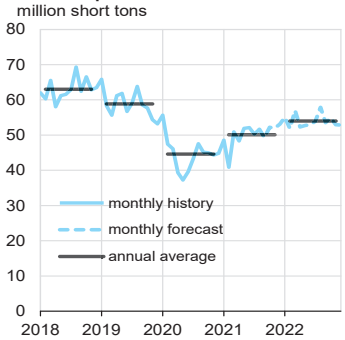


Percent deviation from 2016 - 2020 average

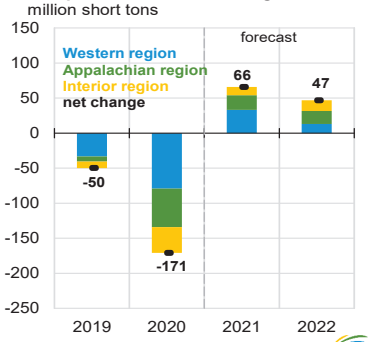


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

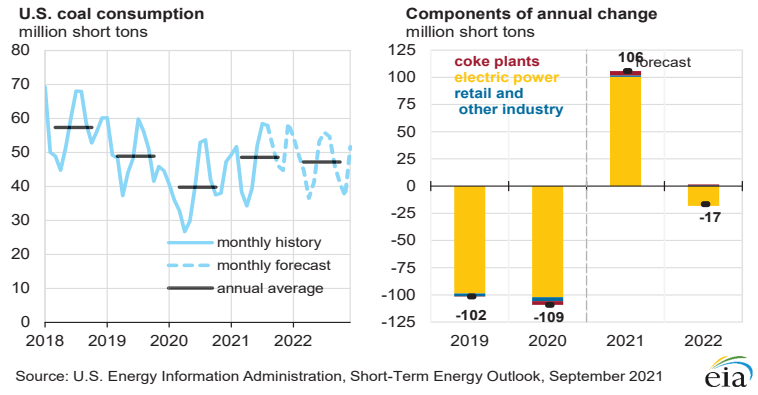
U.S. coal production
million short tons



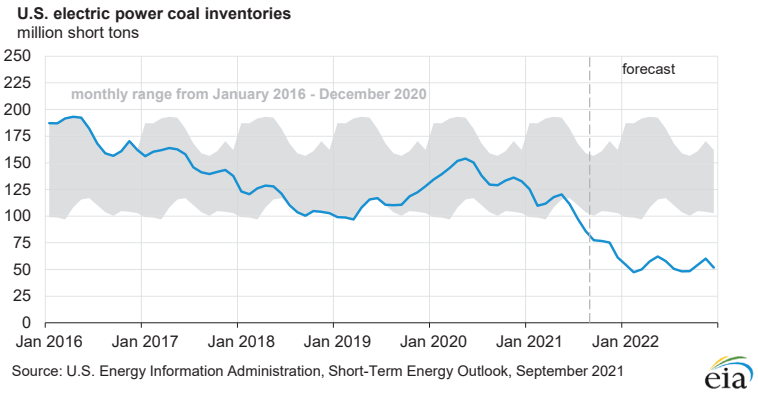
Components of annual change
million short tons



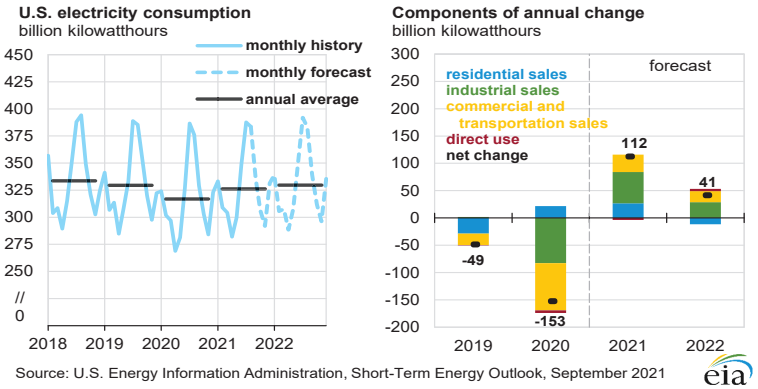
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



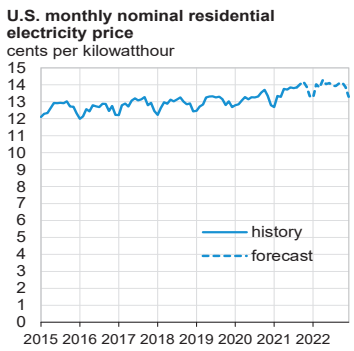
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

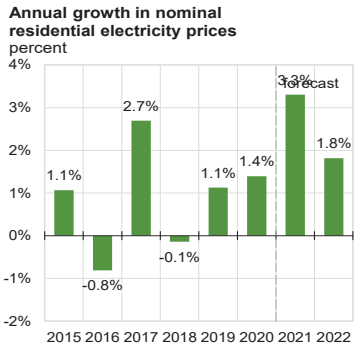


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

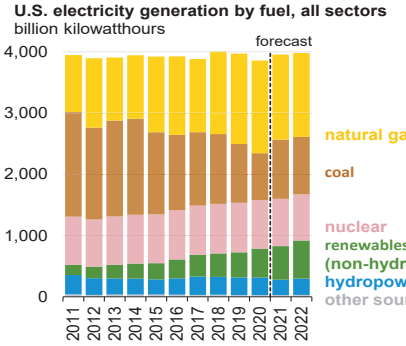


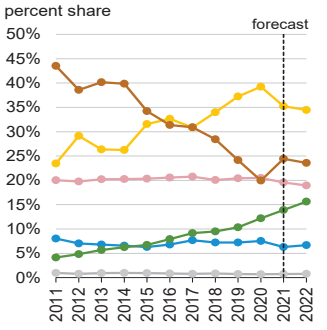
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



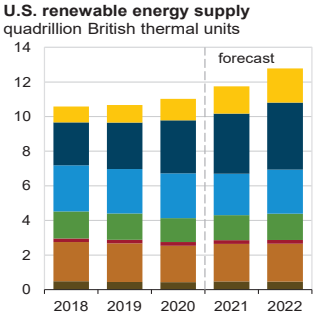


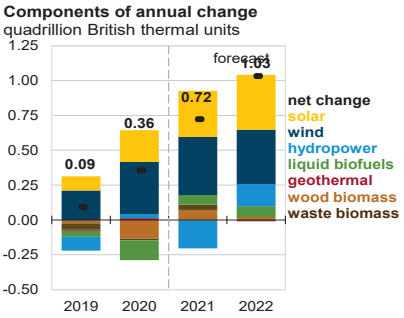
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

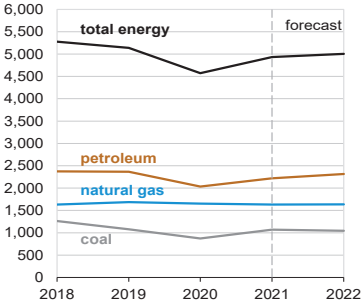




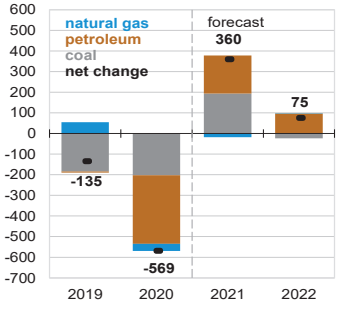
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. annual CO2 emissions by source
million metric tons

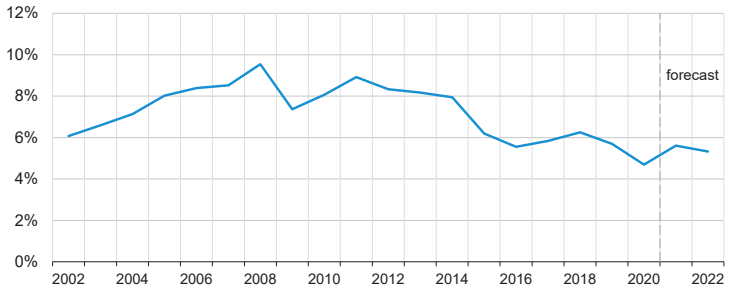


Components of annual change
million metric tons



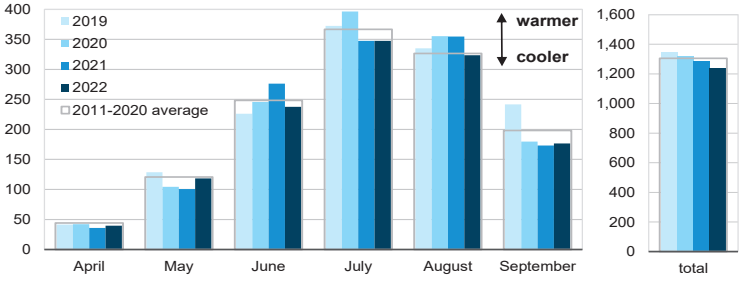
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. annual energy expenditures
share of gross domestic product



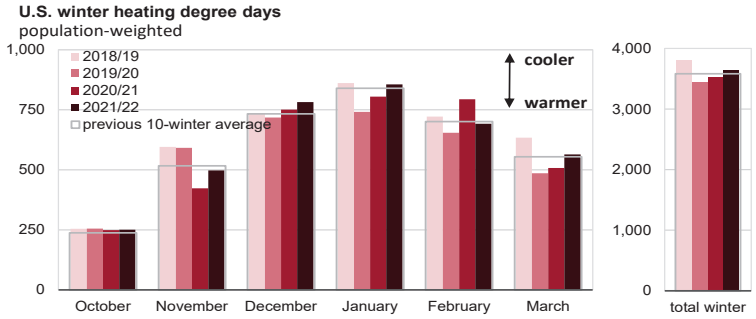
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021

U.S. summer cooling degree days
population-weighted



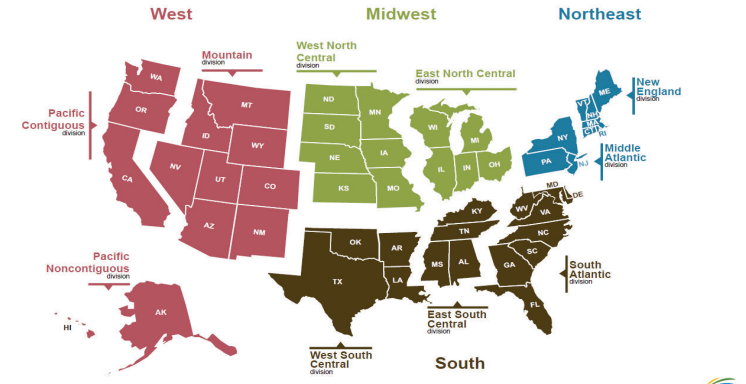
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2021



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	*11.06*	*11.28*	*11.42*	*11.58*	*11.81*	*12.06*	**11.28**	*11.08*	*11.72*
Dry Natural Gas Production															
(billion cubic feet per day)	**94.80**	**89.68**	**89.83**	**91.15**	**90.30**	**93.05**	*92.64*	*92.70*	*93.17*	*94.54*	*96.25*	*97.59*	**91.36**	*92.18*	*95.40*
Coal Production															
(million short tons)	**149**	**116**	**136**	**134**	**140**	**152**	*151*	*157*	*164*	*158*	*165*	*161*	**535**	*601*	*648*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	*20.30*	*20.15*	*20.01*	*20.51*	*21.02*	*20.94*	**18.19**	*19.74*	*20.63*
Natural Gas															
(billion cubic feet per day)	**99.31**	**70.84**	**76.83**	**86.08**	**99.20**	**72.12**	*74.48*	*84.62*	*96.77*	*70.44*	*75.55*	*87.80*	**83.25**	*82.54*	*82.60*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**139**	**126**	*168*	*150*	*149*	*131*	*157*	*130*	**477**	*583*	*566*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	**10.22**	*12.04*	*10.11*	*10.58*	*10.39*	*12.11*	*10.26*	**10.39**	*10.72*	*10.84*
Renewables (c)															
(quadrillion Btu)	**2.92**	**3.00**	**2.83**	**2.91**	**2.95**	**3.17**	*3.11*	*3.20*	*3.34*	*3.51*	*3.31*	*3.33*	**11.66**	*12.43*	*13.49*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.10**	**20.63**	**23.42**	**23.79**	**25.04**	**23.09**	*24.42*	*24.77*	*25.57*	*23.41*	*24.71*	*25.14*	**92.94**	*97.32*	*98.84*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	*69.75*	*68.29*	*65.13*	*63.82*	*61.32*	*59.33*	**39.17**	*65.69*	*62.37*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	*4.00*	*4.00*	*4.12*	*3.28*	*3.26*	*3.21*	**2.03**	*3.63*	*3.47*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	*1.98*	*1.99*	*2.02*	*2.02*	*1.99*	*1.96*	**1.92**	*1.95*	*2.00*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,358**	*19,643*	*19,914*	*20,149*	*20,290*	*20,417*	*20,533*	**18,385**	*19,493*	*20,347*
Percent change from prior year	**0.6**	**-9.1**	**-2.9**	**-2.3**	**0.5**	**12.2**	*5.8*	*6.1*	*5.7*	*4.8*	*3.9*	*3.1*	**-3.4**	*6.0*	*4.4*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	*118.7*	*119.6*	*120.1*	*120.6*	*121.0*	*121.6*	**113.7**	*117.9*	*120.8*
Percent change from prior year	**1.7**	**0.7**	**1.3**	**1.5**	**2.1**	**4.0**	*4.2*	*4.3*	*3.7*	*2.6*	*1.9*	*1.7*	**1.3**	*3.7*	*2.5*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,301**	**15,797**	*15,514*	*15,394*	*15,418*	*15,561*	*15,694*	*15,766*	**15,677**	*16,002*	*15,610*
Percent change from prior year	**1.6**	**12.5**	**6.9**	**4.0**	**15.6**	**-4.4**	*-1.7*	*-0.3*	*-10.9*	*-1.5*	*1.2*	*2.4*	**6.2**	*2.1*	*-2.4*
Manufacturing Production Index															
(Index, 2017=100)	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.6**	*100.4*	*101.7*	*103.4*	*104.5*	*105.2*	*105.9*	**93.2**	*99.5*	*104.7*
Percent change from prior year	**-2.7**	**-15.3**	**-5.2**	**-2.4**	**-0.3**	**17.1**	*6.6*	*5.2*	*6.2*	*5.9*	*4.8*	*4.1*	**-6.4**	*6.8*	*5.2*
Weather															
U.S. Heating Degree-Days	**1,881**	**544**	**71**	**1,422**	**2,107**	**473**	*68*	*1,530*	*2,113*	*488*	*77*	*1,525*	**3,918**	*4,178*	*4,202*
U.S. Cooling Degree-Days	**69**	**392**	**931**	**120**	**49**	**413**	*875*	*92*	*45*	*396*	*848*	*96*	**1,513**	*1,429*	*1,384*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109;
Petroleum Supply Annual , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130;
Electric Power Monthly , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	*69.75*	*68.29*	*65.13*	*63.82*	*61.32*	*59.33*	**39.17**	*65.69*	*62.37*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	**68.91**	*72.67*	*71.29*	*68.63*	*67.32*	*64.98*	*63.33*	**41.69**	*68.61*	*66.04*
U.S. Imported Average	**43.75**	**26.24**	**39.87**	**40.69**	**55.27**	**64.74**	*67.84*	*66.25*	*62.88*	*61.56*	*58.88*	*56.83*	**37.22**	*63.95*	*60.02*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.76**	**40.79**	**42.09**	**57.12**	**66.06**	*68.78*	*67.29*	*63.90*	*62.57*	*59.86*	*57.83*	**39.73**	*65.05*	*60.96*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	**217**	*230*	*207*	*197*	*204*	*198*	*182*	**133**	*210*	*195*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	**204**	*211*	*214*	*206*	*205*	*201*	*196*	**129**	*203*	*202*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	**180**	*195*	*208*	*203*	*195*	*190*	*188*	**125**	*192*	*197*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	**182**	*192*	*200*	*202*	*202*	*198*	*195*	**131**	*186*	*199*
No. 6 Residual Fuel Oil (a)	**177**	**93**	**116**	**119**	**162**	**181**	*168*	*161*	*152*	*151*	*144*	*138*	**126**	*168*	*146*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	**297**	*314*	*291*	*273*	*285*	*278*	*264*	**218**	*291*	*275*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	**306**	*324*	*303*	*286*	*298*	*292*	*278*	**227**	*301*	*289*
On-highway Diesel Fuel	**289**	**243**	**243**	**247**	**290**	**321**	*331*	*324*	*315*	*307*	*307*	*304*	**256**	*317*	*308*
Heating Oil	**280**	**200**	**214**	**230**	**272**	**283**	*302*	*332*	*326*	*303*	*285*	*284*	**244**	*296*	*304*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	*4.15*	*4.16*	*4.28*	*3.41*	*3.38*	*3.34*	**2.11**	*3.77*	*3.60*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	*4.00*	*4.00*	*4.12*	*3.28*	*3.26*	*3.21*	**2.03**	*3.63*	*3.47*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.52**	**2.85**	**2.88**	**3.77**	**5.72**	**4.06**	*4.91*	*5.38*	*5.69*	*4.60*	*4.33*	*4.52*	**3.29**	*5.05*	*4.81*
Commercial Sector	**7.13**	**7.63**	**8.49**	**7.53**	**7.55**	**8.84**	*9.66*	*8.88*	*8.73*	*9.03*	*9.13*	*8.03*	**7.48**	*8.39*	*8.61*
Residential Sector	**9.46**	**11.89**	**17.65**	**10.60**	**9.79**	**13.87**	*18.86*	*12.09*	*10.97*	*13.59*	*17.94*	*11.01*	**10.83**	*11.73*	*11.85*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	*1.98*	*1.99*	*2.02*	*2.02*	*1.99*	*1.96*	**1.92**	*1.95*	*2.00*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.27**	*4.16*	*4.42*	*4.76*	*3.53*	*3.42*	*3.56*	**2.39**	*4.69*	*3.75*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**12.99**	*13.03*	*13.01*	*13.03*	*13.33*	*12.32*	*11.90*	**9.15**	*12.72*	*12.70*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.40**	*15.85*	*16.52*	*16.15*	*16.07*	*15.16*	*15.17*	**10.73**	*14.93*	*15.59*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	*7.26*	*6.58*	*6.96*	*6.84*	*7.16*	*6.57*	**6.66**	*6.97*	*6.89*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	*11.52*	*11.09*	*11.41*	*11.21*	*11.44*	*10.96*	**10.65**	*11.21*	*11.26*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	*13.89*	*13.76*	*13.68*	*14.14*	*13.97*	*13.73*	**13.20**	*13.63*	*13.88*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**33.05**	**29.27**	**29.95**	**30.66**	**30.18**	**30.89**	*31.22*	*31.90*	*32.17*	*32.45*	*32.79*	*33.37*	**30.73**	*31.05*	*32.70*
U.S. (50 States)	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	*18.76*	*19.12*	*19.38*	*19.81*	*20.26*	*20.58*	**18.58**	*18.64*	*20.01*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.41**	*5.64*	*5.81*	*5.84*	*5.81*	*5.83*	*5.86*	**5.26**	*5.62*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	*1.86*	*1.90*	*1.88*	*1.84*	*1.81*	*1.77*	**1.94**	*1.91*	*1.82*
Other OECD	**5.08**	**4.99**	**4.81**	**4.93**	**5.00**	**4.48**	*4.96*	*5.07*	*5.08*	*5.00*	*4.89*	*5.16*	**4.95**	*4.88*	*5.03*
Non-OECD	**67.69**	**63.02**	**61.06**	**62.08**	**62.61**	**63.90**	*66.08*	*67.70*	*67.62*	*68.63*	*69.41*	*69.32*	**63.45**	*65.09*	*68.75*
OPEC	**33.50**	**30.72**	**28.65**	**30.00**	**30.37**	**30.78**	*32.30*	*33.53*	*33.71*	*33.80*	*33.97*	*34.01*	**30.71**	*31.76*	*33.87*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.51**	*26.94*	*28.10*	*28.12*	*28.34*	*28.45*	*28.45*	**25.60**	*26.42*	*28.34*
Other Liquids (b)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	*5.36*	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Eurasia	**14.72**	**13.16**	**12.70**	**13.12**	**13.38**	**13.62**	*13.59*	*14.19*	*14.46*	*14.66*	*14.77*	*14.97*	**13.42**	*13.70*	*14.72*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	**5.09**	*5.04*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.06*	*5.08*
Other Non-OECD	**14.51**	**14.22**	**14.75**	**14.06**	**13.82**	**14.42**	*15.15*	*14.91*	*14.40*	*15.08*	*15.59*	*15.21*	**14.39**	*14.58*	*15.07*
Total World Supply	**100.74**	**92.30**	**91.01**	**92.74**	**92.80**	**94.80**	*97.30*	*99.60*	*99.79*	*101.08*	*102.20*	*102.68*	**94.18**	*96.14*	*101.45*
Non-OPEC Supply	**67.24**	**61.57**	**62.36**	**62.74**	**62.43**	**64.02**	*64.99*	*66.06*	*66.07*	*67.28*	*68.23*	*68.68*	**63.47**	*64.39*	*67.57*
Consumption (million barrels per day) (c)															
OECD	**45.50**	**37.45**	**42.27**	**42.84**	**42.30**	**43.68**	*45.48*	*45.89*	*45.51*	*45.25*	*46.30*	*46.36*	**42.02**	*44.35*	*45.86*
U.S. (50 States)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	*20.30*	*20.15*	*20.01*	*20.51*	*21.02*	*20.94*	**18.19**	*19.74*	*20.63*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	**0.18**	*0.18*	*0.19*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.09**	*2.29*	*2.31*	*2.27*	*2.22*	*2.32*	*2.31*	**2.19**	*2.20*	*2.28*
Europe	**13.34**	**11.01**	**12.88**	**12.51**	**11.90**	**12.51**	*13.73*	*13.55*	*13.14*	*13.27*	*13.59*	*13.26*	**12.43**	*12.93*	*13.31*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.01**	*2.99*	*3.38*	*3.63*	*2.96*	*3.04*	*3.35*	**3.33**	*3.27*	*3.24*
Other OECD	**6.30**	**5.34**	**5.47**	**5.77**	**5.89**	**5.86**	*5.98*	*6.30*	*6.25*	*6.10*	*6.14*	*6.31*	**5.72**	*6.01*	*6.20*
Non-OECD	**50.33**	**47.44**	**51.21**	**52.59**	**52.37**	**52.81**	*53.07*	*53.88*	*54.08*	*55.37*	*55.49*	*55.64*	**50.40**	*53.04*	*55.15*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	**5.01**	*5.41*	*5.25*	*5.04*	*5.12*	*5.51*	*5.37*	**4.95**	*5.15*	*5.26*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.73**	**0.73**	*0.74*	*0.75*	*0.74*	*0.74*	*0.74*	*0.75*	**0.71**	*0.74*	*0.74*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.26**	**15.46**	*14.77*	*15.30*	*15.75*	*16.01*	*15.71*	*15.99*	**14.43**	*15.20*	*15.86*
Other Asia	**13.35**	**11.63**	**12.59**	**13.61**	**13.78**	**13.35**	*13.21*	*13.89*	*14.30*	*14.51*	*14.10*	*14.53*	**12.80**	*13.56*	*14.36*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.67**	**18.26**	*18.94*	*18.69*	*18.24*	*19.00*	*19.42*	*19.00*	**17.51**	*18.39*	*18.92*
Total World Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.66**	**96.49**	*98.55*	*99.77*	*99.59*	*100.62*	*101.79*	*102.00*	**92.42**	*97.38*	*101.01*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.49**	**-1.67**	**0.53**	**0.91**	**0.47**	**0.51**	*0.33*	*0.54*	*-0.11*	*-0.69*	*-0.08*	*0.40*	**-0.18**	*0.46*	*-0.12*
Other OECD	**-0.51**	**-1.16**	**0.04**	**0.69**	**0.76**	**0.10**	*0.30*	*-0.12*	*-0.03*	*0.07*	*-0.10*	*-0.34*	**-0.23**	*0.26*	*-0.10*
Other Stock Draws and Balance	**-3.91**	**-4.57**	**1.90**	**1.09**	**0.64**	**1.08**	*0.62*	*-0.25*	*-0.06*	*0.16*	*-0.23*	*-0.74*	**-1.36**	*0.52*	*-0.22*
Total Stock Draw	**-4.91**	**-7.40**	**2.46**	**2.69**	**1.87**	**1.69**	*1.25*	*0.17*	*-0.20*	*-0.46*	*-0.41*	*-0.68*	**-1.76**	*1.24*	*-0.44*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,327**	**1,458**	**1,423**	**1,343**	**1,302**	**1,271**	*1,241*	*1,211*	*1,221*	*1,284*	*1,291*	*1,265*	**1,343**	*1,211*	*1,265*
OECD Commercial Inventory	**2,970**	**3,206**	**3,168**	**3,025**	**2,916**	**2,876**	*2,818*	*2,800*	*2,812*	*2,869*	*2,885*	*2,890*	**3,025**	*2,800*	*2,890*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.97**	**24.28**	**25.14**	**25.73**	**25.18**	**26.41**	*26.25*	*26.83*	*27.09*	*27.46*	*27.90*	*28.20*	**25.78**	*26.17*	*27.67*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.41**	*5.64*	*5.81*	*5.84*	*5.81*	*5.83*	*5.86*	**5.26**	*5.62*	*5.83*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	*1.86*	*1.90*	*1.88*	*1.84*	*1.81*	*1.77*	**1.94**	*1.91*	*1.82*
United States	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	*18.76*	*19.12*	*19.38*	*19.81*	*20.26*	*20.58*	**18.58**	*18.64*	*20.01*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.61**	**6.26**	*6.93*	*6.62*	*6.10*	*6.82*	*7.36*	*7.01*	**6.15**	*6.36*	*6.83*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.63**	**0.67**	*0.70*	*0.69*	*0.71*	*0.72*	*0.75*	*0.73*	**0.64**	*0.67*	*0.73*
Brazil	**3.44**	**3.89**	**4.29**	**3.52**	**3.23**	**3.90**	*4.46*	*4.14*	*3.53*	*4.36*	*4.75*	*4.28*	**3.79**	*3.94*	*4.23*
Colombia	**0.90**	**0.78**	**0.77**	**0.79**	**0.77**	**0.74**	*0.77*	*0.78*	*0.84*	*0.72*	*0.74*	*0.78*	**0.81**	*0.77*	*0.77*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	**0.50**	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.51*	*0.53*
Other Central and S. America	**0.45**	**0.42**	**0.41**	**0.45**	**0.47**	**0.45**	*0.49*	*0.49*	*0.49*	*0.50*	*0.59*	*0.69*	**0.43**	*0.47*	*0.57*
Europe	**4.44**	**4.35**	**4.16**	**4.30**	**4.38**	**3.91**	*4.34*	*4.44*	*4.45*	*4.36*	*4.25*	*4.53*	**4.31**	*4.27*	*4.40*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	**1.90**	*2.07*	*2.18*	*2.19*	*2.13*	*2.13*	*2.29*	**2.01**	*2.07*	*2.18*
United Kingdom	**1.17**	**1.16**	**0.99**	**1.06**	**1.07**	**0.82**	*1.05*	*1.04*	*1.05*	*1.03*	*0.93*	*1.03*	**1.10**	*1.00*	*1.01*
Eurasia	**14.72**	**13.16**	**12.70**	**13.12**	**13.38**	**13.62**	*13.59*	*14.19*	*14.46*	*14.66*	*14.77*	*14.97*	**13.42**	*13.70*	*14.72*
Azerbaijan	**0.76**	**0.69**	**0.66**	**0.69**	**0.74**	**0.69**	*0.73*	*0.78*	*0.81*	*0.80*	*0.78*	*0.81*	**0.70**	*0.74*	*0.80*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	**1.86**	*1.73*	*1.92*	*1.98*	*1.98*	*1.93*	*2.00*	**1.86**	*1.84*	*1.97*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	**10.72**	*10.79*	*11.12*	*11.30*	*11.51*	*11.69*	*11.80*	**10.50**	*10.77*	*11.57*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	**0.24**	*0.24*	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.11**	**0.11**	**0.11**	**0.11**	**0.10**	**0.10**	*0.11*	*0.13*	*0.14*	*0.14*	*0.14*	*0.14*	**0.11**	*0.11*	*0.14*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.15**	**3.18**	*3.19*	*3.22*	*3.26*	*3.26*	*3.26*	*3.25*	**3.13**	*3.18*	*3.26*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	**0.97**	*0.99*	*1.02*	*1.03*	*1.03*	*1.03*	*1.03*	**0.96**	*0.98*	*1.03*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.89**	**1.91**	*1.92*	*1.92*	*1.94*	*1.94*	*1.94*	*1.94*	**1.87**	*1.91*	*1.94*
Asia and Oceania	**9.45**	**9.17**	**9.21**	**9.17**	**9.32**	**9.26**	*9.28*	*9.33*	*9.31*	*9.32*	*9.30*	*9.31*	**9.25**	*9.30*	*9.31*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.47**	**0.42**	*0.49*	*0.48*	*0.48*	*0.48*	*0.48*	*0.48*	**0.49**	*0.47*	*0.48*
China	**4.96**	**4.91**	**4.95**	**4.90**	**5.05**	**5.09**	*5.04*	*5.06*	*5.05*	*5.08*	*5.08*	*5.13*	**4.93**	*5.06*	*5.08*
India	**0.96**	**0.90**	**0.92**	**0.92**	**0.92**	**0.92**	*0.93*	*0.93*	*0.93*	*0.91*	*0.91*	*0.91*	**0.92**	*0.93*	*0.91*
Indonesia	**0.92**	**0.90**	**0.88**	**0.89**	**0.88**	**0.86**	*0.88*	*0.87*	*0.87*	*0.86*	*0.85*	*0.84*	**0.90**	*0.87*	*0.85*
Malaysia	**0.73**	**0.62**	**0.64**	**0.65**	**0.66**	**0.63**	*0.60*	*0.63*	*0.63*	*0.62*	*0.61*	*0.61*	**0.66**	*0.63*	*0.62*
Vietnam	**0.23**	**0.22**	**0.21**	**0.21**	**0.21**	**0.21**	*0.21*	*0.21*	*0.20*	*0.20*	*0.20*	*0.19*	**0.22**	*0.21*	*0.20*
Africa	**1.48**	**1.44**	**1.42**	**1.40**	**1.40**	**1.39**	*1.40*	*1.43*	*1.40*	*1.40*	*1.39*	*1.39*	**1.43**	*1.41*	*1.39*
Egypt	**0.62**	**0.61**	**0.60**	**0.58**	**0.58**	**0.60**	*0.64*	*0.64*	*0.61*	*0.61*	*0.61*	*0.61*	**0.60**	*0.61*	*0.61*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	**0.16**	*0.16*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.16*	*0.18*
Total non-OPEC liquids	**67.24**	**61.57**	**62.36**	**62.74**	**62.43**	**64.02**	*64.99*	*66.06*	*66.07*	*67.28*	*68.23*	*68.68*	**63.47**	*64.39*	*67.57*
OPEC non-crude liquids	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	*5.36*	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Non-OPEC + OPEC non-crude	**72.46**	**66.65**	**67.38**	**67.86**	**67.71**	**69.29**	*70.36*	*71.50*	*71.66*	*72.75*	*73.75*	*74.23*	**68.58**	*69.73*	*73.11*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.55**	**0.68**	**0.32**	-	-	-	-	-	-	**0.59**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	**0.88**	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	**1.08**	-	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	**0.27**	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	**0.12**	-	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	**0.17**	-	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	**2.47**	-	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	**3.98**	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	**2.36**	-	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	**1.16**	-	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	**1.32**	-	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	**8.53**	-	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	**2.65**	-	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	**0.53**	-	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.51**	*26.94*	*28.10*	*28.12*	*28.34*	*28.45*	*28.45*	**25.60**	*26.42*	*28.34*
Other Liquids (a)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	*5.36*	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Total OPEC Supply	**33.50**	**30.72**	**28.65**	**30.00**	**30.37**	**30.78**	*32.30*	*33.53*	*33.71*	*33.80*	*33.97*	*34.01*	**30.71**	*31.76*	*33.87*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	**26.85**	*26.91*	*27.18*	*27.38*	*27.39*	*27.39*	*27.39*	**25.98**	*26.88*	*27.39*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	**6.71**	*6.66*	*5.99*	*5.92*	*5.94*	*5.95*	*5.95*	**5.81**	*6.52*	*5.94*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	**33.56**	*33.57*	*33.17*	*33.31*	*33.32*	*33.34*	*33.35*	**31.79**	*33.39*	*33.33*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	**6.87**	*5.58*	*4.99*	*5.11*	*4.92*	*4.82*	*4.82*	**5.49**	*6.10*	*4.92*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.19**	**1.18**	*1.05*	*0.08*	*0.07*	*0.07*	*0.07*	*0.07*	**0.70**	*0.87*	*0.07*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.19**	**8.06**	*6.63*	*5.07*	*5.18*	*4.99*	*4.89*	*4.90*	**6.19**	*6.98*	*4.99*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	**2.38**	-	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.77**	**19.44**	**22.21**	**22.44**	**22.20**	**23.84**	*24.48*	*24.37*	*24.12*	*24.59*	*25.19*	*25.10*	**21.97**	*23.73*	*24.75*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.09**	*2.29*	*2.31*	*2.27*	*2.22*	*2.32*	*2.31*	**2.19**	*2.20*	*2.28*
Mexico	**1.85**	**1.40**	**1.50**	**1.58**	**1.62**	**1.71**	*1.88*	*1.90*	*1.82*	*1.84*	*1.83*	*1.84*	**1.58**	*1.78*	*1.84*
United States	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	*20.30*	*20.15*	*20.01*	*20.51*	*21.02*	*20.94*	**18.19**	*19.74*	*20.63*
Central and South America	**6.13**	**5.60**	**6.03**	**6.31**	**6.18**	**6.30**	*6.56*	*6.60*	*6.40*	*6.56*	*6.70*	*6.71*	**6.02**	*6.41*	*6.59*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.97**	**3.08**	*3.22*	*3.23*	*3.06*	*3.14*	*3.25*	*3.25*	**2.90**	*3.13*	*3.18*
Europe	**14.04**	**11.70**	**13.59**	**13.23**	**12.63**	**13.24**	*14.47*	*14.30*	*13.88*	*14.01*	*14.33*	*14.01*	**13.14**	*13.67*	*14.06*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.92**	**5.01**	*5.41*	*5.25*	*5.04*	*5.12*	*5.51*	*5.37*	**4.95**	*5.15*	*5.26*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.71**	**3.82**	*4.15*	*3.99*	*3.80*	*3.90*	*4.23*	*4.08*	**3.74**	*3.92*	*4.01*
Middle East	**7.90**	**7.43**	**8.43**	**8.05**	**7.80**	**8.20**	*8.81*	*8.31*	*8.05*	*8.63*	*9.02*	*8.37*	**7.95**	*8.28*	*8.52*
Asia and Oceania	**34.95**	**32.20**	**33.86**	**35.94**	**36.60**	**35.55**	*34.56*	*36.47*	*37.62*	*37.23*	*36.64*	*37.85*	**34.24**	*35.79*	*37.33*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.26**	**15.46**	*14.77*	*15.30*	*15.75*	*16.01*	*15.71*	*15.99*	**14.43**	*15.20*	*15.86*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.01**	*2.99*	*3.38*	*3.63*	*2.96*	*3.04*	*3.35*	**3.33**	*3.27*	*3.24*
India	**4.83**	**3.76**	**4.17**	**4.93**	**5.00**	**4.45**	*4.51*	*4.88*	*5.15*	*5.21*	*4.86*	*5.16*	**4.42**	*4.71*	*5.10*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.33**	**4.35**	*4.25*	*4.47*	*4.48*	*4.49*	*4.41*	*4.60*	**4.15**	*4.35*	*4.50*
Total OECD Liquid Fuels Consumption	**45.50**	**37.45**	**42.27**	**42.84**	**42.30**	**43.68**	*45.48*	*45.89*	*45.51*	*45.25*	*46.30*	*46.36*	**42.02**	*44.35*	*45.86*
Total non-OECD Liquid Fuels Consumption	**50.33**	**47.44**	**51.21**	**52.59**	**52.37**	**52.81**	*53.07*	*53.88*	*54.08*	*55.37*	*55.49*	*55.64*	**50.40**	*53.04*	*55.15*
Total World Liquid Fuels Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.66**	**96.49**	*98.55*	*99.77*	*99.59*	*100.62*	*101.79*	*102.00*	**92.42**	*97.38*	*101.01*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**110.3**	**107.6**	**112.4**	**113.6**	**115.9**	**117.1**	*118.1*	*119.3*	*122.4*	*123.2*	*123.8*	*124.4*	**111.0**	*117.6*	*123.5*
Percent change from prior year	**-3.3**	**-6.1**	**-2.4**	**-1.7**	**5.1**	**8.8**	*5.1*	*5.0*	*5.6*	*5.2*	*4.9*	*4.3*	**-3.4**	*6.0*	*5.0*
OECD Index, 2015 = 100													**103.7**	*109.1*	*113.8*
Percent change from prior year													**-4.7**	*5.3*	*4.3*
Non-OECD Index, 2015 = 100													**116.0**	*123.4*	*130.1*
Percent change from prior year													**-2.3**	*6.4*	*5.4*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	**106.3**	*107.4*	*108.0*	*108.1*	*108.1*	*108.0*	*107.9*	**111.9**	*107.1*	*108.0*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	**-8.3**	*-3.7*	*-0.3*	*1.3*	*1.7*	*0.5*	*-0.1*	**1.9**	*-4.2*	*0.8*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	*11.06*	*11.28*	*11.42*	*11.58*	*11.81*	*12.06*	**11.28**	*11.08*	*11.72*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	**0.44**	*0.40*	*0.44*	*0.43*	*0.42*	*0.39*	*0.43*	**0.45**	*0.43*	*0.42*
Federal Gulf of Mexico (b)	**1.99**	**1.66**	**1.43**	**1.50**	**1.80**	**1.80**	*1.52*	*1.73*	*1.76*	*1.73*	*1.74*	*1.78*	**1.64**	*1.71*	*1.75*
Lower 48 States (excl GOM)	**10.35**	**8.60**	**8.92**	**8.91**	**8.44**	**9.04**	*9.14*	*9.12*	*9.22*	*9.43*	*9.67*	*9.86*	**9.19**	*8.94*	*9.55*
Crude Oil Net Imports (c)	**2.89**	**3.06**	**2.24**	**2.50**	**2.87**	**2.96**	*3.60*	*3.49*	*3.77*	*4.71*	*4.82*	*3.84*	**2.67**	*3.23*	*4.29*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	**0.18**	*0.00*	*0.22*	*0.00*	*0.00*	*0.00*	*0.10*	**-0.01**	*0.10*	*0.03*
Commercial Inventory Net Withdrawals	**-0.56**	**-0.54**	**0.38**	**0.13**	**-0.18**	**0.59**	*0.22*	*-0.09*	*-0.31*	*-0.03*	*0.27*	*-0.02*	**-0.14**	*0.14*	*-0.02*
Crude Oil Adjustment (d)	**0.63**	**0.20**	**0.46**	**0.36**	**0.42**	**0.63**	*0.50*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.41**	*0.43*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	*15.39*	*15.06*	*15.09*	*16.48*	*17.12*	*16.14*	**14.21**	*14.98*	*16.21*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	*1.00*	*1.04*	*1.05*	*1.09*	*1.14*	*1.13*	**0.92**	*0.96*	*1.10*
Natural Gas Plant Liquids Production	**5.17**	**4.96**	**5.34**	**5.22**	**4.86**	**5.46**	*5.40*	*5.50*	*5.62*	*5.81*	*5.95*	*6.04*	**5.17**	*5.30*	*5.86*
Renewables and Oxygenate Production (e)	**1.11**	**0.81**	**1.03**	**1.07**	**1.03**	**1.13**	*1.09*	*1.09*	*1.08*	*1.11*	*1.13*	*1.13*	**1.01**	*1.09*	*1.12*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	**0.99**	*0.99*	*0.98*	*0.98*	*1.01*	*1.02*	*1.01*	**0.91**	*0.97*	*1.01*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	**0.22**	*0.21*	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-3.86**	**-2.96**	**-3.07**	**-3.33**	**-2.94**	**-3.13**	*-2.90*	*-3.15*	*-3.24*	*-3.53*	*-4.20*	*-4.04*	**-3.30**	*-3.03*	*-3.76*
Hydrocarbon Gas Liquids	**-1.95**	**-1.84**	**-1.83**	**-2.06**	**-2.02**	**-2.23**	*-2.24*	*-2.15*	*-2.14*	*-2.25*	*-2.31*	*-2.27*	**-1.92**	*-2.16*	*-2.24*
Unfinished Oils	**0.37**	**0.23**	**0.35**	**0.18**	**0.14**	**0.25**	*0.40*	*0.30*	*0.21*	*0.26*	*0.30*	*0.20*	**0.29**	*0.27*	*0.24*
Other HC/Oxygenates	**-0.09**	**-0.04**	**-0.04**	**-0.04**	**-0.08**	**-0.04**	*-0.07*	*-0.08*	*-0.09*	*-0.08*	*-0.08*	*-0.09*	**-0.05**	*-0.07*	*-0.08*
Motor Gasoline Blend Comp.	**0.40**	**0.37**	**0.49**	**0.44**	**0.55**	**0.79**	*0.46*	*0.21*	*0.54*	*0.76*	*0.42*	*0.21*	**0.42**	*0.50*	*0.48*
Finished Motor Gasoline	**-0.71**	**-0.41**	**-0.58**	**-0.76**	**-0.66**	**-0.66**	*-0.32*	*-0.60*	*-0.74*	*-0.60*	*-0.63*	*-0.71*	**-0.62**	*-0.56*	*-0.67*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.08**	**0.03**	**0.09**	*0.14*	*0.13*	*-0.04*	*-0.03*	*0.04*	*0.12*	**0.05**	*0.10*	*0.02*
Distillate Fuel Oil	**-1.14**	**-0.86**	**-1.16**	**-0.72**	**-0.49**	**-0.90**	*-0.83*	*-0.45*	*-0.54*	*-0.98*	*-1.30*	*-1.02*	**-0.97**	*-0.67*	*-0.96*
Residual Fuel Oil	**-0.02**	**-0.01**	**0.05**	**0.05**	**0.08**	**0.05**	*0.07*	*0.08*	*0.02*	*-0.03*	*-0.02*	*0.07*	**0.02**	*0.07*	*0.01*
Other Oils (g)	**-0.64**	**-0.49**	**-0.48**	**-0.48**	**-0.49**	**-0.49**	*-0.51*	*-0.58*	*-0.46*	*-0.58*	*-0.64*	*-0.55*	**-0.52**	*-0.52*	*-0.56*
Product Inventory Net Withdrawals	**0.06**	**-0.90**	**0.00**	**0.73**	**0.65**	**-0.26**	*0.11*	*0.41*	*0.20*	*-0.66*	*-0.34*	*0.31*	**-0.02**	*0.23*	*-0.12*
Total Supply	**19.50**	**16.07**	**18.45**	**18.72**	**18.43**	**20.03**	*20.30*	*20.15*	*20.01*	*20.51*	*21.02*	*20.94*	**18.19**	*19.74*	*20.63*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.37**	**2.85**	**3.01**	**3.68**	**3.40**	**3.33**	*3.09*	*3.63*	*3.84*	*3.35*	*3.41*	*3.89*	**3.23**	*3.36*	*3.62*
Unfinished Oils	**0.18**	**0.12**	**0.03**	**0.03**	**0.05**	**0.03**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.09**	*0.02*	*0.00*
Motor Gasoline	**8.51**	**7.12**	**8.51**	**8.06**	**8.00**	**9.07**	*9.27*	*8.76*	*8.50*	*9.21*	*9.35*	*8.87*	**8.05**	*8.78*	*8.98*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.73**	**0.87**	**0.85**	**0.82**	**0.93**	*0.93*	*0.89*	*0.86*	*0.94*	*0.95*	*0.92*	**0.82**	*0.89*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	**1.34**	*1.54*	*1.52*	*1.47*	*1.57*	*1.72*	*1.72*	**1.08**	*1.38*	*1.62*
Distillate Fuel Oil	**4.02**	**3.49**	**3.70**	**3.94**	**3.97**	**3.93**	*3.97*	*4.13*	*4.17*	*4.12*	*4.10*	*4.24*	**3.79**	*4.00*	*4.16*
Residual Fuel Oil	**0.17**	**0.11**	**0.32**	**0.22**	**0.26**	**0.25**	*0.32*	*0.27*	*0.27*	*0.25*	*0.29*	*0.28*	**0.21**	*0.28*	*0.27*
Other Oils (g)	**1.69**	**1.68**	**1.92**	**1.71**	**1.63**	**2.08**	*2.11*	*1.84*	*1.76*	*2.01*	*2.16*	*1.93*	**1.75**	*1.92*	*1.97*
Total Consumption	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	*20.30*	*20.15*	*20.01*	*20.51*	*21.02*	*20.94*	**18.19**	*19.74*	*20.63*
Total Petroleum and Other Liquids Net Imports	**-0.97**	**0.11**	**-0.83**	**-0.84**	**-0.07**	**-0.16**	*0.70*	*0.34*	*0.53*	*1.18*	*0.61*	*-0.20*	**-0.63**	*0.20*	*0.53*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**483.3**	**532.7**	**497.7**	**485.5**	**501.9**	**448.0**	*427.8*	*435.7*	*463.7*	*466.4*	*441.8*	*443.9*	**485.5**	*435.7*	*443.9*
Hydrocarbon Gas Liquids	**182.9**	**235.7**	**298.7**	**228.2**	**168.6**	**195.8**	*225.7*	*175.6*	*137.6*	*191.6*	*238.8*	*200.6*	**228.2**	*175.6*	*200.6*
Unfinished Oils	**101.9**	**92.5**	**81.4**	**77.6**	**93.3**	**93.0**	*89.0*	*82.8*	*93.3*	*91.1*	*90.0*	*83.1*	**77.6**	*82.8*	*83.1*
Other HC/Oxygenates	**33.4**	**25.4**	**24.6**	**29.7**	**29.1**	**27.5**	*26.7*	*27.0*	*29.0*	*27.8*	*27.5*	*27.8*	**29.7**	*27.0*	*27.8*
Total Motor Gasoline	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	*218.7*	*232.8*	*241.6*	*246.5*	*233.8*	*248.7*	**243.4**	*232.8*	*248.7*
Finished Motor Gasoline	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	*21.4*	*24.3*	*24.1*	*23.9*	*23.1*	*26.1*	**25.4**	*24.3*	*26.1*
Motor Gasoline Blend Comp.	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	*197.3*	*208.5*	*217.5*	*222.6*	*210.6*	*222.7*	**218.0**	*208.5*	*222.7*
Jet Fuel	**39.9**	**41.6**	**40.1**	**38.6**	**39.0**	**44.7**	*43.6*	*40.4*	*39.9*	*40.6*	*43.0*	*39.9*	**38.6**	*40.4*	*39.9*
Distillate Fuel Oil	**126.8**	**176.9**	**172.5**	**161.2**	**145.5**	**140.1**	*130.0*	*133.6*	*123.8*	*129.0*	*136.2*	*137.5*	**161.2**	*133.6*	*137.5*
Residual Fuel Oil	**34.8**	**39.5**	**32.1**	**30.2**	**30.9**	**31.1**	*29.3*	*31.2*	*31.2*	*32.1*	*30.3*	*31.8*	**30.2**	*31.2*	*31.8*
Other Oils (g)	**61.9**	**59.0**	**48.3**	**49.1**	**55.8**	**54.1**	*49.9*	*52.2*	*61.3*	*59.1*	*49.9*	*51.3*	**49.1**	*52.2*	*51.3*
Total Commercial Inventory	**1326.7**	**1457.7**	**1423.2**	**1343.3**	**1301.7**	**1271.5**	*1240.8*	*1211.3*	*1221.4*	*1284.4*	*1291.4*	*1264.6*	**1343.3**	*1211.3*	*1264.6*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	**621.3**	*621.3*	*601.3*	*601.3*	*601.3*	*601.3*	*591.7*	**638.1**	*601.3*	*591.7*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.95**	**1.92**	**2.14**	**2.05**	**1.87**	**2.19**	*2.10*	*2.23*	*2.36*	*2.49*	*2.54*	*2.61*	**2.02**	*2.10*	*2.50*
Propane	**1.74**	**1.61**	**1.68**	**1.70**	**1.62**	**1.74**	*1.74*	*1.75*	*1.76*	*1.77*	*1.81*	*1.83*	**1.68**	*1.71*	*1.79*
Butanes	**0.92**	**0.86**	**0.90**	**0.89**	**0.85**	**0.92**	*0.93*	*0.93*	*0.93*	*0.94*	*0.96*	*0.97*	**0.89**	*0.91*	*0.95*
Natural Gasoline (Pentanes Plus)	**0.57**	**0.57**	**0.62**	**0.58**	**0.53**	**0.61**	*0.63*	*0.59*	*0.58*	*0.61*	*0.64*	*0.62*	**0.58**	*0.59*	*0.61*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	**0.29**	*0.29*	*0.32*	*0.31*	*0.31*	*0.32*	*0.32*	**0.26**	*0.29*	*0.32*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	**0.31**	*0.27*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.26**	*0.28*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	**0.24**	*0.20*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.24**	**-0.26**	**-0.27**	**-0.35**	**-0.39**	*-0.39*	*-0.38*	*-0.43*	*-0.45*	*-0.45*	*-0.46*	**-0.27**	*-0.38*	*-0.45*
Propane/Propylene	**-1.08**	**-1.09**	**-1.06**	**-1.31**	**-1.11**	**-1.23**	*-1.21*	*-1.23*	*-1.13*	*-1.19*	*-1.23*	*-1.23*	**-1.14**	*-1.19*	*-1.20*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.34**	**-0.34**	**-0.35**	**-0.40**	*-0.44*	*-0.36*	*-0.39*	*-0.43*	*-0.44*	*-0.40*	**-0.32**	*-0.39*	*-0.41*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	**-0.21**	*-0.21*	*-0.18*	*-0.20*	*-0.18*	*-0.20*	*-0.18*	**-0.19**	*-0.20*	*-0.19*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	**0.29**	*0.32*	*0.49*	*0.39*	*0.28*	*0.32*	*0.50*	**0.38**	*0.37*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	**0.14**	*0.17*	*0.16*	*0.17*	*0.18*	*0.18*	*0.18*	**0.13**	*0.15*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.71**	**1.68**	**1.67**	**1.81**	**1.54**	**1.83**	*1.73*	*1.88*	*2.01*	*2.04*	*2.09*	*2.13*	**1.72**	*1.75*	*2.07*
Propane	**1.14**	**0.58**	**0.61**	**0.97**	**1.09**	**0.65**	*0.63*	*1.00*	*1.13*	*0.57*	*0.58*	*1.02*	**0.82**	*0.84*	*0.82*
Propylene (refinery-grade)	**0.27**	**0.27**	**0.27**	**0.30**	**0.29**	**0.32**	*0.29*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.19**	**0.23**	**0.22**	**0.29**	*0.21*	*0.20*	*0.18*	*0.22*	*0.20*	*0.20*	**0.20**	*0.23*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.36**	**0.26**	**0.24**	*0.23*	*0.25*	*0.22*	*0.22*	*0.23*	*0.24*	**0.21**	*0.24*	*0.23*
HGL Inventories (million barrels)															
Ethane	**53.2**	**50.6**	**62.5**	**74.8**	**65.8**	**67.4**	*63.4*	*63.4*	*55.7*	*55.2*	*54.7*	*57.7*	**60.3**	*65.0*	*55.9*
Propane	**60.8**	**75.8**	**100.3**	**69.9**	**39.3**	**53.2**	*69.7*	*52.5*	*33.3*	*61.1*	*89.1*	*78.9*	**69.9**	*52.5*	*78.9*
Propylene (at refineries only)	**1.5**	**1.5**	**1.5**	**1.5**	**1.1**	**1.2**	*1.6*	*1.7*	*1.6*	*1.8*	*2.0*	*1.9*	**1.5**	*1.7*	*1.9*
Butanes/Butylenes	**44.1**	**69.9**	**86.0**	**54.6**	**37.2**	**53.9**	*68.4*	*39.6*	*29.6*	*54.0*	*71.8*	*42.7*	**54.6**	*39.6*	*42.7*
Natural Gasoline (Pentanes Plus)	**24.4**	**36.0**	**38.7**	**32.6**	**22.8**	**22.3**	*22.1*	*20.9*	*18.4*	*19.6*	*20.4*	*19.7*	**32.6**	*20.9*	*19.7*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	*15.39*	*15.06*	*15.09*	*16.48*	*17.12*	*16.14*	**14.21**	*14.98*	*16.21*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	**0.43**	*0.49*	*0.65*	*0.55*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	**1.19**	*1.18*	*1.15*	*1.13*	*1.20*	*1.21*	*1.18*	**1.06**	*1.14*	*1.18*
Unfinished Oils	**0.06**	**0.22**	**0.45**	**0.19**	**-0.08**	**0.22**	*0.43*	*0.36*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.24*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.49**	**0.85**	**0.46**	**0.71**	**0.92**	*0.75*	*0.26*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.66*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.98**	**15.16**	**16.90**	**16.22**	**16.01**	**18.41**	*18.24*	*17.49*	*17.44*	*19.24*	*19.80*	*18.58*	**16.57**	*17.54*	*18.77*
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	*1.00*	*1.04*	*1.05*	*1.09*	*1.14*	*1.13*	**0.92**	*0.96*	*1.10*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	**0.85**	*0.77*	*0.41*	*0.51*	*0.87*	*0.80*	*0.41*	**0.55**	*0.62*	*0.65*
Finished Motor Gasoline	**9.31**	**7.53**	**9.14**	**8.98**	**8.74**	**9.82**	*9.67*	*9.55*	*9.32*	*9.87*	*10.03*	*9.79*	**8.74**	*9.45*	*9.75*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	**1.32**	*1.38*	*1.36*	*1.50*	*1.61*	*1.70*	*1.57*	**1.02**	*1.29*	*1.60*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.45**	**4.29**	**4.77**	*4.61*	*4.56*	*4.57*	*5.11*	*5.41*	*5.22*	**4.74**	*4.56*	*5.08*
Residual Fuel	**0.24**	**0.17**	**0.19**	**0.15**	**0.19**	**0.20**	*0.24*	*0.20*	*0.25*	*0.29*	*0.29*	*0.23*	**0.19**	*0.21*	*0.27*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	**2.42**	*2.57*	*2.44*	*2.33*	*2.57*	*2.71*	*2.49*	**2.26**	*2.38*	*2.53*
Total Refinery and Blender Net Production	**19.00**	**15.98**	**17.84**	**17.14**	**16.86**	**19.38**	*19.24*	*18.53*	*18.49*	*20.33*	*20.94*	*19.71*	**17.49**	*18.51*	*19.87*
Refinery Distillation Inputs	**16.37**	**13.65**	**14.56**	**14.32**	**14.25**	**16.17**	*15.95*	*15.48*	*15.45*	*16.69*	*17.33*	*16.42*	**14.72**	*15.47*	*16.48*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.66**	*18.12*	*18.13*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.79**	**0.89**	*0.88*	*0.85*	*0.85*	*0.92*	*0.96*	*0.91*	**0.79**	*0.85*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**180**	**217**	*230*	*207*	*197*	*204*	*198*	*182*	**133**	*210*	*195*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	**287**	*302*	*286*	*266*	*273*	*272*	*255*	**214**	*283*	*267*
PADD 2	**226**	**179**	**207**	**202**	**247**	**288**	*302*	*275*	*251*	*271*	*263*	*245*	**204**	*279*	*258*
PADD 3	**210**	**162**	**186**	**183**	**228**	**267**	*281*	*259*	*245*	*252*	*246*	*230*	**187**	*261*	*244*
PADD 4	**247**	**200**	**233**	**221**	**247**	**311**	*357*	*307*	*279*	*290*	*287*	*268*	**226**	*307*	*281*
PADD 5	**311**	**258**	**283**	**278**	**312**	**366**	*388*	*355*	*349*	*359*	*344*	*347*	**284**	*357*	*350*
U.S. Average	**241**	**194**	**218**	**215**	**256**	**297**	*314*	*291*	*273*	*285*	*278*	*264*	**218**	*291*	*275*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	**306**	*324*	*303*	*286*	*298*	*292*	*278*	**227**	*301*	*289*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.1**	**61.8**	**68.5**	**65.1**	**69.9**	*56.0*	*59.1*	*65.1*	*68.1*	*63.2*	*68.7*	**68.5**	*59.1*	*68.7*
PADD 2	**60.2**	**52.7**	**46.2**	**50.9**	**50.7**	**50.6**	*47.9*	*49.7*	*53.3*	*52.2*	*50.2*	*50.7*	**50.9**	*49.7*	*50.7*
PADD 3	**85.8**	**91.3**	**80.4**	**84.0**	**81.9**	**81.6**	*77.6*	*84.7*	*85.2*	*88.9*	*83.4*	*89.4*	**84.0**	*84.7*	*89.4*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	**6.2**	*7.1*	*7.9*	*7.9*	*7.9*	*7.5*	*8.1*	**8.7**	*7.9*	*8.1*
PADD 5	**35.6**	**29.7**	**31.5**	**31.4**	**31.4**	**29.0**	*30.1*	*31.3*	*30.1*	*29.5*	*29.4*	*31.8*	**31.4**	*31.3*	*31.8*
U.S. Total	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	*218.7*	*232.8*	*241.6*	*246.5*	*233.8*	*248.7*	**243.4**	*232.8*	*248.7*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	*21.4*	*24.3*	*24.1*	*23.9*	*23.1*	*26.1*	**25.4**	*24.3*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	*197.3*	*208.5*	*217.5*	*222.6*	*210.6*	*222.7*	**218.0**	*208.5*	*222.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**102.27**	**96.83**	**97.55**	**98.70**	**97.31**	**100.95**	*100.51*	*100.58*	*101.09*	*102.57*	*104.43*	*105.89*	**98.83**	*99.85*	*103.51*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	**0.95**	*0.76*	*0.88*	*0.92*	*0.81*	*0.73*	*0.87*	**0.92**	*0.90*	*0.83*
Federal GOM (a)	**2.72**	**2.22**	**1.72**	**1.73**	**2.27**	**2.26**	*1.90*	*2.09*	*2.09*	*2.02*	*1.91*	*1.88*	**2.09**	*2.13*	*1.97*
Lower 48 States (excl GOM)	**98.58**	**93.74**	**94.95**	**95.99**	**94.03**	**97.74**	*97.85*	*97.60*	*98.08*	*99.74*	*101.78*	*103.14*	**95.81**	*96.82*	*100.70*
Total Dry Gas Production	**94.80**	**89.68**	**89.83**	**91.15**	**90.30**	**93.05**	*92.64*	*92.70*	*93.17*	*94.54*	*96.25*	*97.59*	**91.36**	*92.18*	*95.40*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	**0.02**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.14*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	**9.81**	*9.41*	*9.83*	*10.47*	*9.73*	*9.41*	*11.00*	**6.53**	*9.58*	*10.15*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.68**	**6.80**	*6.80*	*6.85*	*7.39*	*6.36*	*6.38*	*6.72*	**6.84**	*7.28*	*6.71*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.21**	**8.31**	**8.55**	*9.37*	*9.52*	*9.34*	*8.66*	*9.38*	*9.38*	**7.91**	*8.94*	*9.19*
Supplemental Gaseous Fuels	**0.19**	**0.17**	**0.15**	**0.18**	**0.18**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	**0.17**	*0.17*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	**-9.12**	*-7.78*	*4.66*	*15.86*	*-10.79*	*-8.49*	*4.32*	**-0.46**	*1.18*	*0.17*
Total Supply	**99.51**	**71.12**	**76.78**	**87.06**	**98.91**	**72.53**	*73.23*	*85.22*	*97.10*	*72.07*	*75.70*	*88.63*	**83.61**	*82.41*	*83.33*
Balancing Item (b)	**-0.19**	**-0.28**	**0.05**	**-0.98**	**0.28**	**-0.42**	*1.25*	*-0.60*	*-0.33*	*-1.63*	*-0.15*	*-0.83*	**-0.35**	*0.13*	*-0.74*
Total Primary Supply	**99.31**	**70.84**	**76.83**	**86.08**	**99.20**	**72.12**	*74.48*	*84.62*	*96.77*	*70.44*	*75.55*	*87.80*	**83.25**	*82.54*	*82.60*
Consumption (billion cubic feet per day)															
Residential	**22.83**	**8.20**	**3.82**	**16.00**	**25.59**	**7.52**	*3.68*	*16.89*	*25.05*	*7.85*	*3.67*	*16.92*	**12.70**	*13.37*	*13.32*
Commercial	**13.93**	**5.82**	**4.36**	**10.31**	**14.84**	**6.25**	*4.72*	*10.94*	*14.90*	*6.25*	*4.68*	*10.84*	**8.60**	*9.17*	*9.15*
Industrial	**24.65**	**20.62**	**21.15**	**23.83**	**24.05**	**21.77**	*21.91*	*25.10*	*24.95*	*22.66*	*22.41*	*25.22*	**22.56**	*23.21*	*23.81*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.65**	**29.14**	*36.67*	*23.87*	*23.61*	*26.19*	*37.05*	*26.61*	**31.74**	*29.09*	*28.40*
Lease and Plant Fuel	**5.17**	**4.90**	**4.93**	**4.99**	**4.92**	**5.10**	*5.08*	*5.09*	*5.11*	*5.19*	*5.28*	*5.35*	**5.00**	*5.05*	*5.23*
Pipeline and Distribution Use	**3.02**	**2.15**	**2.33**	**2.61**	**3.01**	**2.19**	*2.27*	*2.59*	*2.98*	*2.13*	*2.29*	*2.69*	**2.53**	*2.51*	*2.52*
Vehicle Use	**0.16**	**0.10**	**0.13**	**0.13**	**0.14**	**0.15**	*0.15*	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.31**	**70.84**	**76.83**	**86.08**	**99.20**	**72.12**	*74.48*	*84.62*	*96.77*	*70.44*	*75.55*	*87.80*	**83.25**	*82.54*	*82.60*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,029**	**3,133**	**3,840**	**3,341**	**1,801**	**2,583**	*3,299*	*2,870*	*1,442*	*2,424*	*3,205*	*2,808*	**3,341**	*2,870*	*2,808*
East Region (d)	**385**	**655**	**890**	**763**	**313**	**515**	*808*	*658*	*174*	*452*	*682*	*498*	**763**	*658*	*498*
Midwest Region (d)	**471**	**747**	**1,053**	**918**	**395**	**630**	*970*	*823*	*278*	*537*	*894*	*790*	**918**	*823*	*790*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	**991**	*1,030*	*979*	*698*	*960*	*1,039*	*970*	**1,155**	*979*	*970*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	**175**	*196*	*146*	*93*	*148*	*218*	*201*	**195**	*146*	*201*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	**246**	*264*	*233*	*168*	*296*	*342*	*318*	**282**	*233*	*318*
Alaska	**23**	**25**	**31**	**28**	**23**	**27**	*31*	*31*	*31*	*31*	*31*	*31*	**28**	*31*	*31*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	*4.15*	*4.16*	*4.28*	*3.41*	*3.38*	*3.34*	**2.11**	*3.77*	*3.60*
Residential Retail															
New England	**13.77**	**14.50**	**18.28**	**14.64**	**14.78**	**16.18**	*18.91*	*14.61*	*14.17*	*14.98*	*17.59*	*13.47*	**14.47**	*15.19*	*14.31*
Middle Atlantic	**10.77**	**11.85**	**17.85**	**11.77**	**10.41**	**13.43**	*17.55*	*11.83*	*10.90*	*13.07*	*17.49*	*11.43*	**11.76**	*11.67*	*11.83*
E. N. Central	**6.99**	**9.50**	**18.15**	**8.02**	**7.41**	**12.72**	*20.39*	*10.83*	*9.58*	*12.03*	*17.21*	*8.69*	**8.39**	*9.74*	*10.09*
W. N. Central	**6.85**	**9.89**	**17.26**	**8.66**	**7.59**	**11.57**	*18.56*	*10.46*	*9.15*	*11.92*	*17.67*	*9.50*	**8.48**	*9.46*	*10.12*
S. Atlantic	**12.12**	**15.52**	**24.15**	**14.20**	**12.10**	**18.04**	*24.95*	*14.08*	*12.51*	*17.41*	*23.21*	*12.84*	**14.23**	*14.35*	*14.07*
E. S. Central	**9.69**	**13.34**	**20.85**	**10.63**	**9.53**	**14.93**	*22.78*	*14.41*	*11.49*	*16.02*	*22.58*	*13.58*	**11.15**	*11.90*	*13.51*
W. S. Central	**8.52**	**14.22**	**20.83**	**11.67**	**9.32**	**15.97**	*21.53*	*12.65*	*9.89*	*15.48*	*20.85*	*11.69*	**11.40**	*12.11*	*12.16*
Mountain	**7.55**	**9.37**	**12.60**	**8.15**	**7.90**	**10.60**	*14.46*	*9.36*	*8.88*	*10.60*	*14.16*	*8.89*	**8.43**	*9.15*	*9.55*
Pacific	**13.41**	**14.47**	**14.50**	**13.70**	**14.28**	**15.11**	*15.57*	*14.43*	*14.61*	*15.22*	*15.76*	*14.55*	**13.82**	*14.62*	*14.84*
U.S. Average	**9.46**	**11.89**	**17.65**	**10.60**	**9.79**	**13.87**	*18.86*	*12.09*	*10.97*	*13.59*	*17.94*	*11.01*	**10.83**	*11.73*	*11.85*
Commercial Retail															
New England	**9.93**	**10.40**	**10.99**	**10.06**	**10.38**	**11.15**	*11.95*	*11.26*	*11.55*	*11.43*	*10.80*	*10.39*	**10.16**	*10.93*	*11.08*
Middle Atlantic	**7.91**	**7.00**	**6.78**	**7.53**	**7.87**	**7.96**	*7.47*	*8.18*	*8.65*	*8.35*	*7.69*	*8.02*	**7.50**	*7.93*	*8.28*
E. N. Central	**5.75**	**6.73**	**8.79**	**6.21**	**6.12**	**8.67**	*10.66*	*8.29*	*7.99*	*8.66*	*9.25*	*6.88*	**6.28**	*7.50*	*7.82*
W. N. Central	**5.43**	**6.53**	**8.12**	**6.55**	**6.31**	**7.65**	*9.58*	*8.21*	*8.12*	*8.40*	*9.30*	*7.26*	**6.14**	*7.32*	*7.97*
S. Atlantic	**8.51**	**9.21**	**9.55**	**8.88**	**8.79**	**9.83**	*10.58*	*9.80*	*9.56*	*10.15*	*10.08*	*8.80*	**8.87**	*9.49*	*9.49*
E. S. Central	**8.38**	**9.20**	**10.10**	**8.69**	**8.43**	**9.86**	*10.96*	*9.96*	*9.40*	*10.24*	*10.49*	*9.12*	**8.78**	*9.38*	*9.55*
W. S. Central	**5.99**	**7.18**	**8.13**	**7.46**	**7.01**	**8.32**	*9.47*	*8.92*	*8.13*	*8.50*	*8.58*	*7.61*	**6.92**	*8.09*	*8.12*
Mountain	**6.09**	**6.85**	**7.42**	**6.45**	**6.50**	**7.78**	*8.92*	*7.98*	*7.81*	*8.13*	*8.80*	*7.51*	**6.46**	*7.40*	*7.87*
Pacific	**9.58**	**9.30**	**9.59**	**9.70**	**10.50**	**10.42**	*10.86*	*10.24*	*10.17*	*9.94*	*10.17*	*9.62*	**9.57**	*10.46*	*9.95*
U.S. Average	**7.13**	**7.63**	**8.49**	**7.53**	**7.55**	**8.84**	*9.66*	*8.88*	*8.73*	*9.03*	*9.13*	*8.03*	**7.48**	*8.39*	*8.61*
Industrial Retail															
New England	**8.15**	**7.41**	**6.16**	**7.67**	**8.58**	**8.09**	*7.31*	*8.64*	*9.25*	*8.51*	*7.22*	*8.00*	**7.54**	*8.26*	*8.40*
Middle Atlantic	**7.43**	**6.76**	**7.00**	**7.61**	**7.70**	**7.38**	*7.62*	*8.32*	*8.90*	*8.38*	*7.94*	*8.16*	**7.28**	*7.83*	*8.49*
E. N. Central	**4.84**	**5.10**	**4.15**	**5.10**	**5.39**	**8.11**	*7.26*	*6.76*	*7.01*	*6.44*	*5.99*	*5.77*	**4.86**	*6.45*	*6.42*
W. N. Central	**3.97**	**3.30**	**3.15**	**4.13**	**5.20**	**4.28**	*4.98*	*5.91*	*6.24*	*5.20*	*4.79*	*5.11*	**3.68**	*5.14*	*5.39*
S. Atlantic	**4.15**	**3.70**	**3.72**	**4.56**	**5.05**	**4.69**	*5.65*	*6.22*	*6.43*	*5.38*	*5.05*	*5.15*	**4.06**	*5.40*	*5.55*
E. S. Central	**3.92**	**3.24**	**3.23**	**4.04**	**4.64**	**4.20**	*5.24*	*5.92*	*6.10*	*5.10*	*4.64*	*4.84*	**3.65**	*4.98*	*5.21*
W. S. Central	**2.19**	**1.92**	**2.19**	**2.89**	**5.75**	**3.21**	*4.29*	*4.39*	*4.45*	*3.68*	*3.59*	*3.49*	**2.31**	*4.37*	*3.80*
Mountain	**4.40**	**4.59**	**4.67**	**4.91**	**5.00**	**5.52**	*6.33*	*6.55*	*6.64*	*6.26*	*6.22*	*5.89*	**4.64**	*5.76*	*6.27*
Pacific	**7.46**	**6.28**	**6.18**	**7.23**	**8.30**	**7.23**	*7.61*	*7.85*	*7.98*	*7.34*	*7.32*	*7.19*	**6.86**	*7.77*	*7.47*
U.S. Average	**3.52**	**2.85**	**2.88**	**3.77**	**5.72**	**4.06**	*4.91*	*5.38*	*5.69*	*4.60*	*4.33*	*4.52*	**3.29**	*5.05*	*4.81*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.2**	**116.2**	**135.9**	**134.1**	**140.3**	**152.3**	*151.2*	*157.3*	*163.9*	*158.0*	*165.3*	*160.7*	**535.3**	*601.1*	*647.9*
Appalachia	**39.8**	**29.5**	**33.9**	**35.5**	**40.8**	**38.1**	*39.1*	*41.6*	*45.3*	*46.3*	*43.0*	*43.8*	**138.7**	*159.7*	*178.4*
Interior	**25.8**	**20.0**	**23.2**	**21.8**	**25.0**	**25.3**	*25.3*	*26.9*	*29.1*	*28.9*	*29.9*	*29.6*	**90.7**	*102.4*	*117.5*
Western	**83.6**	**66.7**	**78.8**	**76.8**	**74.5**	**88.9**	*86.8*	*88.8*	*89.5*	*82.8*	*92.4*	*87.3*	**305.9**	*339.1*	*352.0*
Primary Inventory Withdrawals	**0.5**	**1.3**	**2.0**	**-0.9**	**0.3**	**2.1**	*2.3*	*-1.9*	*-1.1*	*-1.8*	*-0.6*	*-5.0*	**2.8**	*2.8*	*-8.5*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	**1.5**	*1.4*	*1.2*	*0.9*	*0.9*	*1.1*	*1.1*	**5.1**	*5.2*	*4.1*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	**22.1**	*22.1*	*25.5*	*28.1*	*19.9*	*20.3*	*25.7*	**69.1**	*90.5*	*94.0*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	**11.7**	*14.2*	*14.0*	*15.3*	*11.4*	*12.7*	*13.8*	**42.1**	*50.2*	*53.2*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	**10.4**	*8.0*	*11.5*	*12.8*	*8.5*	*7.6*	*11.9*	**27.0**	*40.3*	*40.8*
Total Primary Supply	**131.0**	**103.9**	**123.9**	**115.4**	**121.0**	**133.8**	*132.8*	*131.1*	*135.6*	*137.2*	*145.5*	*131.1*	**474.2**	*518.7*	*549.5*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-3.3**	**21.3**	**-0.8**	*33.7*	*16.4*	*11.4*	*-7.9*	*9.2*	*-3.2*	**-3.5**	*70.6*	*9.5*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	**2.0**	*2.0*	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.3**	**100.3**	**147.3**	**114.4**	**144.3**	**135.0**	*168.4*	*149.5*	*148.9*	*131.1*	*156.6*	*129.8*	**478.4**	*597.3*	*566.4*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**4.4**	**5.1**	*4.2*	*4.6*	*5.6*	*4.6*	*4.3*	*4.7*	**14.4**	*18.3*	*19.1*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**128.1**	**113.8**	*157.3*	*137.7*	*136.0*	*119.5*	*145.4*	*117.9*	**436.5**	*536.9*	*518.7*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.2**	**6.8**	**6.9**	*6.9*	*7.2*	*7.4*	*7.0*	*7.0*	*7.2*	**26.4**	*27.8*	*28.6*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.8*
Other Industrial	**7.1**	**5.6**	**5.9**	**7.0**	**6.6**	**6.7**	*6.7*	*7.0*	*7.1*	*6.9*	*6.8*	*7.0*	**25.6**	*27.0*	*27.8*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	**139.4**	**125.7**	*168.4*	*149.5*	*148.9*	*131.1*	*156.6*	*129.8*	**477.3**	*583.0*	*566.4*
Discrepancy (c)	**6.8**	**3.9**	**-1.2**	**-8.4**	**5.0**	**9.3**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**1.1**	*14.3*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**27.5**	**28.5**	**28.1**	**26.1**	*23.8*	*25.7*	*26.8*	*28.6*	*29.2*	*34.2*	**28.5**	*25.7*	*34.2*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**137.5**	**116.1**	**117.0**	*83.3*	*66.9*	*55.5*	*63.4*	*54.2*	*57.4*	**137.5**	*66.9*	*57.4*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	*77.5*	*61.3*	*50.1*	*57.7*	*48.4*	*51.8*	**132.7**	*61.3*	*51.8*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**2.6**	**3.6**	*3.6*	*3.4*	*3.7*	*3.5*	*3.5*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.5**	**2.0**	*2.1*	*2.0*	*1.7*	*2.1*	*2.2*	*2.1*	**1.7**	*2.0*	*2.1*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	**6.32**	*6.32*	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	*0.275*	*0.329*	*0.329*	*0.291*	*0.288*	*0.302*	**0.216**	*0.277*	*0.302*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	*1.98*	*1.99*	*2.02*	*2.02*	*1.99*	*1.96*	**1.92**	*1.95*	*2.00*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**989**	**984**	*1,157*	*975*	*986*	*1,002*	*1,158*	*988*	**4,009**	*4,104*	*4,133*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	**948**	*1,116*	*936*	*947*	*964*	*1,116*	*949*	**3,853**	*3,952*	*3,976*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	**33**	*37*	*36*	*35*	*35*	*37*	*36*	**143**	*139*	*143*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**10**	**11**	**15**	**12**	**11**	**12**	*14*	*10*	*11*	*12*	*14*	*11*	**47**	*46*	*49*
Total Supply	**976**	**944**	**1,163**	**973**	**999**	**996**	*1,170*	*985*	*997*	*1,014*	*1,172*	*999*	**4,056**	*4,150*	*4,182*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**53**	**65**	*63*	*55*	*45*	*68*	*58*	*55*	**254**	*236*	*226*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**914**	**898**	*1,072*	*896*	*918*	*912*	*1,078*	*909*	**3,664**	*3,780*	*3,817*
Residential Sector	**340**	**334**	**453**	**334**	**379**	**328**	*444*	*338*	*365*	*327*	*441*	*344*	**1,462**	*1,489*	*1,477*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	**322**	*367*	*315*	*312*	*328*	*370*	*318*	**1,276**	*1,308*	*1,328*
Industrial Sector	**231**	**216**	**242**	**231**	**229**	**247**	*260*	*241*	*239*	*255*	*266*	*245*	**920**	*977*	*1,006*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	**1**	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	**32**	*36*	*35*	*34*	*33*	*36*	*35*	**138**	*135*	*139*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	**930**	*1,107*	*930*	*952*	*946*	*1,114*	*944*	**3,802**	*3,915*	*3,956*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,744**	**2,378**	*3,213*	*2,447*	*2,613*	*2,341*	*3,151*	*2,459*	**10,723**	*10,782*	*10,563*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	*77.5*	*61.3*	*50.1*	*57.7*	*48.4*	*51.8*	**132.7**	*61.3*	*51.8*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	**7.5**	*7.8*	*8.2*	*7.8*	*7.8*	*7.8*	*8.2*	**8.3**	*8.2*	*8.2*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**15.9**	**15.3**	*15.4*	*15.7*	*15.6*	*15.5*	*15.5*	*15.8*	**16.8**	*15.7*	*15.8*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	*1.98*	*1.99*	*2.02*	*2.02*	*1.99*	*1.96*	**1.92**	*1.95*	*2.00*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.27**	*4.16*	*4.42*	*4.76*	*3.53*	*3.42*	*3.56*	**2.39**	*4.69*	*3.75*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**12.99**	*13.03*	*13.01*	*13.03*	*13.33*	*12.32*	*11.90*	**9.15**	*12.72*	*12.70*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.40**	*15.85*	*16.52*	*16.15*	*16.07*	*15.16*	*15.17*	**10.73**	*14.93*	*15.59*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	*13.89*	*13.76*	*13.68*	*14.14*	*13.97*	*13.73*	**13.20**	*13.63*	*13.88*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	*11.52*	*11.09*	*11.41*	*11.21*	*11.44*	*10.96*	**10.65**	*11.21*	*11.26*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	*7.26*	*6.58*	*6.96*	*6.84*	*7.16*	*6.57*	**6.66**	*6.97*	*6.89*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	**39.74**	*41.67*	*24.17*	*29.70*	*24.96*	*30.27*	*25.83*	**26.99**	*180.48*	*27.69*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	**36.90**	*54.28*	*17.49*	*18.03*	*17.56*	*19.92*	*17.00*	**38.15**	*38.35*	*18.13*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	**33.67**	*53.32*	*52.61*	*54.31*	*53.80*	*56.46*	*49.52*	**26.52**	*48.71*	*53.52*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	**31.85**	*48.44*	*45.95*	*49.03*	*46.74*	*49.05*	*43.16*	**22.85**	*42.74*	*46.99*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	**33.71**	*45.02*	*35.49*	*37.47*	*33.35*	*37.52*	*32.55*	**24.49**	*37.33*	*35.23*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	**33.82**	*43.47*	*33.38*	*34.75*	*32.10*	*34.84*	*30.49*	**25.43**	*38.91*	*33.04*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	**30.86**	*41.15*	*26.35*	*27.51*	*26.93*	*30.40*	*25.04*	**22.55**	*87.17*	*27.47*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	**32.93**	*39.92*	*32.01*	*33.71*	*30.62*	*32.33*	*28.99*	**22.62**	*36.49*	*31.41*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	**32.17**	*40.43*	*36.35*	*37.11*	*32.90*	*33.46*	*31.70*	**23.48**	*34.17*	*33.79*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	**51.51**	*69.08*	*15.91*	*19.36*	*16.81*	*19.09*	*16.94*	**25.46**	*42.76*	*18.05*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	**46.57**	*57.82*	*13.09*	*15.96*	*16.09*	*17.32*	*14.99*	**39.64**	*39.80*	*16.09*

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**12.9**	**10.8**	*14.0*	*11.1*	*12.4*	*10.4*	*13.3*	*10.9*	**48.2**	*48.9*	*46.9*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**36.1**	**30.3**	*42.2*	*31.6*	*37.0*	*30.3*	*40.1*	*31.7*	**137.1**	*140.3*	*139.1*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.2**	**43.1**	*55.0*	*44.7*	*48.3*	*42.1*	*52.8*	*45.3*	**190.0**	*193.1*	*188.4*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.9**	**23.7**	*30.1*	*26.1*	*31.9*	*24.9*	*31.6*	*27.8*	**105.8**	*109.8*	*116.2*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**95.2**	**85.1**	*113.2*	*85.7*	*91.4*	*84.8*	*112.4*	*86.9*	**370.6**	*379.3*	*375.6*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.8**	**25.6**	*36.5*	*27.4*	*32.5*	*26.1*	*37.0*	*27.8*	**118.8**	*123.3*	*123.4*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**56.8**	**49.5**	*73.1*	*49.1*	*50.9*	*51.2*	*77.5*	*51.1*	**226.5**	*228.6*	*230.8*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.7**	**26.9**	*34.5*	*23.8*	*23.0*	*25.3*	*34.4*	*24.1*	**108.4**	*108.9*	*106.8*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**39.0**	**32.2**	*43.8*	*37.0*	*36.9*	*31.1*	*40.4*	*36.9*	**151.5**	*152.0*	*145.3*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.8*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**378.9**	**328.4**	*443.7*	*337.9*	*365.4*	*327.4*	*440.7*	*343.9*	**1,462.0**	*1,488.9*	*1,477.3*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	**11.7**	*13.2*	*11.4*	*11.7*	*11.6*	*13.1*	*11.4*	**47.5**	*48.1*	*47.7*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.6**	**33.3**	*39.9*	*34.4*	*36.0*	*34.4*	*40.3*	*35.2*	**138.9**	*142.2*	*145.9*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.7**	**42.2**	*47.5*	*42.0*	*42.8*	*42.8*	*47.4*	*42.3*	**169.7**	*173.4*	*175.3*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.0**	**23.7**	*26.5*	*24.1*	*25.0*	*24.4*	*27.2*	*24.6*	**96.0**	*98.3*	*101.3*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.8**	**77.3**	*87.0*	*72.7*	*72.0*	*78.8*	*87.9*	*73.4*	**300.2**	*307.8*	*312.2*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.9**	**21.7**	*25.4*	*20.8*	*21.3*	*22.5*	*25.7*	*20.9*	**85.8**	*88.7*	*90.4*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.4**	**50.2**	*56.8*	*47.3*	*43.3*	*52.1*	*58.4*	*47.9*	**189.4**	*196.6*	*201.7*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	**24.8**	*28.1*	*23.2*	*22.5*	*24.7*	*28.3*	*23.4*	**94.7**	*98.0*	*98.9*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**35.2**	**35.3**	*41.0*	*37.9*	*35.9*	*35.7*	*40.0*	*37.4*	**148.3**	*149.4*	*149.0*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	*1.4*	**5.2**	*5.3*	*5.5*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.6**	**321.6**	*366.6*	*315.0*	*311.9*	*328.5*	*369.7*	*317.9*	**1,275.7**	*1,307.9*	*1,328.1*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.8**	**4.0**	*4.2*	*3.8*	*3.9*	*4.0*	*4.2*	*3.8*	**14.8**	*15.7*	*15.9*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.6**	**17.9**	*19.6*	*18.1*	*18.3*	*18.5*	*20.0*	*18.5*	**70.4**	*73.3*	*75.4*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.8**	**46.6**	*48.2*	*44.4*	*47.6*	*48.2*	*49.4*	*45.3*	**168.7**	*183.9*	*190.5*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.0**	**24.2**	*25.6*	*23.7*	*24.9*	*25.7*	*26.5*	*24.2*	**87.3**	*96.5*	*101.3*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.4**	**35.9**	*36.2*	*34.5*	*34.6*	*36.8*	*36.8*	*35.1*	**131.7**	*140.0*	*143.4*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.8**	**25.0**	*25.6*	*24.0*	*24.9*	*25.6*	*25.8*	*24.1*	**91.1**	*98.4*	*100.4*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**44.1**	**49.7**	*52.2*	*51.7*	*46.0*	*51.9*	*53.9*	*53.2*	**188.1**	*197.6*	*205.1*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.2**	**21.6**	*23.8*	*20.1*	*19.3*	*21.7*	*24.1*	*20.4*	**82.9**	*84.7*	*85.5*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.1**	**20.9**	*23.5*	*19.5*	*18.6*	*21.4*	*23.9*	*19.7*	**80.1**	*82.1*	*83.6*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	**1.1**	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.5**	*4.6*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**228.8**	**246.9**	*259.9*	*241.0*	*239.2*	*255.1*	*265.8*	*245.4*	**919.5**	*976.6*	*1,005.5*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	**26.7**	*31.6*	*26.4*	*28.1*	*26.1*	*30.7*	*26.1*	**111.0**	*113.2*	*111.0*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.2**	**82.3**	*102.5*	*84.9*	*92.2*	*84.1*	*101.2*	*86.1*	**349.7**	*358.9*	*363.6*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.9**	**132.0**	*150.8*	*131.3*	*138.8*	*133.2*	*149.7*	*133.0*	**528.8**	*550.9*	*554.7*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.0**	**71.6**	*82.1*	*73.8*	*81.8*	*75.1*	*85.2*	*76.7*	**289.2**	*304.6*	*318.8*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.7**	**198.6**	*236.7*	*193.2*	*198.3*	*200.8*	*237.4*	*195.7*	**803.7**	*828.1*	*832.2*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.5**	**72.4**	*87.4*	*72.2*	*78.7*	*74.2*	*88.6*	*72.8*	**295.7**	*310.4*	*314.2*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**143.3**	**149.5**	*182.2*	*148.1*	*140.3*	*155.3*	*189.9*	*152.3*	**604.2**	*623.0*	*637.8*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	**73.3**	*86.4*	*67.2*	*64.8*	*71.8*	*86.9*	*67.9*	**286.2**	*291.7*	*291.4*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**92.5**	**88.6**	*108.5*	*94.6*	*91.5*	*88.3*	*104.4*	*94.2*	**380.6**	*384.2*	*378.5*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	**3.6**	*3.7*	*3.9*	*3.7*	*3.6*	*3.7*	*3.9*	**14.6**	*14.8*	*15.0*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**914.0**	**898.4**	*1,071.8*	*895.5*	*918.2*	*912.5*	*1,077.8*	*908.8*	**3,663.7**	*3,779.7*	*3,817.2*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.38**	**20.82**	*21.86*	*22.54*	*23.75*	*23.39*	*24.59*	*25.10*	**21.20**	*21.65*	*24.22*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.62**	**16.28**	*16.92*	*16.90*	*16.41*	*16.87*	*17.35*	*17.07*	**15.92**	*16.44*	*16.93*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.38**	**14.40**	*13.90*	*14.17*	*13.92*	*14.87*	*14.27*	*14.34*	**13.48**	*13.94*	*14.33*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.88**	**12.76**	*13.61*	*11.73*	*10.62*	*12.15*	*12.80*	*11.19*	**11.99**	*12.24*	*11.68*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.66**	**12.31**	*12.43*	*12.32*	*12.37*	*12.90*	*12.83*	*12.37*	**11.88**	*12.19*	*12.63*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.18**	**12.22**	*11.85*	*11.85*	*11.67*	*12.46*	*11.92*	*11.85*	**11.36**	*11.74*	*11.95*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**11.85**	**11.72**	*12.02*	*12.28*	*12.63*	*11.62*	*11.52*	*11.73*	**11.29**	*11.97*	*11.83*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.53**	**12.09**	*12.23*	*11.76*	*11.67*	*12.12*	*12.05*	*11.50*	**11.88**	*11.94*	*11.86*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.76**	**18.15**	*18.02*	*16.82*	*17.02*	*18.94*	*18.57*	*16.91*	**16.67**	*17.43*	*17.84*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	*13.89*	*13.76*	*13.68*	*14.14*	*13.97*	*13.73*	**13.20**	*13.63*	*13.88*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.28**	**15.75**	*17.03*	*16.85*	*17.58*	*17.00*	*18.26*	*17.84*	**15.90**	*16.49*	*17.69*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.48**	**13.34**	*13.95*	*13.15*	*13.11*	*13.90*	*14.30*	*13.39*	**12.47**	*13.26*	*13.69*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.40**	**10.69**	*10.60*	*10.79*	*10.79*	*10.93*	*10.67*	*10.76*	**10.19**	*10.62*	*10.78*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.10**	**10.19**	*11.23*	*9.61*	*8.86*	*9.45*	*10.27*	*9.00*	**9.66**	*10.06*	*9.41*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.29**	**9.18**	*9.42*	*9.74*	*9.81*	*9.45*	*9.46*	*9.59*	**9.13**	*9.41*	*9.57*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.96**	**11.23**	*11.20*	*11.20*	*11.32*	*11.38*	*11.28*	*11.25*	**10.70**	*11.15*	*11.31*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**11.28**	**8.85**	*8.30*	*7.91*	*10.98*	*8.88*	*8.48*	*8.15*	**7.90**	*8.99*	*9.04*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.11**	**9.76**	*10.22*	*9.39*	*9.08*	*9.59*	*9.84*	*9.00*	**9.58**	*9.66*	*9.41*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.53**	**16.00**	*18.16*	*15.71*	*14.88*	*15.98*	*17.35*	*14.85*	**15.18**	*16.17*	*15.80*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	*11.52*	*11.09*	*11.41*	*11.21*	*11.44*	*10.96*	**10.65**	*11.21*	*11.26*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.49**	**12.78**	*13.31*	*12.73*	*14.07*	*13.23*	*13.71*	*13.03*	**12.26**	*13.08*	*13.51*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.50**	**6.55**	*6.62*	*6.34*	*6.41*	*6.46*	*6.39*	*6.15*	**6.35**	*6.51*	*6.35*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.92**	**6.93**	*7.00*	*6.80*	*6.95*	*6.95*	*6.96*	*6.80*	**6.66**	*6.91*	*6.92*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**6.97**	**7.30**	*8.05*	*6.73*	*6.90*	*7.35*	*8.08*	*6.81*	**7.20**	*7.28*	*7.30*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.24**	**6.30**	*6.81*	*6.27*	*6.36*	*6.30*	*6.70*	*6.20*	**6.17**	*6.41*	*6.39*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.75**	**5.87**	*5.95*	*5.61*	*5.72*	*5.83*	*5.86*	*5.56*	**5.54**	*5.80*	*5.75*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.60**	**5.45**	*5.26*	*4.88*	*6.56*	*5.15*	*5.01*	*4.77*	**5.07**	*5.73*	*5.33*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.23**	**6.62**	*7.06*	*5.87*	*6.15*	*6.51*	*6.93*	*5.92*	**6.21**	*6.48*	*6.41*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.64**	**10.70**	*12.33*	*10.93*	*9.72*	*10.77*	*12.41*	*11.33*	**10.71**	*10.99*	*11.14*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	*7.26*	*6.58*	*6.96*	*6.84*	*7.16*	*6.57*	**6.66**	*6.97*	*6.89*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.19**	**17.34**	*18.65*	*18.61*	*19.78*	*18.93*	*20.35*	*20.13*	**17.68**	*18.22*	*19.82*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.56**	**12.94**	*13.76*	*13.09*	*13.10*	*13.33*	*13.93*	*13.19*	**12.58**	*13.11*	*13.41*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.35**	**10.57**	*10.65*	*10.59*	*10.56*	*10.73*	*10.71*	*10.63*	**10.24**	*10.54*	*10.66*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.16**	**10.07**	*11.11*	*9.43*	*8.95*	*9.62*	*10.53*	*9.10*	**9.77**	*9.97*	*9.57*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.91**	**10.00**	*10.46*	*10.26*	*10.38*	*10.33*	*10.63*	*10.22*	**9.91**	*10.17*	*10.40*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.48**	**9.72**	*9.94*	*9.59*	*9.69*	*9.84*	*9.97*	*9.60*	**9.38**	*9.69*	*9.78*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.37**	**8.67**	*8.92*	*8.30*	*10.13*	*8.53*	*8.73*	*8.17*	**8.29**	*9.05*	*8.86*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.15**	**9.69**	*10.15*	*9.18*	*9.12*	*9.55*	*9.91*	*8.97*	**9.48**	*9.59*	*9.43*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.50**	**15.53**	*16.82*	*15.15*	*14.68*	*15.75*	*16.68*	*14.91*	**14.82**	*15.55*	*15.54*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.94**	**10.92**	*11.47*	*10.88*	*11.15*	*11.04*	*11.42*	*10.82*	**10.66**	*11.07*	*11.12*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**318.2**	**345.4**	*436.5*	*291.3*	*285.5*	*313.3*	*444.3*	*327.3*	**1,512.2**	*1,391.4*	*1,370.4*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**230.3**	**203.8**	*283.0*	*248.0*	*246.2*	*218.5*	*260.3*	*212.5*	**768.2**	*965.0*	*937.5*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.5**	**185.2**	*204.1*	*185.8*	*187.1*	*185.1*	*197.1*	*184.2*	**789.9**	*773.6*	*753.6*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**198.0**	**208.2**	*187.7*	*204.2*	*220.3*	*240.4*	*209.5*	*217.9*	**760.6**	*798.1*	*888.1*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	*57.7*	*55.2*	*66.4*	*78.3*	*63.4*	*58.0*	**289.9**	*249.5*	*266.0*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	*79.5*	*111.3*	*113.7*	*105.9*	*87.5*	*118.2*	**336.7**	*382.4*	*425.4*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	*35.7*	*24.0*	*28.2*	*45.1*	*44.9*	*29.5*	**90.1**	*116.3*	*147.8*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	*10.4*	*9.5*	*8.0*	*7.8*	*9.3*	*8.1*	**27.5**	*33.5*	*33.1*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	*4.3*	*4.2*	*4.0*	*3.3*	*4.3*	*4.2*	**16.5**	*16.3*	*15.7*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	**-1.0**	*-2.5*	*-1.1*	*-0.9*	*-0.9*	*-2.3*	*-1.0*	**-5.3**	*-5.6*	*-5.1*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**5.2**	**3.5**	*5.1*	*5.1*	*6.5*	*4.9*	*5.3*	*5.2*	**16.5**	*19.1*	*21.8*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	**0.8**	*0.7*	*0.7*	*0.6*	*0.7*	*0.6*	*0.8*	**3.1**	*2.9*	*2.7*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.9**	**1.8**	*1.7*	*1.9*	*1.8*	*1.8*	*1.7*	*1.9*	**7.5**	*7.2*	*7.2*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**951.8**	**947.8**	*1,116.2*	*935.9*	*947.2*	*963.9*	*1,116.5*	*948.8*	**3,852.8**	*3,951.6*	*3,976.3*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**12.1**	**11.0**	*15.7*	*11.6*	*10.9*	*11.4*	*16.0*	*10.9*	**47.7**	*50.3*	*49.3*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	**0.0**	*0.7*	*0.7*	*0.5*	*0.1*	*0.3*	*0.3*	**0.2**	*1.9*	*1.2*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	**7.1**	*7.3*	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.0*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	**1.8**	*1.2*	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*6.7*	*7.4*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.8**	**2.9**	*3.7*	*3.7*	*3.5*	*3.5*	*3.9*	*3.6*	**10.3**	*13.1*	*14.5*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.3**	*1.5*	*1.4*	*2.2*	*1.9*	*1.4*	*1.0*	**1.4**	*3.6*	*6.5*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.7**	**23.0**	*30.1*	*24.8*	*26.1*	*25.4*	*30.2*	*24.8*	**92.9**	*102.6*	*106.6*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.4**	**26.9**	*32.1*	*28.2*	*29.4*	*27.6*	*32.1*	*28.3*	**113.0**	*116.6*	*117.4*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**12.8**	**14.0**	*18.9*	*13.8*	*14.6*	*13.1*	*19.4*	*13.5*	**57.1**	*59.5*	*60.5*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.3**	**7.7**	*7.3*	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*31.0*	*27.3*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	**7.2**	*7.1*	*7.3*	*7.0*	*7.0*	*7.0*	*7.2*	**31.4**	*28.9*	*28.2*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	**2.0**	*2.3*	*2.7*	*2.3*	*2.3*	*2.4*	*3.0*	**7.6**	*8.9*	*10.0*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	*1.4*	*0.8*	*0.9*	*0.8*	*1.4*	*1.1*	**0.6**	*2.7*	*4.2*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**31.7**	**31.0**	*37.0*	*31.4*	*31.2*	*30.3*	*36.9*	*31.8*	**135.4**	*131.1*	*130.2*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	**34.7**	*43.3*	*36.5*	*37.4*	*36.4*	*43.4*	*36.9*	**145.3**	*151.1*	*154.1*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**72.5**	**70.9**	*87.2*	*61.0*	*73.9*	*69.4*	*96.1*	*73.0*	**315.8**	*291.5*	*312.4*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**50.5**	**39.8**	*51.9*	*50.1*	*56.2*	*45.1*	*46.1*	*44.8*	**148.3**	*192.3*	*192.2*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.4**	**64.6**	*71.4*	*62.3*	*59.0*	*59.2*	*62.9*	*57.7*	**275.7**	*266.7*	*238.8*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	**2.4**	*1.7*	*2.2*	*2.7*	*2.8*	*1.7*	*2.2*	**9.9**	*8.9*	*9.4*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.1**	**11.0**	*8.8*	*12.2*	*12.7*	*12.3*	*9.6*	*12.9*	**39.1**	*43.2*	*47.5*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**1.0**	**0.5**	*-0.1*	*0.7*	*1.2*	*0.6*	*0.0*	*0.9*	**2.2**	*2.2*	*2.7*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**206.2**	**189.3**	*220.8*	*188.6*	*205.6*	*189.5*	*216.4*	*191.4*	**791.1**	*804.9*	*802.9*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.0**	**194.4**	**177.8**	*211.8*	*182.5*	*195.6*	*180.5*	*207.7*	*184.5*	**732.4**	*766.4*	*768.4*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**57.6**	**57.2**	*67.1*	*49.2*	*54.2*	*54.9*	*74.3*	*58.2*	**254.2**	*231.1*	*241.7*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	**33.7**	*48.0*	*40.3*	*39.8*	*38.7*	*45.5*	*36.4*	**118.3**	*158.2*	*160.3*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	**50.9**	*55.5*	*52.0*	*52.5*	*55.2*	*58.5*	*54.9*	**210.1**	*212.2*	*221.0*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.8**	**8.7**	*7.4*	*8.0*	*10.1*	*7.5*	*6.6*	*7.7*	**38.7**	*33.8*	*31.9*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.0**	**5.9**	*6.0*	*4.8*	*4.7*	*6.9*	*6.9*	*4.9*	**17.4**	*20.6*	*23.5*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	**-0.2**	*-0.9*	*-0.2*	*-0.3*	*-0.4*	*-0.9*	*-0.2*	**-1.1**	*-1.4*	*-1.7*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.4**	**156.2**	*183.0*	*154.0*	*161.1*	*162.9*	*190.8*	*161.9*	**637.6**	*654.6*	*676.7*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.0**	**158.3**	*180.1*	*152.5*	*159.3*	*160.7*	*188.0*	*158.6*	**649.7**	*653.9*	*666.6*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.5**	**43.7**	*48.8*	*34.9*	*30.4*	*43.2*	*49.4*	*37.5*	**179.5**	*162.0*	*160.5*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	**5.3**	*6.0*	*5.5*	*4.1*	*6.0*	*5.5*	*5.1*	**15.9**	*21.5*	*20.8*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	**7.2**	*7.8*	*6.9*	*7.9*	*7.3*	*8.1*	*7.1*	**29.4**	*29.7*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.4**	**3.2**	*3.6*	*3.1*	*3.2*	*5.0*	*3.7*	*3.0*	**8.4**	*12.2*	*14.9*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	**0.7**	*0.6*	*0.5*	*0.6*	*0.8*	*0.6*	*0.5*	**3.3**	*2.5*	*2.4*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**50.3**	**60.2**	*66.8*	*50.9*	*46.3*	*62.4*	*67.2*	*53.3*	**236.7**	*228.1*	*229.2*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.6**	**54.0**	*67.8*	*52.1*	*48.0*	*59.0*	*67.4*	*52.9*	**232.8**	*224.5*	*227.4*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**34.5**	**40.2**	*45.6*	*28.1*	*29.4*	*38.2*	*53.7*	*40.0*	**178.3**	*148.4*	*161.2*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**69.7**	**60.1**	*80.7*	*70.0*	*69.8*	*61.5*	*70.9*	*56.2*	**218.4**	*280.5*	*258.4*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	**22.6**	*24.3*	*23.5*	*23.8*	*22.2*	*23.7*	*23.0*	**95.1**	*94.0*	*92.6*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**2.8**	**2.9**	*2.5*	*2.2*	*2.4*	*2.8*	*2.3*	*2.1*	**11.8**	*10.4*	*9.6*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**24.3**	**23.2**	*19.5*	*28.1*	*26.6*	*25.2*	*20.8*	*29.1*	**81.3**	*95.1*	*101.7*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.8**	**1.3**	*0.7*	*1.0*	*1.7*	*1.5*	*1.0*	*1.2*	**5.2**	*4.9*	*5.3*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**156.7**	**150.3**	*173.5*	*153.0*	*153.6*	*151.4*	*172.3*	*151.6*	**590.0**	*633.5*	*628.9*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.0**	**154.2**	*179.4*	*155.8*	*156.8*	*158.5*	*178.4*	*157.9*	**618.7**	*648.3*	*651.6*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.4**	**14.5**	*18.6*	*7.3*	*7.6*	*14.4*	*21.6*	*13.3*	**71.6**	*52.9*	*56.9*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**21.8**	**19.8**	*30.1*	*24.9*	*25.4*	*18.5*	*28.2*	*20.6*	**79.2**	*96.6*	*92.8*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	**2.8**	*4.3*	*4.4*	*4.3*	*4.3*	*4.1*	*2.5*	**16.8**	*15.6*	*15.2*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	**5.1**	*4.8*	*3.6*	*3.7*	*4.4*	*4.0*	*3.2*	**21.8**	*18.8*	*15.3*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**22.8**	**23.6**	*20.3*	*26.5*	*27.8*	*26.0*	*23.0*	*29.1*	**80.6**	*93.2*	*105.9*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	**0.1**	*-0.1*	*0.1*	*-0.1*	*-0.1*	*-0.1*	*0.2*	**0.5**	*0.5*	*-0.1*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.7**	**65.9**	*78.1*	*66.7*	*68.8*	*67.5*	*80.9*	*68.9*	**270.5**	*277.5*	*286.0*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.7**	**65.0**	*74.9*	*61.8*	*66.2*	*66.6*	*77.7*	*64.5*	**262.1**	*266.3*	*275.0*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.0**	**40.0**	*52.2*	*27.8*	*22.6*	*28.9*	*44.7*	*23.9*	**174.6**	*153.0*	*120.0*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.3**	**18.5**	*24.0*	*21.5*	*17.0*	*20.7*	*23.4*	*18.5*	**67.2**	*80.3*	*79.6*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	**9.8**	*10.3*	*9.5*	*10.7*	*10.0*	*10.6*	*10.8*	**41.4**	*40.1*	*42.0*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.3**	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.8*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**25.2**	**27.6**	*27.0*	*31.7*	*35.4*	*37.6*	*34.2*	*35.3*	**92.6**	*111.5*	*142.6*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	**0.3**	*0.4*	*0.4*	*0.2*	*0.3*	*0.4*	*0.4*	**1.5**	*1.3*	*1.3*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	*114.0*	*91.0*	*86.0*	*97.7*	*113.3*	*89.1*	**378.4**	*387.2*	*386.2*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	*114.0*	*91.0*	*86.0*	*97.7*	*113.3*	*89.1*	**378.4**	*387.2*	*386.2*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**20.9**	**20.1**	*31.1*	*23.2*	*18.9*	*14.3*	*24.4*	*24.6*	**89.6**	*95.3*	*82.3*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**22.5**	**19.0**	*29.9*	*24.7*	*24.4*	*18.6*	*29.4*	*21.6*	**86.1**	*96.1*	*93.9*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	**1.2**	*2.5*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.7*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.3**	**32.0**	*26.3*	*26.9*	*33.0*	*41.1*	*30.7*	*28.0*	**136.0**	*119.5*	*132.8*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.3**	**16.6**	*14.1*	*16.2*	*16.7*	*16.1*	*14.6*	*17.1*	**55.6**	*62.3*	*64.5*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	*0.0*	*0.1*	*0.1*	*-0.1*	*0.0*	*0.1*	**0.6**	*0.4*	*0.1*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**95.6**	**89.2**	*103.9*	*93.5*	*95.4*	*92.5*	*101.5*	*93.8*	**377.4**	*382.2*	*383.3*
Net energy for load (f)	**89.9**	**81.7**	**93.6**	**87.7**	**88.9**	**82.8**	*98.9*	*90.0*	*89.1*	*86.0*	*96.5*	*90.0*	**353.0**	*360.7*	*361.7*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**11.0**	**15.8**	*21.5*	*11.1*	*6.4*	*8.9*	*16.9*	*9.8*	**61.7**	*59.4*	*42.0*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**5.9**	**5.6**	*9.3*	*7.6*	*6.9*	*7.1*	*8.7*	*5.8*	**25.9**	*28.4*	*28.5*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	**7.1**	*8.6*	*7.7*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.8*	*32.1*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.5**	**3.3**	*3.3*	*2.2*	*2.7*	*3.9*	*3.8*	*2.6*	**12.8**	*11.2*	*13.0*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	**3.8**	*3.7*	*4.3*	*4.7*	*5.6*	*5.1*	*5.3*	**10.5**	*14.8*	*20.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.2**	*0.1*	*-0.1*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.8**	**35.7**	*46.4*	*32.9*	*29.1*	*33.0*	*43.2*	*31.0*	**142.7**	*145.8*	*136.2*
Net energy for load (f)	**19.8**	**25.3**	**32.7**	**21.3**	**19.2**	**26.4**	*32.1*	*21.1*	*19.2*	*24.8*	*32.2*	*21.1*	**99.2**	*98.9*	*97.3*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.6**	**17.4**	*29.2*	*22.6*	*15.8*	*15.9*	*27.2*	*21.9*	**79.9**	*85.8*	*80.9*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	**1.4**	*1.9*	*2.2*	*1.8*	*1.5*	*1.8*	*2.8*	**6.7**	*7.2*	*7.9*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	**4.2**	*4.9*	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.7*	*16.7*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.0**	**3.2**	*2.8*	*0.5*	*2.2*	*5.9*	*5.4*	*2.6*	**16.8**	*8.5*	*15.9*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.5**	**20.9**	*20.4*	*15.2*	*16.0*	*21.0*	*21.4*	*16.1*	**65.8**	*71.9*	*74.4*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**-0.1**	*-0.1*	*0.1*	*0.0*	*-0.3*	*-0.1*	*0.1*	**0.2**	*-0.2*	*-0.4*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.7**	**47.1**	*58.9*	*45.3*	*40.3*	*47.7*	*60.2*	*47.3*	**185.8**	*190.0*	*195.5*
Net energy for load (f)	**58.6**	**59.4**	**74.6**	**61.1**	**57.0**	**62.7**	*78.2*	*60.6*	*56.5*	*62.4*	*76.0*	*61.0*	**253.7**	*258.5*	*255.9*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.035**	**0.035**	*0.038*	*0.037*	*0.035*	*0.029*	*0.038*	*0.037*	**0.147**	*0.145*	*0.140*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.617**	**0.604**	*0.599*	*0.559*	*0.691*	*0.694*	*0.597*	*0.556*	**2.581**	*2.379*	*2.538*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.195**	**0.320**	*0.325*	*0.218*	*0.257*	*0.411*	*0.409*	*0.268*	**0.820**	*1.059*	*1.346*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.059**	**0.057**	*0.082*	*0.079*	*0.062*	*0.056*	*0.078*	*0.075*	**0.238**	*0.276*	*0.271*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.050**	**0.045**	*0.079*	*0.068*	*0.061*	*0.065*	*0.065*	*0.049*	**0.185**	*0.242*	*0.241*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	*0.724*	*1.013*	*1.035*	*0.965*	*0.797*	*1.076*	**3.065**	*3.482*	*3.872*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.833**	**1.928**	*1.847*	*1.975*	*2.143*	*2.220*	*1.985*	*2.061*	**7.037**	*7.583*	*8.408*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.169**	**0.188**	*0.191*	*0.190*	*0.186*	*0.192*	*0.197*	*0.196*	**0.698**	*0.738*	*0.770*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	**0.011**	*0.011*	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	**0.039**	*0.038*	*0.040*	*0.040*	*0.039*	*0.038*	*0.040*	**0.156**	*0.158*	*0.157*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	**0.344**	*0.354*	*0.358*	*0.349*	*0.347*	*0.359*	*0.362*	**1.376**	*1.394*	*1.416*
Subtotal	**0.594**	**0.520**	**0.558**	**0.588**	**0.555**	**0.579**	*0.590*	*0.596*	*0.582*	*0.586*	*0.602*	*0.605*	**2.261**	*2.321*	*2.375*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	**0.043**	*0.044*	*0.031*	*0.035*	*0.051*	*0.051*	*0.035*	**0.123**	*0.146*	*0.172*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.070**	**0.085**	*0.086*	*0.073*	*0.076*	*0.092*	*0.094*	*0.078*	**0.290**	*0.314*	*0.340*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.066**	**0.101**	*0.105*	*0.074*	*0.081*	*0.123*	*0.124*	*0.086*	**0.291**	*0.346*	*0.413*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	**0.113**	*0.115*	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.458**	*0.455*	*0.455*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	**0.225**	*0.230*	*0.199*	*0.203*	*0.246*	*0.249*	*0.211*	**0.788**	*0.841*	*0.908*
Transportation Sector															
Biomass-based Diesel (f)	**0.062**	**0.066**	**0.073**	**0.075**	**0.056**	**0.072**	*0.075*	*0.084*	*0.081*	*0.083*	*0.087*	*0.094*	**0.275**	*0.287*	*0.345*
Ethanol (f)	**0.258**	**0.222**	**0.266**	**0.259**	**0.244**	**0.283**	*0.284*	*0.274*	*0.259*	*0.285*	*0.290*	*0.283*	**1.006**	*1.085*	*1.117*
Subtotal	**0.320**	**0.288**	**0.340**	**0.334**	**0.300**	**0.354**	*0.360*	*0.358*	*0.340*	*0.368*	*0.377*	*0.376*	**1.281**	*1.372*	*1.462*
All Sectors Total															
Biomass-based Diesel (f)	**0.062**	**0.066**	**0.073**	**0.075**	**0.056**	**0.072**	*0.075*	*0.084*	*0.081*	*0.083*	*0.087*	*0.094*	**0.275**	*0.287*	*0.345*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.188**	**0.169**	**0.188**	*0.191*	*0.190*	*0.186*	*0.192*	*0.197*	*0.196*	**0.698**	*0.738*	*0.770*
Ethanol (f)	**0.268**	**0.231**	**0.277**	**0.269**	**0.253**	**0.293**	*0.295*	*0.285*	*0.269*	*0.296*	*0.301*	*0.293*	**1.045**	*1.127*	*1.160*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	**0.052**	*0.055*	*0.054*	*0.052*	*0.046*	*0.055*	*0.054*	**0.214**	*0.213*	*0.208*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.620**	**0.606**	*0.602*	*0.562*	*0.694*	*0.696*	*0.600*	*0.558*	**2.592**	*2.390*	*2.548*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.292**	**0.470**	*0.485*	*0.330*	*0.381*	*0.596*	*0.596*	*0.398*	**1.246**	*1.577*	*1.971*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	**0.104**	*0.129*	*0.128*	*0.111*	*0.103*	*0.125*	*0.124*	**0.430**	*0.469*	*0.463*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	**0.523**	*0.568*	*0.562*	*0.542*	*0.546*	*0.560*	*0.546*	**2.101**	*2.173*	*2.195*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	*0.724*	*1.013*	*1.035*	*0.965*	*0.797*	*1.076*	**3.065**	*3.482*	*3.872*
Total Consumption	**2.925**	**3.000**	**2.826**	**2.907**	**2.946**	**3.171**	*3.113*	*3.200*	*3.343*	*3.512*	*3.307*	*3.331*	**11.657**	*12.430*	*13.493*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,601**	**6,599**	**6,550**	**6,549**	**6,539**	**6,395**	*6,396*	*6,439*	*6,442*	*6,444*	*6,444*	*6,444*	**6,549**	*6,439*	*6,444*
Waste	**3,928**	**3,926**	**3,853**	**3,851**	**3,842**	**3,840**	*3,842*	*3,885*	*3,888*	*3,890*	*3,890*	*3,890*	**3,851**	*3,885*	*3,890*
Wood	**2,673**	**2,673**	**2,697**	**2,697**	**2,697**	**2,554**	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	*2,554*	**2,697**	*2,554*	*2,554*
Conventional Hydroelectric	**79,488**	**79,482**	**79,629**	**79,631**	**79,632**	**79,702**	*79,706*	*79,722*	*79,755*	*79,765*	*79,806*	*79,809*	**79,631**	*79,722*	*79,809*
Geothermal	**2,505**	**2,523**	**2,523**	**2,523**	**2,523**	**2,523**	*2,523*	*2,565*	*2,565*	*2,565*	*2,565*	*2,565*	**2,523**	*2,565*	*2,565*
Large-Scale Solar (b)	**39,060**	**41,153**	**42,954**	**47,574**	**50,244**	**52,116**	*56,380*	*63,492*	*65,554*	*69,711*	*72,187*	*79,837*	**47,574**	*63,492*	*79,837*
Wind	**106,123**	**107,617**	**109,144**	**118,112**	**120,998**	**124,339**	*127,810*	*135,696*	*136,400*	*137,954*	*138,664*	*141,972*	**118,112**	*135,696*	*141,972*
Other Sectors (c)															
Biomass	**6,430**	**6,431**	**6,427**	**6,438**	**6,417**	**6,420**	*6,405*	*6,405*	*6,405*	*6,405*	*6,397*	*6,397*	**6,438**	*6,405*	*6,397*
Waste	**781**	**782**	**778**	**789**	**787**	**790**	*790*	*790*	*790*	*790*	*790*	*790*	**789**	*790*	*790*
Wood	**5,649**	**5,649**	**5,649**	**5,649**	**5,630**	**5,630**	*5,615*	*5,615*	*5,615*	*5,615*	*5,607*	*5,607*	**5,649**	*5,615*	*5,607*
Conventional Hydroelectric	**288**	**288**	**288**	**288**	**288**	**288**	*284*	*286*	*286*	*286*	*286*	*286*	**288**	*286*	*286*
Large-Scale Solar (b)	**442**	**455**	**461**	**467**	**471**	**471**	*496*	*539*	*539*	*539*	*541*	*542*	**467**	*539*	*542*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**28,888**	**30,385**	*31,964*	*33,541*	*35,065*	*36,479*	*37,881*	*39,261*	**27,724**	*33,541*	*39,261*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,076**	**19,144**	*20,256*	*21,370*	*22,412*	*23,367*	*24,290*	*25,174*	**17,238**	*21,370*	*25,174*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,725**	**9,104**	*9,508*	*9,908*	*10,325*	*10,723*	*11,137*	*11,567*	**8,430**	*9,908*	*11,567*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,088**	**2,138**	*2,201*	*2,264*	*2,328*	*2,390*	*2,454*	*2,519*	**2,056**	*2,264*	*2,519*
Wind	**113**	**339**	**348**	**348**	**348**	**348**	*348*	*348*	*348*	*348*	*348*	*348*	**348**	*348*	*348*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	*10.4*	*9.5*	*8.0*	*7.8*	*9.3*	*8.1*	**27.5**	*33.5*	*33.1*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.0**	**3.9**	*5.5*	*5.3*	*4.2*	*3.8*	*5.3*	*5.1*	**16.1**	*18.7*	*18.4*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	**2.7**	*4.8*	*4.2*	*3.8*	*4.0*	*4.0*	*3.0*	**11.4**	*14.9*	*14.8*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	*57.7*	*55.2*	*66.4*	*78.3*	*63.4*	*58.0*	**289.9**	*249.5*	*266.0*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	*4.3*	*4.2*	*4.0*	*3.3*	*4.3*	*4.2*	**16.5**	*16.3*	*15.7*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	*35.7*	*24.0*	*28.2*	*45.1*	*44.9*	*29.5*	**90.1**	*116.3*	*147.8*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	*79.5*	*111.3*	*113.7*	*105.9*	*87.5*	*118.2*	**336.7**	*382.4*	*425.4*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.0**	**6.8**	*7.0*	*7.1*	*7.0*	*6.8*	*7.0*	*7.1*	**28.6**	*27.9*	*27.9*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.6**	*0.7*	*0.7*	*0.7*	*0.6*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.3**	**6.2**	*6.4*	*6.4*	*6.3*	*6.2*	*6.4*	*6.4*	**25.8**	*25.3*	*25.3*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**9.8**	**14.8**	*15.1*	*10.6*	*11.9*	*17.9*	*18.1*	*12.5*	**41.7**	*50.2*	*60.5*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	**9.1**	*9.4*	*6.6*	*7.4*	*11.3*	*11.4*	*7.9*	**25.4**	*31.0*	*38.0*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	**4.5**	*4.6*	*3.2*	*3.7*	*5.3*	*5.4*	*3.7*	**12.9**	*15.3*	*18.1*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	**1.1**	*1.2*	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.4*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	**0.3**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*1.0*	*0.9*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,358**	*19,643*	*19,914*	*20,149*	*20,290*	*20,417*	*20,533*	**18,385**	*19,493*	*20,347*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,014**	**11,756**	**12,821**	**12,928**	**13,283**	**13,659**	*13,723*	*13,861*	*13,948*	*14,046*	*14,135*	*14,220*	**12,630**	*13,631*	*14,087*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,420**	**3,123**	**3,319**	**3,457**	**3,564**	**3,591**	*3,627*	*3,666*	*3,708*	*3,727*	*3,743*	*3,762*	**3,329**	*3,612*	*3,735*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-21**	**-290**	**15**	**57**	**-94**	**-169**	*29*	*79*	*185*	*193*	*185*	*172*	**-60**	*-39*	*183*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,346**	**3,378**	**3,360**	**3,356**	**3,391**	**3,378**	*3,396*	*3,422*	*3,429*	*3,430*	*3,440*	*3,447*	**3,360**	*3,397*	*3,436*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,442**	**1,943**	**2,166**	**2,279**	**2,262**	**2,296**	*2,331*	*2,374*	*2,421*	*2,471*	*2,523*	*2,575*	**2,208**	*2,316*	*2,497*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,284**	**2,718**	**3,188**	**3,412**	**3,488**	**3,555**	*3,614*	*3,626*	*3,666*	*3,699*	*3,733*	*3,768*	**3,150**	*3,571*	*3,717*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,301**	**15,797**	*15,514*	*15,394*	*15,418*	*15,561*	*15,694*	*15,766*	**15,677**	*16,002*	*15,610*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	**145.0**	*147.6*	*149.5*	*151.0*	*152.2*	*153.0*	*153.6*	**142.3**	*146.4*	*152.5*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	**5.9**	*5.2*	*4.7*	*4.3*	*4.0*	*3.8*	*3.6*	**8.1**	*5.5*	*3.9*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	**1.59**	*1.56*	*1.55*	*1.49*	*1.44*	*1.41*	*1.39*	**1.40**	*1.57*	*1.43*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**100.0**	**87.1**	**95.5**	**97.4**	**98.3**	**99.8**	*101.2*	*102.1*	*103.5*	*104.4*	*105.0*	*105.6*	**95.0**	*100.3*	*104.6*
Manufacturing	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.6**	*100.4*	*101.7*	*103.4*	*104.5*	*105.2*	*105.9*	**93.2**	*99.5*	*104.7*
Food	**101.8**	**93.8**	**98.0**	**100.1**	**101.2**	**100.7**	*100.6*	*101.0*	*101.4*	*101.7*	*102.1*	*102.6*	**98.4**	*100.9*	*102.0*
Paper	**99.5**	**91.5**	**90.7**	**94.9**	**93.9**	**95.0**	*95.5*	*96.2*	*96.7*	*97.2*	*97.7*	*97.9*	**94.2**	*95.2*	*97.4*
Petroleum and Coal Products	**98.0**	**77.3**	**84.0**	**86.7**	**90.5**	**96.2**	*97.6*	*99.3*	*100.2*	*100.9*	*101.5*	*101.5*	**86.5**	*95.9*	*101.0*
Chemicals	**95.0**	**89.9**	**92.5**	**94.7**	**91.7**	**98.9**	*101.2*	*102.6*	*104.0*	*105.3*	*106.0*	*106.3*	**93.0**	*98.6*	*105.4*
Nonmetallic Mineral Products	**99.7**	**88.1**	**94.6**	**98.4**	**97.4**	**95.1**	*95.7*	*96.2*	*96.5*	*96.6*	*96.7*	*96.8*	**95.2**	*96.1*	*96.6*
Primary Metals	**95.9**	**72.9**	**83.3**	**90.3**	**92.4**	**96.8**	*99.2*	*99.5*	*100.7*	*101.8*	*102.2*	*102.0*	**85.6**	*97.0*	*101.7*
Coal-weighted Manufacturing (a)	**97.1**	**86.7**	**93.0**	**96.6**	**94.2**	**97.2**	*98.7*	*99.6*	*100.8*	*101.6*	*102.2*	*102.5*	**93.3**	*97.4*	*101.8*
Distillate-weighted Manufacturing (a)	**97.0**	**84.4**	**92.0**	**95.7**	**94.6**	**97.2**	*98.7*	*99.5*	*100.4*	*101.2*	*101.6*	*101.7*	**92.3**	*97.5*	*101.2*
Electricity-weighted Manufacturing (a)	**97.1**	**83.4**	**91.6**	**95.4**	**94.5**	**97.8**	*99.7*	*100.7*	*102.0*	*103.2*	*103.9*	*104.2*	**91.9**	*98.2*	*103.3*
Natural Gas-weighted Manufacturing (a)	**95.5**	**84.1**	**89.7**	**93.7**	**90.5**	**96.4**	*98.3*	*99.3*	*100.5*	*101.6*	*102.2*	*102.4*	**90.8**	*96.1*	*101.7*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	**2.69**	*2.73*	*2.74*	*2.75*	*2.76*	*2.76*	*2.78*	**2.59**	*2.70*	*2.76*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.11**	**2.23**	*2.26*	*2.24*	*2.23*	*2.22*	*2.21*	*2.20*	**1.94**	*2.21*	*2.21*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.50**	**1.89**	**2.19**	*2.26*	*2.15*	*2.05*	*2.07*	*2.02*	*1.92*	**1.43**	*2.12*	*2.02*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	*118.7*	*119.6*	*120.1*	*120.6*	*121.0*	*121.6*	**113.7**	*117.9*	*120.8*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,764**	**6,868**	**8,262**	**8,009**	**7,679**	**8,940**	*9,175*	*8,807*	*8,268*	*9,279*	*9,355*	*9,026*	**7,728**	*8,655*	*8,985*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**362**	**478**	**537**	**537**	**607**	*675*	*671*	*647*	*688*	*702*	*671*	**502**	*623*	*677*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**151**	**208**	**238**	**245**	**324**	*355*	*380*	*402*	*449*	*448*	*407*	**231**	*327*	*426*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	**243.3**	*228.8*	*224.9*	*227.3*	*250.7*	*244.3*	*255.9*	**217.5**	*223.9*	*244.6*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	*0.275*	*0.329*	*0.329*	*0.291*	*0.288*	*0.302*	**0.216**	*0.277*	*0.302*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**553**	**442**	**518**	**522**	**516**	**557**	*576*	*570*	*559*	*576*	*591*	*590*	**2,035**	*2,219*	*2,316*
Natural Gas	**490**	**349**	**383**	**429**	**485**	**355**	*371*	*422*	*473*	*347*	*377*	*438*	**1,651**	*1,633*	*1,634*
Coal	**201**	**177**	**271**	**224**	**255**	**231**	*308*	*274*	*274*	*241*	*289*	*241*	**873**	*1,067*	*1,044*
Total Energy (c)	**1,247**	**971**	**1,174**	**1,178**	**1,259**	**1,146**	*1,257*	*1,269*	*1,308*	*1,167*	*1,259*	*1,272*	**4,571**	*4,931*	*5,005*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2012)															
New England	**982**	**891**	**959**	**971**	**986**	**1,001**	*1,015*	*1,029*	*1,041*	*1,047*	*1,054*	*1,059*	**951**	*1,008*	*1,050*
Middle Atlantic	**2,745**	**2,459**	**2,641**	**2,667**	**2,708**	**2,758**	*2,800*	*2,841*	*2,880*	*2,904*	*2,926*	*2,943*	**2,628**	*2,777*	*2,913*
E. N. Central	**2,476**	**2,241**	**2,432**	**2,454**	**2,494**	**2,518**	*2,551*	*2,585*	*2,612*	*2,631*	*2,646*	*2,659*	**2,401**	*2,537*	*2,637*
W. N. Central	**1,175**	**1,072**	**1,156**	**1,172**	**1,190**	**1,206**	*1,221*	*1,235*	*1,247*	*1,253*	*1,260*	*1,265*	**1,144**	*1,213*	*1,256*
S. Atlantic	**3,352**	**3,080**	**3,302**	**3,334**	**3,387**	**3,432**	*3,480*	*3,526*	*3,566*	*3,588*	*3,607*	*3,625*	**3,267**	*3,456*	*3,596*
E. S. Central	**819**	**734**	**801**	**812**	**825**	**835**	*845*	*855*	*863*	*869*	*873*	*878*	**791**	*840*	*871*
W. S. Central	**2,293**	**2,101**	**2,243**	**2,279**	**2,304**	**2,344**	*2,374*	*2,407*	*2,438*	*2,457*	*2,477*	*2,495*	**2,229**	*2,357*	*2,467*
Mountain	**1,270**	**1,165**	**1,252**	**1,266**	**1,290**	**1,311**	*1,331*	*1,348*	*1,364*	*1,372*	*1,379*	*1,388*	**1,238**	*1,320*	*1,376*
Pacific	**3,729**	**3,399**	**3,645**	**3,676**	**3,731**	**3,811**	*3,881*	*3,941*	*3,992*	*4,020*	*4,044*	*4,070*	**3,612**	*3,841*	*4,031*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**96.1**	**82.6**	**91.6**	**94.6**	**95.0**	**90.9**	*92.4*	*93.5*	*95.0*	*95.8*	*96.3*	*96.8*	**91.3**	*93.0*	*96.0*
Middle Atlantic	**95.0**	**79.2**	**89.9**	**92.5**	**92.9**	**89.2**	*90.8*	*92.3*	*93.9*	*94.9*	*95.5*	*96.0*	**89.2**	*91.3*	*95.1*
E. N. Central	**95.9**	**79.0**	**91.8**	**94.4**	**95.0**	**97.5**	*99.1*	*100.6*	*102.6*	*104.0*	*105.0*	*105.9*	**90.3**	*98.1*	*104.4*
W. N. Central	**98.0**	**86.0**	**94.7**	**97.1**	**98.0**	**98.4**	*100.0*	*101.3*	*102.7*	*103.5*	*104.2*	*104.7*	**94.0**	*99.4*	*103.8*
S. Atlantic	**98.6**	**85.8**	**95.2**	**98.4**	**98.8**	**103.5**	*105.4*	*106.7*	*108.4*	*109.4*	*110.1*	*110.7*	**94.5**	*103.6*	*109.7*
E. S. Central	**96.6**	**79.9**	**93.6**	**96.7**	**97.8**	**103.8**	*105.9*	*107.1*	*108.4*	*109.6*	*110.5*	*111.2*	**91.7**	*103.6*	*109.9*
W. S. Central	**100.2**	**88.9**	**95.7**	**97.9**	**98.8**	**93.8**	*95.6*	*97.2*	*99.0*	*100.3*	*101.1*	*101.8*	**95.7**	*96.3*	*100.5*
Mountain	**102.8**	**92.2**	**101.3**	**104.0**	**105.2**	**113.2**	*115.1*	*116.2*	*118.0*	*119.0*	*119.7*	*120.4*	**100.1**	*112.4*	*119.3*
Pacific	**96.4**	**84.0**	**91.6**	**93.3**	**93.4**	**94.5**	*96.3*	*97.4*	*99.4*	*100.7*	*101.5*	*102.3*	**91.3**	*95.4*	*101.0*
Real Personal Income (Billion $2012)															
New England	**892**	**978**	**929**	**922**	**1,002**	**933**	*922*	*917*	*922*	*930*	*938*	*942*	**930**	*943*	*933*
Middle Atlantic	**2,314**	**2,522**	**2,430**	**2,340**	**2,574**	**2,387**	*2,357*	*2,335*	*2,347*	*2,370*	*2,391*	*2,401*	**2,401**	*2,413*	*2,377*
E. N. Central	**2,457**	**2,700**	**2,580**	**2,535**	**2,848**	**2,602**	*2,557*	*2,540*	*2,545*	*2,570*	*2,592*	*2,605*	**2,568**	*2,637*	*2,578*
W. N. Central	**1,159**	**1,260**	**1,180**	**1,192**	**1,321**	**1,231**	*1,215*	*1,209*	*1,206*	*1,215*	*1,223*	*1,227*	**1,198**	*1,244*	*1,218*
S. Atlantic	**3,267**	**3,507**	**3,411**	**3,363**	**3,734**	**3,455**	*3,415*	*3,397*	*3,408*	*3,440*	*3,471*	*3,491*	**3,387**	*3,500*	*3,453*
E. S. Central	**911**	**990**	**938**	**933**	**1,064**	**973**	*956*	*949*	*947*	*955*	*962*	*966*	**943**	*985*	*957*
W. S. Central	**2,038**	**2,202**	**2,101**	**2,069**	**2,325**	**2,137**	*2,095*	*2,102*	*2,113*	*2,136*	*2,158*	*2,172*	**2,102**	*2,165*	*2,145*
Mountain	**1,211**	**1,317**	**1,257**	**1,252**	**1,398**	**1,295**	*1,277*	*1,270*	*1,274*	*1,286*	*1,296*	*1,302*	**1,259**	*1,310*	*1,289*
Pacific	**2,833**	**3,036**	**2,977**	**2,955**	**3,196**	**2,998**	*2,969*	*2,949*	*2,960*	*2,988*	*3,014*	*3,031*	**2,950**	*3,028*	*2,998*
Households (Thousands)															
New England	**5,896**	**5,855**	**5,961**	**5,954**	**5,955**	**5,958**	*5,961*	*5,975*	*5,989*	*6,003*	*6,016*	*6,027*	**5,954**	*5,975*	*6,027*
Middle Atlantic	**16,157**	**16,042**	**16,343**	**16,333**	**16,341**	**16,352**	*16,371*	*16,417*	*16,458*	*16,496*	*16,528*	*16,560*	**16,333**	*16,417*	*16,560*
E. N. Central	**18,873**	**18,757**	**19,104**	**19,077**	**19,084**	**19,099**	*19,123*	*19,182*	*19,234*	*19,272*	*19,305*	*19,338*	**19,077**	*19,182*	*19,338*
W. N. Central	**8,651**	**8,606**	**8,770**	**8,771**	**8,783**	**8,796**	*8,811*	*8,843*	*8,871*	*8,900*	*8,927*	*8,948*	**8,771**	*8,843*	*8,948*
S. Atlantic	**25,667**	**25,560**	**26,072**	**26,111**	**26,170**	**26,234**	*26,312*	*26,441*	*26,558*	*26,677*	*26,787*	*26,886*	**26,111**	*26,441*	*26,886*
E. S. Central	**7,662**	**7,625**	**7,772**	**7,776**	**7,787**	**7,799**	*7,816*	*7,847*	*7,875*	*7,902*	*7,928*	*7,949*	**7,776**	*7,847*	*7,949*
W. S. Central	**14,881**	**14,825**	**15,125**	**15,153**	**15,189**	**15,228**	*15,277*	*15,354*	*15,426*	*15,497*	*15,563*	*15,621*	**15,153**	*15,354*	*15,621*
Mountain	**9,461**	**9,436**	**9,641**	**9,670**	**9,708**	**9,746**	*9,789*	*9,851*	*9,908*	*9,962*	*10,013*	*10,057*	**9,670**	*9,851*	*10,057*
Pacific	**18,795**	**18,691**	**19,041**	**19,043**	**19,051**	**19,062**	*19,087*	*19,148*	*19,204*	*19,251*	*19,295*	*19,327*	**19,043**	*19,148*	*19,327*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.8**	**6.9**	**7.0**	**7.1**	*7.2*	*7.3*	*7.4*	*7.4*	*7.5*	*7.5*	**6.9**	*7.1*	*7.5*
Middle Atlantic	**20.1**	**16.7**	**17.9**	**18.2**	**18.3**	**18.5**	*18.9*	*19.2*	*19.4*	*19.6*	*19.8*	*19.9*	**18.2**	*18.7*	*19.7*
E. N. Central	**22.3**	**19.3**	**20.7**	**20.8**	**20.9**	**21.1**	*21.4*	*21.7*	*21.9*	*22.1*	*22.2*	*22.3*	**20.8**	*21.3*	*22.1*
W. N. Central	**10.8**	**9.7**	**10.2**	**10.2**	**10.3**	**10.4**	*10.5*	*10.7*	*10.7*	*10.8*	*10.8*	*10.9*	**10.2**	*10.5*	*10.8*
S. Atlantic	**29.3**	**26.2**	**27.4**	**27.8**	**27.9**	**28.1**	*28.6*	*29.0*	*29.3*	*29.5*	*29.6*	*29.7*	**27.7**	*28.4*	*29.5*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	**8.0**	**8.1**	*8.2*	*8.3*	*8.3*	*8.4*	*8.4*	*8.4*	**7.9**	*8.1*	*8.4*
W. S. Central	**17.9**	**16.2**	**16.7**	**17.0**	**17.1**	**17.3**	*17.6*	*17.7*	*17.9*	*18.0*	*18.1*	*18.2*	**17.0**	*17.4*	*18.0*
Mountain	**11.2**	**10.0**	**10.5**	**10.6**	**10.7**	**10.9**	*11.1*	*11.2*	*11.3*	*11.4*	*11.5*	*11.5*	**10.6**	*11.0*	*11.4*
Pacific	**24.0**	**20.9**	**21.6**	**21.9**	**21.9**	**22.4**	*22.9*	*23.3*	*23.6*	*23.8*	*23.9*	*24.1*	**22.1**	*22.7*	*23.9*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,732**	**973**	**114**	**1,995**	**3,008**	**777**	*128*	*2,127*	*3,113*	*868*	*140*	*2,128*	**5,815**	*6,040*	*6,248*
Middle Atlantic	**2,471**	**839**	**85**	**1,830**	**2,818**	**667**	*79*	*1,956*	*2,903*	*696*	*89*	*1,960*	**5,225**	*5,520*	*5,648*
E. N. Central	**2,785**	**846**	**126**	**2,099**	**3,086**	**708**	*111*	*2,247*	*3,160*	*735*	*134*	*2,268*	**5,857**	*6,152*	*6,297*
W. N. Central	**3,037**	**800**	**167**	**2,314**	**3,227**	**719**	*134*	*2,451*	*3,253*	*706*	*165*	*2,472*	**6,318**	*6,532*	*6,596*
South Atlantic	**1,111**	**253**	**17**	**878**	**1,347**	**211**	*13*	*957*	*1,376*	*195*	*13*	*945*	**2,260**	*2,528*	*2,529*
E. S. Central	**1,479**	**337**	**20**	**1,224**	**1,790**	**313**	*22*	*1,309*	*1,805*	*252*	*21*	*1,309*	**3,059**	*3,434*	*3,387*
W. S. Central	**971**	**102**	**8**	**738**	**1,301**	**122**	*5*	*797*	*1,145*	*85*	*4*	*797*	**1,819**	*2,226*	*2,031*
Mountain	**2,220**	**677**	**128**	**1,781**	**2,303**	**665**	*126*	*1,839*	*2,226*	*696*	*144*	*1,827*	**4,805**	*4,934*	*4,892*
Pacific	**1,538**	**528**	**65**	**1,084**	**1,558**	**487**	*85*	*1,235*	*1,547*	*575*	*87*	*1,203*	**3,215**	*3,364*	*3,412*
U.S. Average	**1,881**	**544**	**71**	**1,422**	**2,107**	**473**	*68*	*1,530*	*2,113*	*488*	*77*	*1,525*	**3,918**	*4,178*	*4,202*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**822**	**105**	**2,127**	**3,133**	**856**	*107*	*2,099*	*3,100*	*852*	*112*	*2,123*	**6,207**	*6,195*	*6,187*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,913**	**678**	*72*	*1,911*	*2,887*	*685*	*74*	*1,931*	**5,606**	*5,573*	*5,576*
E. N. Central	**3,198**	**698**	**102**	**2,197**	**3,157**	**731**	*105*	*2,170*	*3,133*	*728*	*101*	*2,198*	**6,195**	*6,162*	*6,160*
W. N. Central	**3,288**	**703**	**132**	**2,380**	**3,248**	**728**	*133*	*2,368*	*3,219*	*726*	*130*	*2,399*	**6,502**	*6,477*	*6,474*
South Atlantic	**1,461**	**169**	**10**	**953**	**1,395**	**181**	*11*	*916*	*1,380*	*187*	*11*	*921*	**2,593**	*2,503*	*2,499*
E. S. Central	**1,849**	**214**	**15**	**1,277**	**1,771**	**231**	*16*	*1,249*	*1,763*	*243*	*15*	*1,255*	**3,356**	*3,267*	*3,276*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	**86**	*3*	*786*	*1,145*	*93*	*3*	*784*	**2,078**	*2,015*	*2,026*
Mountain	**2,198**	**721**	**136**	**1,850**	**2,188**	**704**	*135*	*1,850*	*2,180*	*686*	*134*	*1,838*	**4,905**	*4,877*	*4,838*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	**553**	*81*	*1,147*	*1,454*	*523*	*80*	*1,139*	**3,283**	*3,242*	*3,196*
U.S. Average	**2,153**	**473**	**64**	**1,512**	**2,113**	**483**	*65*	*1,487*	*2,096*	*479*	*64*	*1,495*	**4,202**	*4,148*	*4,134*
Cooling Degree Days															
New England	**0**	**103**	**544**	**0**	**0**	**149**	*430*	*2*	*0*	*81*	*397*	*2*	**647**	*581*	*481*
Middle Atlantic	**0**	**155**	**682**	**4**	**0**	**184**	*603*	*5*	*0*	*149*	*526*	*5*	**841**	*792*	*680*
E. N. Central	**2**	**218**	**605**	**2**	**2**	**253**	*587*	*7*	*0*	*213*	*520*	*6*	**827**	*849*	*739*
W. N. Central	**6**	**295**	**662**	**3**	**8**	**312**	*700*	*10*	*3*	*263*	*657*	*9*	**966**	*1,030*	*932*
South Atlantic	**192**	**616**	**1,228**	**298**	**150**	**622**	*1,161*	*229*	*131*	*649*	*1,160*	*245*	**2,334**	*2,163*	*2,186*
E. S. Central	**74**	**426**	**1,062**	**80**	**41**	**435**	*1,020*	*62*	*29*	*505*	*1,036*	*64*	**1,642**	*1,557*	*1,634*
W. S. Central	**173**	**838**	**1,503**	**210**	**89**	**766**	*1,425*	*195*	*90*	*851*	*1,497*	*200*	**2,723**	*2,476*	*2,639*
Mountain	**10**	**462**	**1,076**	**116**	**10**	**528**	*930*	*76*	*18*	*424*	*931*	*77*	**1,664**	*1,544*	*1,450*
Pacific	**25**	**195**	**716**	**125**	**24**	**256**	*684*	*60*	*27*	*171*	*593*	*60*	**1,061**	*1,024*	*852*
U.S. Average	**69**	**392**	**931**	**120**	**49**	**413**	*875*	*92*	*45*	*396*	*848*	*96*	**1,513**	*1,429*	*1,384*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	**81**	*474*	*1*	*0*	*88*	*469*	*1*	**554**	*556*	*558*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	**163**	*610*	*6*	*0*	*162*	*606*	*7*	**786**	*779*	*774*
E. N. Central	**3**	**240**	**579**	**8**	**3**	**234**	*572*	*7*	*3*	*238*	*567*	*7*	**829**	*816*	*815*
W. N. Central	**7**	**296**	**696**	**11**	**7**	**294**	*686*	*10*	*7*	*299*	*677*	*10*	**1,010**	*997*	*993*
South Atlantic	**127**	**695**	**1,201**	**247**	**142**	**679**	*1,194*	*260*	*146*	*668*	*1,188*	*263*	**2,270**	*2,276*	*2,266*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	**532**	*1,065*	*74*	*44*	*518*	*1,058*	*77*	**1,747**	*1,714*	*1,697*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	**880**	*1,567*	*210*	*113*	*852*	*1,531*	*211*	**2,775**	*2,771*	*2,708*
Mountain	**24**	**430**	**934**	**80**	**24**	**441**	*949*	*85*	*23*	*458*	*942*	*85*	**1,468**	*1,499*	*1,508*
Pacific	**31**	**185**	**624**	**78**	**31**	**193**	*647*	*86*	*31*	*208*	*662*	*85*	**919**	*958*	*987*
U.S. Average	**47**	**419**	**891**	**99**	**52**	**413**	*892*	*104*	*53*	*412*	*886*	*105*	**1,455**	*1,461*	*1,457*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

October 2021

Short-Term Energy Outlook

Forecast highlights

Winter Fuels Outlook

- We forecast that average U.S. household expenditures for all major home heating fuels will increase significantly this winter primarily because of higher expected fuel costs as well as more consumption of energy due to a colder winter. Average increases vary by fuel, region, and weather assumptions. Compared with last winter, we forecast propane expenditures will rise by 54%, heating oil by 43%, natural gas by 30%, and electricity by 6%. We expect space heating demand to generally be higher this winter based on forecasts from the National Oceanic and Atmospheric Administration (NOAA) that U.S. average heating degree days will be 3% higher than last winter (*Winter Fuels Outlook*). Altering our assumptions for a 10% colder-than-expected winter significantly increases forecast expenditures, while a 10% warmer-than-expected winter still results in increased expenditures, because of price increases.

Global liquid fuels

- The October *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. U.S. economic activity continues to rise after reaching multiyear lows in the second quarter of 2020 (2Q20). U.S. gross domestic product (GDP) declined by 3.4% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 5.7% in 2021 and by 4.5% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. Our forecast assumes continuing economic growth and increasing mobility. Any developments that would cause deviations from these assumptions would likely cause energy consumption and prices to deviate from our forecast.

- Brent crude oil spot prices averaged $74 per barrel (b) in September, up $4/b from August and up $34/b from September 2020. Brent spot prices have risen from their September average to more than $80/b in early October. Oil prices have increased over the past year as result of steady draws on global oil inventories, which averaged 1.9 million barrels per day (b/d) during the first three quarters of 2021. In addition to sustained inventory draws, prices increased after the October 4 announcement by OPEC+ that the group would keep current production targets unchanged.

- We expect Brent prices will remain near current levels for the remainder of 2021, averaging $81/b during the fourth quarter of 2021, which is $10/b higher than our previous forecast. The higher forecast reflects our expectation that global oil inventories will fall at a faster rate than we had previously expected owing largely to lower global oil supply in late 2021 across a range of producers. In 2022, we expect that growth in production from OPEC+, U.S. tight oil, and other non-OPEC countries will outpace slowing growth in global oil consumption and contribute to Brent prices declining from current levels to an annual average of $72/b.

- U.S. regular gasoline retail prices averaged $3.18 per gallon (gal) in September, up 2 cents/gal from August and almost $1/gal higher than in September 2020. Recent gasoline price increases reflect increasing crude oil prices outweighing falling gasoline wholesale margins. We forecast that retail gasoline prices will average $3.21/gal in October before falling to $3.05/gal in December.

- Total U.S. crude oil production averaged 11.3 million b/d in July —the most recent monthly historical data point. We estimate that domestic production fell to 10.6 million b/d in September because of disruptions from Hurricane Ida. We forecast production will be 11.0 million b/d in October and rise to 11.3 million b/d in December. We forecast 2021 production will average 11.0 million b/d, increasing to 11.7 million b/d in 2022 as tight oil production rises in the United States. Growth will come as a result of operators increasing rig counts, which we expect will offset production decline rates.

Natural Gas

- In September, the natural gas spot price at Henry Hub averaged $5.16 per million British thermal units (MMBtu), which was up from the August average of $4.07/MMBtu and up from an average of $3.25/MMBtu in the first half of 2021. The rising prices in recent months reflect U.S. natural gas inventory levels that are below the five-year average and continuing demand for natural gas for power generation use at relatively high prices.

- We expect the Henry Hub spot price will average $5.80/MMBtu in fourth-quarter 2021, which is $1.80/MMBtu higher than we forecast in the September STEO. In the current forecast, Henry Hub prices reach a monthly average peak of $5.90/MMBtu in January and generally decline through 2022, averaging $4.01/MMBtu for the year amid rising U.S. natural gas production and slowing growth in LNG exports. We raised our Henry Hub price forecast through the end of 2022 compared with last month. The increase reflects a higher starting point for our price forecast that incorporates recent developments in U.S. and global natural gas markets. We forecast that U.S. inventory draws will be slightly more than the five-year average this winter, and we expect that factor, along with rising U.S. natural gas exports and relatively flat production through January will keep U.S. natural gas prices near recent levels before downward pressures emerge. Given low natural gas inventories in both U.S. and European natural gas

storage facilities and uncertainty around seasonal demand, we expect natural gas prices to remain volatile over the coming months, with winter temperatures being a key driver of demand and prices.

- We estimate that U.S. LNG exports averaged 9.3 billion cubic feet per day (Bcf/d) in September 2021, down 4% from August. Despite the recent monthly decline, these were the most U.S. LNG exports for September since the United States began exporting LNG from the Lower 48 states in February 2016. Even though September exports were a record for the month, they were limited by weather conditions, which led to the suspension of piloting services for several days at Sabine Pass, Cameron, and Corpus Christi. We expect that LNG exports will average 9.1 Bcf/d in October and then increase in the coming months. Cove Point LNG terminal is scheduled to complete its annual maintenance by mid-October and resume exports this month. Through this winter, LNG exports in the forecast average 10.7 Bcf/d as global natural gas demand remains high and several new LNG export trains—the sixth train at Sabine Pass LNG and the first trains at the new LNG export facility Calcasieu Pass LNG—enter service.

- We estimate that U.S. natural gas inventories ended September 2021 at about 3.3 trillion cubic feet (Tcf), 5% less than the five-year (2016–20) average for this time of year. Injections into storage this summer have been below the previous five-year average, largely as a result of more electricity consumption in June due to hot weather, and increased exports even as domestic natural gas production has remained flat. We forecast that inventories will end the 2021 injection season (at the end of October) at almost 3.6 Tcf, which would be 5% less than the previous five-year average. We expect natural gas inventories to fall by 2.1 Tcf this winter, ending March at less than 1.5 Tcf, which would be 12% less than the 2017–21 average for that time of year.

- We estimate dry natural gas production averaged 93.3 Bcf/d in the United States during the third quarter of 2021—up from 91.6 Bcf/d in in the first half of 2021. Production in the forecast rises to an average of 94.0 Bcf/d during the winter, and averages 96.4 Bcf/d during 2022, driven by natural gas and crude oil prices, which we expect to remain at levels that will support enough drilling to sustain production growth.

Electricity, coal, renewables, and emissions

- We expect the share of electricity generation produced by natural gas in the United States will average 36% in 2021 and 35% in 2022, down from 39% in 2020. In 2021, our forecast share for natural gas as a generation fuel declines in response to our expectation of a higher delivered natural gas price for electricity generators, which we forecast will average $5.15/MMBtu compared with $2.39/MMBtu in 2020. As a result of the higher expected natural gas prices, the forecast share of electricity generation from coal rises from 20% in 2020 to about 24% in 2021 and 23% in 2022. For renewable energy sources, new additions of solar and wind generating capacity are offset

somewhat by reduced generation from hydropower this year, resulting in the forecast share of all renewables in U.S. electricity generation to average 20% in 2021, about the same as last year, before rising to 22% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and 2022.

- Electricity generation from coal-fired power plants has not increased as much in response to rising natural gas prices as it has in the past, or by as much as our models forecasted in recent STEOs. The lower price responsiveness of coal for electricity generation, which is likely the result of constraints on coal supply and low coal stocks, is contributing to upward pressure on natural gas prices. To reflect the lower price responsiveness of coal-fired electricity generation, we have lowered our forecast for U.S. coal generation for the fourth quarter of 2021 and the first half of 2022 by an average of 7 billion kWh (9%) each month, and we have raised our forecast for natural gas generation 5 billion kWh (5%) each month.

- We forecast that planned additions to U.S. wind and solar capacity in 2021 and 2022 will increase electricity generation from those sources. We estimate that the U.S. electric power sector added 14.6 gigawatts (GW) of new wind capacity in 2020. We expect 17.1 GW of new wind capacity will come online in 2021 and 6.5 GW in 2022. Utility-scale solar capacity rose by an estimated 10.5 GW in 2020. Our forecast for added utility-scale solar capacity is 16.0 GW for 2021 and 18.3 GW for 2022. We expect significant solar capacity additions in Texas during the forecast period. In addition, we project that after increasing by 4.5 GW in 2020, small-scale solar capacity (systems less than 1 megawatt) will grow 5.8 GW and 7.8 GW in 2021 and 2022, respectively.

- Coal production in our forecast totals 588 million short tons (MMst) in 2021, 53 MMst more than in 2020. We expect demand for coal from the electric power sector to increase by 84 MMst in 2021. Production growth is unlikely to match the increases in demand in the near term due to many coal mines operating at a reduced capacity and limited available transportation. In 2022, we expect coal production to increase by 34 MMst to 622 MMst, as the production and transportation constraints experienced in 2021 ease. Secondary inventories of coal at electric utilities decreased in the first half of 2021, and we forecast this trend will continue into the second half of 2021 and 2022.

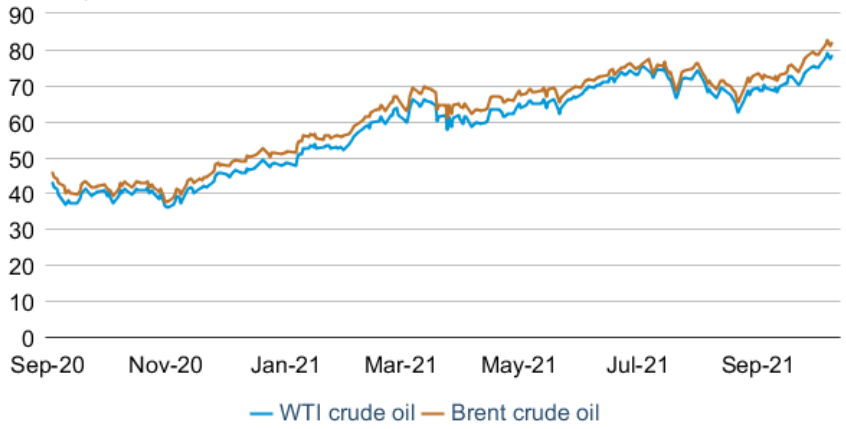
- We estimate that U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption related to reduced economic activity and responses to COVID-19. For 2021, we forecast energy-related CO_2 emissions will increase about 8% from the 2020 level as economic activity increases and leads to rising energy use. We expect almost no change in energy-related CO_2 emissions in 2022. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 20% in 2021 and then fall by 5% in 2022. Short-term changes in energy-related CO_2 can be affected by temperature. A recent STEO supplement examines these dynamics.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $81.95 per barrel (b) on October 7, 2021, up $10.36/b from $71.59/b on September 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $9.71/b during the same period, settling at $78.30/b on October 7 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



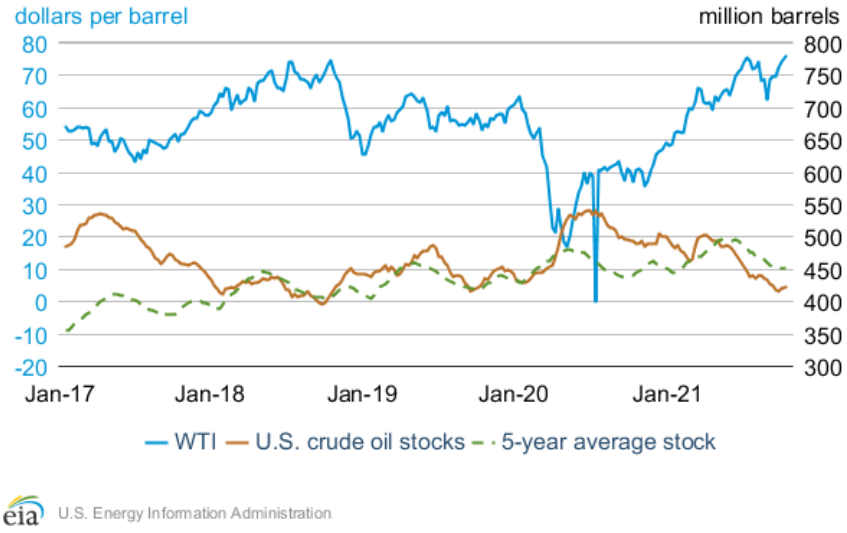
Sources: Graph by EIA, based on CME Group and Intercontinental Exchange, compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

WTI crude oil prices reached nearly seven-year highs on October 5 after gradually increasing throughout September and the first few trading days of October. Several developments during the past month are contributing to higher oil prices. First, U.S. crude oil inventories have decreased because of Hurricane Ida's impact on crude oil production in the Gulf of Mexico. Second, OPEC+ members decided to follow their scheduled crude oil production increase of 400,000 barrels per day (b/d) in November rather than increase production by more, like some market participants expected based on recent price movements. Third, trade press reports increased purchases of oil and petroleum products as a result of high natural gas prices because electric power generators in parts of Asia and Europe may implement natural gas-to-oil fuel switching to decrease fuel costs. Lastly, crude oil prices continue to rise due to steady and sizable global oil inventory draws. We estimate that global inventories fell by 1.9 million b/d in third-quarter 2021 (3Q21), marking the fifth consecutive quarter of draws; quarterly draws averaged 2.2 million b/d over those five quarters.

We estimate U.S. crude oil inventories ended September at 420.9 million barrels, the lowest level since September 2018 **(Figure 2)**. U.S. crude oil stocks have decreased each of the past six months, decreasing by 81.0 million barrels (16%) since March, the largest six-month withdrawal on record in our crude oil data for all inventories outside of the Strategic Petroleum Reserve,

which go back to 1973. Furthermore, according to weekly data in our *Weekly Petroleum Status Report*, crude oil stocks on September 17 were 37.0 million barrels (8.2%) below the five-year average for that time of year, the largest percentage below the five-year average since July 4, 2008. Like domestic stocks, we estimate OECD commercial petroleum stocks at the end of September to be at their lowest levels in more than three years.

Figure 2. WTI price and U.S. crude oil stocks (not including SPR)



eia U.S. Energy Information Administration

A major factor contributing to the stock draws has been low crude oil production, which has been outpaced by increases in demand. U.S. oil production averaged 11.0 million b/d from January through August (compared with 12.0 million b/d in the same months in 2019) and decreased to 10.6 million b/d in September because of lower U.S. offshore oil production in the Gulf of Mexico after Hurricane Ida. According to the Bureau of Safety and Environmental Enforcement (BSEE), from August 28 through September 6, more than 80% of oil production in the Gulf of Mexico was shut in, and more than 15% of Gulf of Mexico oil remained shut in through September 23, when BSEE issued its final outage report for Hurricane Ida. In total, disruptions in the Gulf of Mexico reduced crude oil production by about 30 million barrels since Hurricane Ida formed in late August.

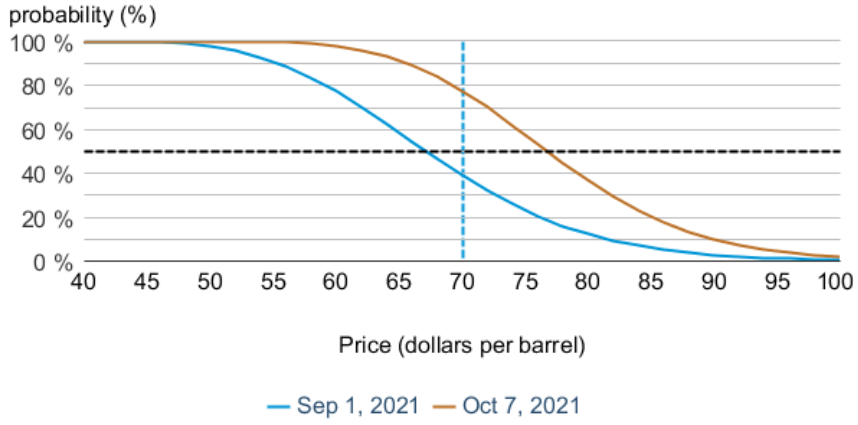
Global liquid fuels production has also risen more slowly than global demand this year. Production increased by 2.7 million b/d (3%) from January to September, whereas global consumption increased by 6.3 million b/d (7%) during the same period. Despite relatively low global production and rising crude oil prices, OPEC+ members reaffirmed a previously agreed on production increase of 400,000 b/d in November, as opposed to a higher production increase for the month. Following this announcement on October 4, the price of Brent crude oil settled at $81.26, after beginning the day at $79.28.

In this forecast, we now expect that global oil inventories in 4Q21 and 1Q22 will fall at a faster rate than we had previously expected, which largely reflects lower global oil supply during this

period across a range of producers. We have also raised our expectations for global oil demand during winter 2021–22., In the October STEO, we have increased our forecast for Brent crude oil prices. We now expect falling global oil inventories will keep Brent prices near $80/b this winter, averaging $81/b in 4Q21 and $78/b in 1Q21, both of which are $10/b higher than forecast last month.

***Market-derived probabilities*:** In our most recent forecast, we expect WTI prices to average $78/b in 4Q21. The upward price pressure and market uncertainties are apparent in market-derived price probabilities that are based on futures and options prices. The market-derived probability of the December WTI futures contract expiring higher than $70/b was 77% on October 7, and the probability of the contract expiring higher than $80/b was 37% **(Figure 3)**. On September 1, the market-derived probability of the December WTI futures contract expiring higher than $70/b had been 39%, and the probability of the contract expiring higher than $80/b was 12%. The increase in market-derived price expectations for the December WTI contract from September 1 to October 7 conveys the market's reaction to factors such as decreasing stocks and the potential for natural gas-to-oil switching. The December WTI contract has not expired at more than $70/b since 2014 and has not expired at more than $80/b since 2013.

Figure 3. Probability of the December WTI futures contracts expiring above different price levels



U.S. Energy Information Administration, CME Group
Note: WTI=West Texas Intermediate

Commodity Prices: In 2021, energy commodity prices have increased more than other commodities and asset classes, especially since May, primarily as a result of production and supply developments specific to energy markets. The S&P GSCI (formerly the Goldman Sachs Commodity Index) is an index comprising 24 individual weighted commodity price contracts organized into 5 subindexes, and we use it for comparing energy commodities to other categories of commodities.

As of October 7, the non-energy index (an index consisting of agricultural, livestock, precious metal, and industrial metal commodities) was up 14% from the beginning of 2021 but down 5%

from its peak on May 7. Energy commodities, on the other hand, have increased 27% since May 7 and are up 72% from January 1. The S&P 500, which is up by 19% from January 1, has also increased since May 7, but only by 4% **(Figure 4)**.

Figure 4. Energy versus nonenergy commodities and equities



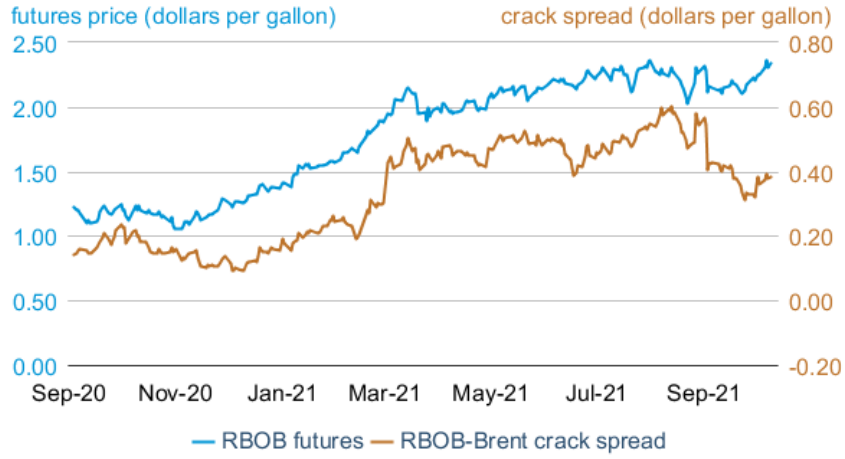
eia Source: S&P Dow Jones, Bloomberg L.P.

Whereas general economic growth likely explained a portion of the increase in energy prices from January 1 through May 7, the growth in energy commodities since then has mostly been a result of factors specific to petroleum markets, such as production increases lagging demand increases. Brent and WTI make up 70% of the energy sub-index's weight. Thus, the price increases from around $50/b for Brent and WTI at the beginning of the year to around $80/b in early October explains a significant portion of the increase in the energy sub-index. Higher prices for petroleum products, which make up 25% of the index, and for Henry Hub natural gas, which makes up the remaining 5% of the index, have also contributed to the rest of the growth in the energy sub-index.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.33 per gallon (gal) on October 7, up 22 cents/gal from September 1 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 2 cents/gal to settle at 38 cents/gal during the same period. The average RBOB–Brent crack spread in September was 38 cents/gal, an increase of 20 cents/gal compared with September 2020.

Figure 5. Historical RBOB front-month futures prices and crack spreads

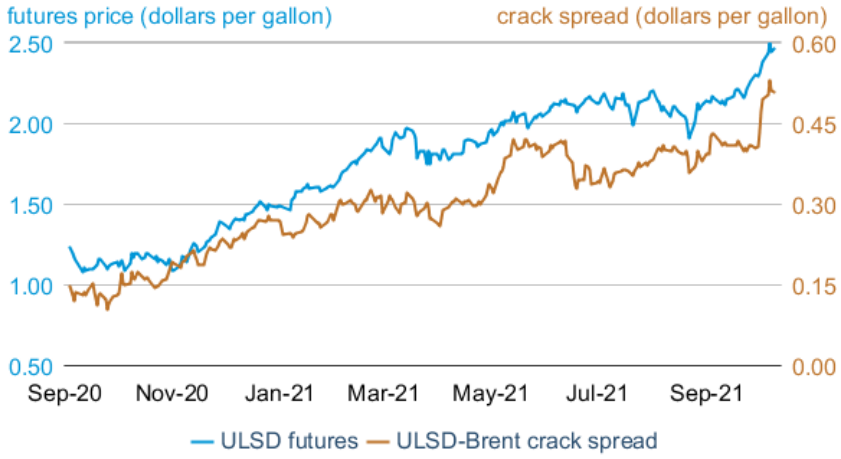


Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

After the RBOB–Brent crack spread averaged 55 cents/gal in August, it fell in September because of rising crude oil prices and lower gasoline prices. Lower gasoline prices compared with August reflect expected lower seasonal demand for gasoline as well as the price decrease for winter grade gasoline, which is relatively less expensive for refiners to produce because of less stringent Reid Vapor Pressure (RVP) requirements. The shift from summer to winter grade gasoline primarily takes place in September, putting downward pressure on the futures contract price in September onward. Temporary weather-related refinery outages along the U.S. Gulf Coast contributed to reduced production and draws on gasoline inventories earlier in September and limited some of the downward pressure on crack spreads. Compared with August 2021, U.S. demand for gasoline in September was an estimated 0.4 million barrels per day (b/d) lower. We estimate U.S. gasoline consumption averaged 9.1 million b/d in September, which is 0.5 million b/d (6%) higher than in September 2020 but also 0.1 million b/d (1%) lower than September 2019 level. We expect gasoline consumption to remain just below 2019 levels through the end of 2022. Combined with high net imports and lower demand, inventories increased during the second half of September; however, lost production from earlier in the month resulted in gasoline stocks ending September at 225.1 million barrels, the lowest end-of-September inventory level since 2017. Overall lower inventories may also have contributed to increasing gasoline crack spreads from October 4 through October 7.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.46/gal on October 7, up 33 cents/gal from September 1 **(Figure 6)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 8 cents/gal during the same period and settled at 51 cents/gal on October 7. The ULSD–Brent crack spread averaged 41 cents/gal in September.

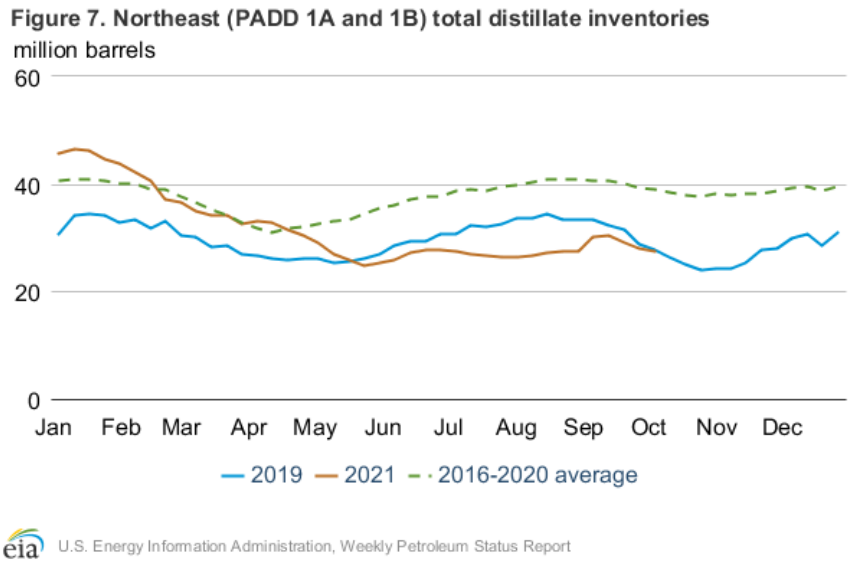
Figure 6. Historical ULSD front-month futures prices and crack spreads



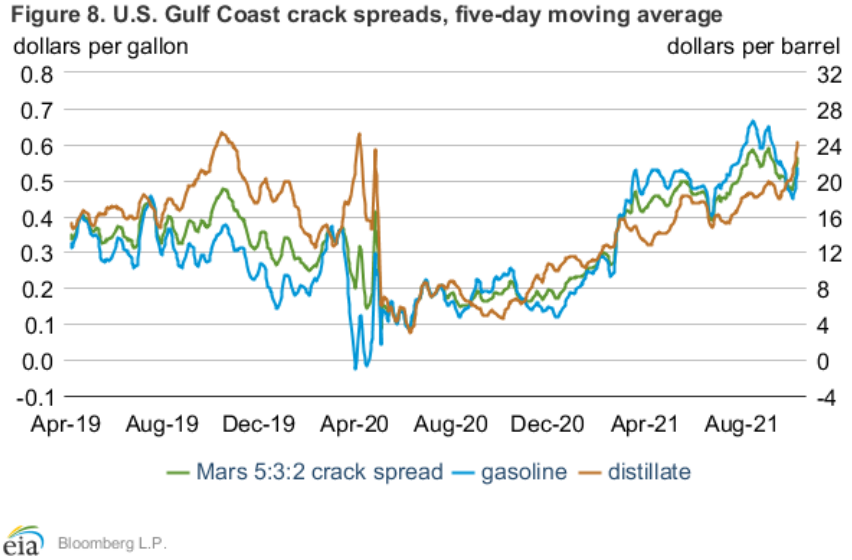
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

High distillate demand and low distillate production resulted in the highest ULSD-Brent crack spreads seen this year, continuing a trend of rising ULSD crack spreads in recent months. We estimate that distillate consumption was 4 million b/d in September—the highest September level since 2018. Hurricane-related disruptions, including refinery shutdowns and brief closures of Colonial Pipeline Line 2, contributed to reduced production and higher inventory withdrawals. Also, increases in the American Trucking Associations' Truck Tonnage Index and the Cass Freight Index suggest trucking demand remains high as supply chains continue to navigate a backlog of shipping orders. Rapidly rising shipping activity will likely contribute to high distillate demand. While we forecast gasoline demand to remain below 2019 levels throughout 2022, we forecast distillate demand to increase next year to its highest level since 2018.

Rising crack spreads also likely reflect relatively low distillate fuel inventories. Distillate inventories typically increase in the summer to prepare for growth in demand in the fall and winter, when diesel-powered agricultural equipment is used to harvest crops and the winter heating season begins. This year, distillate inventories did not build as much as usual due to high distillate demand and relatively low production. Second- and third-quarter distillate production was 5.5% and 5.1% below the five-year (2016–20) average, respectively. Our estimate of 4.5 million b/d for production this September is 6.9% below the five-year average. As a result, U.S. distillate stocks are below average for this time of year. In the Northeast, where 4.14 million households will use heating oil as their primary source of heat this winter, distillate inventories declined to 27.4 million barrels (30% below the five-year average), according to the latest *Weekly Petroleum Status Report* **(Figure 7)**. Our *Winter Fuels Outlook* forecasts a 43% increase in heating oil expenditure over last year and the highest price per gallon for heating oil since the 2012–13 winter.



U.S. Gulf Coast crack spreads: The Mars crude oil 5:3:2 crack spread at the U.S. Gulf Coast is an indicator of profitability of gasoline and diesel-producing refinery operations for high-conversion refineries along the U.S. Gulf Coast that are able to process denser, more sour crude oil grades, such as Mars. On August 31, the five-day moving average crack spread reached 56 cents/gal, its highest point in 2021 **(Figure 8)**. The high overall crack spread primarily reflects increased gasoline cracks, which also reached an annual high in August. Gasoline crack spreads in the first half of September were elevated because of temporary hurricane outages, which supported the 5:3:2 crack through the middle of the month, continuing the trend from August, as well as increasing distillate crack spreads as the outages resulted in distillate inventory withdrawals. As supply constraints were resolved and refineries came back online, gasoline cracks decreased while distillate cracks continued to increase.

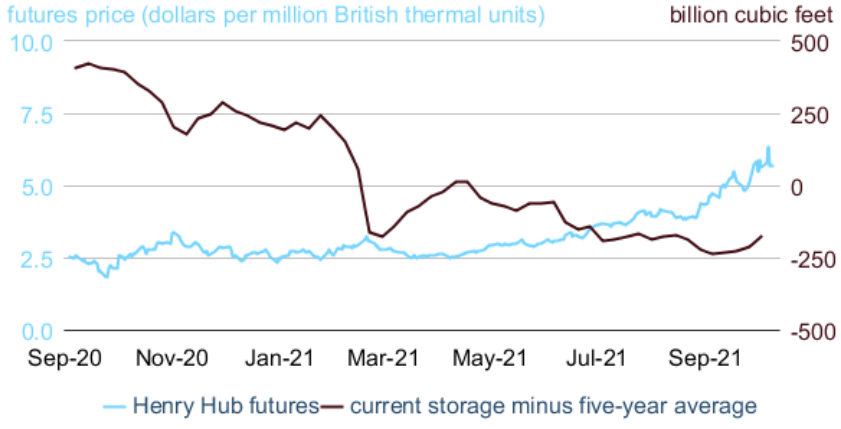


Higher crude oil costs, pressure on gasoline prices from the shift to winter grade, decreasing prices for renewable identification numbers (RINs), and seasonally lower demand has contributed to decreases in gasoline crack spreads in the latter half of September, while lower inventories and increasing seasonal demand continued to contribute to increasing diesel cracks. In addition to elevated crude oil prices globally, production outages in the Gulf Coast limited heavy sour crude oil production in August, and Mars grade in particular has faced extended production outages. As gasoline cracks decreased and distillate cracks increased, the distillate crack spread overtook the gasoline crack spread on September 23 and has remained higher so far into October. The relatively larger reduction in gasoline cracks compared with increasing distillate cracks contributed to decreases in the Mars 5:3:2 crack, which fell from 49 cents/gal on September 15 to 45 cents/gal on September 30. Since October 1, the gasoline and diesel crack five-day average crack spreads have both been increasing, contributing to increases in the Mars 5:3:2 crack as well.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $5.68 per million British thermal units (MMBtu) on October 7, 2021, which was up $1.06/MMBtu from September 1, 2021 **(Figure 9)**. The average price for front-month natural gas futures contracts in September was $5.11/MMBtu, the highest monthly average since February 2014. Henry Hub natural gas prices during much of the summer were supported by inventory builds that were below the previous five-year (2016–20) averages. Over the past month, increases in Henry Hub prices have coincided with sharp increases in international prices for natural gas, especially in Europe and Asia, and high international prices have contributed to strong demand for more U.S. liquefied natural gas (LNG) cargoes.

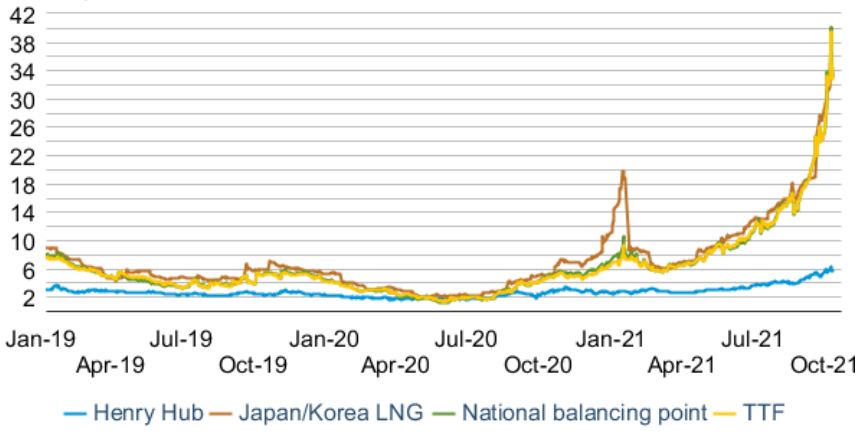
Figure 9. U.S. natural gas front-month futures prices and storage deviation from five-year average



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

International natural gas prices: LNG spot and forward prices in Europe and Northern Asia ended September at record-high levels. On September 30, 2021, LNG spot prices for Japan/Korea reached $31.10/MMBtu, and the price at the European natural gas benchmark, Title Transfer Facility (TTF), reached $33.20/MMBtu **(Figure 10)**. From the end of January to the end of September, the price spread between LNG prices in Asia and Henry Hub has increased from $6.31/MMBtu to $25.23/MMBtu. The price spread between European spot natural gas prices at TTF and Henry Hub increased from $4.49/MMBtu to $27.34/MMBtu over the same period. These large price differences have supported record LNG exports from the United States to Europe and Asia. U.S. LNG exports also increased because of new export capacity added in 2020. The final liquefaction units were commissioned at Freeport, Cameron, and Corpus Christi LNG, and the remaining small-scale units were placed in service at Elba Island LNG. Additionally, we expect Sabine Pass train 6 and Calcasieu Pass LNG facility to begin exporting by the end of the year.

Figure 10. International natural gas prices



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: TTF=Title Transfer Facility

High natural gas demand in Asia, particularly in China because of disruptions in coal availability, contributed to increased demand for spot LNG shipments in addition to volumes supplied under long-term contracts. U.S. exports of LNG to China nearly quadrupled, increasing from 0.3 billion cubic feet per day (Bcf/d) for the first seven months of 2020 to 1.1 Bcf/d for the same period in 2021. U.S. LNG exports to Japan and South Korea increased by 64% and 62%, respectively, over the same period.

Low European natural gas storage inventories this year have led to high natural gas spot prices in that region as well. According to data from Gas Infrastructure Europe's (GIE) Aggregated Gas Storage Inventory (AGSI+), natural gas stocks in Europe ended September at 2.7 trillion cubic feet, 16% below the five-year average and 8% below the five-year minimum. Colder-than-normal weather late in the 2020–21 heating season and a cold spell in April led to rapid

drawdowns of natural gas inventories early in 2021, contributing to the low inventory levels that are putting upward pressure on prices.

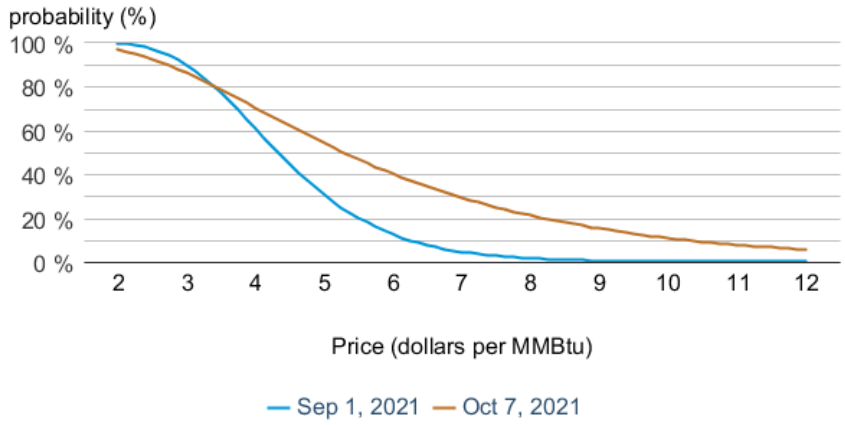
U.S. consumption and price outlook: Consumption of natural gas in the United States tends to decrease in September and October as temperatures are mild. U.S. consumption of natural gas decreased in September by 6.1 billion cubic feet per day (Bcf/d), or 7.9%, compared with August. This decrease was driven by a 6.7 Bcf/d decrease in natural gas consumption in the electric power sector that was partially offset by increases in the commercial, residential, and industrial sectors. U.S. exports of LNG also decreased in September, averaging 9.3 Bcf/d for the month, down from 9.7 Bcf/d in August. Annual maintenance at the Cove Point LNG facility in Maryland began in mid-September, and a power outage in Houston following Hurricane Nicholas resulted in the Freeport LNG terminal shutting down for a few days. Both of these events contributed to lower LNG exports in September. We expect LNG exports to average 10.7 Bcf/d this winter (October–March), a record high for that time period.

We estimate that U.S. working natural gas inventories ended September at 3,304 Bcf, 5.5% below the 2016–2020 average. This level is a decrease in the deficit to the 2016–2020 average when compared with August, which ended the month at 7.4% below the 2016–2020 average.

We expect that Henry Hub prices will remain high this winter, averaging $5.67/MMBtu in the forecast for October through March, which would be the highest winter average since winter 2007–08. However, the price outlook for this winter is very uncertain. Given that natural gas inventories in the United States are below average levels from recent years, the possibility that prices could be volatile is high, particularly if any area in the United States experiences a severe cold snap. Uncertainty in the price forecast also results from linkages between U.S. natural gas markets and global markets. With high demand for U.S. natural gas exports, increases in global natural gas prices have coincided with smaller price increases at Henry Hub.

Given the uncertainty surrounding natural gas prices, market-derived probabilities based on futures and options contracts are showing very wide range of market-implied price outcomes for the January Henry Hub futures contract **(Figure11)**. As of October 7, the market-derived probabilities implied that the January contract had about a 10% chance of expiring below $2.70/MMBtu and an equal chance of expiring above $10.25/MMBtu. A month earlier that probability range was bounded by $3.00/MMBtu on the low end and about $6.25/MMBtu on the high end. This shift shows that the market is increasingly pricing in the possibility of large price shifts in the coming months.

Figure 11. Probability of January 2022 natural gas futures contracts expiring above different price levels



eia U.S. Energy Information Administration, CME Group

Notable forecast changes

- We forecast Brent crude oil prices will average $81 per barrel (b) during the fourth quarter of 2021 (4Q21) and $78/b during 1Q22, both of which are $10/b higher than our previous forecast. The higher forecast reflects much tighter oil markets during this period than we previously expected. We now expect that global oil inventories in 4Q21 and 1Q22 will decline at an average rate of 0.5 million barrels per day (b/d), compared with a forecast of mostly unchanged inventories during that period in last month's STEO.

- We expect crude oil production in the Federal Offshore Gulf of Mexico will average 1.5 million b/d in 4Q21, more than 0.2 million b/d lower than forecast last month. The lower forecast is mostly the result of Shell's announcement that platforms damaged by Hurricane Ida would remain offline through the end of the year.

- We forecast Henry Hub spot prices will average $5.80 per million British thermal units (MMBtu) in 4Q21, an increase of $1.80/MMBtu from last month's STEO. In this outlook, we expect prices to remain elevated through the first quarter of 2022. Forecast Henry Hub prices for 2022 average $4.01/MMBtu, up 54 cents/MMBtu from last month's STEO.

- In mid-September, Exelon announced that it will continue operating its nuclear reactors at the Byron and Dresden power plants in Illinois. These nuclear plants were previously scheduled to be retired next year. As a result of this decision, we raised our forecast for U.S. nuclear generation in 2022 by 4% above the level forecast in last month's STEO.

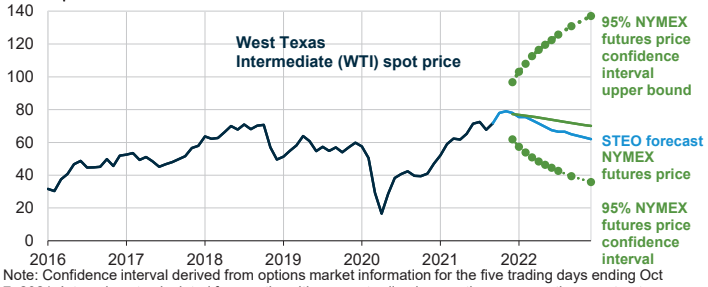
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook Chart Gallery

October 13, 2021

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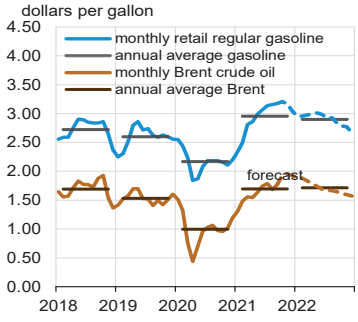
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



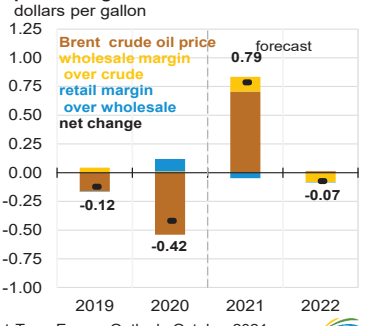
Note: Confidence interval derived from options market information for the five trading days ending Oct 7, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

U.S. gasoline and crude oil prices
dollars per gallon

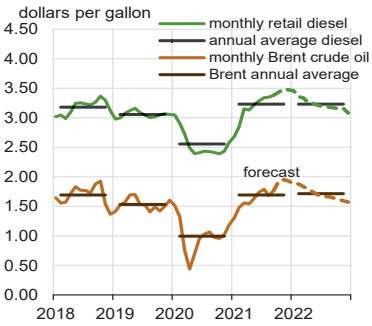


Components of annual gasoline price changes
dollars per gallon

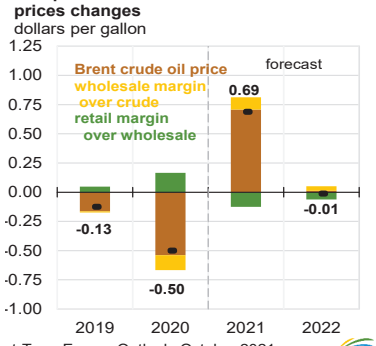


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021, and Refinitiv an LSEG Business

U.S. diesel and crude oil prices



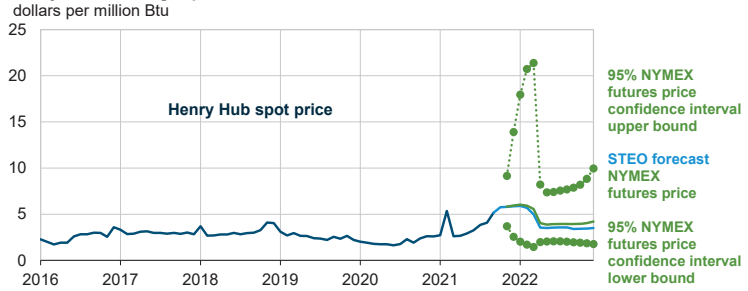
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

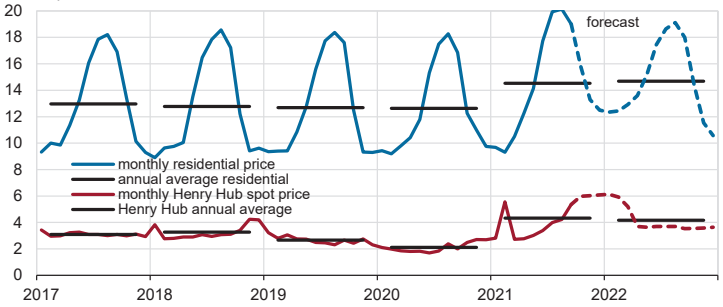


Note: Confidence interval derived from options market information for the five trading days ending Oct 7, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021, CME Group, and Refinitiv an LSEG Business

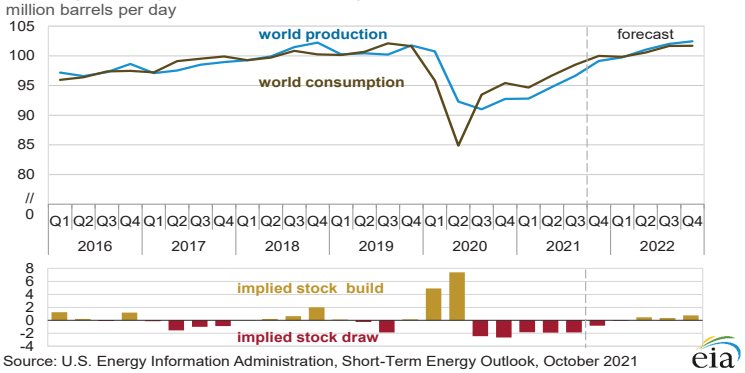
U.S. natural gas prices

dollars per thousand cubic feet



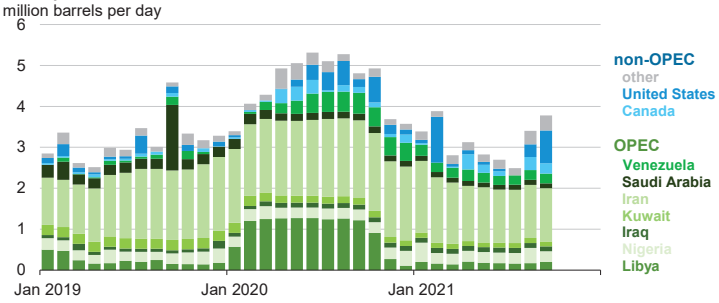
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021, and Refinitiv an LSEG Business

World liquid fuels production and consumption balance
million barrels per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day

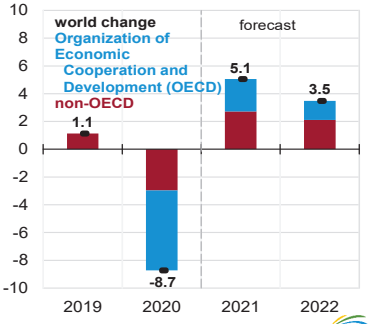


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

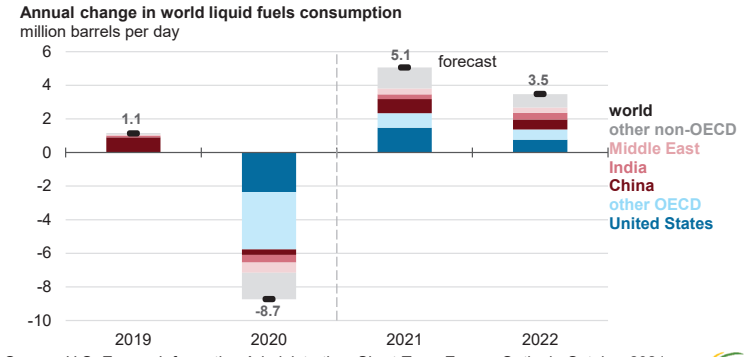
World liquid fuels consumption
million barrels per day



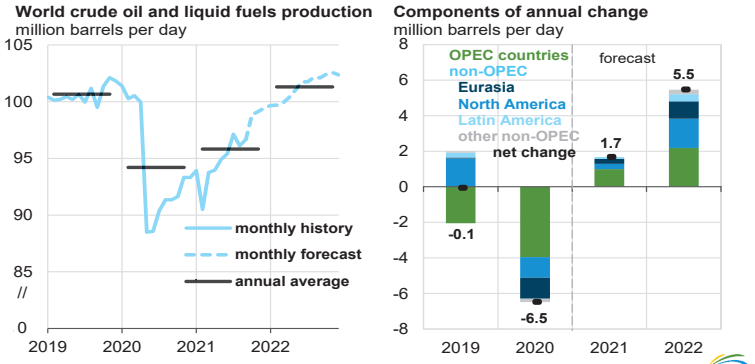
Components of annual change
million barrels per day



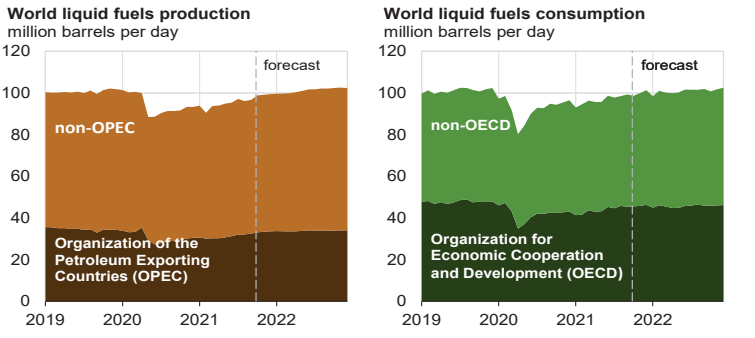
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

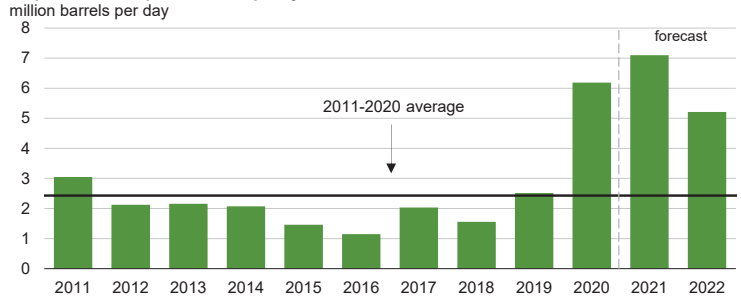


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



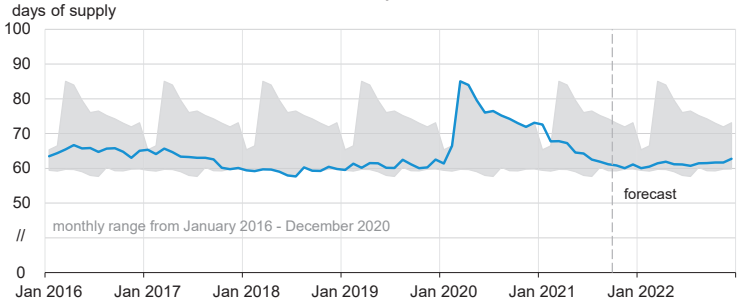
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



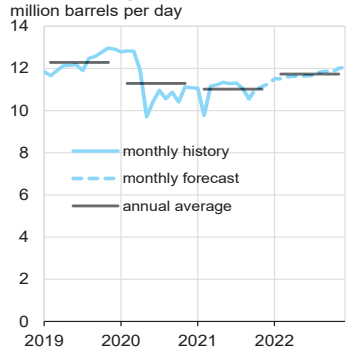
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

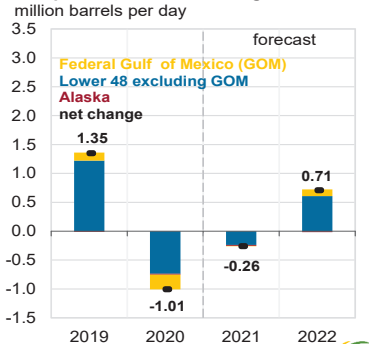


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

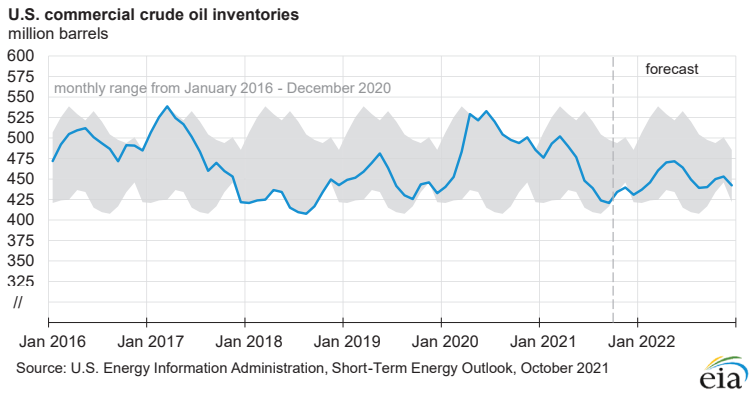
U.S. crude oil production
million barrels per day

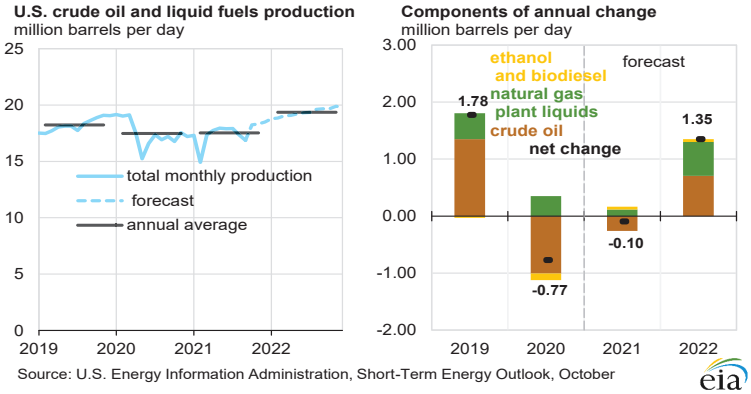


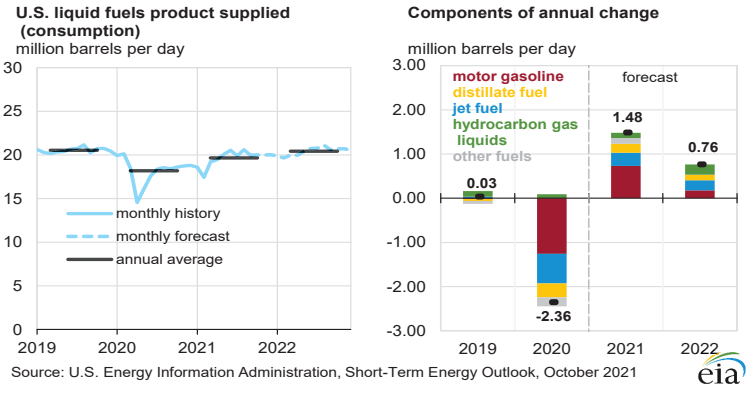
Components of annual change
million barrels per day



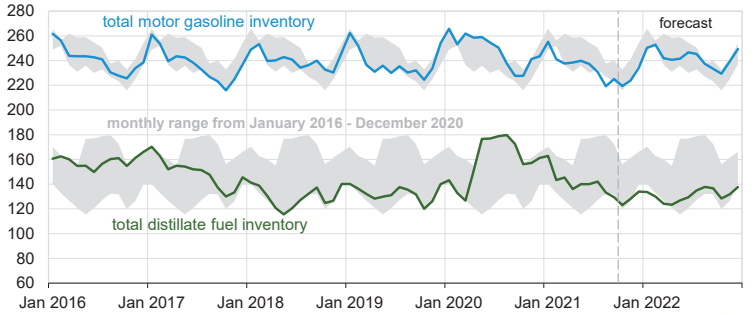
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2016 - December 2020
forecast
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021
eia


U.S. crude oil and liquid fuels production
million barrels per day
25
20
15
10
5
0
total monthly production
forecast
annual average
2019
2020
2021
2022
Components of annual change
million barrels per day
3.00
2.00
1.00
0.00
-1.00
-2.00
ethanol
and biodiesel
natural gas
plant liquids
crude oil
net change
forecast
1.78
-0.77
-0.10
1.35
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October
eia

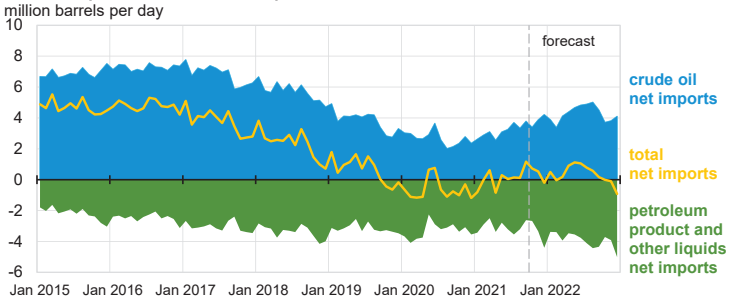

U.S. liquid fuels product supplied
(consumption)
million barrels per day
30
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2019
2020
2021
2022
Components of annual change
million barrels per day
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas
liquids
other fuels
forecast
0.03
-2.36
1.48
0.76
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021
eia

U.S. gasoline and distillate inventories
million barrels



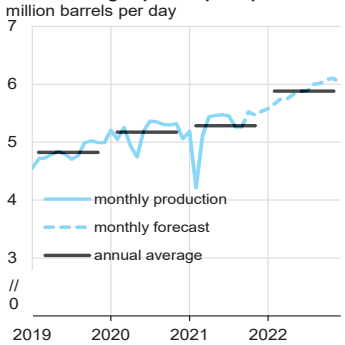
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

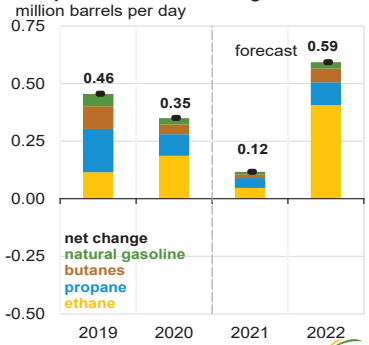


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

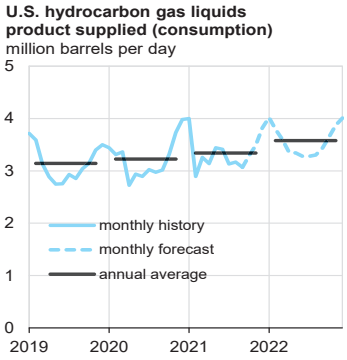
U.S. natural gas plant liquids production
million barrels per day

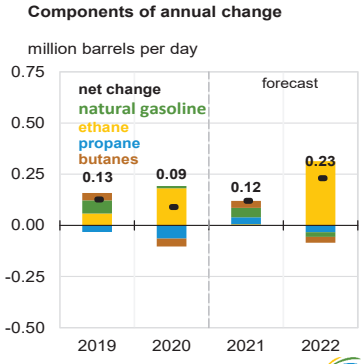


Components of annual change
million barrels per day

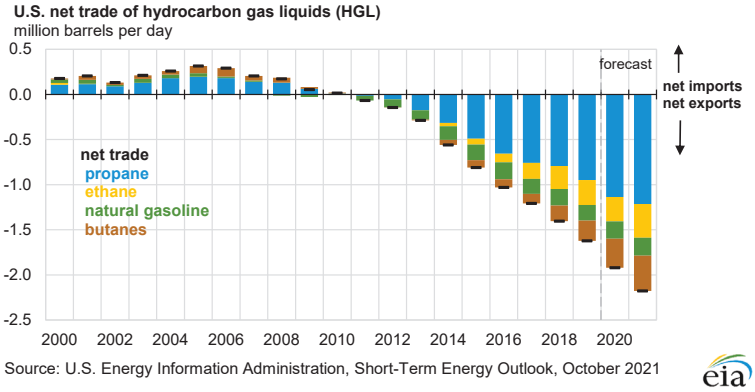


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

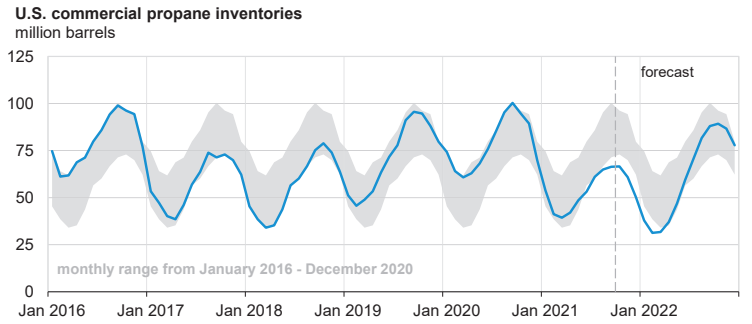




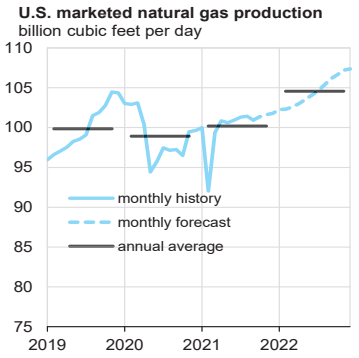
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

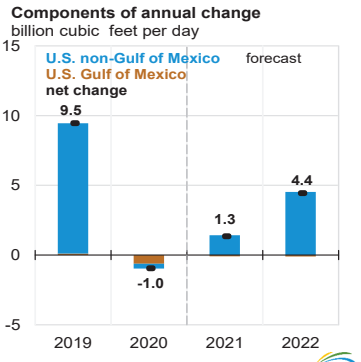


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

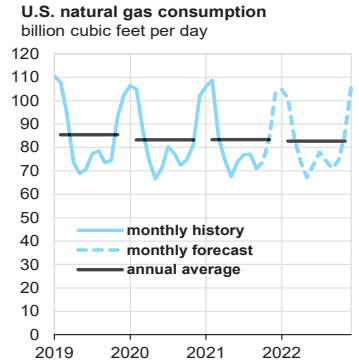


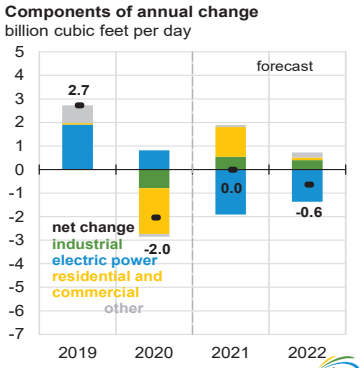
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



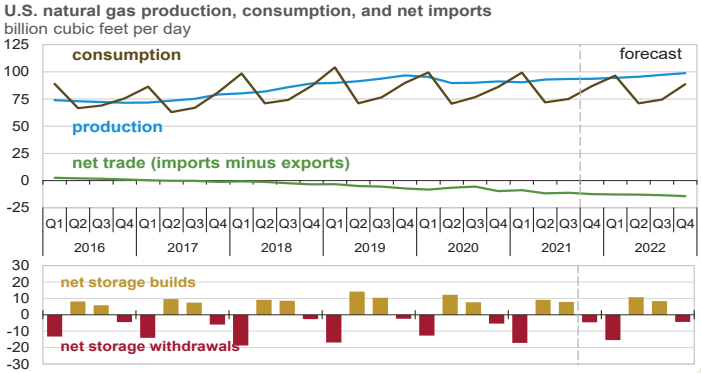


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

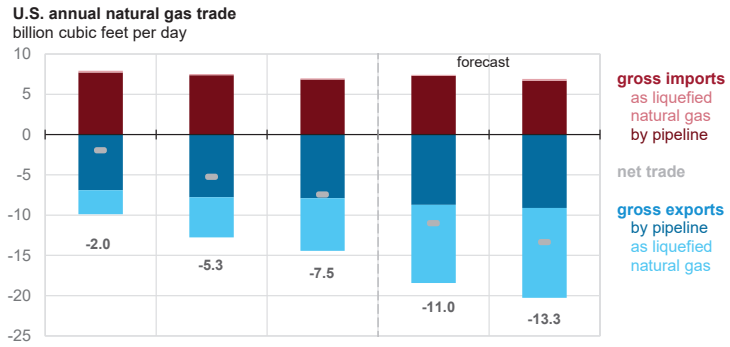




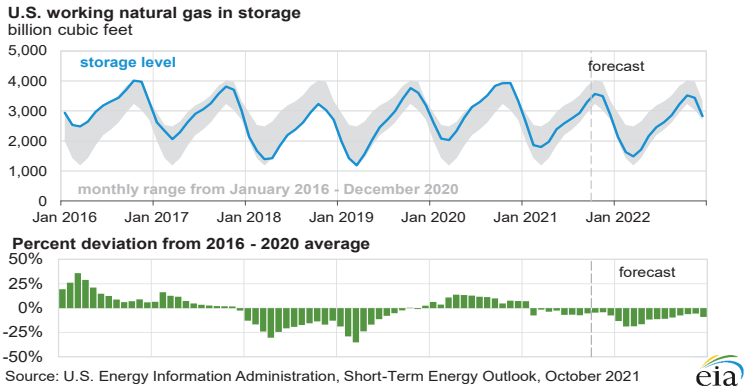
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



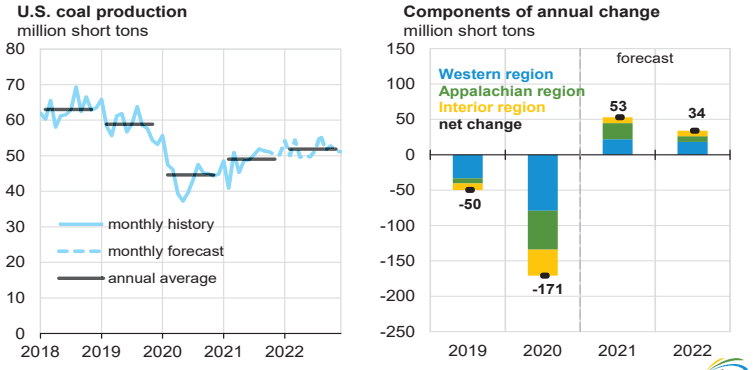
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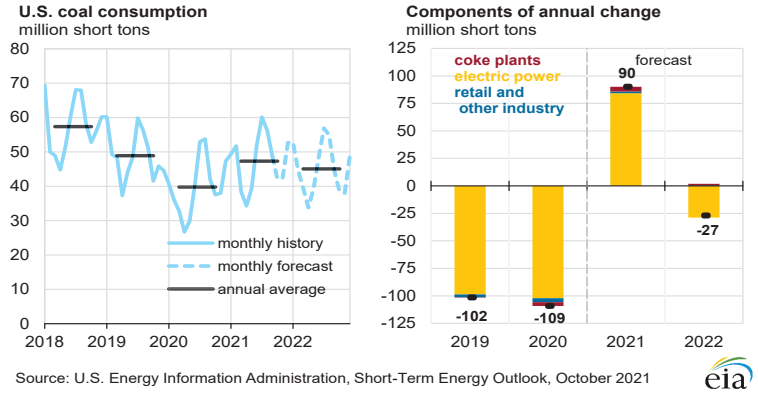
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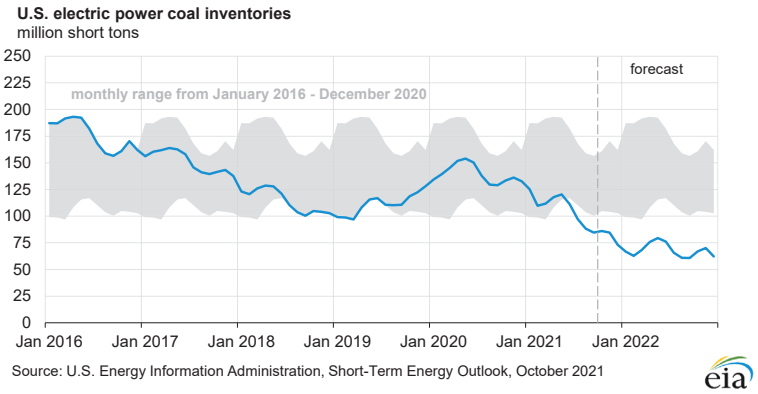
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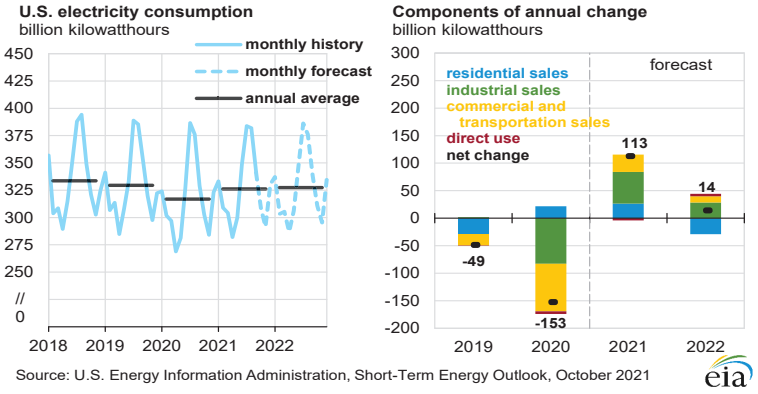
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



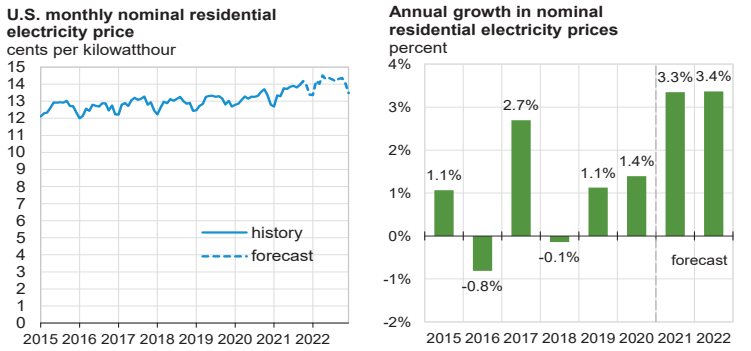
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



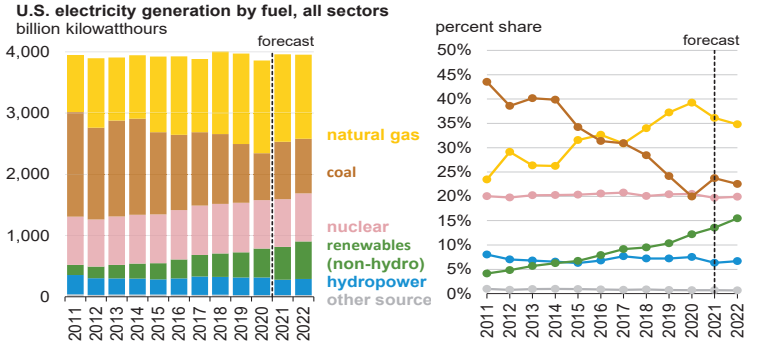
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



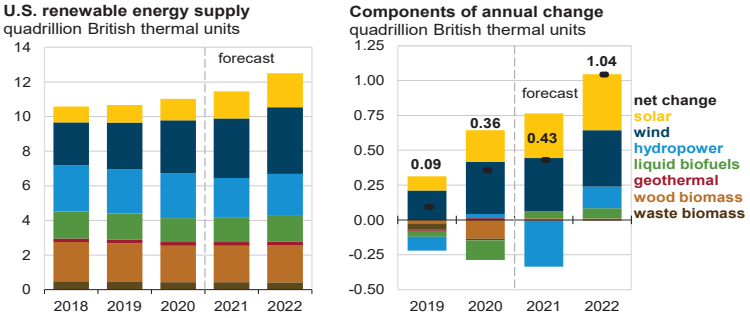
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



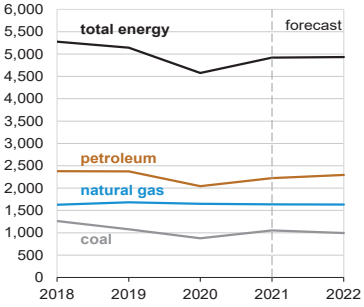
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021



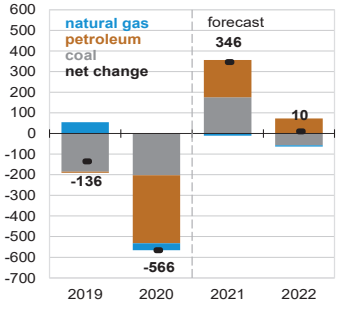
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

U.S. annual CO2 emissions by source
million metric tons

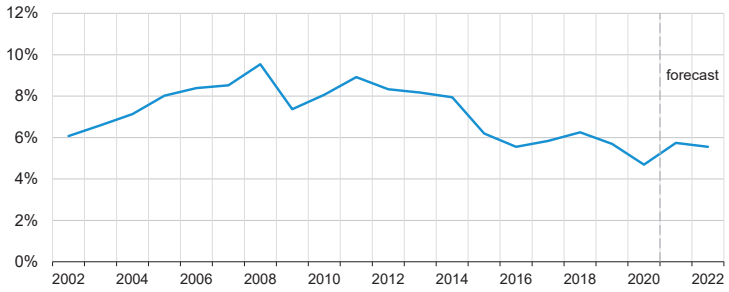


Components of annual change
million metric tons



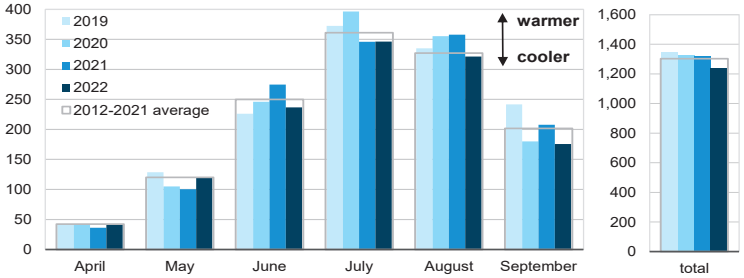
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

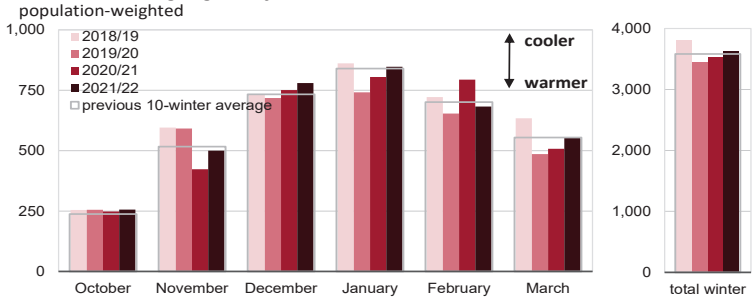
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

U.S. winter heating degree days
population-weighted

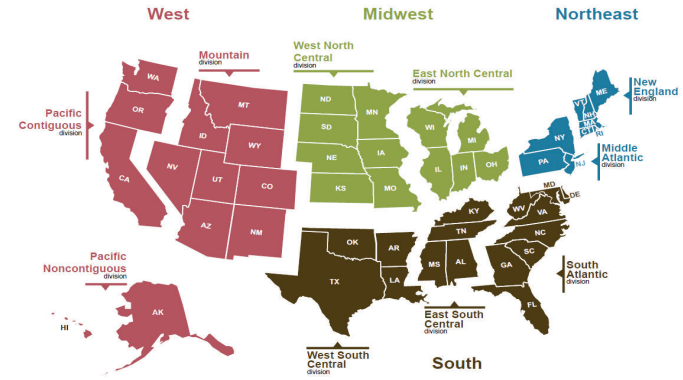


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

Fuel / Region	Winter of							Forecast	
	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	% Change
Natural Gas									
Northeast									
Consumption (Mcf**)	72.2	57.4	61.5	65.3	66.8	61.1	62.1	64.2	3.4
Price ($/mcf)	10.80	10.18	10.70	11.37	11.67	11.72	11.77	13.46	14.4
Expenditures ($)	780	584	659	742	779	716	731	865	18.2
Midwest									
Consumption (Mcf)	79.1	63.6	64.8	73.9	76.9	69.7	70.6	72.5	2.7
Price ($/mcf)	8.54	7.55	8.28	7.83	7.82	7.44	7.80	11.28	44.7
Expenditures ($)	676	480	536	578	601	519	551	818	48.6
South									
Consumption (Mcf)	50.9	40.3	38.0	45.6	46.0	41.5	44.9	44.8	-0.2
Price ($/mcf)	10.75	10.72	12.04	11.23	10.61	11.03	11.40	13.90	21.9
Expenditures ($)	548	432	457	512	488	458	512	623	21.6
West									
Consumption (Mcf)	40.1	44.7	45.7	43.9	48.9	47.5	46.5	47.8	2.7
Price ($/mcf)	10.71	9.92	10.68	10.25	10.14	10.44	11.38	13.69	20.3
Expenditures ($)	430	444	488	450	496	496	530	654	23.5
U.S. Average									
Consumption (Mcf)	60.7	51.8	53.0	57.6	60.3	55.5	56.3	57.7	2.4
Price ($/mcf)	9.89	9.28	10.06	9.82	9.72	9.72	10.17	12.92	27.1
Expenditures ($)	601	481	533	565	586	540	573	746	30.2
Heating Oil									
U.S. Average									
Consumption (gallons)	548.2	436.6	468.3	495.6	512.0	467.9	474.8	511.1	7.7
Price ($/gallon)	3.04	2.06	2.41	2.78	3.07	2.89	2.55	3.39	33.1
Expenditures ($)	1,668	900	1,128	1,376	1,570	1,353	1,210	1,734	43.3
Electricity									
Northeast									
Consumption (kWh***)	8,927	7,705	8,050	8,345	8,481	8,014	8,172	8,346	2.1
Price ($/kwh)	0.168	0.164	0.165	0.169	0.169	0.171	0.172	0.184	7.3
Expenditures ($)	1,501	1,263	1,324	1,407	1,435	1,374	1,404	1,538	9.6
Midwest									
Consumption (kWh)	10,816	9,366	9,480	10,383	10,711	10,006	10,157	10,336	1.8
Price ($/kwh)	0.118	0.122	0.124	0.124	0.123	0.124	0.126	0.130	3.0
Expenditures ($)	1,274	1,138	1,173	1,289	1,320	1,245	1,284	1,346	4.9
South									
Consumption (kWh)	10,306	8,786	8,516	9,550	9,544	8,901	9,460	9,498	0.4
Price ($/kwh)	0.111	0.110	0.111	0.112	0.113	0.115	0.116	0.123	6.4
Expenditures ($)	1,142	968	949	1,065	1,074	1,021	1,098	1,173	6.8
West									
Consumption (kWh)	7,836	8,448	8,568	8,339	8,998	8,824	8,772	8,939	1.9
Price ($/kwh)	0.127	0.130	0.132	0.136	0.136	0.138	0.147	0.149	0.9
Expenditures ($)	993	1,096	1,129	1,131	1,224	1,218	1,294	1,330	2.8
U.S. Average									
Consumption (kWh)	9,421	8,459	8,428	9,054	9,261	8,767	9,079	9,193	1.3
Price ($/kwh)	0.123	0.124	0.125	0.126	0.127	0.129	0.131	0.138	5.0
Expenditures ($)	1,159	1,045	1,056	1,143	1,174	1,128	1,192	1,268	6.3

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

Fuel / Region	Winter of 14-15	15-16	16-17	17-18	18-19	19-20	20-21	Forecast 21-22	% Change
Propane									
Northeast									
Consumption (gallons)	629.7	505.7	542.6	569.2	585.7	538.4	545.0	563.7	3.4
Price* ($/gallon)	3.00	2.71	3.03	3.24	3.19	2.50	2.51	3.57	42.2
Expenditures ($)	1,889	1,370	1,644	1,844	1,869	1,346	1,368	2,012	47.1
Midwest									
Consumption (gallons)	756.0	618.3	629.0	715.2	747.0	679.5	685.4	702.2	2.5
Price* ($/gallon)	1.91	1.47	1.58	1.82	1.72	1.53	1.56	2.57	64.7
Expenditures ($)	1,444	909	994	1,302	1,285	1,040	1,069	1,805	68.8
South									
Consumption (gallons)	560.7	449.0	428.1	504.6	504.5	459.2	493.8	496.2	0.5
Price* ($/gallon)	2.98	2.27	2.45	2.59	2.63	2.31	2.33	3.31	42.3
Expenditures ($)	1,671	1,020	1,047	1,308	1,326	1,063	1,148	1,643	43.0
Number of households by primary space heating fuel (thousands)									
Northeast									
Natural gas	11,705	11,802	11,918	12,063	12,183	12,349	12,516	12,670	1.2
Heating oil	5,097	4,923	4,774	4,724	4,610	4,448	4,304	4,144	-3.7
Propane	856	884	933	977	1,019	1,039	1,042	1,077	3.3
Electricity	3,093	3,253	3,326	3,387	3,482	3,585	3,713	3,818	2.8
Wood	569	511	471	469	462	351	218	162	-26.0
Other/None	437	433	433	441	447	469	508	533	4.9
Midwest									
Natural gas	18,206	18,241	18,236	18,319	18,372	18,211	18,045	18,063	0.1
Heating oil	319	301	286	278	273	262	247	234	-5.2
Propane	2,085	2,077	2,057	2,115	2,184	2,218	2,248	2,274	1.2
Electricity	5,514	5,747	5,871	5,978	6,027	6,221	6,507	6,681	2.7
Wood	617	587	552	527	507	471	426	378	-11.4
Other/None	351	354	359	361	349	362	395	405	2.7
South									
Natural gas	13,919	13,948	13,913	13,970	14,037	14,160	14,321	14,380	0.4
Heating oil	681	653	619	609	583	553	534	508	-4.9
Propane	1,925	1,899	1,858	1,852	1,862	1,893	1,908	1,891	-0.9
Electricity	28,843	29,509	29,873	30,326	30,708	30,965	31,360	31,910	1.8
Wood	593	552	509	484	475	464	452	446	-1.3
Other/None	407	413	426	434	454	483	506	540	6.7
West									
Natural gas	15,227	15,312	15,427	15,570	15,650	15,646	15,613	15,637	0.2
Heating oil	225	219	214	214	217	204	187	180	-3.6
Propane	915	923	935	963	987	967	943	941	-0.1
Electricity	8,927	9,228	9,351	9,490	9,646	9,847	10,104	10,309	2.0
Wood	749	719	700	689	677	666	666	664	-0.2
Other/None	1,075	1,087	1,058	1,089	1,091	1,121	1,223	1,282	4.9
U.S. Totals									
Natural gas	59,057	59,303	59,494	59,922	60,241	60,366	60,495	60,751	0.4
Heating oil	6,322	6,095	5,893	5,825	5,683	5,466	5,272	5,066	-3.9
Propane	5,781	5,783	5,784	5,906	6,053	6,117	6,140	6,183	0.7
Electricity	46,377	47,737	48,420	49,180	49,863	50,617	51,685	52,718	2.0
Wood	2,528	2,369	2,232	2,170	2,121	1,953	1,763	1,650	-6.4
Other/None	2,271	2,287	2,277	2,326	2,340	2,436	2,632	2,761	4.9
Heating degree days									
Northeast	5,647	4,320	4,699	5,014	5,165	4,656	4,738	4,928	4.0
Midwest	6,003	4,689	4,792	5,577	5,846	5,228	5,297	5,457	3.0
South	2,692	2,015	1,884	2,353	2,361	2,074	2,284	2,293	0.4
West	2,570	2,958	3,043	2,890	3,300	3,190	3,106	3,214	3.5
U.S. Average	3,890	3,209	3,264	3,622	3,801	3,444	3,529	3,620	2.6

Note: Winter covers the period October 1 through March 31. Fuel prices are nominal prices. Fuel consumption per household is based only on households that use that fuel as the primary space-heating fuel. Included in fuel consumption is consumption for water heating, appliances, electronics, and lighting (electricity). Per-household consumption based on EIA's 2015 Residential Energy Consumption Surveys corrected for actual and projected heating degree days. Number of households using heating oil includes kerosene.

* Prices exclude taxes

** thousand cubic feet

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	Winter of							Forecast	
Fuel / Region	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	% Change

*** kilowatthour

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	**10.98**	*11.13*	*11.54*	*11.64*	*11.78*	*11.96*	**11.28**	*11.02*	*11.73*
Dry Natural Gas Production															
(billion cubic feet per day)	**95.29**	**89.57**	**89.99**	**91.14**	**90.30**	**92.89**	**93.32**	*93.65*	*94.38*	*95.41*	*97.12*	*98.69*	**91.49**	*92.55*	*96.41*
Coal Production															
(million short tons)	**149**	**116**	**136**	**134**	**140**	**143**	**154**	*152*	*159*	*149*	*159*	*155*	**535**	*588*	*622*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.15**	*20.01*	*19.85*	*20.37*	*20.83*	*20.66*	**18.19**	*19.67*	*20.43*
Natural Gas															
(billion cubic feet per day)	**99.44**	**70.72**	**76.76**	**86.12**	**99.28**	**71.92**	**75.08**	*86.88*	*96.42*	*71.11*	*74.47*	*88.54*	**83.25**	*83.23*	*82.59*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**139**	**126**	**165**	*137*	*137*	*122*	*156*	*126*	**477**	*567*	*540*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	**10.22**	**12.03**	*10.12*	*10.51*	*10.34*	*11.97*	*10.23*	**10.39**	*10.73*	*10.76*
Renewables (c)															
(quadrillion Btu)	**2.93**	**3.00**	**2.83**	**2.91**	**2.95**	**3.16**	**2.99**	*3.09*	*3.23*	*3.51*	*3.19*	*3.28*	**11.66**	*12.19*	*13.20*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.17**	**20.62**	**23.46**	**23.80**	**25.04**	**23.20**	**24.24**	*24.68*	*25.23*	*23.31*	*24.49*	*25.04*	**93.05**	*97.16*	*98.08*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	**70.61**	*78.32*	*74.76*	*69.44*	*66.01*	*62.98*	**39.17**	*68.48*	*68.24*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.80*	*5.53*	*3.53*	*3.51*	*3.45*	**2.03**	*4.17*	*4.01*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	**2.02**	*2.02*	*2.04*	*2.03*	*2.00*	*1.98*	**1.92**	*1.97*	*2.01*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,361**	**19,517**	*19,801*	*20,034*	*20,237*	*20,399*	*20,531*	**18,385**	*19,433*	*20,300*
Percent change from prior year	**0.6**	**-9.1**	**-2.9**	**-2.3**	**0.5**	**12.2**	**5.2**	*5.5*	*5.1*	*4.5*	*4.5*	*3.7*	**-3.4**	*5.7*	*4.5*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.0**	*120.0*	*120.5*	*120.9*	*121.4*	*122.0*	**113.7**	*118.1*	*121.2*
Percent change from prior year	**1.7**	**0.7**	**1.3**	**1.5**	**2.1**	**4.1**	**4.4**	*4.7*	*4.0*	*2.9*	*2.0*	*1.7*	**1.3**	*3.8*	*2.6*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,699**	**15,434**	*15,216*	*15,232*	*15,399*	*15,558*	*15,644*	**15,677**	*15,892*	*15,458*
Percent change from prior year	**1.6**	**12.5**	**6.9**	**4.0**	**15.1**	**-5.0**	**-2.2**	*-1.5*	*-11.5*	*-1.9*	*0.8*	*2.8*	**6.2**	*1.4*	*-2.7*
Manufacturing Production Index															
(Index, 2017=100)	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.6**	**100.5**	*101.3*	*102.8*	*104.4*	*105.6*	*106.6*	**93.2**	*99.5*	*104.9*
Percent change from prior year	**-2.7**	**-15.3**	**-5.2**	**-2.4**	**-0.2**	**17.1**	**6.7**	*4.8*	*5.6*	*5.8*	*5.1*	*5.2*	**-6.4**	*6.8*	*5.4*
Weather															
U.S. Heating Degree-Days	**1,880**	**544**	**71**	**1,422**	**2,107**	**473**	**49**	*1,535*	*2,085*	*484*	*78*	*1,522*	**3,917**	*4,164*	*4,170*
U.S. Cooling Degree-Days	**70**	**393**	**932**	**120**	**49**	**411**	**912**	*92*	*46*	*398*	*844*	*96*	**1,515**	*1,464*	*1,384*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	**70.61**	*78.32*	*74.76*	*69.44*	*66.01*	*62.98*	**39.17**	*68.48*	*68.24*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	**68.91**	**73.45**	*81.32*	*78.26*	*72.94*	*69.67*	*66.98*	**41.69**	*71.38*	*71.91*
U.S. Imported Average	**43.75**	**26.24**	**39.87**	**40.69**	**55.27**	**64.80**	**68.44**	*76.33*	*72.50*	*67.19*	*63.54*	*60.47*	**37.22**	*67.12*	*65.79*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.76**	**40.79**	**42.09**	**57.12**	**66.11**	**69.91**	*77.33*	*73.55*	*68.20*	*64.52*	*61.47*	**39.73**	*67.92*	*66.78*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	**216**	**232**	*232*	*220*	*218*	*209*	*191*	**133**	*216*	*209*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	**204**	**217**	*239*	*229*	*218*	*211*	*205*	**129**	*210*	*216*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	**180**	**196**	*222*	*218*	*200*	*188*	*191*	**125**	*199*	*204*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	**182**	**198**	*227*	*225*	*216*	*209*	*203*	**131**	*195*	*213*
No. 6 Residual Fuel Oil (a)	**177**	**93**	**116**	**119**	**162**	**181**	**181**	*181*	*175*	*167*	*155*	*148*	**126**	*176*	*160*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*314*	*296*	*300*	*289*	*274*	**218**	*297*	*290*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*326*	*309*	*313*	*303*	*288*	**227**	*307*	*303*
On-highway Diesel Fuel	**289**	**243**	**243**	**247**	**290**	**321**	**336**	*346*	*338*	*323*	*318*	*313*	**256**	*324*	*323*
Heating Oil	**280**	**200**	**214**	**230**	**272**	**283**	**302**	*342*	*338*	*309*	*286*	*287*	**244**	*300*	*312*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	**4.53**	*6.03*	*5.75*	*3.67*	*3.64*	*3.59*	**2.11**	*4.33*	*4.16*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.80*	*5.53*	*3.53*	*3.51*	*3.45*	**2.03**	*4.17*	*4.01*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.11**	*6.94*	*7.26*	*5.15*	*4.64*	*4.80*	**3.32**	*5.52*	*5.50*
Commercial Sector	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**9.86**	*9.70*	*10.03*	*10.11*	*9.74*	*8.45*	**7.49**	*8.68*	*9.51*
Residential Sector	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**19.70**	*13.27*	*12.53*	*14.81*	*18.55*	*11.48*	**10.76**	*12.10*	*12.95*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	**2.02**	*2.02*	*2.04*	*2.03*	*2.00*	*1.98*	**1.92**	*1.97*	*2.01*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.26**	**4.44**	*6.17*	*6.15*	*3.75*	*3.70*	*3.82*	**2.39**	*5.15*	*4.26*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**13.09**	**13.18**	*13.86*	*14.55*	*14.56*	*13.15*	*12.53*	**9.15**	*12.80*	*13.69*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.20**	**16.43**	*18.29*	*17.84*	*16.94*	*16.32*	*15.92*	**10.73**	*15.56*	*16.83*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.42**	*6.78*	*7.12*	*6.94*	*7.32*	*6.67*	**6.66**	*7.06*	*7.02*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.61**	*11.19*	*11.67*	*11.61*	*11.99*	*11.39*	**10.65**	*11.26*	*11.68*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.88**	*13.79*	*13.83*	*14.38*	*14.25*	*13.93*	**13.20**	*13.64*	*14.10*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**33.05**	**29.27**	**29.95**	**30.66**	**30.18**	**30.86**	**30.87**	*31.73*	*32.37*	*32.51*	*32.74*	*33.27*	**30.73**	*30.91*	*32.72*
U.S. (50 States)	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.56**	*18.98*	*19.54*	*19.83*	*20.18*	*20.45*	**18.58**	*18.55*	*20.01*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.39**	**5.56**	*5.79*	*5.83*	*5.80*	*5.82*	*5.85*	**5.26**	*5.59*	*5.82*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	**1.91**	*1.91*	*1.94*	*1.90*	*1.86*	*1.83*	**1.94**	*1.92*	*1.88*
Other OECD	**5.08**	**4.99**	**4.81**	**4.93**	**5.00**	**4.47**	**4.85**	*5.04*	*5.06*	*4.97*	*4.87*	*5.14*	**4.95**	*4.84*	*5.01*
Non-OECD	**67.69**	**63.03**	**61.06**	**62.09**	**62.62**	**63.90**	**65.76**	*67.42*	*67.39*	*68.53*	*69.26*	*69.18*	**63.46**	*64.94*	*68.60*
OPEC	**33.50**	**30.72**	**28.65**	**30.00**	**30.37**	**30.78**	**32.24**	*33.39*	*33.66*	*33.84*	*34.01*	*34.05*	**30.71**	*31.71*	*33.89*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.51**	**26.88**	*27.96*	*28.06*	*28.38*	*28.49*	*28.49*	**25.60**	*26.37*	*28.36*
Other Liquids (b)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Eurasia	**14.72**	**13.16**	**12.70**	**13.12**	**13.38**	**13.61**	**13.61**	*14.21*	*14.46*	*14.66*	*14.77*	*14.97*	**13.42**	*13.71*	*14.72*
China	**4.96**	**4.92**	**4.96**	**4.91**	**5.05**	**5.09**	**5.06**	*5.07*	*5.06*	*5.09*	*5.09*	*5.14*	**4.94**	*5.07*	*5.09*
Other Non-OECD	**14.51**	**14.22**	**14.75**	**14.06**	**13.82**	**14.42**	**14.84**	*14.74*	*14.22*	*14.93*	*15.39*	*15.02*	**14.38**	*14.46*	*14.89*
Total World Supply	**100.74**	**92.30**	**91.02**	**92.75**	**92.80**	**94.76**	**96.64**	*99.15*	*99.75*	*101.04*	*102.00*	*102.45*	**94.19**	*95.86*	*101.32*
Non-OPEC Supply	**67.24**	**61.58**	**62.36**	**62.75**	**62.43**	**63.98**	**64.39**	*65.76*	*66.10*	*67.19*	*67.99*	*68.41*	**63.48**	*64.15*	*67.43*
Consumption (million barrels per day) (c)															
OECD	**45.50**	**37.45**	**42.27**	**42.84**	**42.29**	**43.86**	**45.31**	*45.90*	*45.52*	*45.14*	*46.13*	*46.07*	**42.02**	*44.35*	*45.72*
U.S. (50 States)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.15**	*20.01*	*19.85*	*20.37*	*20.83*	*20.66*	**18.19**	*19.67*	*20.43*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	**0.18**	**0.18**	*0.19*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.10**	**2.38**	*2.41*	*2.38*	*2.33*	*2.43*	*2.41*	**2.19**	*2.25*	*2.39*
Europe	**13.34**	**11.01**	**12.88**	**12.51**	**11.90**	**12.56**	**13.69**	*13.65*	*13.25*	*13.27*	*13.57*	*13.21*	**12.43**	*12.96*	*13.32*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.03**	*3.44*	*3.66*	*2.98*	*3.08*	*3.40*	**3.33**	*3.32*	*3.28*
Other OECD	**6.30**	**5.34**	**5.47**	**5.77**	**5.89**	**5.91**	**5.86**	*6.20*	*6.17*	*6.00*	*6.04*	*6.20*	**5.72**	*5.97*	*6.10*
Non-OECD	**50.33**	**47.44**	**51.21**	**52.59**	**52.37**	**52.81**	**53.21**	*54.08*	*54.32*	*55.43*	*55.54*	*55.63*	**50.40**	*53.12*	*55.23*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.94**	**5.03**	**5.42**	*5.27*	*5.08*	*5.15*	*5.54*	*5.39*	**4.95**	*5.17*	*5.29*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.73**	**0.74**	**0.74**	*0.75*	*0.74*	*0.74*	*0.74*	*0.75*	**0.71**	*0.74*	*0.74*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.25**	**15.46**	**14.97**	*15.44*	*15.84*	*16.01*	*15.72*	*15.99*	**14.43**	*15.28*	*15.89*
Other Asia	**13.35**	**11.63**	**12.59**	**13.61**	**13.77**	**13.33**	**13.18**	*13.90*	*14.30*	*14.47*	*14.04*	*14.44*	**12.80**	*13.54*	*14.31*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.67**	**18.25**	**18.90**	*18.72*	*18.36*	*19.07*	*19.50*	*19.06*	**17.51**	*18.39*	*19.00*
Total World Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.66**	**96.67**	**98.52**	*99.98*	*99.84*	*100.57*	*101.67*	*101.70*	**92.42**	*97.47*	*100.95*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.49**	**-1.67**	**0.53**	**0.91**	**0.47**	**0.51**	**0.54**	*0.52*	*-0.14*	*-0.71*	*-0.09*	*0.38*	**-0.18**	*0.51*	*-0.14*
Other OECD	**-0.51**	**-1.16**	**0.04**	**0.69**	**0.77**	**0.14**	**0.43**	*0.10*	*0.07*	*0.08*	*-0.08*	*-0.36*	**-0.23**	*0.36*	*-0.07*
Other Stock Draws and Balance	**-3.91**	**-4.57**	**1.90**	**1.08**	**0.62**	**1.26**	**0.91**	*0.22*	*0.15*	*0.17*	*-0.17*	*-0.78*	**-1.36**	*0.75*	*-0.16*
Total Stock Draw	**-4.91**	**-7.40**	**2.46**	**2.68**	**1.86**	**1.91**	**1.88**	*0.84*	*0.09*	*-0.46*	*-0.33*	*-0.75*	**-1.77**	*1.62*	*-0.37*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,327**	**1,458**	**1,423**	**1,343**	**1,302**	**1,271**	**1,226**	*1,198*	*1,210*	*1,275*	*1,283*	*1,257*	**1,343**	*1,198*	*1,257*
OECD Commercial Inventory	**2,970**	**3,206**	**3,168**	**3,025**	**2,914**	**2,872**	**2,786**	*2,749*	*2,754*	*2,812*	*2,827*	*2,834*	**3,025**	*2,749*	*2,834*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.97**	**24.28**	**25.14**	**25.73**	**25.18**	**26.38**	**26.02**	*26.69*	*27.31*	*27.53*	*27.87*	*28.13*	**25.78**	*26.07*	*27.71*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.39**	**5.56**	*5.79*	*5.83*	*5.80*	*5.82*	*5.85*	**5.26**	*5.59*	*5.82*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	**1.91**	*1.91*	*1.94*	*1.90*	*1.86*	*1.83*	**1.94**	*1.92*	*1.88*
United States	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.56**	*18.98*	*19.54*	*19.83*	*20.18*	*20.45*	**18.58**	*18.55*	*20.01*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.61**	**6.26**	**6.73**	*6.51*	*5.97*	*6.73*	*7.21*	*6.87*	**6.15**	*6.28*	*6.70*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.63**	**0.67**	**0.70**	*0.69*	*0.71*	*0.72*	*0.74*	*0.73*	**0.64**	*0.67*	*0.73*
Brazil	**3.44**	**3.89**	**4.29**	**3.52**	**3.23**	**3.90**	**4.27**	*4.05*	*3.44*	*4.27*	*4.66*	*4.20*	**3.79**	*3.87*	*4.14*
Colombia	**0.90**	**0.78**	**0.77**	**0.79**	**0.77**	**0.74**	**0.76**	*0.78*	*0.80*	*0.72*	*0.73*	*0.78*	**0.81**	*0.76*	*0.76*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	**0.50**	**0.51**	*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.51*	*0.53*
Other Central and S. America	**0.45**	**0.42**	**0.41**	**0.45**	**0.47**	**0.45**	**0.49**	*0.47*	*0.49*	*0.49*	*0.55*	*0.64*	**0.43**	*0.47*	*0.54*
Europe	**4.44**	**4.35**	**4.16**	**4.30**	**4.38**	**3.89**	**4.23**	*4.43*	*4.44*	*4.35*	*4.24*	*4.52*	**4.31**	*4.23*	*4.39*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	**1.90**	**2.07**	*2.18*	*2.19*	*2.13*	*2.12*	*2.29*	**2.01**	*2.07*	*2.18*
United Kingdom	**1.17**	**1.16**	**0.99**	**1.06**	**1.07**	**0.82**	**0.96**	*1.03*	*1.04*	*1.02*	*0.92*	*1.03*	**1.10**	*0.97*	*1.00*
Eurasia	**14.72**	**13.16**	**12.70**	**13.12**	**13.38**	**13.61**	**13.61**	*14.21*	*14.46*	*14.66*	*14.77*	*14.97*	**13.42**	*13.71*	*14.72*
Azerbaijan	**0.76**	**0.69**	**0.66**	**0.69**	**0.74**	**0.69**	**0.72**	*0.78*	*0.81*	*0.80*	*0.78*	*0.81*	**0.70**	*0.74*	*0.80*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	**1.86**	**1.73**	*1.92*	*1.98*	*1.98*	*1.94*	*2.00*	**1.86**	*1.84*	*1.97*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	**10.72**	**10.81**	*11.14*	*11.30*	*11.51*	*11.69*	*11.80*	**10.50**	*10.78*	*11.57*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	**0.24**	**0.24**	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.11**	**0.11**	**0.11**	**0.11**	**0.10**	**0.10**	**0.11**	*0.13*	*0.14*	*0.14*	*0.14*	*0.14*	**0.11**	*0.11*	*0.14*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.16**	**3.19**	**3.19**	*3.24*	*3.26*	*3.26*	*3.25*	*3.25*	**3.13**	*3.19*	*3.25*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	**0.97**	**0.98**	*1.03*	*1.04*	*1.04*	*1.04*	*1.04*	**0.96**	*0.99*	*1.04*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.89**	**1.91**	**1.92**	*1.92*	*1.94*	*1.94*	*1.94*	*1.94*	**1.87**	*1.91*	*1.94*
Asia and Oceania	**9.45**	**9.17**	**9.22**	**9.18**	**9.32**	**9.24**	**9.27**	*9.29*	*9.33*	*9.33*	*9.31*	*9.32*	**9.25**	*9.28*	*9.32*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.47**	**0.42**	**0.48**	*0.47*	*0.47*	*0.47*	*0.47*	*0.46*	**0.49**	*0.46*	*0.47*
China	**4.96**	**4.92**	**4.96**	**4.91**	**5.05**	**5.09**	**5.06**	*5.07*	*5.06*	*5.09*	*5.09*	*5.14*	**4.94**	*5.07*	*5.09*
India	**0.96**	**0.90**	**0.92**	**0.91**	**0.92**	**0.92**	**0.93**	*0.93*	*0.94*	*0.92*	*0.92*	*0.92*	**0.92**	*0.93*	*0.93*
Indonesia	**0.92**	**0.90**	**0.88**	**0.89**	**0.88**	**0.86**	**0.88**	*0.87*	*0.87*	*0.86*	*0.85*	*0.84*	**0.90**	*0.87*	*0.85*
Malaysia	**0.73**	**0.62**	**0.64**	**0.65**	**0.66**	**0.63**	**0.57**	*0.58*	*0.62*	*0.62*	*0.61*	*0.60*	**0.66**	*0.61*	*0.61*
Vietnam	**0.23**	**0.22**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	*0.21*	*0.20*	*0.20*	*0.20*	*0.19*	**0.22**	*0.21*	*0.20*
Africa	**1.48**	**1.44**	**1.42**	**1.40**	**1.41**	**1.41**	**1.34**	*1.40*	*1.34*	*1.34*	*1.34*	*1.34*	**1.43**	*1.39*	*1.34*
Egypt	**0.62**	**0.61**	**0.60**	**0.58**	**0.59**	**0.60**	**0.60**	*0.61*	*0.56*	*0.56*	*0.56*	*0.56*	**0.60**	*0.60*	*0.56*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	**0.16**	**0.15**	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.16*	*0.18*
Total non-OPEC liquids	**67.24**	**61.58**	**62.36**	**62.75**	**62.43**	**63.98**	**64.39**	*65.76*	*66.10*	*67.19*	*67.99*	*68.41*	**63.48**	*64.15*	*67.43*
OPEC non-crude liquids	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Non-OPEC + OPEC non-crude	**72.46**	**66.65**	**67.39**	**67.87**	**67.72**	**69.26**	**69.76**	*71.19*	*71.69*	*72.66*	*73.51*	*73.96*	**68.59**	*69.49*	*72.96*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.62**	**0.61**	**0.50**	**0.84**	-	-	-	-	-	**0.61**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	**0.88**	**0.92**	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	**1.08**	**1.11**	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	**0.27**	**0.26**	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	**0.12**	**0.11**	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	**0.17**	**0.18**	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	**2.47**	**2.50**	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	**3.98**	**4.07**	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	**2.36**	**2.45**	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	**1.16**	**1.17**	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	**1.32**	**1.28**	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	**8.53**	**9.55**	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	**2.65**	**2.76**	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	**0.53**	**0.53**	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.51**	**26.88**	*27.96*	*28.06*	*28.38*	*28.49*	*28.49*	**25.60**	*26.37*	*28.36*
Other Liquids (a)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Total OPEC Supply	**33.50**	**30.72**	**28.65**	**30.00**	**30.37**	**30.78**	**32.24**	*33.39*	*33.66*	*33.84*	*34.01*	*34.05*	**30.71**	*31.71*	*33.89*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	**26.85**	**26.88**	*26.88*	*26.98*	*27.09*	*27.19*	*27.19*	**25.98**	*26.79*	*27.11*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	**6.71**	**6.73**	*6.53*	*6.50*	*6.47*	*6.44*	*6.41*	**5.81**	*6.67*	*6.46*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	**33.56**	**33.61**	*33.41*	*33.48*	*33.56*	*33.63*	*33.61*	**31.79**	*33.46*	*33.57*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	**6.87**	**5.56**	*4.87*	*4.81*	*4.62*	*4.62*	*4.62*	**5.49**	*6.07*	*4.67*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.19**	**1.18**	**1.16**	*0.58*	*0.61*	*0.56*	*0.52*	*0.49*	**0.70**	*1.03*	*0.55*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.19**	**8.06**	**6.72**	*5.45*	*5.42*	*5.18*	*5.14*	*5.11*	**6.19**	*7.10*	*5.21*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	**2.38**	**2.37**	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

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	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.77**	**19.44**	**22.21**	**22.44**	**22.20**	**23.77**	**24.33**	*24.22*	*23.96*	*24.44*	*24.99*	*24.81*	**21.97**	*23.64*	*24.56*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.10**	**2.38**	*2.41*	*2.38*	*2.33*	*2.43*	*2.41*	**2.19**	*2.25*	*2.39*
Mexico	**1.85**	**1.40**	**1.50**	**1.58**	**1.62**	**1.63**	**1.78**	*1.80*	*1.72*	*1.74*	*1.73*	*1.73*	**1.58**	*1.71*	*1.73*
United States	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.15**	*20.01*	*19.85*	*20.37*	*20.83*	*20.66*	**18.19**	*19.67*	*20.43*
Central and South America	**6.13**	**5.60**	**6.03**	**6.31**	**6.16**	**6.30**	**6.53**	*6.56*	*6.36*	*6.52*	*6.65*	*6.66*	**6.02**	*6.39*	*6.55*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.94**	**3.06**	**3.19**	*3.20*	*3.04*	*3.12*	*3.22*	*3.22*	**2.90**	*3.10*	*3.15*
Europe	**14.04**	**11.70**	**13.59**	**13.23**	**12.63**	**13.30**	**14.43**	*14.40*	*13.99*	*14.02*	*14.31*	*13.96*	**13.14**	*13.70*	*14.07*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.94**	**5.03**	**5.42**	*5.27*	*5.08*	*5.15*	*5.54*	*5.39*	**4.95**	*5.17*	*5.29*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.73**	**3.84**	**4.17**	*4.01*	*3.84*	*3.94*	*4.26*	*4.11*	**3.74**	*3.94*	*4.04*
Middle East	**7.90**	**7.43**	**8.43**	**8.05**	**7.82**	**8.22**	**8.79**	*8.35*	*8.19*	*8.72*	*9.11*	*8.46*	**7.95**	*8.30*	*8.62*
Asia and Oceania	**34.95**	**32.20**	**33.86**	**35.94**	**36.58**	**35.71**	**34.76**	*36.71*	*37.78*	*37.23*	*36.65*	*37.82*	**34.24**	*35.94*	*37.37*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.25**	**15.46**	**14.97**	*15.44*	*15.84*	*16.01*	*15.72*	*15.99*	**14.43**	*15.28*	*15.89*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.03**	*3.44*	*3.66*	*2.98*	*3.08*	*3.40*	**3.33**	*3.32*	*3.28*
India	**4.83**	**3.76**	**4.17**	**4.93**	**5.00**	**4.45**	**4.49**	*4.86*	*5.15*	*5.20*	*4.85*	*5.15*	**4.42**	*4.70*	*5.09*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.33**	**4.35**	**4.26**	*4.47*	*4.49*	*4.49*	*4.41*	*4.60*	**4.15**	*4.35*	*4.50*
Total OECD Liquid Fuels Consumption	**45.50**	**37.45**	**42.27**	**42.84**	**42.29**	**43.86**	**45.31**	*45.90*	*45.52*	*45.14*	*46.13*	*46.07*	**42.02**	*44.35*	*45.72*
Total non-OECD Liquid Fuels Consumption	**50.33**	**47.44**	**51.21**	**52.59**	**52.37**	**52.81**	**53.21**	*54.08*	*54.32*	*55.43*	*55.54*	*55.63*	**50.40**	*53.12*	*55.23*
Total World Liquid Fuels Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.66**	**96.67**	**98.52**	*99.98*	*99.84*	*100.57*	*101.67*	*101.70*	**92.42**	*97.47*	*100.95*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.6**	**105.4**	**113.0**	**115.2**	**116.1**	**117.3**	**118.5**	*120.5*	*121.9*	*123.2*	*124.4*	*125.8*	**111.6**	*118.1*	*123.8*
Percent change from prior year	**-1.3**	**-8.7**	**-2.5**	**-0.8**	**3.0**	**11.3**	**4.8**	*4.7*	*5.0*	*5.0*	*5.0*	*4.4*	**-3.3**	*5.9*	*4.8*
OECD Index, 2015 = 100													**103.7**	*109.1*	*113.6*
Percent change from prior year													**-4.7**	*5.2*	*4.1*
Non-OECD Index, 2015 = 100													**116.1**	*123.4*	*130.0*
Percent change from prior year													**-2.2**	*6.3*	*5.3*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	**106.3**	**107.6**	*107.9*	*107.9*	*107.8*	*107.7*	*107.7*	**111.9**	*107.2*	*107.8*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	**-8.3**	**-3.5**	*-0.4*	*1.0*	*1.4*	*0.1*	*-0.2*	**1.9**	*-4.2*	*0.6*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories
U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	**10.98**	*11.13*	*11.54*	*11.64*	*11.78*	*11.96*	**11.28**	*11.02*	*11.73*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	**0.44**	**0.39**	*0.44*	*0.43*	*0.42*	*0.39*	*0.43*	**0.45**	*0.43*	*0.42*
Federal Gulf of Mexico (b)	**1.99**	**1.66**	**1.43**	**1.50**	**1.80**	**1.79**	**1.46**	*1.50*	*1.76*	*1.73*	*1.74*	*1.77*	**1.64**	*1.64*	*1.75*
Lower 48 States (excl GOM)	**10.35**	**8.60**	**8.92**	**8.91**	**8.44**	**9.05**	**9.13**	*9.20*	*9.34*	*9.49*	*9.65*	*9.76*	**9.19**	*8.95*	*9.56*
Crude Oil Net Imports (c)	**2.89**	**3.06**	**2.24**	**2.50**	**2.87**	**2.96**	**3.60**	*3.82*	*3.80*	*4.62*	*4.81*	*3.87*	**2.67**	*3.32*	*4.28*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	**0.18**	**0.04**	*0.22*	*0.00*	*0.00*	*0.00*	*0.10*	**-0.01**	*0.11*	*0.03*
Commercial Inventory Net Withdrawals	**-0.56**	**-0.54**	**0.38**	**0.13**	**-0.18**	**0.59**	**0.29**	*-0.11*	*-0.33*	*-0.04*	*0.26*	*-0.02*	**-0.14**	*0.15*	*-0.03*
Crude Oil Adjustment (d)	**0.63**	**0.20**	**0.46**	**0.36**	**0.42**	**0.63**	**0.59**	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.41**	*0.45*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.50**	*15.23*	*15.23*	*16.43*	*17.07*	*16.08*	**14.21**	*15.05*	*16.21*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.96**	*1.05*	*1.06*	*1.05*	*1.09*	*1.10*	**0.92**	*0.95*	*1.07*
Natural Gas Plant Liquids Production	**5.17**	**4.96**	**5.34**	**5.22**	**4.86**	**5.46**	**5.33**	*5.51*	*5.67*	*5.83*	*5.97*	*6.07*	**5.17**	*5.29*	*5.88*
Renewables and Oxygenate Production (e)	**1.11**	**0.81**	**1.03**	**1.07**	**1.03**	**1.13**	**1.08**	*1.08*	*1.07*	*1.10*	*1.12*	*1.11*	**1.01**	*1.08*	*1.10*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	**0.99**	**0.97**	*0.98*	*0.97*	*1.00*	*1.01*	*1.00*	**0.91**	*0.96*	*1.00*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	**0.22**	**0.21**	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-3.86**	**-2.96**	**-3.07**	**-3.33**	**-2.94**	**-3.13**	**-3.13**	*-3.48*	*-3.58*	*-3.59*	*-4.30*	*-4.22*	**-3.30**	*-3.17*	*-3.92*
Hydrocarbon Gas Liquids	**-1.95**	**-1.84**	**-1.83**	**-2.06**	**-2.02**	**-2.23**	**-2.21**	*-2.24*	*-2.23*	*-2.28*	*-2.38*	*-2.34*	**-1.92**	*-2.18*	*-2.31*
Unfinished Oils	**0.37**	**0.23**	**0.35**	**0.18**	**0.14**	**0.25**	**0.36**	*0.29*	*0.21*	*0.26*	*0.30*	*0.20*	**0.29**	*0.26*	*0.24*
Other HC/Oxygenates	**-0.09**	**-0.04**	**-0.04**	**-0.04**	**-0.08**	**-0.04**	**-0.05**	*-0.05*	*-0.05*	*-0.04*	*-0.03*	*-0.03*	**-0.05**	*-0.05*	*-0.04*
Motor Gasoline Blend Comp.	**0.40**	**0.37**	**0.49**	**0.44**	**0.55**	**0.79**	**0.68**	*0.13*	*0.53*	*0.76*	*0.42*	*0.22*	**0.42**	*0.54*	*0.48*
Finished Motor Gasoline	**-0.71**	**-0.41**	**-0.58**	**-0.76**	**-0.66**	**-0.66**	**-0.54**	*-0.63*	*-0.87*	*-0.62*	*-0.65*	*-0.80*	**-0.62**	*-0.62*	*-0.74*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.08**	**0.03**	**0.09**	**0.10**	*0.10*	*-0.06*	*-0.04*	*0.03*	*0.07*	**0.05**	*0.08*	*0.00*
Distillate Fuel Oil	**-1.14**	**-0.86**	**-1.16**	**-0.72**	**-0.49**	**-0.90**	**-0.89**	*-0.50*	*-0.59*	*-1.05*	*-1.28*	*-0.98*	**-0.97**	*-0.69*	*-0.98*
Residual Fuel Oil	**-0.02**	**-0.01**	**0.05**	**0.05**	**0.08**	**0.05**	**0.06**	*0.06*	*-0.02*	*0.00*	*-0.04*	*0.04*	**0.02**	*0.06*	*0.00*
Other Oils (g)	**-0.64**	**-0.49**	**-0.48**	**-0.48**	**-0.49**	**-0.49**	**-0.63**	*-0.62*	*-0.50*	*-0.59*	*-0.66*	*-0.61*	**-0.52**	*-0.56*	*-0.59*
Product Inventory Net Withdrawals	**0.06**	**-0.90**	**0.00**	**0.73**	**0.65**	**-0.26**	**0.20**	*0.41*	*0.19*	*-0.67*	*-0.35*	*0.30*	**-0.02**	*0.25*	*-0.13*
Total Supply	**19.50**	**16.07**	**18.45**	**18.72**	**18.43**	**20.03**	**20.15**	*20.01*	*19.85*	*20.37*	*20.83*	*20.66*	**18.19**	*19.66*	*20.43*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.37**	**2.85**	**3.01**	**3.68**	**3.40**	**3.33**	**3.12**	*3.53*	*3.80*	*3.33*	*3.34*	*3.84*	**3.23**	*3.35*	*3.58*
Unfinished Oils	**0.18**	**0.12**	**0.03**	**0.03**	**0.05**	**0.03**	**-0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.09**	*0.01*	*0.00*
Motor Gasoline	**8.51**	**7.12**	**8.51**	**8.06**	**8.00**	**9.07**	**9.28**	*8.76*	*8.42*	*9.21*	*9.36*	*8.83*	**8.05**	*8.78*	*8.96*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.73**	**0.87**	**0.85**	**0.82**	**0.93**	**0.93**	*0.89*	*0.86*	*0.94*	*0.95*	*0.92*	**0.82**	*0.89*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	**1.34**	**1.52**	*1.52*	*1.46*	*1.57*	*1.71*	*1.68*	**1.08**	*1.38*	*1.61*
Distillate Fuel Oil	**4.02**	**3.49**	**3.70**	**3.94**	**3.97**	**3.93**	**3.90**	*4.14*	*4.17*	*4.05*	*4.02*	*4.17*	**3.79**	*3.99*	*4.11*
Residual Fuel Oil	**0.17**	**0.11**	**0.32**	**0.22**	**0.26**	**0.25**	**0.31**	*0.24*	*0.23*	*0.21*	*0.26*	*0.26*	**0.21**	*0.27*	*0.24*
Other Oils (g)	**1.69**	**1.68**	**1.92**	**1.71**	**1.63**	**2.08**	**2.06**	*1.82*	*1.76*	*2.00*	*2.15*	*1.87*	**1.75**	*1.90*	*1.94*
Total Consumption	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.15**	*20.01*	*19.85*	*20.37*	*20.83*	*20.66*	**18.19**	*19.67*	*20.43*
Total Petroleum and Other Liquids Net Imports	**-0.97**	**0.11**	**-0.83**	**-0.84**	**-0.07**	**-0.16**	**0.47**	*0.35*	*0.22*	*1.03*	*0.51*	*-0.34*	**-0.63**	*0.15*	*0.35*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**483.3**	**532.7**	**497.7**	**485.5**	**501.9**	**448.0**	**420.9**	*430.8*	*460.3*	*464.0*	*440.1*	*442.3*	**485.5**	*430.8*	*442.3*
Hydrocarbon Gas Liquids	**182.9**	**235.7**	**298.7**	**228.2**	**168.6**	**195.8**	**218.1**	*170.6*	*133.0*	*187.3*	*235.1*	*197.1*	**228.2**	*170.6*	*197.1*
Unfinished Oils	**101.9**	**92.5**	**81.4**	**77.6**	**93.3**	**93.0**	**89.0**	*82.8*	*93.3*	*91.1*	*90.0*	*83.1*	**77.6**	*82.8*	*83.1*
Other HC/Oxygenates	**33.4**	**25.4**	**24.6**	**29.7**	**29.1**	**27.5**	**25.8**	*26.0*	*28.1*	*26.8*	*26.5*	*26.8*	**29.7**	*26.0*	*26.8*
Total Motor Gasoline	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**225.1**	*234.1*	*241.9*	*246.6*	*233.3*	*249.3*	**243.4**	*234.1*	*249.3*
Finished Motor Gasoline	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**17.6**	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.4**	*24.4*	*26.2*
Motor Gasoline Blend Comp.	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**207.5**	*209.7*	*217.8*	*222.7*	*210.2*	*223.2*	**218.0**	*209.7*	*223.2*
Jet Fuel	**39.9**	**41.6**	**40.1**	**38.6**	**39.0**	**44.7**	**41.3**	*38.6*	*38.4*	*39.5*	*42.1*	*39.1*	**38.6**	*38.6*	*39.1*
Distillate Fuel Oil	**126.8**	**176.9**	**172.5**	**161.2**	**145.5**	**140.1**	**129.3**	*133.9*	*124.2*	*129.4*	*136.6*	*137.6*	**161.2**	*133.9*	*137.6*
Residual Fuel Oil	**34.8**	**39.5**	**32.1**	**30.2**	**30.9**	**31.1**	**28.2**	*30.5*	*31.0*	*32.0*	*30.3*	*31.7*	**30.2**	*30.5*	*31.7*
Other Oils (g)	**61.9**	**59.0**	**48.3**	**49.1**	**55.8**	**54.1**	**48.1**	*50.6*	*59.8*	*57.8*	*48.6*	*50.2*	**49.1**	*50.6*	*50.2*
Total Commercial Inventory	**1326.7**	**1457.7**	**1423.2**	**1343.3**	**1301.7**	**1271.5**	**1225.7**	*1197.9*	*1210.0*	*1274.6*	*1282.7*	*1257.1*	**1343.3**	*1197.9*	*1257.1*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	**621.3**	**617.8**	*597.8*	*597.8*	*597.8*	*597.8*	*588.2*	**638.1**	*597.8*	*588.2*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.95**	**1.92**	**2.14**	**2.05**	**1.87**	**2.19**	**2.06**	*2.14*	*2.32*	*2.46*	*2.51*	*2.58*	**2.02**	*2.06*	*2.47*
Propane	**1.74**	**1.61**	**1.68**	**1.70**	**1.62**	**1.74**	**1.73**	*1.80*	*1.81*	*1.79*	*1.83*	*1.87*	**1.68**	*1.72*	*1.82*
Butanes	**0.92**	**0.86**	**0.90**	**0.89**	**0.85**	**0.92**	**0.91**	*0.96*	*0.95*	*0.95*	*0.98*	*0.99*	**0.89**	*0.91*	*0.97*
Natural Gasoline (Pentanes Plus)	**0.57**	**0.57**	**0.62**	**0.58**	**0.53**	**0.61**	**0.63**	*0.61*	*0.59*	*0.62*	*0.65*	*0.63*	**0.58**	*0.59*	*0.62*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	**0.29**	**0.27**	*0.32*	*0.32*	*0.31*	*0.32*	*0.31*	**0.26**	*0.28*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	**0.31**	**0.28**	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.26**	*0.29*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	**0.24**	**0.19**	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.24**	**-0.26**	**-0.27**	**-0.35**	**-0.39**	**-0.37**	*-0.38*	*-0.43*	*-0.45*	*-0.45*	*-0.46*	**-0.27**	*-0.37*	*-0.45*
Propane/Propylene	**-1.08**	**-1.09**	**-1.06**	**-1.31**	**-1.11**	**-1.23**	**-1.22**	*-1.31*	*-1.20*	*-1.21*	*-1.28*	*-1.28*	**-1.14**	*-1.21*	*-1.24*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.34**	**-0.34**	**-0.35**	**-0.40**	**-0.44**	*-0.38*	*-0.40*	*-0.44*	*-0.44*	*-0.41*	**-0.32**	*-0.39*	*-0.42*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	**-0.21**	**-0.19**	*-0.18*	*-0.20*	*-0.19*	*-0.20*	*-0.19*	**-0.19**	*-0.20*	*-0.20*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	**0.29**	**0.31**	*0.49*	*0.39*	*0.29*	*0.33*	*0.50*	**0.38**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	**0.14**	**0.17**	*0.16*	*0.16*	*0.18*	*0.18*	*0.18*	**0.13**	*0.15*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.71**	**1.68**	**1.67**	**1.81**	**1.54**	**1.83**	**1.74**	*1.78*	*1.97*	*2.02*	*2.06*	*2.10*	**1.72**	*1.72*	*2.04*
Propane	**1.14**	**0.58**	**0.61**	**0.97**	**1.09**	**0.65**	**0.63**	*0.98*	*1.11*	*0.57*	*0.54*	*1.00*	**0.82**	*0.84*	*0.80*
Propylene (refinery-grade)	**0.27**	**0.27**	**0.27**	**0.30**	**0.29**	**0.32**	**0.29**	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.19**	**0.23**	**0.22**	**0.29**	**0.21**	*0.21*	*0.19*	*0.22*	*0.20*	*0.20*	**0.20**	*0.23*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.36**	**0.26**	**0.24**	**0.26**	*0.26*	*0.24*	*0.21*	*0.23*	*0.24*	**0.21**	*0.25*	*0.23*
HGL Inventories (million barrels)															
Ethane	**53.2**	**50.6**	**62.5**	**74.8**	**65.8**	**67.4**	**61.9**	*61.5*	*53.6*	*53.4*	*53.2*	*56.3*	**60.3**	*64.1*	*54.1*
Propane	**60.8**	**75.8**	**100.3**	**69.9**	**39.3**	**53.2**	**66.3**	*50.3*	*31.8*	*59.5*	*88.0*	*77.8*	**69.9**	*50.3*	*77.8*
Propylene (at refineries only)	**1.5**	**1.5**	**1.5**	**1.5**	**1.1**	**1.2**	**1.5**	*1.6*	*1.5*	*1.8*	*2.0*	*1.9*	**1.5**	*1.6*	*1.9*
Butanes/Butylenes	**44.1**	**69.9**	**86.0**	**54.6**	**37.2**	**53.9**	**67.4**	*38.5*	*28.6*	*52.9*	*70.7*	*41.6*	**54.6**	*38.5*	*41.6*
Natural Gasoline (Pentanes Plus)	**24.4**	**36.0**	**38.7**	**32.6**	**22.8**	**22.3**	**22.2**	*21.0*	*18.5*	*19.7*	*20.6*	*19.8*	**32.6**	*21.0*	*19.8*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.50**	*15.23*	*15.23*	*16.43*	*17.07*	*16.08*	**14.21**	*15.05*	*16.21*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	**0.43**	**0.48**	*0.65*	*0.56*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.56*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	**1.19**	**1.18**	*1.17*	*1.16*	*1.23*	*1.24*	*1.22*	**1.06**	*1.15*	*1.21*
Unfinished Oils	**0.06**	**0.22**	**0.45**	**0.19**	**-0.08**	**0.22**	**0.43**	*0.36*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.24*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.49**	**0.85**	**0.46**	**0.71**	**0.92**	**0.79**	*0.27*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.67*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.98**	**15.16**	**16.90**	**16.22**	**16.01**	**18.41**	**18.37**	*17.68*	*17.61*	*19.22*	*19.79*	*18.55*	**16.57**	*17.63*	*18.80*
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.96**	*1.05*	*1.06*	*1.05*	*1.09*	*1.10*	**0.92**	*0.95*	*1.07*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	**0.85**	**0.75**	*0.42*	*0.52*	*0.86*	*0.80*	*0.41*	**0.55**	*0.62*	*0.65*
Finished Motor Gasoline	**9.31**	**7.53**	**9.14**	**8.98**	**8.74**	**9.82**	**9.77**	*9.62*	*9.38*	*9.89*	*10.07*	*9.83*	**8.74**	*9.49*	*9.80*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	**1.32**	**1.38**	*1.39*	*1.52*	*1.62*	*1.71*	*1.57*	**1.02**	*1.30*	*1.61*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.45**	**4.29**	**4.77**	**4.63**	*4.62*	*4.63*	*5.11*	*5.32*	*5.11*	**4.74**	*4.58*	*5.04*
Residual Fuel	**0.24**	**0.17**	**0.19**	**0.15**	**0.19**	**0.20**	**0.22**	*0.20*	*0.26*	*0.22*	*0.28*	*0.23*	**0.19**	*0.21*	*0.25*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	**2.42**	**2.58**	*2.48*	*2.35*	*2.57*	*2.71*	*2.49*	**2.26**	*2.39*	*2.53*
Total Refinery and Blender Net Production	**19.00**	**15.98**	**17.84**	**17.14**	**16.86**	**19.38**	**19.33**	*18.73*	*18.67*	*20.27*	*20.88*	*19.65*	**17.49**	*18.58*	*19.87*
Refinery Distillation Inputs	**16.37**	**13.65**	**14.56**	**14.32**	**14.25**	**16.17**	**16.09**	*15.62*	*15.58*	*16.64*	*17.28*	*16.36*	**14.72**	*15.54*	*16.47*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	**18.13**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.66**	*18.12*	*18.13*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.79**	**0.89**	**0.89**	*0.86*	*0.86*	*0.92*	*0.95*	*0.90*	**0.79**	*0.86*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**180**	**216**	**232**	*232*	*220*	*218*	*209*	*191*	**133**	*216*	*209*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	**287**	**304**	*308*	*289*	*288*	*283*	*265*	**214**	*288*	*281*
PADD 2	**226**	**179**	**207**	**202**	**247**	**288**	**304**	*301*	*274*	*286*	*274*	*254*	**204**	*286*	*272*
PADD 3	**210**	**162**	**186**	**183**	**228**	**267**	**282**	*282*	*268*	*267*	*258*	*240*	**187**	*267*	*258*
PADD 4	**247**	**200**	**233**	**221**	**247**	**311**	**360**	*325*	*301*	*307*	*299*	*278*	**226**	*312*	*296*
PADD 5	**311**	**258**	**283**	**278**	**312**	**366**	**391**	*378*	*372*	*375*	*356*	*356*	**284**	*363*	*365*
U.S. Average	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*314*	*296*	*300*	*289*	*274*	**218**	*297*	*290*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*326*	*309*	*313*	*303*	*288*	**227**	*307*	*303*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.1**	**61.8**	**68.5**	**65.1**	**69.9**	**57.8**	*59.5*	*65.2*	*68.1*	*63.0*	*68.8*	**68.5**	*59.5*	*68.8*
PADD 2	**60.2**	**52.7**	**46.2**	**50.9**	**50.7**	**50.6**	**47.2**	*49.5*	*53.3*	*52.2*	*50.1*	*50.6*	**50.9**	*49.5*	*50.6*
PADD 3	**85.8**	**91.3**	**80.4**	**84.0**	**81.9**	**81.6**	**82.0**	*85.6*	*85.4*	*88.9*	*83.3*	*89.8*	**84.0**	*85.6*	*89.8*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	**6.2**	**7.8**	*8.1*	*7.9*	*7.9*	*7.5*	*8.2*	**8.7**	*8.1*	*8.2*
PADD 5	**35.6**	**29.7**	**31.5**	**31.4**	**31.4**	**29.0**	**30.2**	*31.3*	*30.1*	*29.5*	*29.5*	*31.8*	**31.4**	*31.3*	*31.8*
U.S. Total	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**225.1**	*234.1*	*241.9*	*246.6*	*233.3*	*249.3*	**243.4**	*234.1*	*249.3*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**17.6**	*24.4*	*24.1*	*23.9*	*23.1*	*26.2*	**25.4**	*24.4*	*26.2*
Gasoline Blending Components Inventories															
U.S. Total	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**207.5**	*209.7*	*217.8*	*222.7*	*210.2*	*223.2*	**218.0**	*209.7*	*223.2*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**103.02**	**96.83**	**97.29**	**98.53**	**97.31**	**100.79**	**101.23**	*101.60*	*102.39*	*103.50*	*105.35*	*107.06*	**98.91**	*100.25*	*104.59*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	**0.95**	**0.84**	*0.88*	*0.92*	*0.81*	*0.73*	*0.87*	**0.92**	*0.92*	*0.83*
Federal GOM (a)	**2.80**	**2.28**	**1.75**	**1.81**	**2.27**	**2.26**	**1.85**	*1.91*	*2.09*	*2.01*	*1.91*	*1.87*	**2.16**	*2.07*	*1.97*
Lower 48 States (excl GOM)	**99.25**	**93.68**	**94.67**	**95.75**	**94.03**	**97.58**	**98.54**	*98.80*	*99.38*	*100.68*	*102.72*	*104.32*	**95.83**	*97.25*	*101.79*
Total Dry Gas Production	**95.29**	**89.57**	**89.99**	**91.14**	**90.30**	**92.89**	**93.32**	*93.65*	*94.38*	*95.41*	*97.12*	*98.69*	**91.49**	*92.55*	*96.41*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	**0.02**	**0.13**	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.12*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	**9.81**	**9.56**	*10.19*	*11.21*	*10.81*	*10.73*	*11.86*	**6.53**	*9.71*	*11.15*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.68**	**6.81**	**6.86**	*6.85*	*7.35*	*6.35*	*6.38*	*6.72*	**6.84**	*7.29*	*6.70*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.21**	**8.31**	**8.67**	**8.71**	*9.18*	*9.17*	*8.58*	*9.34*	*9.35*	**7.91**	*8.72*	*9.11*
Supplemental Gaseous Fuels	**0.18**	**0.17**	**0.17**	**0.17**	**0.18**	**0.15**	**0.16**	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	**0.17**	*0.16*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	**-9.12**	**-7.84**	*4.64*	*15.46*	*-10.68*	*-8.37*	*4.36*	**-0.46**	*1.16*	*0.14*
Total Supply	**99.98**	**71.00**	**76.96**	**87.05**	**98.91**	**72.26**	**74.36**	*86.13*	*97.31*	*72.04*	*75.42*	*88.92*	**83.74**	*82.86*	*83.38*
Balancing Item (b)	**-0.55**	**-0.29**	**-0.20**	**-0.93**	**0.37**	**-0.33**	**0.71**	*0.74*	*-0.89*	*-0.93*	*-0.95*	*-0.39*	**-0.49**	*0.37*	*-0.79*
Total Primary Supply	**99.44**	**70.72**	**76.76**	**86.12**	**99.28**	**71.92**	**75.08**	*86.88*	*96.42*	*71.11*	*74.47*	*88.54*	**83.25**	*83.23*	*82.59*
Consumption (billion cubic feet per day)															
Residential	**22.95**	**8.25**	**3.84**	**16.10**	**25.67**	**7.51**	**3.39**	*17.13*	*24.62*	*7.73*	*3.80*	*17.21*	**12.77**	*13.37*	*13.29*
Commercial	**14.04**	**5.85**	**4.39**	**10.40**	**14.87**	**6.24**	**4.78**	*11.47*	*14.63*	*6.61*	*5.15*	*11.71*	**8.66**	*9.32*	*9.51*
Industrial	**24.31**	**20.32**	**20.92**	**23.53**	**23.81**	**21.49**	**21.62**	*24.34*	*24.12*	*22.09*	*21.90*	*24.76*	**22.27**	*22.81*	*23.22*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.65**	**29.14**	**37.61**	*25.84*	*24.56*	*27.02*	*35.75*	*26.41*	**31.74**	*29.83*	*28.46*
Lease and Plant Fuel	**5.14**	**4.83**	**4.85**	**4.91**	**4.85**	**5.02**	**5.05**	*5.06*	*5.10*	*5.16*	*5.25*	*5.34*	**4.93**	*5.00*	*5.21*
Pipeline and Distribution Use	**3.31**	**2.32**	**2.53**	**2.85**	**3.28**	**2.38**	**2.48**	*2.89*	*3.22*	*2.34*	*2.46*	*2.95*	**2.75**	*2.75*	*2.74*
Vehicle Use	**0.13**	**0.10**	**0.13**	**0.13**	**0.14**	**0.15**	**0.15**	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.44**	**70.72**	**76.76**	**86.12**	**99.28**	**71.92**	**75.08**	*86.88*	*96.42*	*71.11*	*74.47*	*88.54*	**83.25**	*83.23*	*82.59*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,029**	**3,133**	**3,840**	**3,341**	**1,801**	**2,583**	**3,304**	*2,878*	*1,486*	*2,458*	*3,228*	*2,827*	**3,341**	*2,878*	*2,827*
East Region (d)	**385**	**655**	**890**	**763**	**313**	**515**	**806**	*660*	*187*	*460*	*686*	*506*	**763**	*660*	*506*
Midwest Region (d)	**471**	**747**	**1,053**	**918**	**395**	**630**	**966**	*819*	*287*	*543*	*898*	*793*	**918**	*819*	*793*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	**991**	**1,048**	*999*	*728*	*985*	*1,057*	*982*	**1,155**	*999*	*982*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	**175**	**205**	*154*	*99*	*152*	*220*	*203*	**195**	*154*	*203*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	**246**	**247**	*213*	*153*	*286*	*334*	*311*	**282**	*213*	*311*
Alaska	**23**	**25**	**31**	**28**	**23**	**27**	**32**	*32*	*32*	*32*	*32*	*32*	**28**	*32*	*32*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	**4.53**	*6.03*	*5.75*	*3.67*	*3.64*	*3.59*	**2.11**	*4.33*	*4.16*
Residential Retail															
New England	**14.05**	**14.74**	**18.47**	**14.90**	**14.66**	**16.24**	**19.24**	*15.38*	*15.37*	*16.13*	*18.29*	*13.98*	**14.73**	*15.39*	*15.28*
Middle Atlantic	**10.77**	**11.84**	**17.83**	**11.77**	**10.43**	**13.49**	**19.01**	*13.29*	*12.56*	*14.36*	*18.11*	*11.87*	**11.76**	*12.14*	*13.02*
E. N. Central	**6.99**	**9.47**	**18.18**	**8.02**	**7.41**	**12.69**	**21.18**	*12.02*	*10.95*	*13.07*	*17.82*	*9.15*	**8.38**	*10.07*	*11.04*
W. N. Central	**7.22**	**10.02**	**17.42**	**8.67**	**7.49**	**11.66**	**19.36**	*11.41*	*10.45*	*13.25*	*18.41*	*10.01*	**8.69**	*9.69*	*11.13*
S. Atlantic	**11.86**	**15.14**	**23.48**	**13.82**	**11.95**	**18.04**	**26.42**	*15.48*	*14.12*	*18.83*	*23.96*	*13.42*	**13.88**	*14.74*	*15.30*
E. S. Central	**9.67**	**13.22**	**20.81**	**10.61**	**9.35**	**14.78**	**22.27**	*15.58*	*13.22*	*17.71*	*23.08*	*13.94*	**11.13**	*11.88*	*14.91*
W. S. Central	**8.48**	**14.16**	**20.70**	**11.55**	**9.23**	**15.86**	**22.42**	*14.05*	*11.72*	*16.95*	*21.28*	*11.97*	**11.32**	*12.47*	*13.40*
Mountain	**7.53**	**9.35**	**12.50**	**8.09**	**7.90**	**10.64**	**15.41**	*10.35*	*10.23*	*11.98*	*14.99*	*9.39*	**8.40**	*9.47*	*10.59*
Pacific	**13.10**	**13.44**	**14.16**	**13.39**	**14.20**	**15.01**	**15.85**	*15.22*	*15.81*	*16.23*	*16.33*	*14.93*	**13.38**	*14.83*	*15.68*
U.S. Average	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**19.70**	*13.27*	*12.53*	*14.81*	*18.55*	*11.48*	**10.76**	*12.10*	*12.95*
Commercial Retail															
New England	**10.06**	**10.49**	**11.04**	**10.20**	**10.39**	**11.13**	**11.83**	*11.95*	*12.74*	*12.49*	*11.41*	*10.80*	**10.27**	*11.13*	*11.95*
Middle Atlantic	**7.87**	**7.01**	**6.73**	**7.44**	**7.92**	**8.00**	**7.89**	*9.06*	*9.85*	*9.36*	*8.37*	*8.51*	**7.45**	*8.28*	*9.17*
E. N. Central	**5.73**	**6.56**	**8.77**	**6.19**	**6.11**	**8.60**	**10.46**	*9.03*	*9.33*	*9.79*	*9.79*	*7.24*	**6.23**	*7.70*	*8.74*
W. N. Central	**5.97**	**6.59**	**8.20**	**6.56**	**6.32**	**7.71**	**9.81**	*9.28*	*9.59*	*9.45*	*9.78*	*7.58*	**6.41**	*7.68*	*8.93*
S. Atlantic	**8.51**	**9.21**	**9.54**	**8.86**	**8.69**	**9.84**	**10.38**	*10.67*	*10.99*	*11.23*	*10.61*	*9.18*	**8.86**	*9.67*	*10.44*
E. S. Central	**8.36**	**9.18**	**10.23**	**8.67**	**8.33**	**9.90**	**11.34**	*10.89*	*10.81*	*11.43*	*11.12*	*9.54*	**8.79**	*9.67*	*10.52*
W. S. Central	**6.02**	**7.20**	**8.13**	**7.45**	**6.91**	**8.58**	**9.67**	*9.78*	*9.59*	*9.74*	*9.17*	*7.97*	**6.93**	*8.36*	*9.11*
Mountain	**6.07**	**6.68**	**7.38**	**6.38**	**6.50**	**7.76**	**9.14**	*8.54*	*8.70*	*9.09*	*9.53*	*8.06*	**6.40**	*7.59*	*8.65*
Pacific	**9.48**	**9.37**	**9.52**	**9.63**	**10.46**	**10.31**	**11.33**	*11.02*	*11.33*	*10.99*	*10.88*	*10.11*	**9.51**	*10.73*	*10.81*
U.S. Average	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**9.86**	*9.70*	*10.03*	*10.11*	*9.74*	*8.45*	**7.49**	*8.68*	*9.51*
Industrial Retail															
New England	**8.18**	**7.43**	**6.17**	**7.73**	**8.59**	**8.08**	**7.67**	*9.64*	*10.73*	*9.62*	*7.75*	*8.34*	**7.56**	*8.66*	*9.33*
Middle Atlantic	**7.40**	**6.84**	**7.49**	**7.78**	**7.66**	**7.36**	**7.76**	*9.37*	*10.37*	*9.42*	*8.43*	*8.48*	**7.40**	*8.17*	*9.50*
E. N. Central	**4.85**	**4.52**	**4.15**	**5.12**	**5.43**	**8.14**	**7.46**	*8.07*	*8.65*	*7.34*	*6.34*	*6.05*	**4.77**	*6.93*	*7.37*
W. N. Central	**4.01**	**3.32**	**3.15**	**4.15**	**5.13**	**4.34**	**5.35**	*7.20*	*7.82*	*6.02*	*5.18*	*5.39*	**3.71**	*5.57*	*6.18*
S. Atlantic	**4.20**	**3.73**	**3.76**	**4.65**	**5.12**	**4.75**	**6.12**	*7.77*	*8.10*	*5.99*	*5.32*	*5.42*	**4.11**	*5.93*	*6.28*
E. S. Central	**4.03**	**3.34**	**3.37**	**4.15**	**4.72**	**4.28**	**5.39**	*7.44*	*7.76*	*5.72*	*4.92*	*5.10*	**3.76**	*5.45*	*5.95*
W. S. Central	**2.20**	**1.94**	**2.20**	**2.91**	**5.75**	**3.20**	**4.46**	*6.18*	*6.05*	*4.06*	*3.85*	*3.74*	**2.33**	*4.92*	*4.43*
Mountain	**4.36**	**4.54**	**4.57**	**4.85**	**4.98**	**5.28**	**6.56**	*7.27*	*7.72*	*7.20*	*6.89*	*6.39*	**4.58**	*5.95*	*7.07*
Pacific	**7.31**	**6.27**	**6.05**	**7.06**	**8.28**	**7.24**	**7.95**	*8.67*	*9.32*	*8.39*	*7.88*	*7.56*	**6.74**	*8.13*	*8.31*
U.S. Average	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.11**	*6.94*	*7.26*	*5.15*	*4.64*	*4.80*	**3.32**	*5.52*	*5.50*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.2**	**116.2**	**135.9**	**134.1**	**140.3**	**142.7**	**153.6**	*151.6*	*158.6*	*149.3*	*159.0*	*155.2*	**535.3**	*588.2*	*622.1*
Appalachia	**39.8**	**29.5**	**33.9**	**35.5**	**40.8**	**39.5**	**40.2**	*41.0*	*44.1*	*43.5*	*40.5*	*41.5*	**138.7**	*161.4*	*169.6*
Interior	**25.8**	**20.0**	**23.2**	**21.8**	**25.0**	**23.3**	**25.7**	*25.0*	*26.4*	*25.5*	*27.3*	*27.4*	**90.7**	*99.0*	*106.5*
Western	**83.6**	**66.7**	**78.8**	**76.8**	**74.5**	**80.0**	**87.7**	*85.6*	*88.1*	*80.3*	*91.2*	*86.4*	**305.9**	*327.8*	*346.0*
Primary Inventory Withdrawals	**0.5**	**1.3**	**4.0**	**1.9**	**-4.5**	**2.1**	**2.6**	*-2.0*	*-1.2*	*-2.1*	*-0.8*	*-5.2*	**7.7**	*-1.8*	*-9.2*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	**1.5**	**1.3**	*1.1*	*0.9*	*0.9*	*1.1*	*1.1*	**5.1**	*5.0*	*4.0*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	**22.1**	**22.6**	*27.2*	*28.5*	*19.8*	*20.4*	*26.2*	**69.1**	*92.6*	*94.8*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	**11.7**	**12.6**	*14.5*	*15.5*	*11.6*	*13.0*	*14.3*	**42.1**	*49.1*	*54.3*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	**10.4**	**10.0**	*12.8*	*13.0*	*8.2*	*7.4*	*12.0*	**27.0**	*43.6*	*40.5*
Total Primary Supply	**131.0**	**103.9**	**125.9**	**118.3**	**116.2**	**124.2**	**135.0**	*123.5*	*129.8*	*128.4*	*139.0*	*124.9*	**479.0**	*498.9*	*522.1*
Secondary Inventory Withdrawals	**-16.6**	**-5.0**	**21.5**	**-3.3**	**21.3**	**-0.8**	**26.5**	*11.6*	*5.1*	*-8.3*	*15.3*	*-1.3*	**-3.5**	*58.6*	*10.9*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	**2.0**	**2.0**	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.3**	**100.3**	**149.3**	**117.3**	**139.5**	**125.4**	**163.5**	*137.1*	*136.8*	*122.0*	*156.1*	*125.5*	**483.2**	*565.6*	*540.4*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**4.4**	**5.1**	**4.3**	*4.9*	*5.7*	*4.9*	*4.6*	*4.9*	**14.4**	*18.7*	*20.1*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**128.1**	**113.8**	**154.0**	*124.9*	*123.7*	*110.1*	*144.7*	*113.5*	**436.5**	*520.9*	*492.0*
Retail and Other Industry	**7.4**	**5.7**	**6.1**	**7.2**	**6.8**	**6.9**	**6.9**	*7.3*	*7.3*	*6.9*	*6.9*	*7.1*	**26.4**	*27.8*	*28.3*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.8*
Other Industrial	**7.1**	**5.6**	**5.9**	**7.0**	**6.6**	**6.7**	**6.7**	*7.0*	*7.1*	*6.8*	*6.7*	*6.9*	**25.6**	*27.0*	*27.5*
Total Consumption	**109.5**	**96.4**	**148.6**	**122.8**	**139.4**	**125.7**	**165.2**	*137.1*	*136.8*	*122.0*	*156.1*	*125.5*	**477.3**	*567.4*	*540.4*
Discrepancy (c)	**6.8**	**3.9**	**0.8**	**-5.6**	**0.1**	**-0.3**	**-1.7**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**5.9**	*-1.8*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**25.5**	**23.6**	**28.1**	**26.1**	**23.4**	*25.4*	*26.6*	*28.7*	*29.4*	*34.6*	**23.6**	*25.4*	*34.6*
Secondary Inventories	**150.6**	**155.6**	**134.2**	**137.5**	**116.1**	**117.0**	**90.4**	*78.8*	*73.7*	*82.0*	*66.7*	*67.9*	**137.5**	*78.8*	*67.9*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	**84.6**	*73.2*	*68.2*	*76.2*	*60.8*	*62.2*	**132.7**	*73.2*	*62.2*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**2.6**	**3.6**	**3.6**	*3.4*	*3.7*	*3.5*	*3.5*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.5**	**2.0**	**2.1**	*2.1*	*1.7*	*2.1*	*2.2*	*2.2*	**1.7**	*2.1*	*2.2*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	**6.32**	**6.32**	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	**0.267**	*0.321*	*0.336*	*0.301*	*0.295*	*0.307*	**0.216**	*0.273*	*0.310*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	**2.02**	*2.02*	*2.04*	*2.03*	*2.00*	*1.98*	**1.92**	*1.97*	*2.01*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**989**	**984**	**1,154**	*979*	*980*	*997*	*1,144*	*985*	**4,009**	*4,106*	*4,106*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	**948**	**1,115**	*940*	*941*	*959*	*1,103*	*946*	**3,853**	*3,954*	*3,949*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	**33**	**36**	*36*	*35*	*34*	*37*	*36*	**143**	*139*	*143*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**4**	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**10**	**11**	**15**	**12**	**11**	**11**	**13**	*9*	*10*	*12*	*14*	*11*	**47**	*44*	*47*
Total Supply	**976**	**944**	**1,163**	**973**	**999**	**995**	**1,168**	*987*	*990*	*1,009*	*1,158*	*996*	**4,056**	*4,150*	*4,153*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**53**	**65**	**61**	*57*	*44*	*68*	*57*	*55*	**254**	*235*	*224*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**914**	**898**	**1,071**	*896*	*912*	*908*	*1,065*	*906*	**3,664**	*3,779*	*3,790*
Residential Sector	**340**	**334**	**453**	**334**	**379**	**328**	**442**	*339*	*361*	*325*	*431*	*342*	**1,462**	*1,488*	*1,459*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	**322**	**367**	*314*	*309*	*326*	*367*	*317*	**1,276**	*1,308*	*1,319*
Industrial Sector	**231**	**216**	**242**	**231**	**229**	**247**	**260**	*242*	*240*	*255*	*265*	*245*	**920**	*977*	*1,005*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	**1**	**2**	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	**32**	**35**	*34*	*34*	*33*	*36*	*35*	**138**	*134*	*139*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	**930**	**1,107**	*931*	*946*	*941*	*1,101*	*941*	**3,802**	*3,915*	*3,929*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,745**	**2,379**	**3,206**	*2,456*	*2,586*	*2,327*	*3,084*	*2,452*	**10,723**	*10,785*	*10,450*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	**84.6**	*73.2*	*68.2*	*76.2*	*60.8*	*62.2*	**132.7**	*73.2*	*62.2*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	**7.5**	**7.9**	*8.3*	*8.0*	*7.9*	*7.9*	*8.2*	**8.3**	*8.3*	*8.2*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**15.9**	**15.3**	**15.4**	*15.7*	*15.6*	*15.5*	*15.5*	*15.8*	**16.8**	*15.7*	*15.8*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.92**	**2.02**	*2.02*	*2.04*	*2.03*	*2.00*	*1.98*	**1.92**	*1.97*	*2.01*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.26**	**4.44**	*6.17*	*6.15*	*3.75*	*3.70*	*3.82*	**2.39**	*5.15*	*4.26*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**13.09**	**13.18**	*13.86*	*14.55*	*14.56*	*13.15*	*12.53*	**9.15**	*12.80*	*13.69*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.20**	**16.43**	*18.29*	*17.84*	*16.94*	*16.32*	*15.92*	**10.73**	*15.56*	*16.83*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.88**	*13.79*	*13.83*	*14.38*	*14.25*	*13.93*	**13.20**	*13.64*	*14.10*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.61**	*11.19*	*11.67*	*11.61*	*11.99*	*11.39*	**10.65**	*11.26*	*11.68*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.42**	*6.78*	*7.12*	*6.94*	*7.32*	*6.67*	**6.66**	*7.06*	*7.02*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	**39.74**	**52.31**	*30.77*	*33.63*	*27.70*	*27.05*	*22.54*	**26.99**	*184.79*	*27.73*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	**36.90**	**72.02**	*60.89*	*60.41*	*47.93*	*50.80*	*46.34*	**38.15**	*53.64*	*51.37*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	**33.67**	**52.57**	*60.55*	*61.28*	*54.70*	*56.86*	*51.60*	**26.52**	*50.51*	*56.11*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	**31.85**	**50.42**	*54.05*	*57.35*	*49.22*	*50.23*	*45.63*	**22.85**	*45.26*	*50.61*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	**33.71**	**51.32**	*50.86*	*52.13*	*38.29*	*41.88*	*36.63*	**24.49**	*42.75*	*42.23*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	**33.82**	**49.36**	*50.85*	*50.78*	*37.68*	*39.74*	*34.42*	**25.43**	*44.75*	*40.65*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	**30.86**	**48.63**	*40.89*	*44.52*	*35.78*	*38.69*	*29.32*	**22.55**	*92.67*	*37.08*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	**32.93**	**44.18**	*49.47*	*47.89*	*35.57*	*36.55*	*32.58*	**22.62**	*41.92*	*38.15*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	**32.17**	**42.76**	*46.93*	*49.25*	*35.08*	*35.47*	*33.87*	**23.48**	*37.40*	*38.42*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	**51.51**	**91.61**	*55.94*	*56.34*	*41.59*	*46.84*	*47.78*	**25.46**	*58.41*	*48.14*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	**46.57**	**79.86**	*44.10*	*45.48*	*43.41*	*45.40*	*39.13*	**39.64**	*53.06*	*43.36*

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**12.9**	**10.8**	**13.7**	*11.1*	*12.3*	*10.3*	*12.8*	*10.8*	**48.2**	*48.6*	*46.3*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**36.1**	**30.3**	**41.7**	*31.9*	*36.6*	*30.2*	*39.1*	*31.6*	**137.1**	*140.0*	*137.5*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.2**	**43.1**	**55.5**	*44.8*	*47.6*	*41.7*	*51.6*	*44.9*	**190.0**	*193.6*	*185.8*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.9**	**23.7**	**30.7**	*26.1*	*31.2*	*24.6*	*32.1*	*28.5*	**105.8**	*110.4*	*116.4*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**95.2**	**85.1**	**112.4**	*85.9*	*90.1*	*84.3*	*108.6*	*85.9*	**370.6**	*378.5*	*368.8*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.8**	**25.6**	**36.0**	*27.4*	*31.9*	*25.9*	*36.0*	*27.7*	**118.8**	*122.8*	*121.5*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**56.8**	**49.5**	**73.1**	*49.4*	*50.5*	*50.5*	*75.6*	*50.8*	**226.5**	*228.8*	*227.4*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.7**	**26.9**	**34.5**	*23.8*	*22.9*	*25.2*	*34.0*	*24.1*	**108.4**	*108.8*	*106.2*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**39.0**	**32.2**	**43.3**	*37.3*	*36.8*	*31.1*	*39.9*	*36.9*	**151.5**	*151.9*	*144.7*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	**1.2**	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**378.9**	**328.4**	**442.1**	*339.0*	*361.2*	*325.0*	*430.8*	*342.4*	**1,462.0**	*1,488.4*	*1,459.5*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	**11.7**	**13.2**	*11.4*	*11.7*	*11.6*	*12.9*	*11.4*	**47.5**	*48.1*	*47.5*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.6**	**33.3**	**39.5**	*34.3*	*35.6*	*34.1*	*39.5*	*34.9*	**138.9**	*141.7*	*144.1*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.7**	**42.2**	**48.0**	*41.9*	*42.5*	*42.7*	*47.3*	*42.1*	**169.7**	*173.7*	*174.6*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.0**	**23.7**	**27.1**	*24.1*	*24.6*	*24.1*	*27.4*	*24.7*	**96.0**	*98.9*	*100.8*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.8**	**77.3**	**87.4**	*72.5*	*71.5*	*78.5*	*87.1*	*73.0*	**300.2**	*308.0*	*310.1*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.9**	**21.7**	**25.0**	*20.4*	*20.9*	*22.1*	*25.0*	*20.5*	**85.8**	*88.1*	*88.5*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.4**	**50.2**	**56.3**	*47.2*	*42.9*	*51.7*	*57.2*	*47.6*	**189.4**	*196.1*	*199.4*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	**24.8**	**28.5**	*23.2*	*22.4*	*24.6*	*28.6*	*23.4*	**94.7**	*98.4*	*98.9*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**35.2**	**35.3**	**41.1**	*37.8*	*35.8*	*35.8*	*40.5*	*37.7*	**148.3**	*149.4*	*149.9*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	**1.3**	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	**5.2**	*5.2*	*5.4*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.6**	**321.6**	**367.4**	*314.0*	*309.2*	*326.5*	*366.9*	*316.6*	**1,275.7**	*1,307.6*	*1,319.2*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.8**	**4.0**	**4.1**	*3.8*	*3.8*	*4.0*	*4.1*	*3.8*	**14.8**	*15.6*	*15.7*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.6**	**17.9**	**19.1**	*18.2*	*18.4*	*18.6*	*19.5*	*18.5*	**70.4**	*72.8*	*75.0*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.8**	**46.6**	**47.0**	*44.2*	*47.5*	*48.0*	*48.2*	*45.1*	**168.7**	*182.6*	*188.7*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.0**	**24.2**	**25.7**	*24.0*	*25.1*	*25.8*	*26.6*	*24.4*	**87.3**	*96.9*	*101.8*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.4**	**35.9**	**36.5**	*34.5*	*34.6*	*36.7*	*37.2*	*35.0*	**131.7**	*140.3*	*143.5*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.8**	**25.0**	**25.5**	*23.6*	*24.6*	*25.4*	*25.6*	*23.6*	**91.1**	*97.9*	*99.3*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**44.1**	**49.7**	**53.4**	*52.3*	*46.4*	*52.0*	*55.3*	*53.4*	**188.1**	*199.5*	*207.2*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.2**	**21.6**	**23.9**	*20.1*	*19.2*	*21.6*	*24.1*	*20.4*	**82.9**	*84.8*	*85.4*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.1**	**20.9**	**23.2**	*19.8*	*18.9*	*21.7*	*23.6*	*20.0*	**80.1**	*82.0*	*84.1*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	**1.1**	**1.2**	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.5**	*4.6*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**228.8**	**246.9**	**259.6**	*241.6*	*239.7*	*255.0*	*265.4*	*245.3*	**919.5**	*976.9*	*1,005.3*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	**26.7**	**31.1**	*26.4*	*28.0*	*26.0*	*29.9*	*26.0*	**111.0**	*112.7*	*109.9*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.2**	**82.3**	**101.0**	*85.2*	*91.5*	*83.7*	*98.9*	*85.7*	**349.7**	*357.7*	*359.8*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.9**	**132.0**	**150.7**	*131.0*	*137.7*	*132.5*	*147.2*	*132.2*	**528.8**	*550.5*	*549.6*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.0**	**71.6**	**83.5**	*74.2*	*81.0*	*74.4*	*86.1*	*77.6*	**289.2**	*306.3*	*319.1*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.7**	**198.6**	**236.6**	*193.1*	*196.5*	*199.8*	*233.1*	*194.1*	**803.7**	*827.9*	*823.5*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.5**	**72.4**	**86.5**	*71.5*	*77.4*	*73.5*	*86.6*	*71.8*	**295.7**	*308.8*	*309.3*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**143.3**	**149.5**	**182.9**	*148.9*	*139.9*	*154.3*	*188.1*	*151.9*	**604.2**	*624.6*	*634.2*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	**73.3**	**86.9**	*67.1*	*64.5*	*71.5*	*86.7*	*67.9*	**286.2**	*292.1*	*290.7*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**92.5**	**88.6**	**107.8**	*95.1*	*91.7*	*88.7*	*104.2*	*94.7*	**380.6**	*384.0*	*379.3*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	**3.6**	**3.7**	*3.8*	*3.6*	*3.6*	*3.7*	*3.9*	**14.6**	*14.8*	*14.8*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**914.0**	**898.4**	**1,070.7**	*896.2*	*911.7*	*908.0*	*1,064.6*	*905.9*	**3,663.7**	*3,779.3*	*3,790.2*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.38**	**20.82**	**21.95**	*22.57*	*23.82*	*23.52*	*24.88*	*25.34*	**21.20**	*21.69*	*24.40*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.62**	**16.28**	**16.89**	*16.98*	*16.65*	*17.22*	*17.59*	*17.20*	**15.92**	*16.45*	*17.17*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.38**	**14.40**	**14.01**	*14.23*	*14.05*	*15.08*	*14.65*	*14.58*	**13.48**	*13.99*	*14.58*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.88**	**12.76**	**13.30**	*11.83*	*10.84*	*12.34*	*12.36*	*10.89*	**11.99**	*12.18*	*11.59*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.66**	**12.31**	**12.42**	*12.35*	*12.52*	*13.12*	*13.09*	*12.59*	**11.88**	*12.19*	*12.84*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.18**	**12.22**	**11.86**	*11.84*	*11.75*	*12.57*	*12.05*	*11.89*	**11.36**	*11.74*	*12.05*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**11.85**	**11.72**	**11.85**	*12.30*	*12.83*	*11.96*	*11.74*	*11.94*	**11.29**	*11.92*	*12.08*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.53**	**12.09**	**12.26**	*11.84*	*11.85*	*12.45*	*12.53*	*12.00*	**11.88**	*11.97*	*12.24*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.76**	**18.15**	**18.48**	*16.70*	*16.93*	*19.01*	*19.35*	*17.38*	**16.67**	*17.53*	*18.16*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.88**	*13.79*	*13.83*	*14.38*	*14.25*	*13.93*	**13.20**	*13.64*	*14.10*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.28**	**15.75**	**17.02**	*16.87*	*17.63*	*17.08*	*18.37*	*17.97*	**15.90**	*16.49*	*17.78*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.48**	**13.34**	**14.50**	*13.30*	*13.25*	*14.05*	*14.85*	*13.40*	**12.47**	*13.45*	*13.91*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.40**	**10.69**	**10.70**	*10.88*	*11.02*	*11.26*	*11.06*	*10.94*	**10.19**	*10.67*	*11.07*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.10**	**10.19**	**11.03**	*9.71*	*9.11*	*9.69*	*10.02*	*8.78*	**9.66**	*10.04*	*9.41*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.29**	**9.18**	**9.50**	*9.81*	*10.01*	*9.74*	*9.82*	*9.82*	**9.13**	*9.45*	*9.84*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.96**	**11.23**	**11.31**	*11.30*	*11.52*	*11.64*	*11.60*	*11.39*	**10.70**	*11.20*	*11.54*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**11.28**	**8.86**	**8.39**	*7.92*	*11.04*	*8.97*	*8.65*	*8.32*	**7.90**	*9.02*	*9.17*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.11**	**9.76**	**10.29**	*9.52*	*9.32*	*10.00*	*10.44*	*9.57*	**9.58**	*9.71*	*9.87*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.53**	**16.00**	**18.20**	*15.97*	*15.71*	*17.61*	*19.78*	*17.16*	**15.18**	*16.25*	*17.63*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.61**	*11.19*	*11.67*	*11.61*	*11.99*	*11.39*	**10.65**	*11.26*	*11.68*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.49**	**12.78**	**13.32**	*12.74*	*14.09*	*13.26*	*13.76*	*13.07*	**12.26**	*13.08*	*13.55*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.50**	**6.55**	**6.95**	*6.53*	*6.57*	*6.52*	*6.70*	*6.22*	**6.35**	*6.64*	*6.51*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.92**	**6.92**	**7.19**	*7.00*	*7.12*	*7.02*	*7.14*	*6.88*	**6.66**	*7.01*	*7.04*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**6.97**	**7.30**	**8.01**	*6.84*	*7.01*	*7.40*	*8.05*	*6.85*	**7.20**	*7.30*	*7.34*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.24**	**6.30**	**6.84**	*6.43*	*6.53*	*6.35*	*6.73*	*6.24*	**6.17**	*6.46*	*6.46*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.75**	**5.87**	**6.16**	*5.80*	*5.85*	*5.89*	*6.08*	*5.64*	**5.54**	*5.90*	*5.87*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.60**	**5.45**	**5.54**	*5.05*	*6.69*	*5.21*	*5.17*	*4.82*	**5.07**	*5.84*	*5.43*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.23**	**6.62**	**7.24**	*6.06*	*6.31*	*6.67*	*7.18*	*6.08*	**6.21**	*6.58*	*6.59*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.64**	**10.70**	**12.62**	*11.35*	*10.03*	*11.09*	*12.86*	*11.67*	**10.71**	*11.16*	*11.49*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.42**	*6.78*	*7.12*	*6.94*	*7.32*	*6.67*	**6.66**	*7.06*	*7.02*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.19**	**17.34**	**18.68**	*18.65*	*19.84*	*19.02*	*20.50*	*20.28*	**17.68**	*18.23*	*19.93*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.56**	**12.94**	**14.04**	*13.23*	*13.26*	*13.52*	*14.32*	*13.25*	**12.58**	*13.22*	*13.61*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.35**	**10.57**	**10.82**	*10.71*	*10.72*	*10.93*	*11.04*	*10.79*	**10.24**	*10.62*	*10.87*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.16**	**10.07**	**10.93**	*9.53*	*9.12*	*9.77*	*10.28*	*8.95*	**9.77**	*9.94*	*9.54*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.91**	**10.00**	**10.47**	*10.33*	*10.54*	*10.54*	*10.85*	*10.40*	**9.91**	*10.19*	*10.60*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.48**	**9.73**	**10.02**	*9.69*	*9.81*	*9.98*	*10.16*	*9.69*	**9.38**	*9.74*	*9.92*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.37**	**8.67**	**8.94**	*8.36*	*10.24*	*8.68*	*8.87*	*8.30*	**8.29**	*9.07*	*8.99*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.15**	**9.69**	**10.24**	*9.30*	*9.32*	*9.86*	*10.35*	*9.38*	**9.48**	*9.64*	*9.77*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.50**	**15.53**	**17.10**	*15.28*	*15.02*	*16.49*	*18.03*	*16.07*	**14.82**	*15.66*	*16.45*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.94**	**10.92**	**11.53**	*10.98*	*11.33*	*11.29*	*11.74*	*11.07*	**10.66**	*11.11*	*11.37*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**318.2**	**345.4**	**449.3**	*314.9*	*295.6*	*323.2*	*430.2*	*325.9*	**1,512.2**	*1,427.9*	*1,374.9*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**230.3**	**203.8**	**278.2**	*225.9*	*224.6*	*199.6*	*261.0*	*205.0*	**768.2**	*938.1*	*890.2*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.5**	**185.2**	**203.8**	*191.5*	*195.3*	*191.8*	*206.3*	*193.0*	**789.9**	*779.0*	*786.4*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**198.0**	**208.2**	**178.7**	*202.0*	*219.6*	*239.6*	*200.5*	*216.7*	**760.6**	*787.0*	*876.4*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	**58.6**	*55.7*	*66.4*	*77.8*	*62.9*	*57.4*	**289.9**	*250.9*	*264.5*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	**75.2**	*111.9*	*114.7*	*106.8*	*82.7*	*119.0*	**336.7**	*378.6*	*423.1*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	**33.9**	*23.7*	*28.0*	*44.7*	*43.8*	*29.6*	**90.1**	*114.2*	*146.1*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	**6.9**	*6.5*	*6.6*	*6.4*	*6.8*	*6.4*	**27.5**	*27.0*	*26.3*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	**4.1**	*4.2*	*3.9*	*3.8*	*4.3*	*4.3*	**16.5**	*16.2*	*16.3*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	**-1.0**	**-2.4**	*-1.3*	*-1.0*	*-1.1*	*-2.3*	*-1.1*	**-5.3**	*-5.7*	*-5.5*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**5.2**	**3.5**	**4.3**	*3.8*	*4.6*	*3.7*	*4.3*	*3.6*	**16.5**	*16.9*	*16.2*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	**0.8**	**1.0**	*0.9*	*0.9*	*0.7*	*0.9*	*0.9*	**3.1**	*3.4*	*3.5*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.9**	**1.8**	**1.8**	*1.8*	*1.8*	*1.8*	*1.7*	*1.9*	**7.5**	*7.2*	*7.2*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**951.8**	**947.8**	**1,114.7**	*939.5*	*941.3*	*959.5*	*1,102.7*	*945.8*	**3,852.8**	*3,953.7*	*3,949.3*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**12.1**	**11.0**	**16.9**	*13.4*	*13.7*	*12.6*	*16.5*	*11.8*	**47.7**	*53.3*	*54.7*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	**0.0**	**0.5**	*1.1*	*0.4*	*0.3*	*0.2*	*0.6*	**0.2**	*2.1*	*1.4*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	**7.1**	**7.4**	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.1*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	**1.8**	**1.5**	*1.8*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*7.0*	*7.3*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.8**	**2.9**	**2.7**	*2.9*	*3.0*	*3.1*	*2.9*	*3.0*	**10.3**	*11.2*	*12.0*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.3**	**0.3**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	**1.4**	*1.5*	*1.5*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.7**	**23.0**	**29.2**	*25.2*	*26.6*	*24.8*	*28.4*	*24.8*	**92.9**	*102.1*	*104.6*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.4**	**26.9**	**32.0**	*28.1*	*29.1*	*27.3*	*31.4*	*28.1*	**113.0**	*116.4*	*115.9*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**12.8**	**14.0**	**20.0**	*14.2*	*14.0*	*14.2*	*20.1*	*14.5*	**57.1**	*60.9*	*62.8*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.3**	**7.7**	**7.4**	*6.8*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*31.1*	*27.3*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	**7.2**	**7.1**	*7.2*	*7.0*	*7.0*	*6.9*	*7.1*	**31.4**	*28.9*	*28.0*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	**2.0**	**1.8**	*2.2*	*2.0*	*2.2*	*1.9*	*2.5*	**7.6**	*7.9*	*8.6*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.1**	*0.1*	*0.4*	*0.1*	*0.1*	*0.1*	**0.6**	*0.8*	*0.7*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**31.7**	**31.0**	**36.3**	*30.6*	*30.0*	*30.5*	*35.8*	*31.2*	**135.4**	*129.6*	*127.5*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	**34.7**	**42.9**	*36.3*	*37.0*	*35.9*	*42.2*	*36.6*	**145.3**	*150.5*	*151.7*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**72.5**	**70.9**	**88.0**	*64.1*	*67.7*	*68.4*	*82.2*	*67.3*	**315.8**	*295.5*	*285.6*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**50.5**	**39.8**	**52.3**	*37.4*	*44.7*	*40.3*	*48.9*	*39.5*	**148.3**	*180.1*	*173.4*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.4**	**64.6**	**70.4**	*68.4*	*67.9*	*67.8*	*72.0*	*66.6*	**275.7**	*271.8*	*274.2*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	**2.4**	**2.0**	*2.1*	*2.6*	*2.6*	*1.6*	*2.1*	**9.9**	*9.2*	*9.0*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.1**	**11.0**	**8.8**	*11.8*	*12.0*	*12.5*	*9.6*	*12.7*	**39.1**	*42.7*	*46.8*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**1.0**	**0.5**	**0.2**	*0.6*	*0.8*	*0.5*	*0.2*	*0.6*	**2.2**	*2.4*	*2.2*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**206.2**	**189.3**	**221.8**	*184.5*	*195.7*	*192.1*	*214.6*	*188.7*	**791.1**	*801.7*	*791.2*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.0**	**194.4**	**177.8**	**212.0**	*181.5*	*192.4*	*178.2*	*202.7*	*182.5*	**732.4**	*765.8*	*755.8*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**57.6**	**57.2**	**71.3**	*55.0*	*50.4*	*54.9*	*66.2*	*55.5*	**254.2**	*241.1*	*227.1*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	**33.7**	**44.2**	*35.2*	*38.4*	*35.5*	*48.8*	*35.7*	**118.3**	*149.4*	*158.5*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	**50.9**	**54.9**	*52.2*	*51.7*	*53.4*	*58.5*	*54.8*	**210.1**	*211.8*	*218.4*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.8**	**8.7**	**7.9**	*8.1*	*10.2*	*7.5*	*6.7*	*7.8*	**38.7**	*34.5*	*32.2*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.0**	**5.9**	**5.3**	*4.2*	*4.4*	*6.9*	*6.4*	*4.8*	**17.4**	*19.3*	*22.5*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	**-0.2**	**-0.6**	*-0.2*	*0.0*	*-0.3*	*-0.6*	*-0.2*	**-1.1**	*-1.1*	*-1.1*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.4**	**156.2**	**183.0**	*154.6*	*155.2*	*158.0*	*185.9*	*158.4*	**637.6**	*655.1*	*657.5*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.0**	**161.2**	**179.7**	*152.3*	*157.0*	*159.3*	*183.9*	*156.6*	**649.7**	*656.2*	*656.8*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.5**	**43.7**	**50.1**	*35.7*	*33.6*	*45.1*	*50.6*	*40.7*	**179.5**	*164.0*	*170.0*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	**5.3**	**5.0**	*5.0*	*2.7*	*3.0*	*4.3*	*4.6*	**15.9**	*20.0*	*14.6*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	**7.2**	**7.2**	*7.5*	*7.9*	*7.3*	*8.1*	*7.1*	**29.4**	*29.8*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.4**	**3.2**	**3.0**	*2.7*	*3.2*	*3.4*	*3.3*	*2.8*	**8.4**	*11.2*	*12.7*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	**0.7**	**0.8**	*0.6*	*0.8*	*0.8*	*0.8*	*0.7*	**3.3**	*3.0*	*3.1*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**50.3**	**60.2**	**66.2**	*51.6*	*48.2*	*59.6*	*67.1*	*56.0*	**236.7**	*228.2*	*231.0*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.6**	**54.9**	**66.5**	*51.8*	*47.5*	*58.6*	*66.4*	*52.5*	**232.8**	*223.8*	*224.9*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**34.5**	**40.2**	**46.6**	*32.3*	*32.7*	*38.9*	*46.8*	*34.4*	**178.3**	*153.6*	*152.9*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**69.7**	**60.1**	**81.1**	*68.4*	*71.7*	*61.8*	*74.6*	*61.1*	**218.4**	*279.3*	*269.4*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	**22.6**	**25.2**	*22.7*	*23.8*	*22.2*	*23.7*	*23.0*	**95.1**	*94.1*	*92.6*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**2.8**	**2.9**	**2.5**	*2.2*	*2.4*	*2.8*	*2.3*	*2.1*	**11.8**	*10.4*	*9.6*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**24.3**	**23.2**	**18.6**	*27.8*	*26.3*	*24.9*	*19.8*	*28.7*	**81.3**	*93.8*	*99.7*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.8**	**1.3**	**1.4**	*1.1*	*1.7*	*1.4*	*1.4*	*1.0*	**5.2**	*5.7*	*5.5*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**156.7**	**150.3**	**175.4**	*154.5*	*158.5*	*152.1*	*168.7*	*150.4*	**590.0**	*636.9*	*629.7*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.0**	**154.2**	**180.5**	*157.4*	*156.7*	*158.4*	*176.2*	*157.6*	**618.7**	*651.0*	*648.9*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.4**	**14.5**	**19.2**	*11.2*	*11.0*	*14.4*	*21.0*	*12.6*	**71.6**	*57.3*	*58.9*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**21.8**	**19.8**	**31.3**	*22.1*	*22.7*	*16.8*	*29.0*	*21.2*	**79.2**	*95.1*	*89.7*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	**2.8**	**4.3**	*4.4*	*4.3*	*4.4*	*4.1*	*2.5*	**16.8**	*15.6*	*15.2*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	**5.1**	**4.4**	*3.3*	*3.5*	*4.2*	*3.9*	*3.1*	**21.8**	*18.1*	*14.8*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**22.8**	**23.6**	**19.3**	*26.9*	*28.8*	*26.1*	*21.8*	*29.5*	**80.6**	*92.6*	*106.1*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	**0.1**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.5**	*0.7*	*0.6*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.7**	**65.9**	**78.6**	*68.1*	*70.5*	*65.9*	*79.8*	*69.1*	**270.5**	*279.4*	*285.3*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.7**	**66.2**	**76.1**	*61.6*	*64.9*	*65.4*	*77.5*	*64.9*	**262.1**	*268.6*	*272.7*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.0**	**40.0**	**56.8**	*33.1*	*29.0*	*33.3*	*49.0*	*25.6*	**174.6**	*162.9*	*136.8*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.3**	**18.5**	**23.8**	*19.6*	*12.7*	*18.3*	*23.9*	*18.6*	**67.2**	*78.2*	*73.5*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	**9.8**	**11.0**	*9.1*	*10.7*	*9.9*	*10.6*	*10.8*	**41.4**	*40.3*	*42.0*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.3**	**0.2**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.9*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**25.2**	**27.6**	**24.0**	*31.5*	*35.3*	*37.4*	*30.6*	*35.3*	**92.6**	*108.3*	*138.6*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	**0.3**	**0.4**	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.5**	*1.3*	*1.4*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	**116.1**	*93.7*	*88.3*	*99.5*	*114.6*	*90.7*	**378.4**	*391.9*	*393.0*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	**116.1**	*93.7*	*88.3*	*99.5*	*114.6*	*90.7*	**378.4**	*391.9*	*393.0*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**20.9**	**20.1**	**29.0**	*21.5*	*20.4*	*14.8*	*28.7*	*26.8*	**89.6**	*91.5*	*90.7*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**22.5**	**19.0**	**28.2**	*27.5*	*23.5*	*16.9*	*22.8*	*18.4*	**86.1**	*97.3*	*81.6*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	**1.2**	**2.5**	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.7*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.3**	**32.0**	**26.3**	*26.6*	*33.0*	*40.9*	*30.4*	*27.6*	**136.0**	*119.1*	*131.9*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.3**	**16.6**	**14.5**	*16.9*	*17.0*	*18.1*	*16.0*	*18.1*	**55.6**	*63.3*	*69.1*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	**0.6**	*0.7*	*0.7*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**95.6**	**89.2**	**100.6**	*95.1*	*96.4*	*93.2*	*100.5*	*93.4*	**377.4**	*380.5*	*383.5*
Net energy for load (f)	**91.3**	**81.7**	**94.5**	**87.6**	**88.5**	**84.0**	**97.7**	*90.9*	*89.4*	*86.3*	*96.4*	*90.5*	**355.1**	*361.1*	*362.6*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**11.0**	**15.8**	**19.7**	*13.9*	*10.2*	*13.3*	*20.1*	*15.6*	**61.7**	*60.4*	*59.3*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**5.9**	**5.6**	**8.4**	*6.8*	*5.6*	*5.0*	*5.4*	*2.5*	**25.9**	*26.8*	*18.6*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	**7.1**	**8.6**	*7.7*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.8*	*32.1*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.5**	**3.3**	**3.1**	*2.1*	*2.6*	*3.9*	*3.8*	*2.6*	**12.8**	*11.0*	*12.9*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	**3.8**	**3.5**	*4.3*	*5.3*	*5.5*	*5.0*	*5.7*	**10.5**	*14.7*	*21.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.8**	**35.7**	**43.5**	*34.9*	*32.3*	*35.3*	*43.0*	*34.0*	**142.7**	*144.9*	*144.6*
Net energy for load (f)	**20.6**	**24.5**	**34.3**	**20.6**	**19.5**	**25.5**	**31.8**	*21.0*	*18.9*	*24.5*	*31.9*	*20.9*	**99.9**	*97.8*	*96.2*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.6**	**17.4**	**29.9**	*19.8*	*12.0*	*12.7*	*28.4*	*20.3*	**79.9**	*83.7*	*73.4*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	**1.4**	**2.8**	*2.2*	*1.8*	*1.3*	*2.7*	*2.3*	**6.7**	*8.2*	*8.0*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	**4.2**	**5.0**	*4.7*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.8*	*16.7*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.0**	**3.2**	**3.2**	*1.5*	*2.4*	*6.0*	*5.4*	*2.7*	**16.8**	*9.9*	*16.5*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.5**	**20.9**	**18.3**	*14.7*	*15.4*	*21.2*	*19.8*	*15.9*	**65.8**	*69.3*	*72.4*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**-0.1**	**0.0**	*0.1*	*0.0*	*-0.1*	*0.0*	*0.2*	**0.2**	*0.0*	*0.1*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.7**	**47.1**	**59.1**	*43.0*	*36.2*	*44.8*	*60.7*	*45.2*	**185.8**	*187.9*	*187.0*
Net energy for load (f)	**58.6**	**60.0**	**76.7**	**60.8**	**55.6**	**63.3**	**77.9**	*61.1*	*56.6*	*62.6*	*76.0*	*61.2*	**256.0**	*257.9*	*256.3*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.035**	**0.035**	**0.037**	*0.037*	*0.035*	*0.034*	*0.038*	*0.038*	**0.147**	*0.144*	*0.145*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.617**	**0.599**	**0.529**	*0.507*	*0.605*	*0.708*	*0.573*	*0.522*	**2.581**	*2.253*	*2.408*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.195**	**0.320**	**0.309**	*0.216*	*0.255*	*0.407*	*0.399*	*0.269*	**0.820**	*1.040*	*1.331*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.059**	**0.057**	**0.058**	*0.059*	*0.058*	*0.057*	*0.058*	*0.058*	**0.238**	*0.233*	*0.231*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.050**	**0.045**	**0.049**	*0.041*	*0.045*	*0.041*	*0.047*	*0.042*	**0.185**	*0.184*	*0.175*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	**0.684**	*1.019*	*1.044*	*0.973*	*0.753*	*1.083*	**3.065**	*3.447*	*3.852*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.833**	**1.923**	**1.667**	*1.879*	*2.041*	*2.221*	*1.868*	*2.013*	**7.037**	*7.301*	*8.142*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.193**	*0.189*	*0.183*	*0.191*	*0.196*	*0.193*	**0.699**	*0.740*	*0.763*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	**0.011**	**0.011**	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	**0.039**	**0.038**	*0.040*	*0.040*	*0.039*	*0.038*	*0.040*	**0.156**	*0.157*	*0.156*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	**0.344**	**0.354**	*0.357*	*0.348*	*0.346*	*0.358*	*0.360*	**1.376**	*1.393*	*1.411*
Subtotal	**0.594**	**0.521**	**0.558**	**0.588**	**0.555**	**0.579**	**0.593**	*0.594*	*0.578*	*0.583*	*0.599*	*0.601*	**2.262**	*2.322*	*2.361*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	**0.043**	**0.043**	*0.030*	*0.035*	*0.051*	*0.052*	*0.036*	**0.123**	*0.146*	*0.174*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	**0.009**	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	**0.021**	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.070**	**0.085**	**0.086**	*0.072*	*0.076*	*0.093*	*0.094*	*0.078*	**0.290**	*0.313*	*0.342*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.066**	**0.101**	**0.103**	*0.072*	*0.080*	*0.124*	*0.127*	*0.089*	**0.291**	*0.342*	*0.421*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	**0.113**	**0.115**	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.458**	*0.455*	*0.455*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	**0.224**	**0.228**	*0.197*	*0.202*	*0.248*	*0.252*	*0.214*	**0.788**	*0.837*	*0.916*
Transportation Sector															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.066**	*0.075*	*0.074*	*0.077*	*0.082*	*0.089*	**0.276**	*0.266*	*0.322*
Ethanol (f)	**0.258**	**0.222**	**0.266**	**0.259**	**0.244**	**0.283**	**0.290**	*0.274*	*0.256*	*0.285*	*0.291*	*0.281*	**1.006**	*1.091*	*1.113*
Subtotal	**0.320**	**0.289**	**0.340**	**0.333**	**0.300**	**0.353**	**0.362**	*0.349*	*0.331*	*0.362*	*0.373*	*0.370*	**1.282**	*1.364*	*1.436*
All Sectors Total															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.066**	*0.075*	*0.074*	*0.077*	*0.082*	*0.089*	**0.276**	*0.266*	*0.322*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.193**	*0.189*	*0.183*	*0.191*	*0.196*	*0.193*	**0.699**	*0.740*	*0.763*
Ethanol (f)	**0.268**	**0.231**	**0.277**	**0.269**	**0.253**	**0.293**	**0.296**	*0.285*	*0.266*	*0.296*	*0.302*	*0.292*	**1.045**	*1.128*	*1.156*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	**0.052**	**0.056**	*0.054*	*0.051*	*0.051*	*0.055*	*0.055*	**0.214**	*0.213*	*0.213*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.620**	**0.601**	**0.532**	*0.510*	*0.608*	*0.711*	*0.575*	*0.525*	**2.592**	*2.263*	*2.419*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.292**	**0.467**	**0.480**	*0.326*	*0.379*	*0.595*	*0.590*	*0.404*	**1.246**	*1.565*	*1.966*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	**0.104**	**0.105**	*0.108*	*0.106*	*0.104*	*0.105*	*0.107*	**0.430**	*0.425*	*0.422*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	**0.523**	**0.536**	*0.534*	*0.525*	*0.520*	*0.541*	*0.537*	**2.101**	*2.113*	*2.123*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	**0.684**	*1.019*	*1.044*	*0.973*	*0.753*	*1.083*	**3.065**	*3.447*	*3.852*
Total Consumption	**2.925**	**3.001**	**2.826**	**2.907**	**2.946**	**3.164**	**2.985**	*3.092*	*3.228*	*3.506*	*3.186*	*3.277*	**11.659**	*12.186*	*13.197*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,348**	**6,346**	**6,296**	**6,295**	**6,285**	**6,141**	**6,143**	*6,184*	*6,187*	*6,190*	*6,190*	*6,190*	**6,295**	*6,184*	*6,190*
Waste	**3,867**	**3,865**	**3,792**	**3,790**	**3,781**	**3,779**	**3,781**	*3,822*	*3,825*	*3,829*	*3,829*	*3,829*	**3,790**	*3,822*	*3,829*
Wood	**2,480**	**2,480**	**2,505**	**2,505**	**2,505**	**2,362**	**2,362**	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	**2,505**	*2,362*	*2,362*
Conventional Hydroelectric	**78,528**	**78,522**	**78,669**	**78,671**	**78,672**	**78,744**	**78,747**	*78,765*	*78,786*	*78,796*	*78,837*	*78,840*	**78,671**	*78,765*	*78,840*
Geothermal	**2,466**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	*2,500*	*2,500*	*2,500*	*2,500*	*2,525*	**2,483**	*2,500*	*2,525*
Large-Scale Solar (b)	**39,067**	**41,160**	**42,961**	**47,586**	**50,256**	**52,322**	**56,302**	*63,559*	*65,890*	*69,760*	*72,448*	*81,813*	**47,586**	*63,559*	*81,813*
Wind	**106,055**	**107,549**	**109,076**	**118,045**	**120,930**	**124,472**	**127,763**	*135,115*	*136,058*	*137,613*	*138,323*	*141,631*	**118,045**	*135,115*	*141,631*
Other Sectors (c)															
Biomass	**6,295**	**6,296**	**6,292**	**6,302**	**6,280**	**6,284**	**6,289**	*6,289*	*6,289*	*6,289*	*6,281*	*6,281*	**6,302**	*6,289*	*6,281*
Waste	**770**	**771**	**767**	**777**	**775**	**778**	**778**	*778*	*778*	*778*	*778*	*778*	**777**	*778*	*778*
Wood	**5,525**	**5,525**	**5,525**	**5,525**	**5,505**	**5,505**	**5,510**	*5,510*	*5,510*	*5,510*	*5,503*	*5,503*	**5,525**	*5,510*	*5,503*
Conventional Hydroelectric	**279**	**279**	**279**	**279**	**279**	**279**	**279**	*279*	*279*	*279*	*279*	*279*	**279**	*279*	*279*
Large-Scale Solar (b)	**443**	**456**	**462**	**468**	**472**	**472**	**493**	*538*	*538*	*538*	*541*	*541*	**468**	*538*	*541*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**28,888**	**30,385**	**31,805**	*33,487*	*35,262*	*37,149*	*39,152*	*41,276*	**27,724**	*33,487*	*41,276*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,076**	**19,144**	**20,183**	*21,354*	*22,596*	*23,927*	*25,348*	*26,865*	**17,238**	*21,354*	*26,865*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,725**	**9,104**	**9,447**	*9,892*	*10,358*	*10,847*	*11,358*	*11,893*	**8,430**	*9,892*	*11,893*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,088**	**2,138**	**2,175**	*2,241*	*2,308*	*2,376*	*2,446*	*2,518*	**2,056**	*2,241*	*2,518*
Wind	**111**	**337**	**346**	**346**	**346**	**346**	**346**	*346*	*346*	*346*	*346*	*346*	**346**	*346*	*346*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	**6.9**	*6.5*	*6.6*	*6.4*	*6.8*	*6.4*	**27.5**	*27.0*	*26.3*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.0**	**3.9**	**3.9**	*3.9*	*3.9*	*3.9*	*3.9*	*3.9*	**16.1**	*15.7*	*15.6*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	**2.7**	**3.0**	*2.5*	*2.7*	*2.5*	*2.9*	*2.5*	**11.4**	*11.3*	*10.7*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	**58.6**	*55.7*	*66.4*	*77.8*	*62.9*	*57.4*	**289.9**	*250.9*	*264.5*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	**4.1**	*4.2*	*3.9*	*3.8*	*4.3*	*4.3*	**16.5**	*16.2*	*16.3*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	**33.9**	*23.7*	*28.0*	*44.7*	*43.8*	*29.6*	**90.1**	*114.2*	*146.1*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	**75.2**	*111.9*	*114.7*	*106.8*	*82.7*	*119.0*	**336.7**	*378.6*	*423.1*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.0**	**6.8**	**7.1**	*7.1*	*7.0*	*6.8*	*7.1*	*7.1*	**28.6**	*28.0*	*28.0*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.6**	**0.7**	*0.7*	*0.7*	*0.6*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.3**	**6.2**	**6.4**	*6.4*	*6.3*	*6.2*	*6.4*	*6.4*	**25.8**	*25.3*	*25.3*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**9.8**	**14.8**	**14.8**	*10.4*	*11.9*	*18.1*	*18.5*	*13.0*	**41.7**	*49.8*	*61.6*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	**9.1**	**9.1**	*6.4*	*7.4*	*11.5*	*11.8*	*8.3*	**25.4**	*30.6*	*38.9*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	**4.5**	**4.5**	*3.2*	*3.7*	*5.4*	*5.5*	*3.8*	**12.9**	*15.3*	*18.3*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	**1.1**	**1.2**	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.3*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*1.0*	*0.8*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,361**	**19,517**	*19,801*	*20,034*	*20,237*	*20,399*	*20,531*	**18,385**	*19,433*	*20,300*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,014**	**11,756**	**12,821**	**12,928**	**13,283**	**13,660**	**13,684**	*13,820*	*13,911*	*14,008*	*14,094*	*14,183*	**12,630**	*13,612*	*14,049*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,420**	**3,123**	**3,319**	**3,457**	**3,564**	**3,594**	**3,577**	*3,616*	*3,657*	*3,690*	*3,722*	*3,751*	**3,329**	*3,588*	*3,705*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-21**	**-290**	**15**	**57**	**-94**	**-176**	**-68**	*-14*	*85*	*156*	*188*	*189*	**-60**	*-88*	*155*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,346**	**3,378**	**3,360**	**3,356**	**3,391**	**3,375**	**3,396**	*3,413*	*3,436*	*3,450*	*3,466*	*3,476*	**3,360**	*3,394*	*3,457*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,442**	**1,943**	**2,166**	**2,279**	**2,262**	**2,299**	**2,321**	*2,368*	*2,414*	*2,462*	*2,512*	*2,564*	**2,208**	*2,312*	*2,488*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,284**	**2,718**	**3,188**	**3,412**	**3,488**	**3,546**	**3,540**	*3,534*	*3,589*	*3,644*	*3,697*	*3,748*	**3,150**	*3,527*	*3,670*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,699**	**15,434**	*15,216*	*15,232*	*15,399*	*15,558*	*15,644*	**15,677**	*15,892*	*15,458*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	**145.1**	**147.3**	*148.4*	*149.5*	*150.6*	*151.6*	*152.4*	**142.3**	*146.0*	*151.0*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	**5.9**	**5.2**	*5.0*	*4.7*	*4.3*	*4.0*	*3.8*	**8.1**	*5.6*	*4.2*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	**1.59**	**1.51**	*1.47*	*1.43*	*1.40*	*1.38*	*1.37*	**1.40**	*1.54*	*1.40*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**100.0**	**87.1**	**95.5**	**97.4**	**98.3**	**99.8**	**101.4**	*101.9*	*103.3*	*104.6*	*105.7*	*106.5*	**95.0**	*100.4*	*105.1*
Manufacturing	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.6**	**100.5**	*101.3*	*102.8*	*104.4*	*105.6*	*106.6*	**93.2**	*99.5*	*104.9*
Food	**101.8**	**93.8**	**98.0**	**100.1**	**101.2**	**100.6**	**99.7**	*100.5*	*100.8*	*101.2*	*101.6*	*102.0*	**98.4**	*100.5*	*101.4*
Paper	**99.5**	**91.5**	**90.7**	**94.9**	**93.9**	**95.0**	**95.1**	*95.2*	*95.8*	*96.3*	*96.7*	*97.0*	**94.2**	*94.8*	*96.5*
Petroleum and Coal Products	**98.0**	**77.3**	**84.0**	**86.7**	**90.5**	**96.0**	**95.9**	*97.6*	*98.7*	*99.4*	*99.9*	*100.0*	**86.5**	*95.0*	*99.5*
Chemicals	**95.0**	**89.9**	**92.5**	**94.7**	**91.8**	**98.8**	**100.1**	*101.2*	*102.6*	*103.7*	*104.3*	*104.6*	**93.0**	*98.0*	*103.8*
Nonmetallic Mineral Products	**99.7**	**88.1**	**94.6**	**98.4**	**97.4**	**95.2**	**95.9**	*96.2*	*96.3*	*96.2*	*96.3*	*96.7*	**95.2**	*96.2*	*96.4*
Primary Metals	**95.9**	**72.9**	**83.3**	**90.3**	**92.4**	**96.8**	**99.5**	*99.7*	*101.3*	*102.1*	*102.6*	*103.1*	**85.6**	*97.1*	*102.3*
Coal-weighted Manufacturing (a)	**97.1**	**86.7**	**93.0**	**96.6**	**94.2**	**97.1**	**97.8**	*98.6*	*99.6*	*100.5*	*101.2*	*101.8*	**93.3**	*96.9*	*100.8*
Distillate-weighted Manufacturing (a)	**97.0**	**84.4**	**92.0**	**95.7**	**94.6**	**97.2**	**97.9**	*98.5*	*99.4*	*100.0*	*100.4*	*100.8*	**92.3**	*97.0*	*100.1*
Electricity-weighted Manufacturing (a)	**97.1**	**83.4**	**91.6**	**95.4**	**94.5**	**97.7**	**99.1**	*99.9*	*101.2*	*102.3*	*103.0*	*103.6*	**91.9**	*97.8*	*102.5*
Natural Gas-weighted Manufacturing (a)	**95.5**	**84.1**	**89.7**	**93.7**	**90.5**	**96.1**	**96.8**	*97.6*	*98.9*	*99.8*	*100.4*	*100.8*	**90.8**	*95.3*	*100.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	**2.69**	**2.73**	*2.74*	*2.75*	*2.76*	*2.77*	*2.78*	**2.59**	*2.70*	*2.76*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.11**	**2.23**	**2.28**	*2.26*	*2.25*	*2.24*	*2.23*	*2.23*	**1.94**	*2.22*	*2.24*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.51**	**1.84**	**2.14**	**2.29**	*2.37*	*2.28*	*2.22*	*2.13*	*2.01*	**1.43**	*2.16*	*2.16*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.0**	*120.0*	*120.5*	*120.9*	*121.4*	*122.0*	**113.7**	*118.1*	*121.2*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,764**	**6,868**	**8,262**	**8,009**	**7,682**	**8,939**	**9,122**	*8,799*	*8,203*	*9,282*	*9,356*	*8,978*	**7,728**	*8,640*	*8,958*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**362**	**478**	**537**	**537**	**598**	**724**	*683*	*653*	*691*	*701*	*648*	**502**	*636*	*673*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**151**	**208**	**238**	**245**	**341**	**375**	*385*	*405*	*451*	*449*	*408*	**231**	*337*	*428*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	**243.3**	**220.3**	*206.6*	*210.8*	*236.8*	*239.0*	*250.1*	**217.5**	*217.1*	*234.2*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	**0.267**	*0.321*	*0.336*	*0.301*	*0.295*	*0.307*	**0.216**	*0.273*	*0.310*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**558**	**441**	**520**	**523**	**517**	**559**	**577**	*569*	*555*	*573*	*587*	*581*	**2,042**	*2,223*	*2,296*
Natural Gas	**489**	**348**	**382**	**428**	**483**	**354**	**367**	*432*	*470*	*350*	*371*	*440*	**1,647**	*1,636*	*1,631*
Coal	**202**	**177**	**271**	**225**	**255**	**230**	**313**	*252*	*252*	*224*	*286*	*231*	**875**	*1,051*	*993*
Total Energy (c)	**1,251**	**969**	**1,176**	**1,179**	**1,259**	**1,146**	**1,260**	*1,257*	*1,280*	*1,149*	*1,247*	*1,255*	**4,575**	*4,921*	*4,931*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2012)															
New England	**982**	**891**	**959**	**971**	**986**	**1,001**	**1,009**	*1,024*	*1,035*	*1,045*	*1,054*	*1,060*	**951**	*1,005*	*1,048*
Middle Atlantic	**2,745**	**2,459**	**2,641**	**2,667**	**2,708**	**2,755**	**2,769**	*2,809*	*2,848*	*2,883*	*2,911*	*2,930*	**2,628**	*2,760*	*2,893*
E. N. Central	**2,476**	**2,241**	**2,432**	**2,454**	**2,494**	**2,518**	**2,533**	*2,568*	*2,597*	*2,622*	*2,640*	*2,658*	**2,401**	*2,528*	*2,629*
W. N. Central	**1,175**	**1,072**	**1,156**	**1,172**	**1,190**	**1,206**	**1,213**	*1,229*	*1,241*	*1,251*	*1,259*	*1,265*	**1,144**	*1,210*	*1,254*
S. Atlantic	**3,352**	**3,080**	**3,302**	**3,334**	**3,387**	**3,435**	**3,465**	*3,512*	*3,550*	*3,584*	*3,610*	*3,631*	**3,267**	*3,450*	*3,594*
E. S. Central	**819**	**734**	**801**	**812**	**825**	**836**	**843**	*854*	*863*	*871*	*877*	*882*	**791**	*840*	*873*
W. S. Central	**2,293**	**2,101**	**2,243**	**2,279**	**2,304**	**2,345**	**2,363**	*2,400*	*2,431*	*2,458*	*2,484*	*2,502*	**2,229**	*2,353*	*2,469*
Mountain	**1,270**	**1,165**	**1,252**	**1,266**	**1,290**	**1,311**	**1,324**	*1,342*	*1,358*	*1,370*	*1,380*	*1,390*	**1,238**	*1,317*	*1,374*
Pacific	**3,729**	**3,399**	**3,645**	**3,676**	**3,731**	**3,811**	**3,853**	*3,915*	*3,964*	*4,004*	*4,034*	*4,063*	**3,612**	*3,828*	*4,016*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**96.1**	**82.6**	**91.6**	**94.6**	**95.0**	**91.0**	**92.9**	*93.6*	*94.8*	*96.1*	*97.1*	*97.8*	**91.3**	*93.1*	*96.4*
Middle Atlantic	**95.0**	**79.2**	**89.9**	**92.5**	**92.9**	**89.2**	**90.9**	*92.1*	*93.5*	*94.9*	*96.1*	*96.8*	**89.2**	*91.3*	*95.3*
E. N. Central	**95.9**	**79.0**	**91.8**	**94.4**	**95.0**	**97.5**	**99.3**	*100.2*	*102.0*	*103.8*	*105.3*	*106.6*	**90.3**	*98.0*	*104.4*
W. N. Central	**98.0**	**86.0**	**94.7**	**97.1**	**98.0**	**98.4**	**100.5**	*101.3*	*102.5*	*103.8*	*105.1*	*105.9*	**94.0**	*99.5*	*104.3*
S. Atlantic	**98.6**	**85.8**	**95.2**	**98.4**	**98.8**	**103.6**	**105.5**	*106.3*	*107.7*	*109.4*	*110.7*	*111.5*	**94.5**	*103.5*	*109.8*
E. S. Central	**96.6**	**79.9**	**93.6**	**96.7**	**97.8**	**103.8**	**105.7**	*106.2*	*107.5*	*109.1*	*110.5*	*111.7*	**91.7**	*103.3*	*109.7*
W. S. Central	**100.2**	**88.9**	**95.7**	**97.9**	**98.8**	**93.7**	**95.9**	*97.1*	*98.7*	*100.3*	*101.7*	*102.6*	**95.7**	*96.4*	*100.8*
Mountain	**102.8**	**92.2**	**101.3**	**104.0**	**105.2**	**113.1**	**115.1**	*115.9*	*117.4*	*119.0*	*120.2*	*121.2*	**100.1**	*112.3*	*119.5*
Pacific	**96.4**	**84.0**	**91.6**	**93.3**	**93.4**	**94.4**	**95.7**	*96.4*	*98.1*	*99.9*	*101.2*	*102.2*	**91.3**	*95.0*	*100.4*
Real Personal Income (Billion $2012)															
New England	**892**	**978**	**929**	**922**	**1,002**	**933**	**923**	*913*	*917*	*928*	*937*	*943*	**930**	*943*	*931*
Middle Atlantic	**2,314**	**2,522**	**2,430**	**2,340**	**2,574**	**2,389**	**2,357**	*2,323*	*2,333*	*2,361*	*2,387*	*2,400*	**2,401**	*2,411*	*2,370*
E. N. Central	**2,457**	**2,700**	**2,580**	**2,535**	**2,848**	**2,604**	**2,563**	*2,531*	*2,536*	*2,563*	*2,588*	*2,604*	**2,568**	*2,637*	*2,573*
W. N. Central	**1,159**	**1,260**	**1,180**	**1,192**	**1,321**	**1,231**	**1,217**	*1,204*	*1,200*	*1,210*	*1,220*	*1,226*	**1,198**	*1,243*	*1,214*
S. Atlantic	**3,267**	**3,507**	**3,411**	**3,363**	**3,734**	**3,457**	**3,426**	*3,389*	*3,397*	*3,434*	*3,470*	*3,493*	**3,387**	*3,501*	*3,448*
E. S. Central	**911**	**990**	**938**	**933**	**1,064**	**974**	**960**	*947*	*946*	*955*	*963*	*968*	**943**	*986*	*958*
W. S. Central	**2,038**	**2,202**	**2,101**	**2,069**	**2,325**	**2,138**	**2,103**	*2,098*	*2,109*	*2,137*	*2,163*	*2,180*	**2,102**	*2,166*	*2,147*
Mountain	**1,211**	**1,317**	**1,257**	**1,252**	**1,398**	**1,296**	**1,283**	*1,268*	*1,270*	*1,284*	*1,297*	*1,304*	**1,259**	*1,311*	*1,289*
Pacific	**2,833**	**3,036**	**2,977**	**2,955**	**3,196**	**2,999**	**2,972**	*2,933*	*2,942*	*2,974*	*3,005*	*3,024*	**2,950**	*3,025*	*2,987*
Households (Thousands)															
New England	**5,896**	**5,855**	**5,961**	**5,954**	**5,955**	**5,958**	**5,956**	*5,967*	*5,979*	*5,992*	*6,006*	*6,017*	**5,954**	*5,967*	*6,017*
Middle Atlantic	**16,157**	**16,042**	**16,343**	**16,333**	**16,341**	**16,352**	**16,365**	*16,402*	*16,436*	*16,474*	*16,508*	*16,542*	**16,333**	*16,402*	*16,542*
E. N. Central	**18,873**	**18,757**	**19,104**	**19,077**	**19,084**	**19,098**	**19,116**	*19,165*	*19,208*	*19,243*	*19,276*	*19,311*	**19,077**	*19,165*	*19,311*
W. N. Central	**8,651**	**8,606**	**8,770**	**8,771**	**8,783**	**8,795**	**8,808**	*8,835*	*8,858*	*8,887*	*8,914*	*8,936*	**8,771**	*8,835*	*8,936*
S. Atlantic	**25,667**	**25,560**	**26,072**	**26,111**	**26,170**	**26,233**	**26,300**	*26,414*	*26,520*	*26,636*	*26,746*	*26,848*	**26,111**	*26,414*	*26,848*
E. S. Central	**7,662**	**7,625**	**7,772**	**7,776**	**7,787**	**7,799**	**7,813**	*7,840*	*7,864*	*7,891*	*7,916*	*7,938*	**7,776**	*7,840*	*7,938*
W. S. Central	**14,881**	**14,825**	**15,125**	**15,153**	**15,189**	**15,227**	**15,271**	*15,340*	*15,406*	*15,476*	*15,543*	*15,604*	**15,153**	*15,340*	*15,604*
Mountain	**9,461**	**9,436**	**9,641**	**9,670**	**9,708**	**9,746**	**9,786**	*9,842*	*9,895*	*9,947*	*9,997*	*10,042*	**9,670**	*9,842*	*10,042*
Pacific	**18,795**	**18,691**	**19,041**	**19,043**	**19,051**	**19,061**	**19,080**	*19,130*	*19,181*	*19,232*	*19,281*	*19,318*	**19,043**	*19,130*	*19,318*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.8**	**6.9**	**7.0**	**7.1**	**7.2**	*7.3*	*7.3*	*7.4*	*7.4*	*7.5*	**6.9**	*7.1*	*7.4*
Middle Atlantic	**20.1**	**16.7**	**17.9**	**18.2**	**18.3**	**18.5**	**18.7**	*18.9*	*19.2*	*19.4*	*19.6*	*19.7*	**18.2**	*18.6*	*19.4*
E. N. Central	**22.3**	**19.3**	**20.7**	**20.8**	**20.9**	**21.1**	**21.4**	*21.5*	*21.7*	*21.8*	*22.0*	*22.1*	**20.8**	*21.2*	*21.9*
W. N. Central	**10.8**	**9.7**	**10.2**	**10.2**	**10.3**	**10.4**	**10.5**	*10.6*	*10.6*	*10.7*	*10.7*	*10.8*	**10.2**	*10.5*	*10.7*
S. Atlantic	**29.3**	**26.2**	**27.4**	**27.8**	**27.9**	**28.1**	**28.6**	*28.8*	*29.0*	*29.2*	*29.4*	*29.5*	**27.7**	*28.4*	*29.3*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	**8.0**	**8.1**	**8.2**	*8.2*	*8.3*	*8.3*	*8.3*	*8.4*	**7.9**	*8.1*	*8.3*
W. S. Central	**17.9**	**16.2**	**16.7**	**17.0**	**17.1**	**17.3**	**17.6**	*17.7*	*17.8*	*17.9*	*18.0*	*18.1*	**17.0**	*17.4*	*17.9*
Mountain	**11.2**	**10.0**	**10.5**	**10.6**	**10.7**	**10.9**	**11.1**	*11.2*	*11.2*	*11.3*	*11.4*	*11.4*	**10.6**	*11.0*	*11.3*
Pacific	**24.0**	**20.9**	**21.6**	**21.9**	**21.9**	**22.4**	**22.9**	*23.1*	*23.3*	*23.5*	*23.7*	*23.8*	**22.1**	*22.6*	*23.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,731**	**972**	**114**	**1,993**	**3,007**	**779**	**89**	*2,143*	*3,094*	*871*	*140*	*2,096*	**5,811**	*6,018*	*6,201*
Middle Atlantic	**2,465**	**838**	**85**	**1,828**	**2,816**	**669**	**48**	*1,971*	*2,846*	*693*	*94*	*1,939*	**5,216**	*5,504*	*5,572*
E. N. Central	**2,786**	**846**	**127**	**2,099**	**3,085**	**710**	**76**	*2,255*	*3,100*	*727*	*136*	*2,260*	**5,858**	*6,126*	*6,223*
W. N. Central	**3,040**	**799**	**167**	**2,314**	**3,229**	**720**	**83**	*2,462*	*3,217*	*701*	*167*	*2,478*	**6,320**	*6,493*	*6,562*
South Atlantic	**1,111**	**253**	**17**	**879**	**1,347**	**211**	**12**	*955*	*1,350*	*188*	*14*	*928*	**2,260**	*2,525*	*2,480*
E. S. Central	**1,479**	**336**	**20**	**1,224**	**1,790**	**313**	**23**	*1,294*	*1,743*	*240*	*22*	*1,301*	**3,060**	*3,420*	*3,305*
W. S. Central	**971**	**102**	**8**	**737**	**1,295**	**121**	**4**	*788*	*1,133*	*82*	*4*	*806*	**1,818**	*2,208*	*2,026*
Mountain	**2,219**	**676**	**128**	**1,779**	**2,302**	**662**	**92**	*1,850*	*2,231*	*694*	*144*	*1,851*	**4,802**	*4,906*	*4,921*
Pacific	**1,538**	**527**	**65**	**1,085**	**1,563**	**486**	**73**	*1,247*	*1,557*	*580*	*88*	*1,219*	**3,217**	*3,369*	*3,443*
U.S. Average	**1,880**	**544**	**71**	**1,422**	**2,107**	**473**	**49**	*1,535*	*2,085*	*484*	*78*	*1,522*	**3,917**	*4,164*	*4,170*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**822**	**105**	**2,127**	**3,133**	**856**	**107**	*2,099*	*3,099*	*852*	*108*	*2,125*	**6,207**	*6,194*	*6,185*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,912**	**678**	**72**	*1,911*	*2,886*	*685*	*71*	*1,933*	**5,606**	*5,572*	*5,574*
E. N. Central	**3,198**	**698**	**102**	**2,197**	**3,157**	**731**	**105**	*2,170*	*3,133*	*728*	*98*	*2,199*	**6,195**	*6,162*	*6,157*
W. N. Central	**3,288**	**703**	**132**	**2,380**	**3,248**	**728**	**133**	*2,368*	*3,220*	*726*	*124*	*2,400*	**6,502**	*6,477*	*6,470*
South Atlantic	**1,461**	**169**	**10**	**953**	**1,395**	**181**	**11**	*916*	*1,380*	*187*	*11*	*921*	**2,593**	*2,503*	*2,499*
E. S. Central	**1,849**	**214**	**15**	**1,277**	**1,771**	**231**	**16**	*1,249*	*1,763*	*243*	*15*	*1,253*	**3,356**	*3,267*	*3,274*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	**86**	**3**	*786*	*1,145*	*93*	*3*	*784*	**2,078**	*2,015*	*2,024*
Mountain	**2,198**	**721**	**136**	**1,850**	**2,188**	**704**	**135**	*1,850*	*2,180*	*685*	*130*	*1,839*	**4,905**	*4,877*	*4,834*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	**553**	**81**	*1,147*	*1,455*	*523*	*78*	*1,140*	**3,283**	*3,242*	*3,197*
U.S. Average	**2,153**	**473**	**64**	**1,512**	**2,112**	**483**	**65**	*1,487*	*2,095*	*479*	*62*	*1,496*	**4,202**	*4,147*	*4,132*
Cooling Degree Days															
New England	**0**	**103**	**543**	**0**	**0**	**145**	**464**	*2*	*0*	*80*	*393*	*2*	**646**	*611*	*475*
Middle Atlantic	**0**	**156**	**682**	**4**	**0**	**184**	**637**	*4*	*0*	*148*	*518*	*5*	**843**	*826*	*671*
E. N. Central	**2**	**218**	**605**	**2**	**2**	**250**	**638**	*6*	*0*	*214*	*515*	*6*	**827**	*896*	*735*
W. N. Central	**6**	**295**	**661**	**3**	**8**	**311**	**748**	*9*	*3*	*263*	*655*	*9*	**966**	*1,076*	*930*
South Atlantic	**193**	**616**	**1,228**	**298**	**149**	**617**	**1,200**	*229*	*135*	*657*	*1,153*	*249*	**2,335**	*2,196*	*2,195*
E. S. Central	**74**	**426**	**1,064**	**82**	**41**	**436**	**1,044**	*64*	*31*	*514*	*1,028*	*64*	**1,645**	*1,585*	*1,637*
W. S. Central	**174**	**840**	**1,504**	**211**	**90**	**769**	**1,466**	*203*	*92*	*850*	*1,490*	*198*	**2,729**	*2,528*	*2,630*
Mountain	**10**	**463**	**1,077**	**117**	**10**	**532**	**949**	*75*	*17*	*424*	*933*	*76*	**1,668**	*1,566*	*1,450*
Pacific	**25**	**195**	**716**	**125**	**24**	**252**	**711**	*60*	*27*	*171*	*595*	*60*	**1,061**	*1,047*	*854*
U.S. Average	**70**	**393**	**932**	**120**	**49**	**411**	**912**	*92*	*46*	*398*	*844*	*96*	**1,515**	*1,464*	*1,384*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	**81**	**474**	*1*	*0*	*88*	*472*	*1*	**554**	*556*	*561*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	**163**	**610**	*6*	*0*	*162*	*609*	*7*	**786**	*779*	*778*
E. N. Central	**3**	**240**	**579**	**8**	**3**	**234**	**572**	*7*	*3*	*237*	*572*	*7*	**829**	*816*	*820*
W. N. Central	**7**	**296**	**696**	**11**	**7**	**294**	**686**	*10*	*7*	*299*	*681*	*10*	**1,010**	*997*	*997*
South Atlantic	**127**	**695**	**1,201**	**247**	**143**	**679**	**1,194**	*260*	*146*	*668*	*1,192*	*263*	**2,270**	*2,276*	*2,269*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	**532**	**1,065**	*74*	*44*	*518*	*1,060*	*78*	**1,747**	*1,714*	*1,700*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	**880**	**1,567**	*210*	*113*	*853*	*1,535*	*212*	**2,775**	*2,772*	*2,714*
Mountain	**24**	**430**	**934**	**80**	**24**	**441**	**949**	*85*	*23*	*459*	*944*	*85*	**1,468**	*1,499*	*1,511*
Pacific	**31**	**185**	**624**	**78**	**31**	**193**	**647**	*86*	*31*	*208*	*664*	*85*	**919**	*958*	*989*
U.S. Average	**47**	**419**	**891**	**99**	**52**	**413**	**892**	*104*	*53*	*412*	*890*	*105*	**1,455**	*1,461*	*1,460*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 7, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the October 2021 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Aug 2021	Sept 2021	Aug 2021 – Sept 2021 Average	Aug 2020 – Sept 2020 Average	2018 - 2020 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	96.1	96.7	96.4	91.4	98.5
Global Petroleum and Other Liquids Consumption (b)	98.5	99.3	98.9	93.7	97.9
Biofuels Production (c)	3.1	3.2	3.1	3.1	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.6	3.6	3.6	2.9	3.6
Iran Liquid Fuels Consumption	1.7	1.9	1.8	1.7	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	89.5	89.9	89.7	85.3	92.2
Consumption (d)	94.2	94.8	94.5	89.4	93.5
Production minus Consumption	-4.7	-4.9	-4.8	-4.1	-1.3
World Inventory Net Withdrawals Including Iran	2.4	2.6	2.5	2.4	-0.7
Estimated OECD Inventory Level (e) (million barrels)	2,811	2,786	2,798	3,188	2,943
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	6.8	6.4	6.6	7.6	3.4

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.
(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Aug 2021	Sept 2021	Aug 2021 – Sept 2021 Average	Aug 2020 - Sept 2020 Average	2018 - 2020 Average
Brent Front Month Futures Price ($ per barrel)	70.51	74.88	72.64	43.45	59.69
WTI Front Month Futures Price ($ per barrel)	67.71	71.54	69.58	41.01	53.76
Dubai Front Month Futures Price ($ per barrel)	69.31	72.85	71.04	42.92	59.01
Brent 1st - 13th Month Futures Spread ($ per barrel)	4.72	6.02	5.35	15.82	1.01
WTI 1st - 13th Month Futures Spread ($ per barrel)	4.86	5.60	5.22	10.31	0.57
RBOB Front Month Futures Price ($ per gallon)	2.23	2.16	2.20	1.22	1.61
Heating Oil Front Month Futures Price ($ per gallon)	2.07	2.20	2.13	1.18	1.76
RBOB - Brent Futures Crack Spread ($ per gallon)	0.55	0.38	0.47	0.19	0.19
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.39	0.42	0.40	0.15	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

November 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The November *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. U.S. gross domestic product (GDP) declined by 3.4% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 5.4% in 2021 and by 4.2% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. In addition to uncertainty about macroeconomic conditions, the evolving effects of consumer behavior on energy demand because of the pandemic present a wide range of potential outcomes for energy consumption. Supply uncertainty in the forecast results from the production decisions of OPEC+ along with the rate at which U.S. oil and natural gas producers increase drilling at forecast price levels.

- Brent crude oil spot prices averaged $84 per barrel (b) in October, up $9/b from September and up $43/b from October 2020. Crude oil prices have risen over the past year as result of steady draws on global oil inventories, which averaged 1.9 million barrels per day (b/d) during the first three quarters of 2021. In addition to sustained inventory draws, prices increased after OPEC+ announced in early October—and reaffirmed on November 4—that the group would keep current production targets unchanged. We expect Brent prices will remain near current levels for the rest of 2021, averaging $82/b in the fourth quarter of 2021. In 2022, we expect that growth in production from OPEC+, U.S. tight oil, and other non-OPEC countries will outpace slowing growth in global oil consumption and contribute to Brent prices declining from current levels to an annual average of $72/b.

- We estimate that 98.9 million b/d of petroleum and liquid fuels was consumed globally in October, an increase of 4.5 million b/d from October 2020 but 1.9 million b/d less than in October 2019. We revised up our forecast for consumption of petroleum and liquid fuels for the fourth quarter of 2021, partially as a result of fuel switching from natural gas to petroleum in the electric power sector in parts of Asia and Europe. This fuel switching is a result of increases in natural gas prices in Asia and Europe. We forecast that global consumption of petroleum and liquid fuels will average 97.5 million b/d for all of 2021, which is a 5.1 million b/d increase from 2020. We forecast that global consumption of petroleum and liquid fuels will increase by 3.3 million b/d in 2022.

- U.S. regular gasoline retail prices averaged $3.29 per gallon (gal) in October, up 12 cents/gal from September, and $1.13/gal higher than in October 2020. The October price was the highest monthly average since September 2014. We forecast that retail gasoline prices will average $3.32/gal in November before falling to $3.16/gal in December, which are 16 cents/gal and 11 cents/gal higher than our previous forecast, respectively.

- U.S. crude oil production averaged an estimated 11.4 million b/d in October, up from 10.7 million b/d in September as a result of production increases following disruptions from Hurricane Ida. We forecast production will rise to 11.6 million b/d in December. We forecast annual production will average 11.1 million b/d in 2021, increasing to 11.9 million b/d in 2022 as tight oil production rises in the United States. Growth will come largely as a result of onshore operators increasing rig counts, which we expect will offset production decline rates.

Natural Gas

- In October, the natural gas spot price at Henry Hub averaged $5.51 per million British thermal units (MMBtu), which was up from the September average of $5.16/MMBtu and up from an average of $3.25/MMBtu in the first half of 2021. The rising natural gas prices in recent months reflect U.S. natural gas inventory levels that are below the five-year (2016–20) average. Despite high prices demand for natural gas for electric power generation has remained relatively high, which along with strong global demand for U.S. liquefied natural gas (LNG) has limited downward natural gas price pressures.

- The Henry Hub spot price will average $5.53/MMBtu from November through February in our forecast and then generally decline through 2022, averaging $3.93/MMBtu for the year amid rising U.S. natural gas production and slowing growth in LNG exports. We forecast that U.S. inventory draws will be similar to the five-year average this winter, and we expect that factor, along with rising U.S. natural gas exports and relatively flat production through March, will keep U.S. natural gas prices near recent levels before downward price pressures emerge. Because of uncertainty around seasonal demand, we expect natural gas prices to remain volatile over the coming months with winter temperatures to be a key driver of demand and prices.

- We estimate that U.S. LNG exports averaged 9.8 billion cubic feet per day (Bcf/d) in October 2021, up 0.3 Bcf/d from September, supported by large prices differences between Henry Hub prices in the United States and spot prices in Europe and Asia. LNG exports resumed from Cove Point LNG in late October after that facility's annual maintenance was completed. In our forecast LNG exports average 9.8 Bcf/d for all of 2021, up 50% from 2020. We expect that LNG exports will increase this winter, averaging 11.0 Bcf/d from November through March. We expect high levels of LNG

exports to continue into 2022, averaging 11.5 Bcf/d for the year, up 17% from 2021. The forecast reflects our assumption that global natural gas demand remains high and several new natural liquefaction trains—the sixth train at Sabine Pass LNG and the first trains at the new LNG export facility, Calcasieu Pass LNG—enter service.

- U.S. natural gas inventories ended October 2021 at more than 3.6 trillion cubic feet (Tcf), 3% less than the five-year average for this time of year. Injections into storage this summer were below the previous five-year average, largely as a result of more electricity consumption in June because of hot weather and increased exports, even as domestic natural gas production has remained flat. However, in recent weeks, storage levels have moved closer to average levels as injections outpaced the five-year average in September and October. We expect natural gas inventories to fall by 2.1 Tcf this winter, ending March at 1.6 Tcf, which would be 4% less than the 2017–21 average for that time of year.

- We estimate dry natural gas production averaged 94.9 Bcf/d in the United States in October (up from 94.5 Bcf/d in September) and 91.9 Bcf/d in in the first half of 2021. Production in the forecast rises to an average of 95.2 Bcf/d during the rest of this winter (November–March) and averages 96.7 Bcf/d during 2022, driven by natural gas and crude oil prices, which we expect to remain at levels that will support enough drilling to sustain production growth.

Electricity, coal, renewables, and emissions

- The share of electricity generation produced by natural gas in the United States averages 36% in 2021 and 35% in 2022 in our forecast, down from 39% in 2020. In 2021, our forecast share for natural gas as a generation fuel declines in response to our expectation of a higher delivered natural gas price for electricity generators, which we forecast will average $5.12/MMBtu compared with $2.39/MMBtu in 2020. As a result of the higher expected natural gas prices, the forecast share of electricity generation from coal rises from 20% in 2020 to about 23% in 2021 and 22% in 2022. For renewable energy sources, new additions of solar and wind generating capacity are offset somewhat by reduced generation from hydropower this year, resulting in the forecast share of all renewables in U.S. electricity generation to average 20% in 2021, about the same as last year, before rising to 22% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and 2022.

- We expect coal consumption in the electric power sector to rise by 80 million short tons (MMst), or 18%, in 2021. The increase in the electric power sector's use of coal reflects higher natural gas prices this year compared with last year. However, electricity generation from coal-fired power plants has not increased as much in response to rising natural gas prices as it has in the past or by as much as our models had forecast earlier this year. The lower price responsiveness of coal for electricity

generation, which is likely the result of constraints on coal supply and low coal stocks, is contributing to upward pressure on natural gas prices.

- U.S. coal exports in our forecast rise by 20 MMst (29%) in 2021. Higher U.S. exports reflect rising global demand for coal amid high natural gas prices. We expect exports to remain relatively unchanged in 2022, when a 3 MMst increase in metallurgical coal exports is partly offset by a 2 MMst decline in steam coal exports. U.S. coal production growth has not kept pace with rising domestic demand for steam coal in the electric power sector and export growth, leading to a draw down in coal inventories held by the electric power sector.

- Planned additions to U.S. wind and solar capacity in 2021 and 2022 increase electricity generation from those sources in our forecast. We estimate that the U.S. electric power sector added 14.6 gigawatts (GW) of new wind capacity in 2020. We expect 17.0 GW of new wind capacity will come online in 2021 and 6.9 GW in 2022. Utility-scale solar capacity rose by an estimated 10.5 GW in 2020. Our forecast for added utility-scale solar capacity is 15.7 GW for 2021 and 18.2 GW for 2022. We expect significant solar capacity additions in Texas during the forecast period. In addition, we project that after increasing by 4.5 GW to 27.7 GW in 2020, small-scale solar capacity (systems less than 1 megawatt) will grow by 5.8 GW in 2021 and by 7.8 GW in 2022.

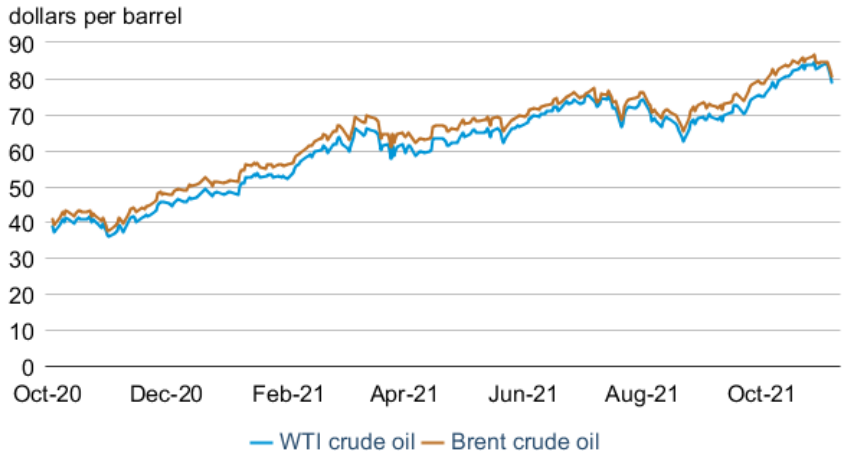
- U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption due to reduced economic activity and to end user responses to COVID-19. For 2021, we forecast energy-related CO_2 emissions will increase about 7% from the 2020 level as economic activity increases and leads to rising energy use. We expect a 1% increase in energy-related CO_2 emissions in 2022. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 18% in 2021 and then fall by 5% in 2022.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $80.54 per barrel (b) on November 4, 2021, up $1.26/b from $79.28/b on October 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $2.93/b during the same period, settling at $78.81/b on November 4 **(Figure 1)**.

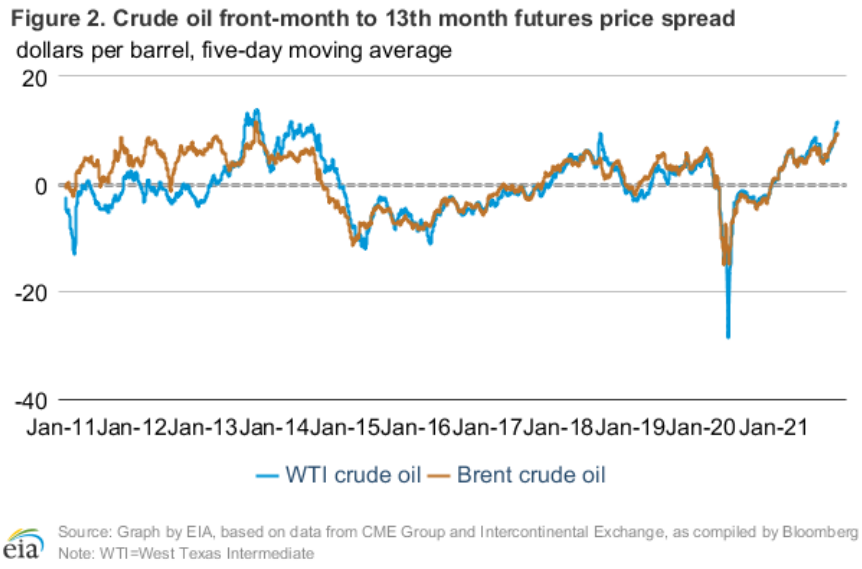
Figure 1. Crude oil front-month futures prices



Source: Graph by EIA, based on CME Group and Intercontinental Exchange, compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

The front-month Brent crude oil price averaged $84/b in October, an increase of $9/b from September, and the WTI price averaged $81/b, an increase of $10/b from September. Without adjusting for inflation, these prices were the highest monthly average nominal prices since October 2014. Restraints on global production and expectations of higher demand this winter continue to contribute to upward price pressures. Trade press has indicated increased purchases of oil and petroleum products from electric generators in parts of Asia and Europe that may switch fuels from natural gas to oil in the winter. Furthermore, several countries, such as Thailand, Israel, Australia, and the United States, eased international border and travel restrictions in early November, which could support more fuel demand for air travel in some locations this winter.

Differences in prices between crude oil contracts for delivery in the near term compared with contracts for delivery further into the future indicate market expectations that stock draws will moderate in the future. Crude oil stock levels, among other factors, affect the relationship between near-term and longer-term futures prices. Because crude oil stocks are currently low globally and in the United States, both Brent and WTI are backwardated (when near-month prices are higher than longer-dated ones) **(Figure 2)**.



The five-day moving average of the spread between prices for the 1st month futures contract and 13th month contract for Brent increased to $9.04/b on November 4 (up from $7.05/b on October 1), and on November 2 was at its highest spread since September 13, 2013. The 1st-13th spread for WTI increased to $11.20/b on November 4 (from $6.78/b on October 1), and on November 2 was at its highest spread since September 20, 2013. We estimate total U.S. crude oil stocks ended October at 435.4 million barrels, the lowest October level since 2018 and 6.2% below the five-year (2016–2020) average for the month. Crude oil inventories are especially low in Cushing, Oklahoma, the delivery point for the WTI crude oil futures contract. In the week ending October 29, crude oil inventories in Cushing were 24.0 million barrels, meaning Cushing's storage capacity utilization was only about 31%. We forecast global stock builds starting in the spring of 2022, which likely will reduce some of the tightness in the market that may be contributing to high front-month prices.

During the past decade, similarly high levels of backwardation in Brent and WTI crude oil have typically only occurred during periods of large, unplanned supply disruptions. This year, however, the significant decline in inventories and resulting backwardation are the result of a strong increase in oil demand as well as restrained crude oil production levels among OPEC+ members. At its early October meeting—and reaffirmed at its November 4 meeting, OPEC+ committed to maintaining its scheduled crude oil production increase of 400,000 barrels per day (b/d) in December rather than increase production by more in response to high crude oil prices and increasing demand.

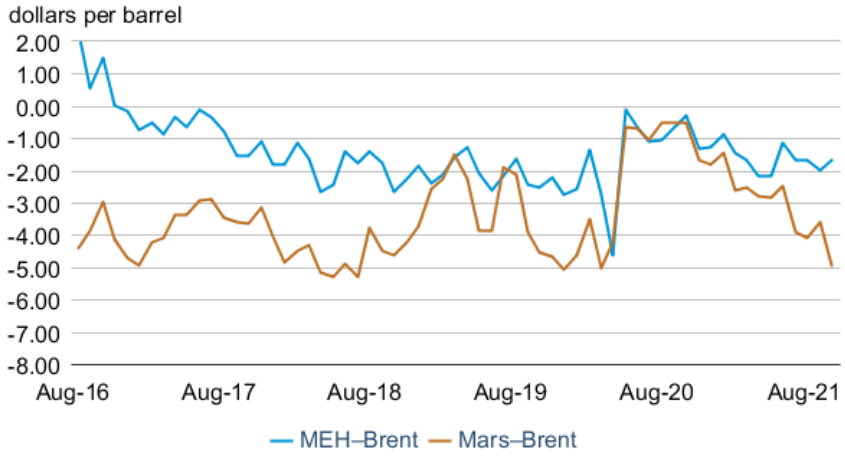
We estimate that world crude oil consumption has exceeded crude oil production for five consecutive quarters going back to the third quarter of 2020. During this period, total petroleum stocks among countries in the Organization for Economic Cooperation and Development (OECD) fell by 424 million barrels—from 9% above the five-year average in June 2020 to 7% below the five-year average at the end of September 2021. We forecast global crude oil demand will

exceed global supply through the end of the year, contribute to some additional stocks draws, and keep the Brent crude oil price above $80/b through December. However, we forecast that global oil stocks will begin building in 2022, driven by rising production from OPEC+ and the United States, along with slowing growth in global oil demand. We expect this shift will put downward pressure on the Brent price, which averages $72/b for 2022 in our forecast.

***Crude oil price spreads*:** The price for crude oils with high levels of sulfur declined relative to those with lower levels, as a result of both rising crude oil exports from OPEC and high natural gas prices that may be affecting the costs of certain refinery operations, among other factors. OPEC has been increasing production and exports during the second half of 2021. Crude oil production from many OPEC countries tend be a sour grade. The increase in OPEC exports has added to global supplies of sour crude oils. Additionally, sour crude oils must first be treated with hydrogen to meet low-sulfur fuel specifications and to avoid damage to refinery units. Because natural gas is used in hydrogen production, the recently high global natural gas prices have contributed to higher refinery feedstock costs, particularly in Europe and Asia. When the cost of natural gas increases, sour crude oils become more costly to run. Higher treatment costs of sour crude oil have likely made them less economic for refiners as global natural gas prices have increased, contributing to higher demand for sweeter crude (lower sulfur) oils such as Magellan East Houston (MEH) and lower demand for more sour crude oils, such as Mars.

These factors are likely reducing the price of certain grades of crude oil that require more processing to be converted to finished petroleum products. For example, Mars crude oil, which is produced in the Federal Offshore Gulf of Mexico and has a sulfur content of 1.93%, decreased in price in October relative to light sweet crude oils such as MEH and Brent, which both have sulfur contents of 0.45%. The Mars–Brent spread widened to an average of -$4.93b in October, from -$3.58/b in September. In comparison, MEH crude oil prices narrowed slightly relative to Brent in October **(Figure 3)**.

Figure 3. Crude oil differentials to Brent

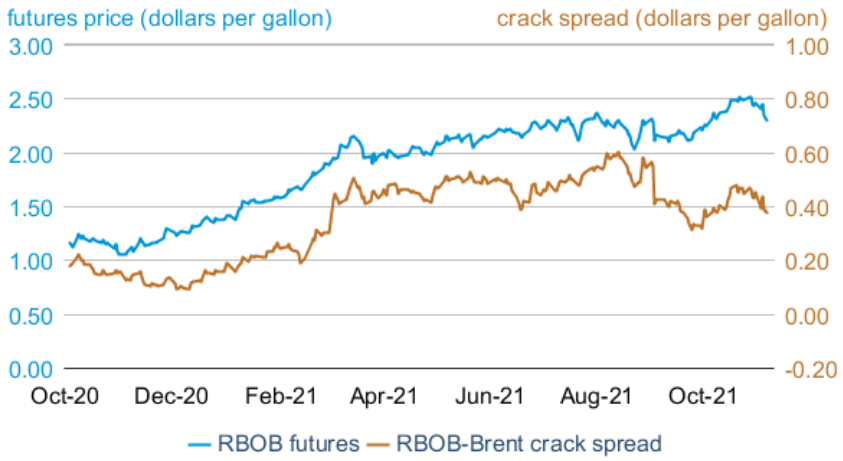


eia Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.29 per gallon (gal) on November 4, up 4 cents/gal from October 1 **(Figure 4)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 1 cent/gal to settle at 37 cents/gal during the same period. The average RBOB–Brent crack spread in October was 43 cents/gal, up from 38 cents/gal in September.

Figure 4. Historical RBOB front-month futures prices and crack spreads



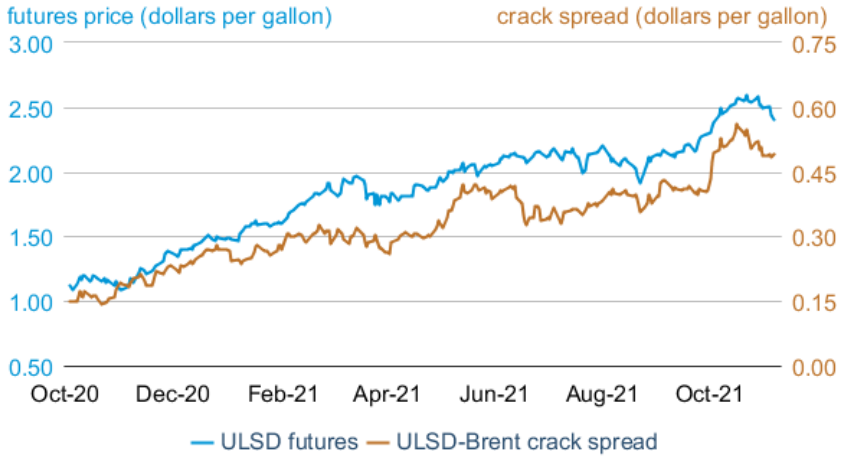
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

In October, rising crude oil prices contributed to the highest gasoline prices (in nominal prices) since September 2014. Crude oil prices are the primary driver of the higher gasoline price, but the gasoline crack spread also increased in October compared with September, reaching a high of 48 cents/gal on October 18, before it decreased near the end of the month. Rapidly increasing crude oil prices typically reduce product crack spreads, but low inventories are supporting crack spreads. Gasoline inventory draws were relatively large in September, which likely reflects a combination of less refinery production throughout 2021 than in recent years and higher gasoline demand compared with earlier in 2021. We estimate total U.S. gasoline inventories fell by 11.4 million barrels in October compared with September, which was a larger inventory draw than the five-year average and has also resulted in inventory levels near the five-year low.

We estimate U.S. gasoline consumption in October 2021 increased to 9.2 million b/d, higher than levels seen in August and September. Typically, gasoline consumption decreases substantially from August to October, declining by 5% over that period in both 2018 and 2019 and declining by 2% over that period in 2020. We forecast gasoline consumption will decrease to less than 9.0 million b/d in November and remain below that level until May 2022.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.41/gal on November 4, up 2 cents/gal from October 1 **(Figure 5)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased 1 cent/gal during the same period and settled at 49 cents/gal on November 4. The ULSD–Brent crack spread averaged 52 cents/gal in October.

Figure 5. Historical ULSD front-month futures prices and crack spreads



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

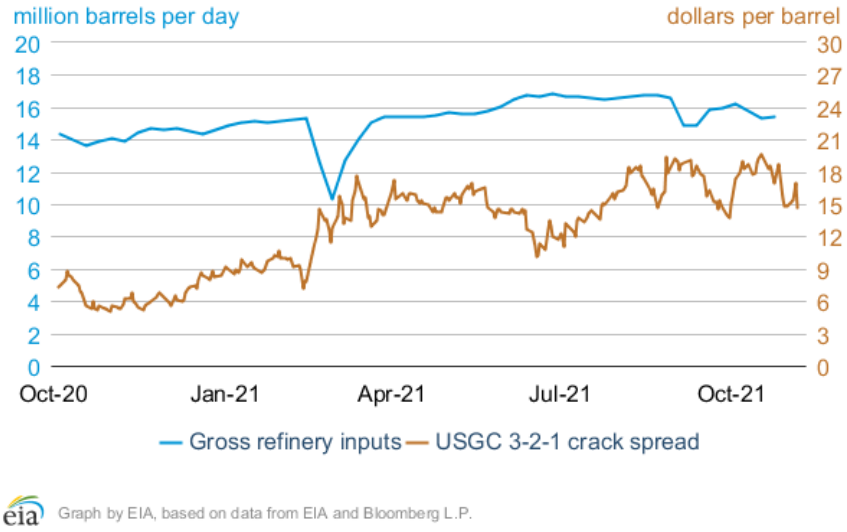
The distillate futures price rose to its highest level (in nominal prices) since October 2014, reaching $2.59/gal on October 20, before declining several cents toward the end of October, reflecting recent movements in crude oil prices. Distillate crack spreads remained elevated in October due to low refinery production, which has contributed to inventory levels near the five-year low. The ULSD crack spread only accounts for the price of crude oil inputs; it does not consider other inputs or operational costs associated with ULSD production. In particular, hydrogen produced at natural gas plants is an important secondary input for ULSD production at many refineries. Higher natural gas prices may be contributing to increased crack spreads, as well as increased refinery costs that may prevent ULSD producers from achieving higher margins.

We estimate U.S. distillate consumption at 4.0 million b/d in October, about the same level compared with September. However, distillate consumption typically increases from September to October. Agricultural use in the peak of the harvest season likely drove this increase in distillate consumption. The rising consumption was likely offset by a mild October in the Northeast that may have reduced some home heating oil consumption there. In addition, a shortage of truck drivers may have limited diesel consumption as well, despite high demand for trucking and rail volumes to respond to supply chain backlogs at U.S. ports. Based on our *Weekly Petroleum Status Report* (WPSR), we estimate four-week average exports as of October 29 were 1.0 million b/d. If confirmed in monthly data, this average for exports would be the lowest level for October since 2014 and would continue the trend of exports lower than the five-year

average in every month since August 2020. This low level of exports contributed to the lowest distillate inventory withdrawals for October since 2009.

Crack spreads and refinery runs: Higher gasoline and distillate crack spreads associated with lower inventories have resulted in sharp increases in estimated overall refining margins during seasonal refinery maintenance **(Figure 6).** Rising gasoline demand contributed to increased gross refinery inputs (runs) in the United States throughout the summer, and runs remained above 16 million b/d from May through August, according to our *Petroleum Supply Monthly* (PSM). September and October are typically the time for seasonal refinery maintenance, and U.S. Gulf Coast refinery operations were reduced because of inclement weather from hurricanes and tropical storms during late August and early September. During this period, the U.S. Gulf Coast 3-2-1 crack spread, which serves as a measure of refinery profitability (by subtracting the prices of two-thirds of a barrel of gasoline and one-third of a barrel of diesel from the price of a barrel of WTI crude oil), increased from $11/b at the start of July to more than $19/b in late August and again in mid-October.

Figure 6. U.S. Refinery runs and 3-2-1 crack spread



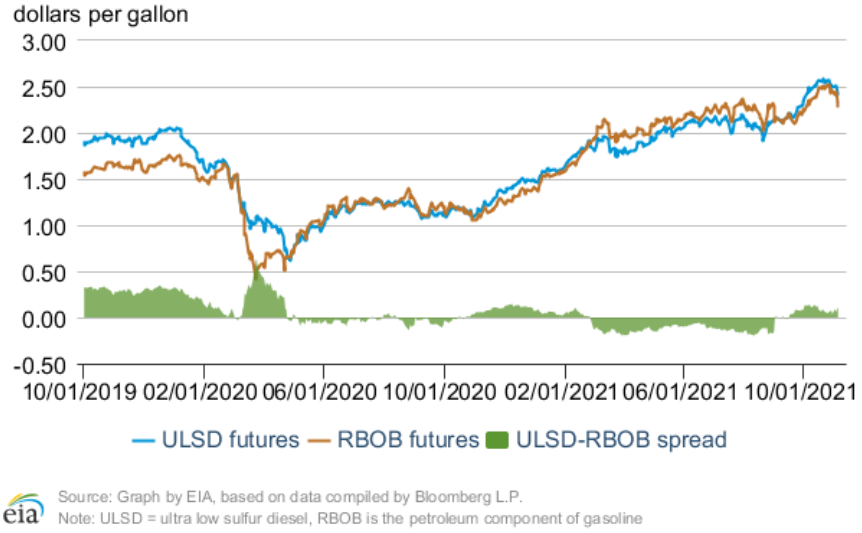
Graph by EIA, based on data from EIA and Bloomberg L.P.

Refinery runs also decreased in early October because of seasonal maintenance, and lower than average product inventories resulted in another increase in the crack spread, which reached $19.63/b on October 15, setting a new high for 2021. Although refinery maintenance often occurs in the fall, higher gasoline demand compared with earlier this year and lower relative inventories of both gasoline and distillate appear to be contributing to a tighter market in 2021.

ULSD-RBOB spread: Relatively higher RBOB prices in the summer months typically indicate higher gasoline demand in the summer and more expensive summer-grade gasoline. Lower gasoline demand in the fall and winter and the lower price of winter-grade gasoline, combined with higher diesel demand from the agricultural and home heating sectors, typically contribute to relatively higher ULSD prices from September through the end of the year. ULSD front-month

futures prices were lower than RBOB prices on a monthly-average basis from March through August of 2021, but traded at a premium to RBOB prices during September and October **(Figure 7)**. We calculate the ULSD-RBOB spread by subtracting the price of ULSD from the price of RBOB.

Figure 7. ULSD-RBOB spread



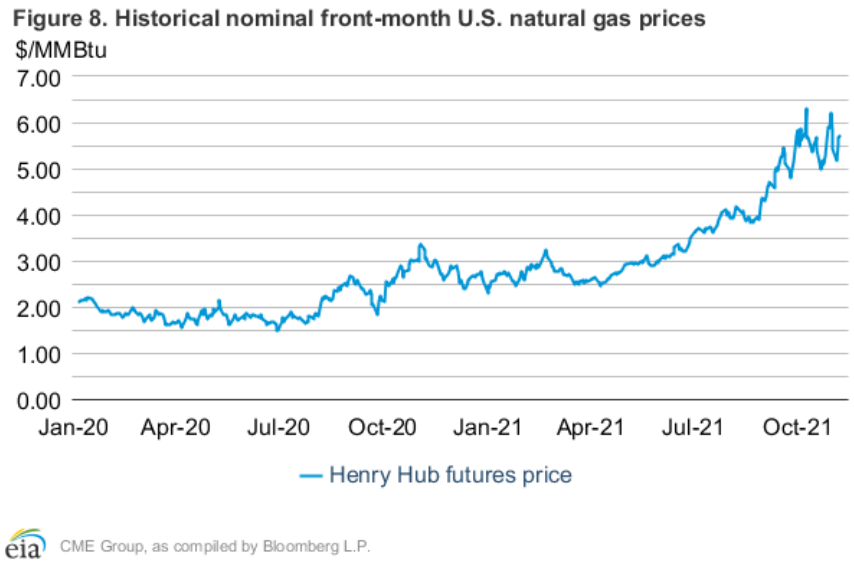
Source: Graph by EIA, based on data compiled by Bloomberg L.P.
Note: ULSD = ultra low sulfur diesel, RBOB is the petroleum component of gasoline

From March to August, RBOB traded on average 13 cents/gal higher than ULSD. During the past five years, the fuels have typically traded at roughly equal prices over that period. The relatively high RBOB prices likely reflected high summer gasoline exports and higher prices for renewable identification numbers (RINS)—which affect gasoline prices more than ULSD prices — over the summer. In addition, low jet fuel demand resulted in refineries reducing jet fuel production and shifting some of that production to ULSD, limiting upward pressure on ULSD prices.

In September, ULSD prices increased relative to RBOB prices and traded at a premium of 4 cents/gal to RBOB, the first monthly average premium since February 2021. However, the spread remained 9 cents/gal below the five-year average in October because some of the trends in 2021 that have contributed to higher relative gasoline prices still persist.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $5.72 per million British thermal units (MMBtu) on November 4, 2021, which was up $0.10/MMBtu from October 1, 2021 **(Figure 8)**. The average closing price for front-month natural gas futures contracts in October was $5.57/MMBtu, the highest October monthly average in real terms since October 2009.



Despite mild weather that contributed to larger-than-average inventory builds, monthly average natural gas prices increased in October. Although builds were larger-than-average, inventories remain below the five-year (2016–20) average level, a condition which has contributed to rising natural gas prices in recent months. Relatively low inventory levels have been partly driven by demand for natural gas in the electric power sector that remained high because of limited ability for utilities to switch to coal for electric power generation. Consumption of natural gas in the United States tends to decline during September and October because temperatures are typically mild, resulting in low demand for both air conditioning and space heating. Consumption of natural gas was 71.8 billion cubic feet per day (Bcf/d) in October, down from an average of 75.0 Bcf/d in the third quarter. The decreased consumption was primarily driven by a decrease in natural gas-fired electric power generation, falling from 37.9 Bcf/d in the third quarter to 29.5 Bcf/d in October. However, natural gas use for power generation in October was 1.9 Bcf/d higher than we had forecast in last month's STEO. Higher-than-expected natural gas use in the electric power sector reflects limited natural gas-to-coal switching capabilities across the country, several planned nuclear outages in October, and lower-than-forecast electricity generation from wind.

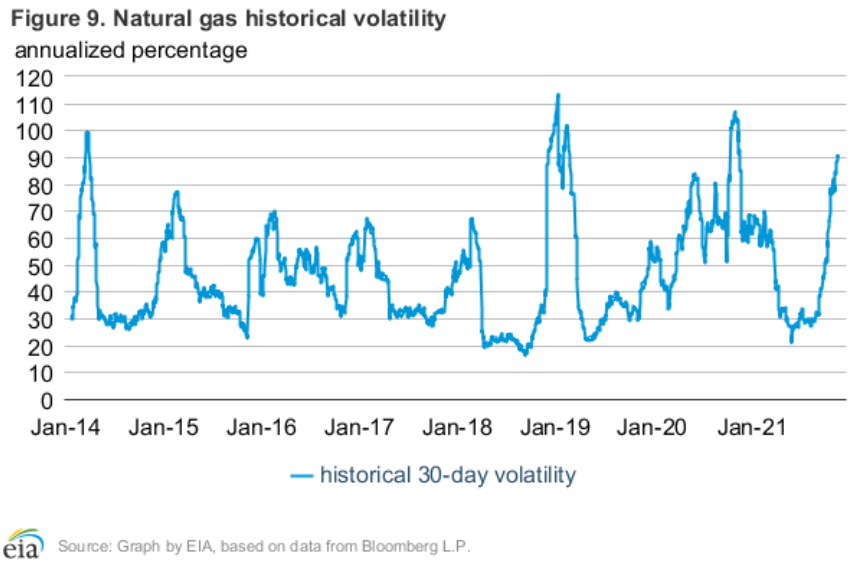
As the weather gets colder, natural gas consumption typically shifts from the electric power sector to the residential and commercial sectors. Consumption in these sectors typically begins to increase in October due to colder temperatures, which results in increased natural gas consumption by buildings for space heating. However, because of milder temperatures this year, the residential and commercial sectors combined consumed 12.2 Bcf/d in October, which is 1.8 Bcf/d less than the five-year average. The United States as whole had 186 heating degree days (HDDs) in October, 52 fewer days than the October 2011–20 average of 238 HDDs.

Despite higher-than-expected consumption in the electric power sector, lower-than-average consumption in the residential and commercial sectors during October contributed to natural

gas storage injections outpacing the five-year average. We estimate that U.S. working natural gas inventories increased by 343 billion cubic feet (Bcf) during October, which is 34% more than the five-year average build from September to October. This build resulted in inventories ending October at 3,646 Bcf, which is 3% below the five-year average. This level is a decrease in the deficit to the five-year average compared with September, which ended the month at 6% below the five-year average. Until October, inventories had built at a slower rate than the five-year average for much of the storage injection season that typically begins in April and ends in late October or early November. Low inventory levels have been a contributor to higher prices in recent months. Higher-than-average storage injections in October likely limited upward pressure on natural gas prices toward the end of the month.

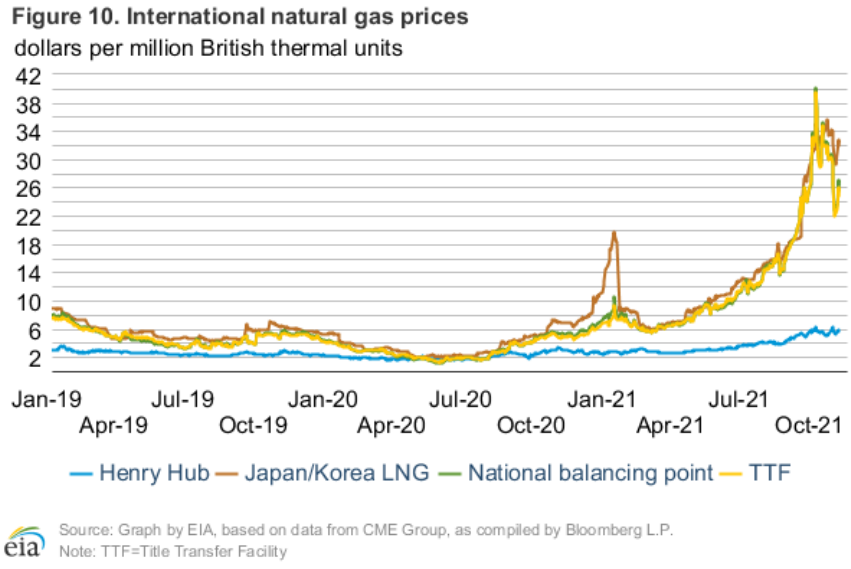
The spread between international and domestic prices remained high in October, and contributed to continued strong demand for U.S. liquefied natural gas (LNG) cargoes. U.S. LNG exports averaged 9.8 Bcf/d in October, or approximately 103% of total LNG export capacity. LNG production capacity at U.S. LNG export terminals can be optimized to run at peak (maximum) rates in periods of high demand, above the nameplate (baseload) capacity that LNG export facilities were designed to operate under normal conditions.

Historical volatility: Volatility of U.S. natural gas futures prices has risen substantially in the past two months **(Figure 9)**. Historical volatility measures the magnitude of daily changes in closing prices for a commodity during a given time in the past. Based on rolling front-month contracts, the 30-day historical volatility of U.S. natural gas futures prices was 29.8% for April through August of this year. In September, volatility rose to 49.4%, compared with the 2015–2019 September average of 30.6%. In October, volatility rose to 78.3%, compared with the 2015–2019 October average of 32.7%. In October, daily front-month natural gas futures contract intraday prices ranged as high as $6.47/MMBtu on October 6 and as low as $4.83/MMBtu on October 19. The historical volatility of the natural gas futures price at the Henry Hub in October has corresponded with high volatility at international pricing hubs in Europe and Asia.



International natural gas prices: International LNG spot and forward prices reached record highs in the first week of October. Prices reached $35/MMBtu in northern Asia and nearly $40/MMBtu in Europe in the first week of October **(Figure 10),** according to pricing data by Bloomberg Finance, L.P. Prices in Asia were up nearly twentyfold—and prices in Europe up nearly thirty fold—from record lows during the summer of 2020, when economic responses to the COVID-19 pandemic significantly reduced global energy consumption. Several factors contributed to significant increases in global spot natural gas prices this year, including:

- Large increases in natural gas demand in Asia and Latin America
- Low natural gas storage inventories in Europe following a cold winter and a hot summer
- Reduced global LNG supply because of planned and unplanned outages at LNG export facilities in several countries



Significant growth in natural gas demand in response to economic recovery from the COVID-19 pandemic in Asia, led by China, contributed to increased demand for global spot LNG supplies, in addition to LNG imports supplied under long-term contracts. A shortage of coal supplies in China, higher LNG demand by the electric power and industrial sectors in Japan, and lower output by nuclear power plants in South Korea all contributed to a significant increase in LNG imports into Asia. In addition, natural gas storage inventories in Europe remained relatively low in October, compared with historical averages. At the end of October, natural gas inventories in Europe were 77% full, compared with 95% last year at this time and the 91% five-year average, according to data from Gas Infrastructure Europe's (GIE) Aggregated Gas Storage Inventory (AGSI+).

Recent price declines in Northeast Asia and Western Europe suggest concerns about natural gas supply during the winter have eased to some extent. Natural gas delivered from Europe's LNG import terminals, which between April and September 2021 had been at its lowest level since 2018, started to increase in October, averaging 6.6 Bcf/d, 2% higher than in October 2020, according to data from the GIE's Aggregated LNG Storage Inventory (ALSI). LNG inventories in key Asian LNG-consuming countries have also been gradually filling up, with Japan's LNG stocks reaching five-year high in October.

The difference in natural gas prices in Asia and Europe compared with the Henry Hub price, even after including acquisition and delivery costs to U.S. terminals, remains high. U.S. LNG exports indexed off natural gas futures at the Henry Hub are cost-competitive on the international market. U.S. LNG export capacity utilization was above 100% in September and October, and we expect it to remain at high levels this winter, even with additional liquefaction capacity set to come online in the next few months.

Our forecast assumes total U.S. LNG export capacity will continue to increase between December 2021 and late 2022 as a result of:

- Optimizing operations at Cheniere's Sabine Pass and Corpus Christi terminals, adding up to 0.7 Bcf/d of additional capacity (the Federal Energy Regulatory Commission (FERC) granted Cheniere approval to increase output by up to 11%)
- Completing Train 6 at Sabine Pass LNG, which is expected to be online in December 2021
- Commissioning of 10 mid-scale liquefaction units at a new facility, Calcasieu Pass, in Louisiana, starting in December 2021 and continuing through 2022

We forecast LNG exports will average 11.1 Bcf/d from December 2021 to February 2022, which would be the highest level of U.S. LNG exports on record.

Notable forecast changes

- U.S. crude oil production in the forecast averages 11.9 million b/d for 2022. This forecast is 0.2 million b/d (1.4%) higher than in the October STEO. The higher forecast is the result of our increased expectations for crude oil production in both the Permian Basin and Federal Offshore Gulf of Mexico (GOM). We raised our expectation of production in the Permian Basin as a result of higher expected drilling productivity. We raised our expectation of GOM production because we now expect some projects to come online sooner than previously forecast.

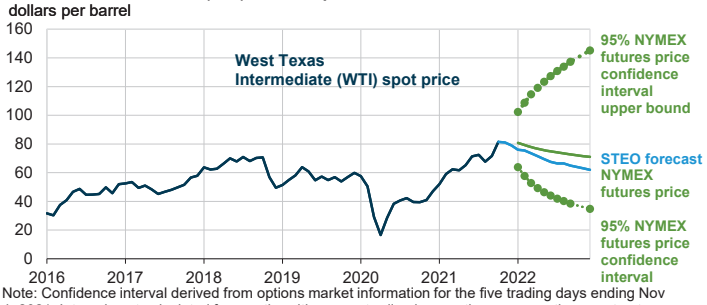
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

November 9, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

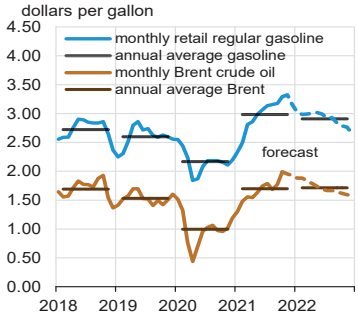


Note: Confidence interval derived from options market information for the five trading days ending Nov 4, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

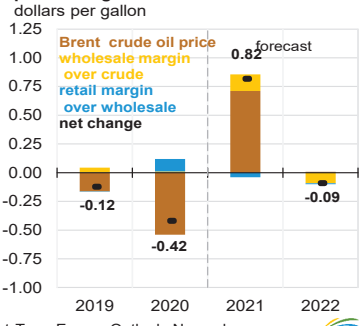
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



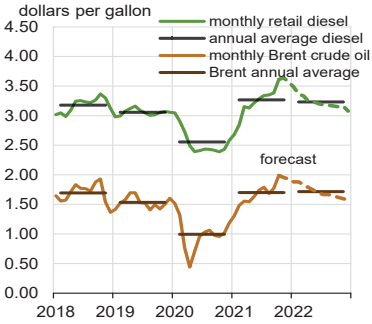
Components of annual gasoline price changes
dollars per gallon



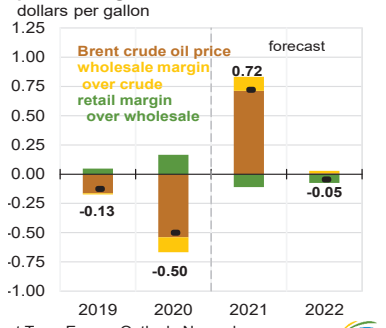
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices



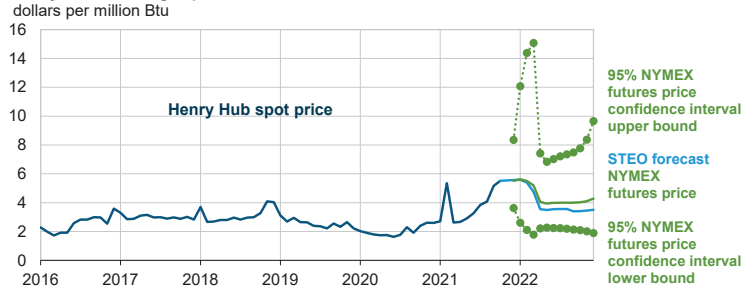
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

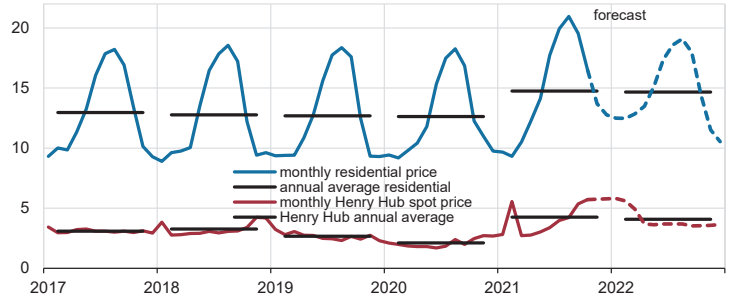


Note: Confidence interval derived from options market information for the five trading days ending Nov 4, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

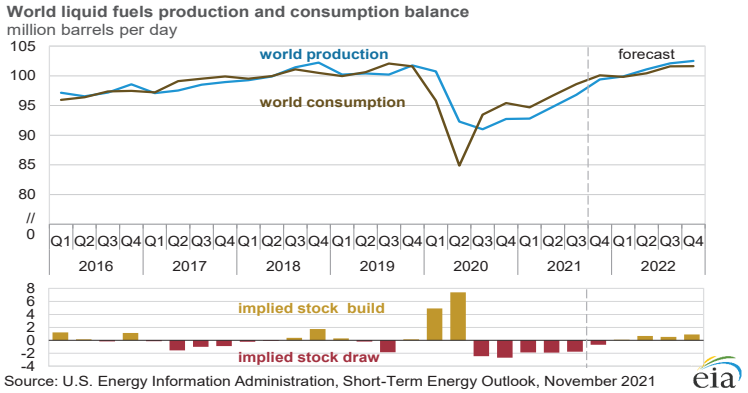
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, CME Group, and Refinitiv an LSEG Business

U.S. natural gas prices

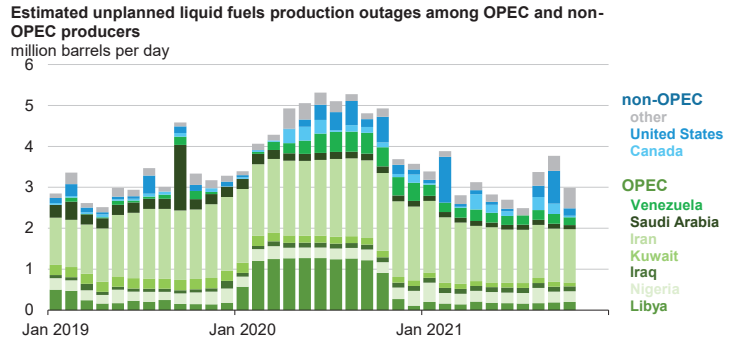
dollars per thousand cubic feet



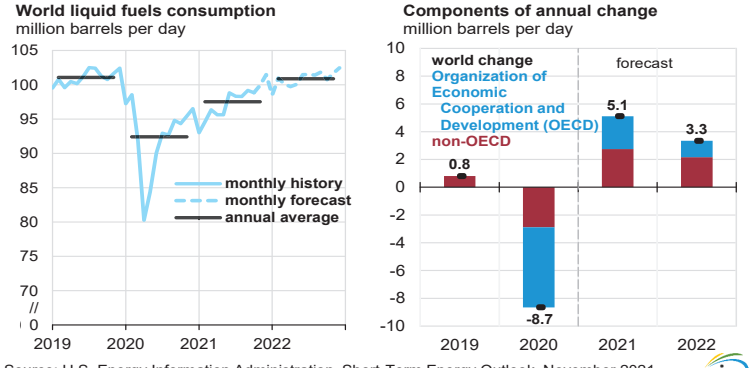
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, and Refinitiv an LSEG Business



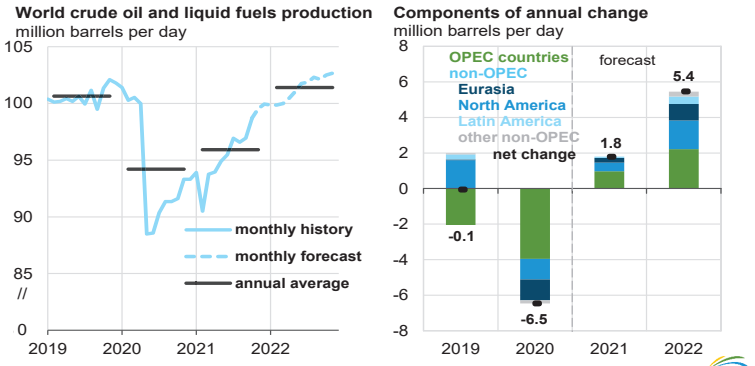
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



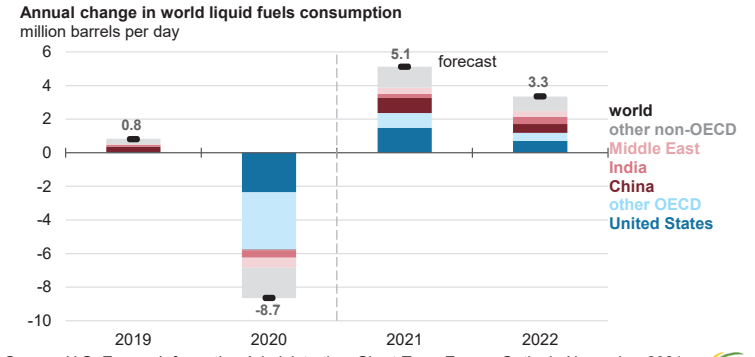
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



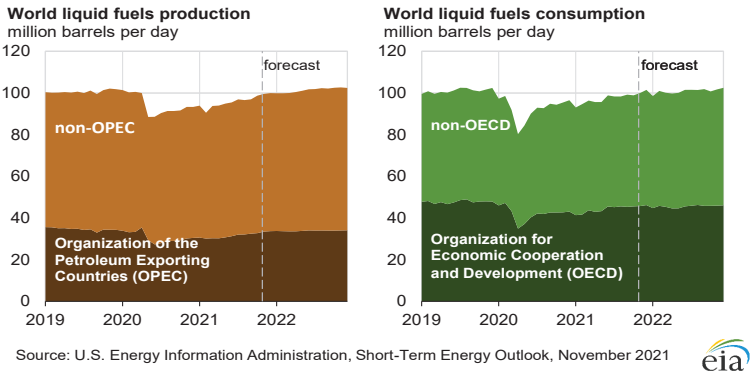
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

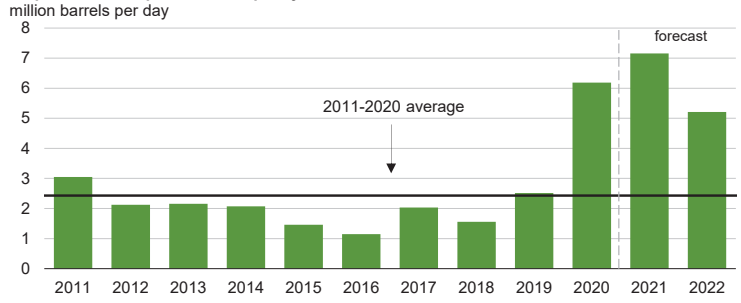


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



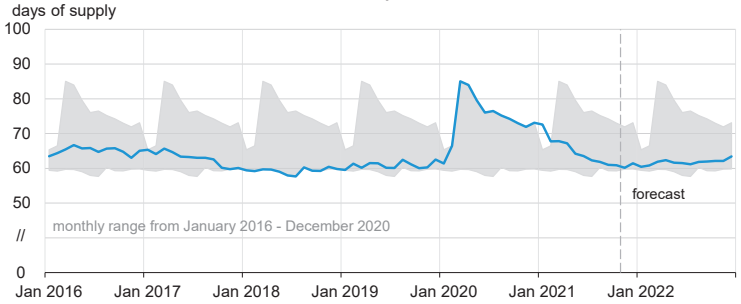
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



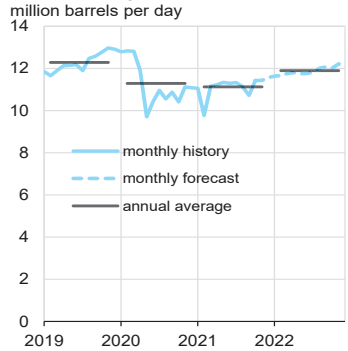
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

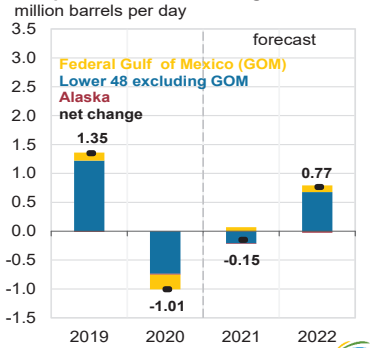


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. crude oil production
million barrels per day

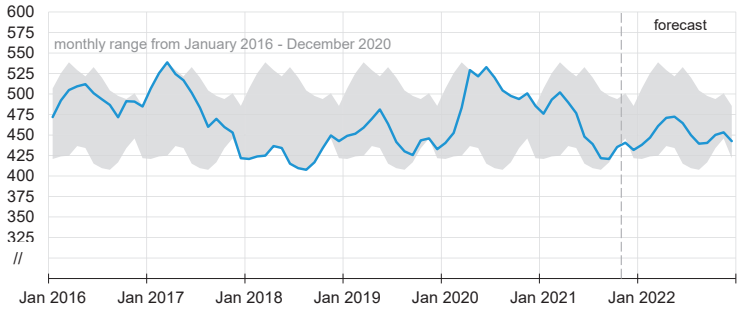


Components of annual change
million barrels per day



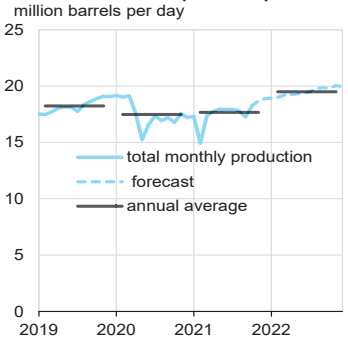
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. commercial crude oil inventories
million barrels

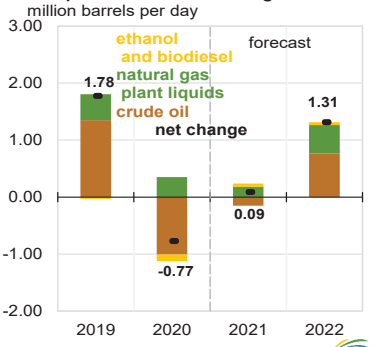


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. crude oil and liquid fuels production
million barrels per day

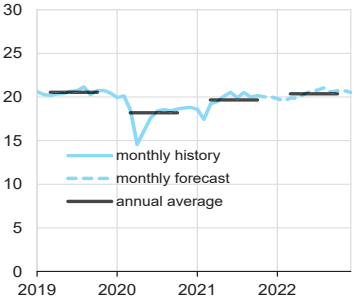


Components of annual change
million barrels per day

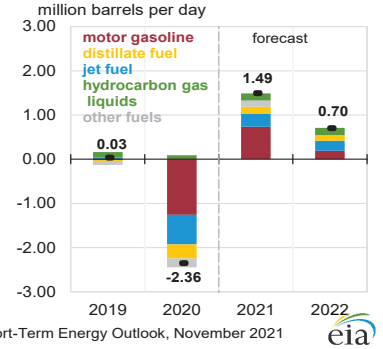


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November

U.S. liquid fuels product supplied (consumption)
million barrels per day

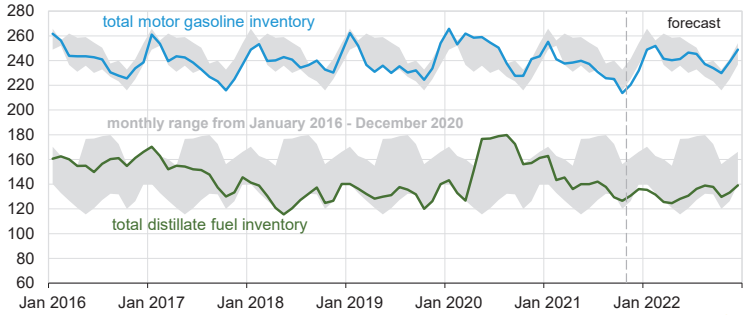


Components of annual change
million barrels per day



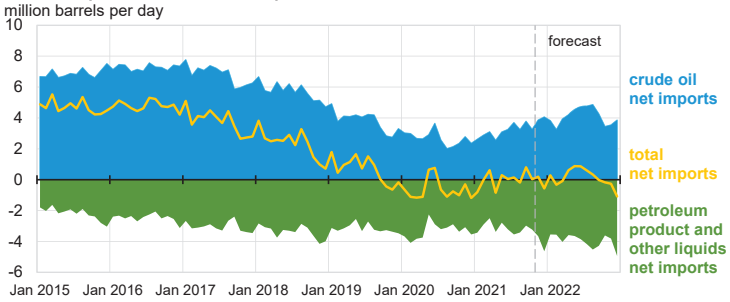
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. gasoline and distillate inventories
million barrels



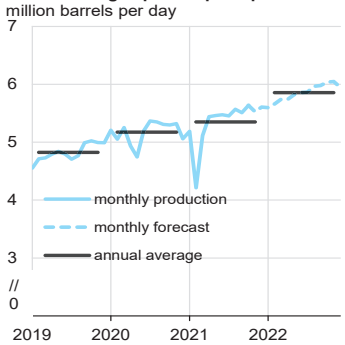
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

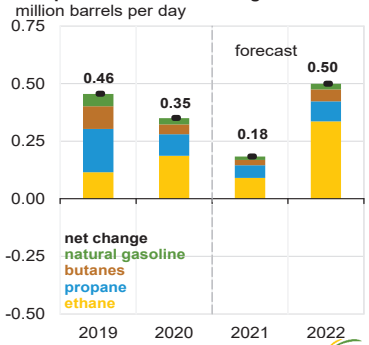


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

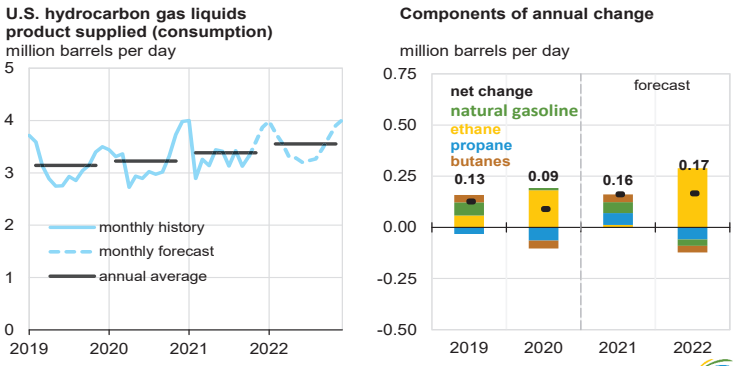
U.S. natural gas plant liquids production
million barrels per day



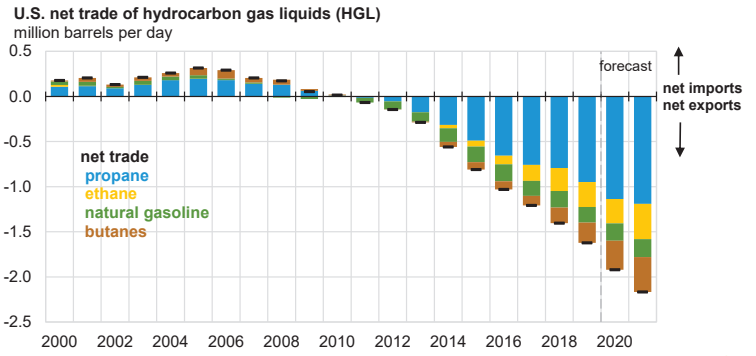
Components of annual change
million barrels per day



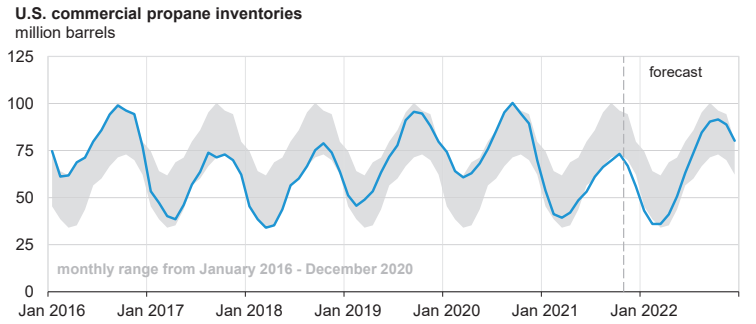
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



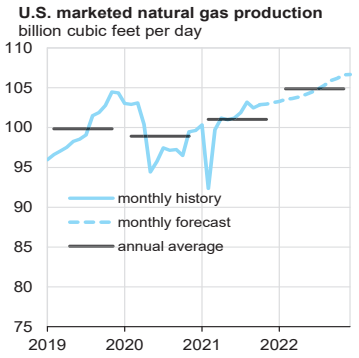
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

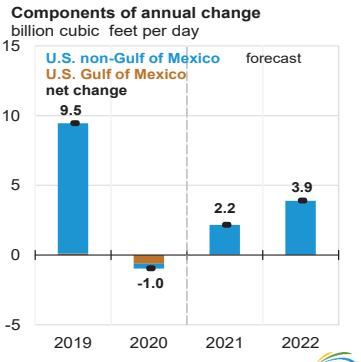


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

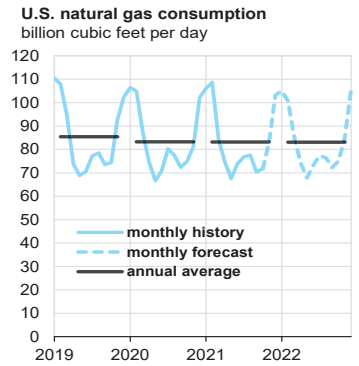


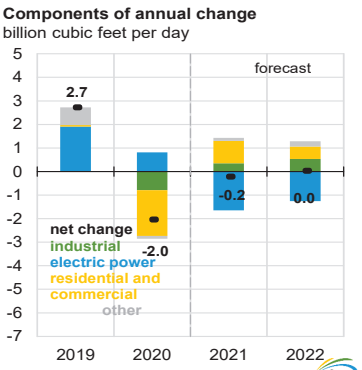
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



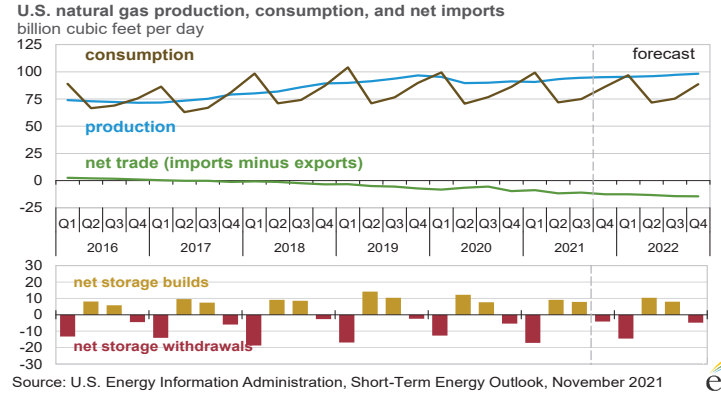


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



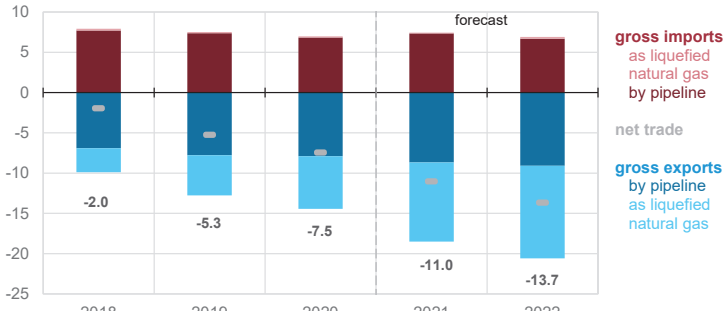


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



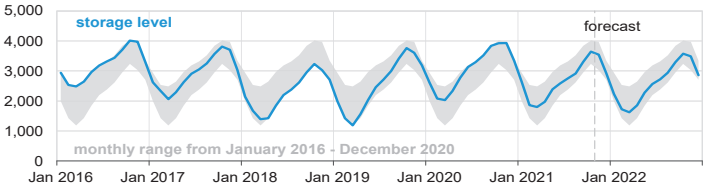
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. annual natural gas trade
billion cubic feet per day

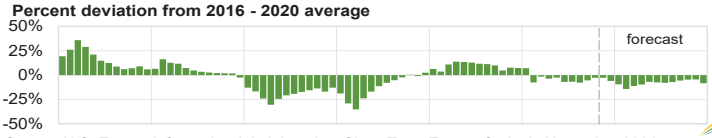


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. working natural gas in storage
billion cubic feet

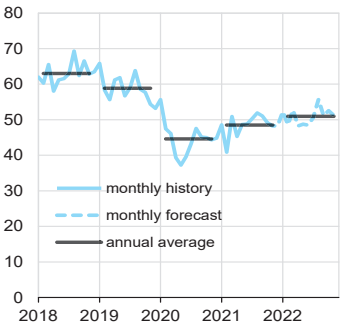


Percent deviation from 2016 - 2020 average

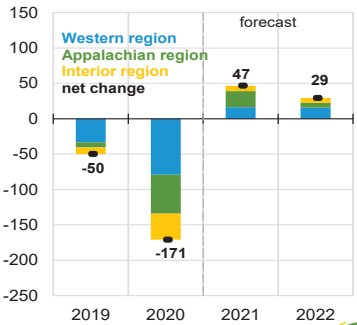


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

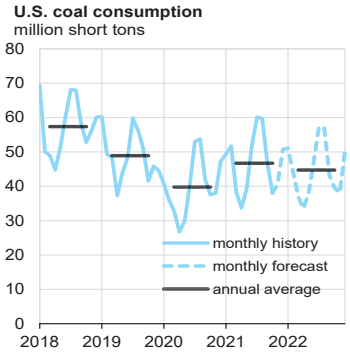
U.S. coal production
million short tons

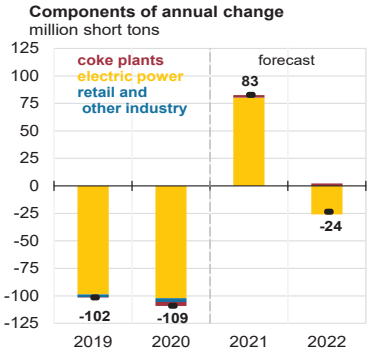


Components of annual change
million short tons

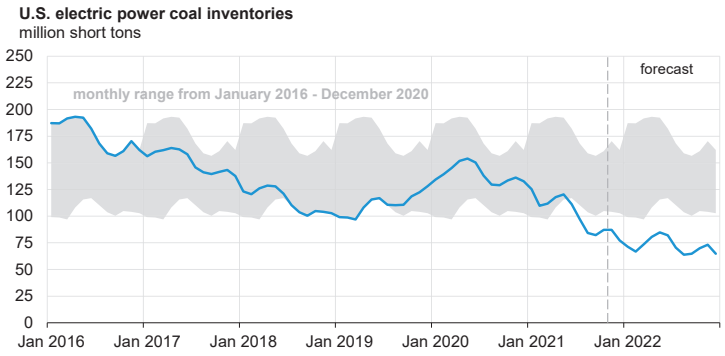


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

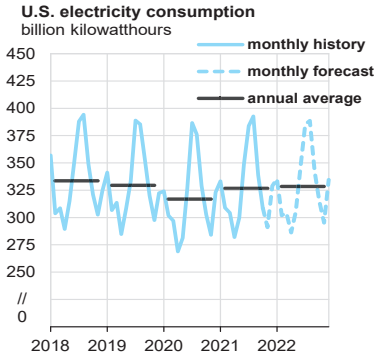


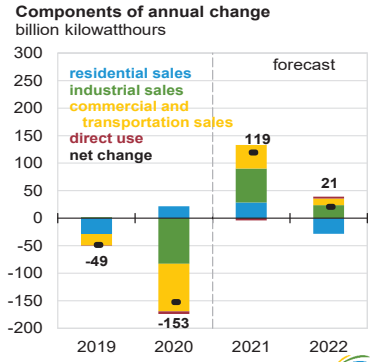


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

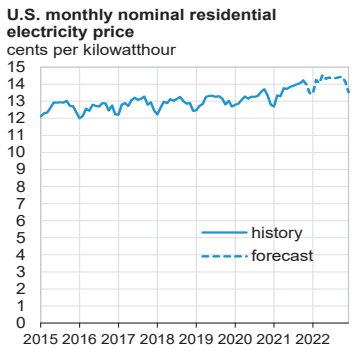


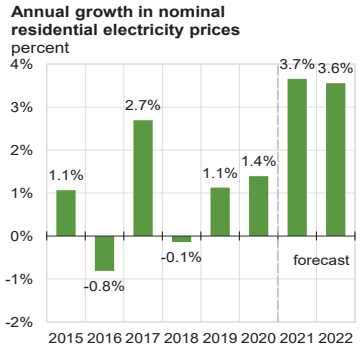
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



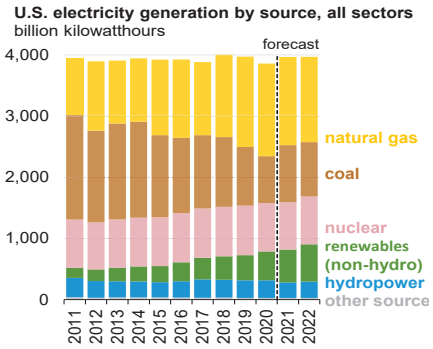


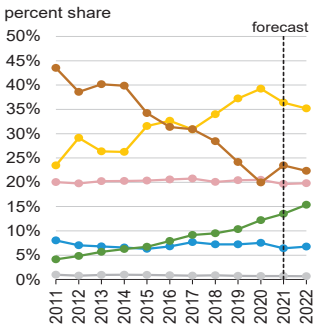
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



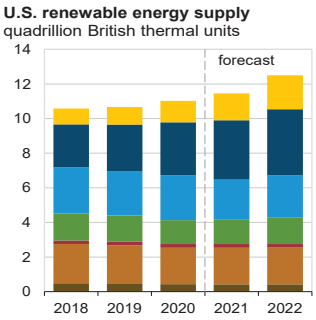


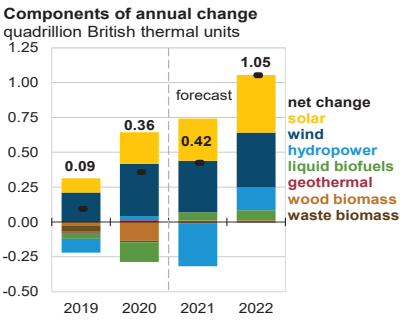
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

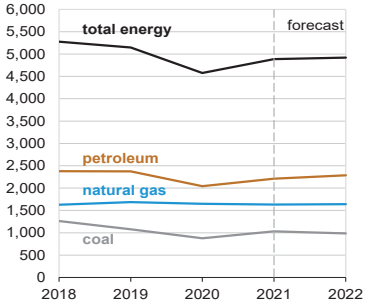




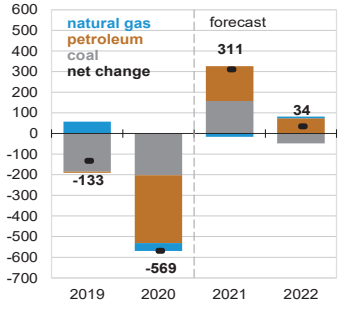
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. annual CO2 emissions by source
million metric tons

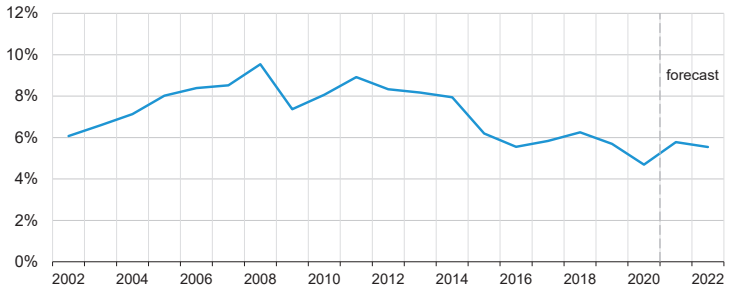


Components of annual change
million metric tons



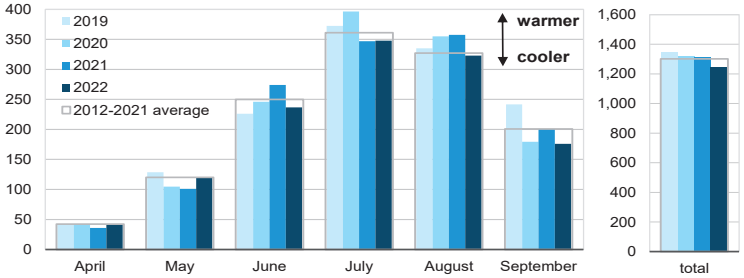
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

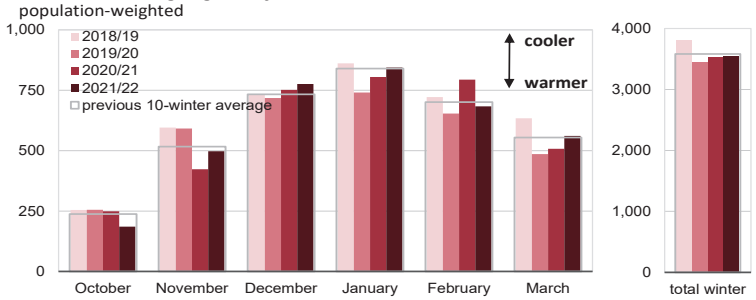
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

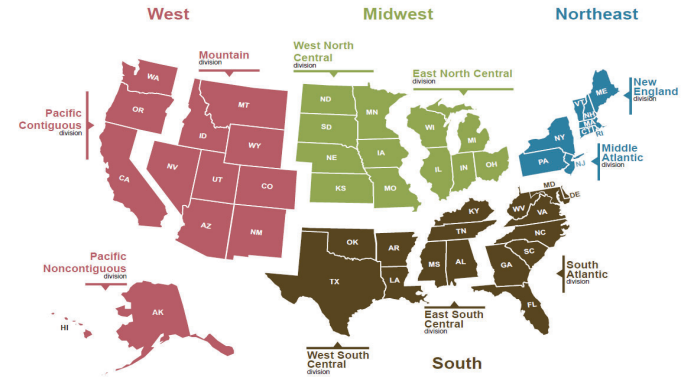
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	**11.07**	*11.47*	*11.69*	*11.77*	*11.97*	*12.16*	**11.28**	*11.13*	*11.90*
Dry Natural Gas Production															
(billion cubic feet per day)	**95.29**	**89.57**	**89.99**	**91.14**	**90.62**	**93.20**	**94.52**	*94.94*	*95.41*	*96.00*	*97.12*	*98.18*	**91.49**	*93.34*	*96.69*
Coal Production															
(million short tons)	**149**	**116**	**136**	**134**	**140**	**143**	**153**	*146*	*154*	*145*	*157*	*155*	**535**	*582*	*611*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
Natural Gas															
(billion cubic feet per day)	**99.44**	**70.72**	**76.76**	**86.12**	**99.29**	**71.94**	**75.01**	*86.11*	*96.77*	*71.69*	*75.37*	*88.57*	**83.25**	*83.03*	*83.06*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**139**	**125**	**167**	*129*	*132*	*119*	*158*	*128*	**477**	*560*	*536*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	**10.22**	**12.13**	*10.09*	*10.47*	*10.32*	*12.13*	*10.27*	**10.39**	*10.74*	*10.80*
Renewables (c)															
(quadrillion Btu)	**2.93**	**3.00**	**2.83**	**2.91**	**2.95**	**3.16**	**2.91**	*3.09*	*3.23*	*3.51*	*3.18*	*3.27*	**11.66**	*12.12*	*13.19*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.21**	**20.63**	**23.47**	**23.82**	**25.05**	**23.16**	**24.19**	*24.47*	*25.16*	*23.29*	*24.59*	*25.09*	**93.13**	*96.88*	*98.13*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	**70.61**	*80.45*	*74.92*	*69.44*	*66.01*	*62.98*	**39.17**	*69.02*	*68.28*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.54*	*5.24*	*3.53*	*3.51*	*3.45*	**2.03**	*4.10*	*3.93*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,368**	**19,430**	*19,661*	*19,880*	*20,101*	*20,300*	*20,463*	**18,385**	*19,379*	*20,186*
Percent change from prior year	**0.6**	**-9.1**	**-2.9**	**-2.3**	**0.5**	**12.2**	**4.7**	*4.8*	*4.3*	*3.8*	*4.5*	*4.1*	**-3.4**	*5.4*	*4.2*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.1**	*120.2*	*120.9*	*121.5*	*122.1*	*122.7*	**113.7**	*118.2*	*121.8*
Percent change from prior year	**1.7**	**0.7**	**1.3**	**1.5**	**2.1**	**4.1**	**4.5**	*4.9*	*4.4*	*3.4*	*2.5*	*2.1*	**1.3**	*3.9*	*3.1*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,740**	**15,544**	*15,237*	*15,179*	*15,335*	*15,495*	*15,596*	**15,677**	*15,935*	*15,401*
Percent change from prior year	**1.6**	**12.5**	**6.9**	**4.0**	**15.1**	**-4.7**	**-1.5**	*-1.3*	*-11.8*	*-2.6*	*-0.3*	*2.4*	**6.2**	*1.6*	*-3.4*
Manufacturing Production Index															
(Index, 2017=100)	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.7**	**100.1**	*101.2*	*102.2*	*103.8*	*105.6*	*107.0*	**93.2**	*99.3*	*104.6*
Percent change from prior year	**-2.7**	**-15.3**	**-5.2**	**-2.4**	**-0.2**	**17.2**	**6.3**	*4.7*	*5.0*	*5.2*	*5.5*	*5.7*	**-6.4**	*6.6*	*5.3*
Weather															
U.S. Heating Degree-Days	**1,880**	**543**	**71**	**1,424**	**2,107**	**472**	**51**	*1,460*	*2,089*	*494*	*77*	*1,539*	**3,917**	*4,089*	*4,199*
U.S. Cooling Degree-Days	**70**	**393**	**931**	**120**	**49**	**411**	**905**	*118*	*48*	*398*	*847*	*93*	**1,513**	*1,482*	*1,385*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	**70.61**	*80.45*	*74.92*	*69.44*	*66.01*	*62.98*	**39.17**	*69.02*	*68.28*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	**68.91**	**73.45**	*82.14*	*78.26*	*72.94*	*69.67*	*66.98*	**41.69**	*71.59*	*71.91*
U.S. Imported Average	**43.75**	**26.24**	**39.87**	**40.69**	**55.27**	**64.80**	**68.70**	*78.41*	*72.69*	*67.17*	*63.55*	*60.46*	**37.22**	*67.71*	*65.87*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.76**	**40.79**	**42.09**	**57.12**	**66.11**	**70.41**	*79.45*	*73.73*	*68.20*	*64.53*	*61.47*	**39.73**	*68.66*	*66.83*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	**216**	**231**	*242*	*222*	*218*	*210*	*191*	**133**	*219*	*210*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	**204**	**218**	*246*	*229*	*217*	*210*	*204*	**129**	*212*	*215*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	**180**	**197**	*227*	*218*	*199*	*188*	*191*	**125**	*202*	*202*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	**182**	**200**	*236*	*225*	*215*	*208*	*203*	**131**	*198*	*212*
No. 6 Residual Fuel Oil (a)	**177**	**93**	**116**	**119**	**162**	**181**	**188**	*186*	*177*	*167*	*155*	*148*	**126**	*180*	*161*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*326*	*300*	*300*	*290*	*274*	**218**	*300*	*291*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*336*	*312*	*313*	*303*	*288*	**227**	*310*	*304*
On-highway Diesel Fuel	**289**	**243**	**243**	**247**	**290**	**321**	**336**	*361*	*339*	*323*	*317*	*313*	**256**	*328*	*323*
Heating Oil	**280**	**200**	**214**	**230**	**272**	**283**	**297**	*340*	*334*	*307*	*284*	*286*	**244**	*298*	*310*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	**4.53**	*5.75*	*5.45*	*3.67*	*3.64*	*3.59*	**2.11**	*4.26*	*4.09*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.54*	*5.24*	*3.53*	*3.51*	*3.45*	**2.03**	*4.10*	*3.93*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.11**	*6.79*	*6.98*	*5.07*	*4.64*	*4.80*	**3.32**	*5.47*	*5.41*
Commercial Sector	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**10.02**	*9.72*	*9.88*	*9.97*	*9.70*	*8.42*	**7.49**	*8.69*	*9.41*
Residential Sector	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**20.16**	*13.52*	*12.58*	*14.72*	*18.53*	*11.46*	**10.76**	*12.20*	*12.95*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.26**	**4.49**	*5.94*	*5.86*	*3.76*	*3.69*	*3.82*	**2.39**	*5.12*	*4.20*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**13.09**	**13.69**	*13.99*	*14.55*	*14.55*	*13.13*	*12.53*	**9.15**	*12.98*	*13.67*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.20**	**16.21**	*18.73*	*17.87*	*16.89*	*16.28*	*15.91*	**10.73**	*15.64*	*16.81*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.59**	*6.89*	*7.14*	*6.94*	*7.49*	*6.75*	**6.66**	*7.14*	*7.09*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.58**	*11.15*	*11.61*	*11.45*	*11.68*	*11.07*	**10.65**	*11.24*	*11.46*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.97**	*13.85*	*13.88*	*14.41*	*14.35*	*13.99*	**13.20**	*13.68*	*14.17*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	**33.05**	**29.27**	**29.95**	**30.66**	**30.18**	**30.88**	**31.15**	*32.22*	*32.54*	*32.65*	*32.93*	*33.44*	**30.73**	*31.11*	*32.89*
U.S. (50 States)	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.87**	*19.44*	*19.69*	*19.96*	*20.34*	*20.60*	**18.58**	*18.75*	*20.15*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.40**	**5.52**	*5.80*	*5.84*	*5.81*	*5.83*	*5.86*	**5.26**	*5.59*	*5.84*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	**1.91**	*1.91*	*1.94*	*1.90*	*1.86*	*1.83*	**1.94**	*1.93*	*1.88*
Other OECD	**5.08**	**4.99**	**4.81**	**4.93**	**5.00**	**4.47**	**4.86**	*5.06*	*5.07*	*4.98*	*4.89*	*5.15*	**4.95**	*4.85*	*5.02*
Non-OECD	**67.70**	**63.03**	**61.06**	**62.08**	**62.62**	**63.90**	**65.67**	*67.18*	*67.37*	*68.45*	*69.17*	*69.09*	**63.46**	*64.86*	*68.53*
OPEC	**33.50**	**30.72**	**28.65**	**30.00**	**30.36**	**30.76**	**32.23**	*33.32*	*33.70*	*33.84*	*34.01*	*34.05*	**30.71**	*31.68*	*33.90*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.49**	**26.87**	*27.88*	*28.10*	*28.38*	*28.49*	*28.49*	**25.60**	*26.34*	*28.37*
Other Liquids (b)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Eurasia	**14.72**	**13.17**	**12.70**	**13.12**	**13.38**	**13.62**	**13.59**	*14.19*	*14.42*	*14.59*	*14.72*	*14.89*	**13.42**	*13.70*	*14.66*
China	**4.97**	**4.92**	**4.96**	**4.91**	**5.05**	**5.09**	**5.09**	*5.07*	*5.06*	*5.09*	*5.09*	*5.14*	**4.94**	*5.07*	*5.09*
Other Non-OECD	**14.51**	**14.22**	**14.75**	**14.04**	**13.82**	**14.43**	**14.75**	*14.60*	*14.20*	*14.92*	*15.35*	*15.02*	**14.38**	*14.41*	*14.88*
Total World Supply	**100.74**	**92.30**	**91.01**	**92.74**	**92.80**	**94.78**	**96.82**	*99.40*	*99.90*	*101.09*	*102.10*	*102.53*	**94.19**	*95.97*	*101.42*
Non-OPEC Supply	**67.24**	**61.58**	**62.36**	**62.74**	**62.44**	**64.01**	**64.58**	*66.08*	*66.21*	*67.25*	*68.09*	*68.48*	**63.48**	*64.29*	*67.52*
Consumption (million barrels per day) (c)															
OECD	**45.50**	**37.45**	**42.27**	**42.84**	**42.30**	**43.94**	**45.40**	*45.85*	*45.31*	*44.95*	*46.01*	*45.97*	**42.02**	*44.38*	*45.56*
U.S. (50 States)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	**0.18**	**0.18**	*0.20*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.16**	**2.42**	*2.42*	*2.37*	*2.32*	*2.42*	*2.40*	**2.19**	*2.28*	*2.38*
Europe	**13.34**	**11.01**	**12.88**	**12.51**	**11.90**	**12.57**	**13.68**	*13.56*	*13.20*	*13.22*	*13.51*	*13.16*	**12.43**	*12.94*	*13.27*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.08**	*3.43*	*3.66*	*2.98*	*3.07*	*3.39*	**3.33**	*3.33*	*3.27*
Other OECD	**6.30**	**5.34**	**5.47**	**5.77**	**5.89**	**5.91**	**5.90**	*6.17*	*6.13*	*5.97*	*6.01*	*6.17*	**5.72**	*5.97*	*6.07*
Non-OECD	**50.33**	**47.44**	**51.21**	**52.59**	**52.39**	**52.75**	**53.20**	*54.25*	*54.52*	*55.48*	*55.58*	*55.67*	**50.40**	*53.15*	*55.32*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.96**	**5.04**	**5.44**	*5.26*	*5.09*	*5.16*	*5.56*	*5.41*	**4.95**	*5.18*	*5.31*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.73**	**0.74**	**0.74**	*0.75*	*0.75*	*0.75*	*0.75*	*0.76*	**0.71**	*0.74*	*0.75*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.30**	**15.51**	**15.02**	*15.49*	*15.81*	*15.98*	*15.69*	*15.96*	**14.43**	*15.33*	*15.86*
Other Asia	**13.35**	**11.63**	**12.59**	**13.61**	**13.76**	**13.24**	**13.13**	*13.94*	*14.34*	*14.46*	*14.04*	*14.43*	**12.80**	*13.52*	*14.31*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.64**	**18.22**	**18.86**	*18.81*	*18.54*	*19.13*	*19.55*	*19.11*	**17.51**	*18.39*	*19.08*
Total World Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.68**	**96.69**	**98.59**	*100.10*	*99.83*	*100.43*	*101.59*	*101.64*	**92.42**	*97.53*	*100.88*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.49**	**-1.67**	**0.53**	**0.91**	**0.47**	**0.51**	**0.40**	*0.45*	*-0.12*	*-0.69*	*-0.07*	*0.40*	**-0.18**	*0.46*	*-0.12*
Other OECD	**-0.51**	**-1.16**	**0.04**	**0.69**	**0.77**	**0.13**	**0.62**	*0.08*	*0.02*	*0.01*	*-0.14*	*-0.40*	**-0.23**	*0.40*	*-0.13*
Other Stock Draws and Balance	**-3.92**	**-4.58**	**1.90**	**1.09**	**0.65**	**1.28**	**0.76**	*0.18*	*0.03*	*0.01*	*-0.30*	*-0.88*	**-1.36**	*0.71*	*-0.29*
Total Stock Draw	**-4.91**	**-7.40**	**2.46**	**2.69**	**1.88**	**1.92**	**1.78**	*0.70*	*-0.07*	*-0.67*	*-0.51*	*-0.89*	**-1.77**	*1.57*	*-0.54*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,327**	**1,458**	**1,423**	**1,343**	**1,302**	**1,271**	**1,238**	*1,214*	*1,225*	*1,288*	*1,294*	*1,267*	**1,343**	*1,214*	*1,267*
OECD Commercial Inventory	**2,970**	**3,206**	**3,168**	**3,025**	**2,914**	**2,873**	**2,782**	*2,751*	*2,760*	*2,822*	*2,841*	*2,851*	**3,025**	*2,751*	*2,851*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.97**	**24.28**	**25.14**	**25.73**	**25.18**	**26.40**	**26.29**	*27.16*	*27.46*	*27.66*	*28.04*	*28.28*	**25.78**	*26.26*	*27.87*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.40**	**5.52**	*5.80*	*5.84*	*5.81*	*5.83*	*5.86*	**5.26**	*5.59*	*5.84*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	**1.91**	*1.91*	*1.94*	*1.90*	*1.86*	*1.83*	**1.94**	*1.93*	*1.88*
United States	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.87**	*19.44*	*19.69*	*19.96*	*20.34*	*20.60*	**18.58**	*18.75*	*20.15*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.61**	**6.27**	**6.68**	*6.40*	*5.97*	*6.73*	*7.19*	*6.87*	**6.15**	*6.24*	*6.69*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.63**	**0.67**	**0.70**	*0.69*	*0.71*	*0.72*	*0.75*	*0.73*	**0.64**	*0.67*	*0.73*
Brazil	**3.44**	**3.89**	**4.29**	**3.52**	**3.23**	**3.91**	**4.25**	*3.94*	*3.44*	*4.27*	*4.63*	*4.20*	**3.79**	*3.84*	*4.14*
Colombia	**0.90**	**0.78**	**0.77**	**0.79**	**0.77**	**0.74**	**0.76**	*0.78*	*0.80*	*0.72*	*0.73*	*0.78*	**0.81**	*0.76*	*0.76*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	**0.50**	**0.50**	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.51*	*0.53*
Other Central and S. America	**0.45**	**0.42**	**0.41**	**0.45**	**0.47**	**0.45**	**0.48**	*0.47*	*0.49*	*0.49*	*0.55*	*0.64*	**0.43**	*0.47*	*0.54*
Europe	**4.44**	**4.35**	**4.16**	**4.30**	**4.38**	**3.89**	**4.22**	*4.44*	*4.45*	*4.36*	*4.26*	*4.53*	**4.31**	*4.23*	*4.40*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	**1.90**	**2.06**	*2.19*	*2.20*	*2.14*	*2.13*	*2.30*	**2.01**	*2.07*	*2.19*
United Kingdom	**1.17**	**1.16**	**0.99**	**1.06**	**1.07**	**0.82**	**0.96**	*1.03*	*1.05*	*1.03*	*0.92*	*1.03*	**1.10**	*0.97*	*1.01*
Eurasia	**14.72**	**13.17**	**12.70**	**13.12**	**13.38**	**13.62**	**13.59**	*14.19*	*14.42*	*14.59*	*14.72*	*14.89*	**13.42**	*13.70*	*14.66*
Azerbaijan	**0.77**	**0.69**	**0.66**	**0.69**	**0.75**	**0.70**	**0.71**	*0.72*	*0.75*	*0.75*	*0.75*	*0.74*	**0.70**	*0.72*	*0.75*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	**1.86**	**1.72**	*1.90*	*1.96*	*1.96*	*1.92*	*1.98*	**1.86**	*1.84*	*1.96*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	**10.72**	**10.81**	*11.21*	*11.34*	*11.51*	*11.69*	*11.80*	**10.50**	*10.79*	*11.58*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	**0.24**	**0.24**	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.11**	**0.11**	**0.11**	**0.11**	**0.10**	**0.10**	**0.11**	*0.12*	*0.14*	*0.14*	*0.14*	*0.14*	**0.11**	*0.11*	*0.14*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.16**	**3.19**	**3.20**	*3.24*	*3.26*	*3.26*	*3.25*	*3.25*	**3.13**	*3.19*	*3.25*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	**0.97**	**0.98**	*1.03*	*1.04*	*1.04*	*1.04*	*1.04*	**0.96**	*0.99*	*1.04*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.89**	**1.91**	**1.92**	*1.92*	*1.94*	*1.94*	*1.94*	*1.94*	**1.87**	*1.91*	*1.94*
Asia and Oceania	**9.46**	**9.17**	**9.22**	**9.17**	**9.32**	**9.24**	**9.26**	*9.28*	*9.31*	*9.31*	*9.30*	*9.32*	**9.25**	*9.27*	*9.31*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.47**	**0.42**	**0.49**	*0.47*	*0.47*	*0.47*	*0.47*	*0.46*	**0.49**	*0.46*	*0.47*
China	**4.97**	**4.92**	**4.96**	**4.91**	**5.05**	**5.09**	**5.09**	*5.07*	*5.06*	*5.09*	*5.09*	*5.14*	**4.94**	*5.07*	*5.09*
India	**0.95**	**0.89**	**0.92**	**0.91**	**0.92**	**0.92**	**0.93**	*0.93*	*0.94*	*0.92*	*0.93*	*0.92*	**0.92**	*0.93*	*0.93*
Indonesia	**0.92**	**0.90**	**0.88**	**0.89**	**0.88**	**0.86**	**0.86**	*0.85*	*0.85*	*0.84*	*0.84*	*0.83*	**0.90**	*0.86*	*0.84*
Malaysia	**0.73**	**0.62**	**0.64**	**0.65**	**0.66**	**0.63**	**0.58**	*0.59*	*0.63*	*0.62*	*0.61*	*0.61*	**0.66**	*0.61*	*0.62*
Vietnam	**0.23**	**0.22**	**0.21**	**0.21**	**0.21**	**0.21**	**0.20**	*0.21*	*0.20*	*0.20*	*0.20*	*0.19*	**0.22**	*0.21*	*0.20*
Africa	**1.48**	**1.44**	**1.42**	**1.40**	**1.41**	**1.41**	**1.33**	*1.38*	*1.34*	*1.34*	*1.34*	*1.34*	**1.43**	*1.38*	*1.34*
Egypt	**0.62**	**0.61**	**0.60**	**0.58**	**0.59**	**0.60**	**0.59**	*0.61*	*0.56*	*0.56*	*0.56*	*0.56*	**0.60**	*0.59*	*0.56*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	**0.16**	**0.15**	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.16*	*0.18*
Total non-OPEC liquids	**67.24**	**61.58**	**62.36**	**62.74**	**62.44**	**64.01**	**64.58**	*66.08*	*66.21*	*67.25*	*68.09*	*68.48*	**63.48**	*64.29*	*67.52*
OPEC non-crude liquids	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Non-OPEC + OPEC non-crude	**72.47**	**66.65**	**67.39**	**67.86**	**67.72**	**69.28**	**69.94**	*71.51*	*71.80*	*72.72*	*73.61*	*74.04*	**68.59**	*69.63*	*73.05*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.62**	**0.61**	**0.50**	**0.83**	-	-	-	-	-	**0.61**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	**0.88**	**0.92**	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	**1.08**	**1.11**	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	**0.27**	**0.26**	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	**0.10**	**0.10**	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	**0.17**	**0.18**	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	**2.47**	**2.50**	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	**3.98**	**4.07**	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	**2.36**	**2.45**	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	**1.16**	**1.18**	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	**1.32**	**1.28**	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	**8.53**	**9.55**	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	**2.65**	**2.76**	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	**0.53**	**0.53**	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.49**	**26.87**	*27.88*	*28.10*	*28.38*	*28.49*	*28.49*	**25.60**	*26.34*	*28.37*
Other Liquids (a)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Total OPEC Supply	**33.50**	**30.72**	**28.65**	**30.00**	**30.36**	**30.76**	**32.23**	*33.32*	*33.70*	*33.84*	*34.01*	*34.05*	**30.71**	*31.68*	*33.90*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	**26.85**	**26.88**	*26.88*	*26.98*	*27.09*	*27.19*	*27.19*	**25.98**	*26.79*	*27.11*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	**6.71**	**6.73**	*6.65*	*6.54*	*6.47*	*6.44*	*6.41*	**5.81**	*6.70*	*6.47*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	**33.56**	**33.61**	*33.53*	*33.52*	*33.56*	*33.63*	*33.61*	**31.79**	*33.50*	*33.58*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	**6.87**	**5.56**	*4.87*	*4.81*	*4.62*	*4.62*	*4.62*	**5.49**	*6.07*	*4.67*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.20**	**1.20**	**1.18**	*0.78*	*0.61*	*0.56*	*0.52*	*0.49*	**0.70**	*1.09*	*0.55*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.20**	**8.07**	**6.74**	*5.65*	*5.42*	*5.18*	*5.14*	*5.11*	**6.19**	*7.16*	*5.21*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	**2.38**	**2.37**	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.77**	**19.44**	**22.21**	**22.44**	**22.20**	**23.83**	**24.25**	*24.26*	*23.79*	*24.28*	*24.90*	*24.73*	**21.97**	*23.64*	*24.43*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.16**	**2.42**	*2.42*	*2.37*	*2.32*	*2.42*	*2.40*	**2.19**	*2.28*	*2.38*
Mexico	**1.85**	**1.40**	**1.50**	**1.58**	**1.62**	**1.63**	**1.69**	*1.76*	*1.66*	*1.68*	*1.67*	*1.67*	**1.58**	*1.67*	*1.67*
United States	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
Central and South America	**6.13**	**5.60**	**6.03**	**6.31**	**6.12**	**6.27**	**6.50**	*6.59*	*6.44*	*6.53*	*6.66*	*6.67*	**6.02**	*6.37*	*6.57*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.89**	**3.01**	**3.14**	*3.22*	*3.06*	*3.07*	*3.17*	*3.17*	**2.90**	*3.07*	*3.12*
Europe	**14.04**	**11.70**	**13.59**	**13.23**	**12.63**	**13.31**	**14.43**	*14.31*	*13.95*	*13.97*	*14.27*	*13.92*	**13.14**	*13.68*	*14.03*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.96**	**5.04**	**5.44**	*5.26*	*5.09*	*5.16*	*5.56*	*5.41*	**4.95**	*5.18*	*5.31*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.73**	**3.84**	**4.17**	*3.98*	*3.83*	*3.93*	*4.26*	*4.10*	**3.74**	*3.93*	*4.03*
Middle East	**7.90**	**7.43**	**8.43**	**8.05**	**7.82**	**8.23**	**8.79**	*8.41*	*8.27*	*8.76*	*9.15*	*8.50*	**7.95**	*8.32*	*8.67*
Asia and Oceania	**34.95**	**32.20**	**33.86**	**35.94**	**36.62**	**35.67**	**34.93**	*36.80*	*37.79*	*37.22*	*36.63*	*37.80*	**34.24**	*36.00*	*37.36*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.30**	**15.51**	**15.02**	*15.49*	*15.81*	*15.98*	*15.69*	*15.96*	**14.43**	*15.33*	*15.86*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.08**	*3.43*	*3.66*	*2.98*	*3.07*	*3.39*	**3.33**	*3.33*	*3.27*
India	**4.83**	**3.76**	**4.17**	**4.93**	**5.00**	**4.37**	**4.45**	*4.86*	*5.15*	*5.21*	*4.86*	*5.16*	**4.42**	*4.67*	*5.09*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.33**	**4.35**	**4.26**	*4.47*	*4.50*	*4.51*	*4.43*	*4.62*	**4.15**	*4.35*	*4.52*
Total OECD Liquid Fuels Consumption	**45.50**	**37.45**	**42.27**	**42.84**	**42.30**	**43.94**	**45.40**	*45.85*	*45.31*	*44.95*	*46.01*	*45.97*	**42.02**	*44.38*	*45.56*
Total non-OECD Liquid Fuels Consumption	**50.33**	**47.44**	**51.21**	**52.59**	**52.39**	**52.75**	**53.20**	*54.25*	*54.52*	*55.48*	*55.58*	*55.67*	**50.40**	*53.15*	*55.32*
Total World Liquid Fuels Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.68**	**96.69**	**98.59**	*100.10*	*99.83*	*100.43*	*101.59*	*101.64*	**92.42**	*97.53*	*100.88*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.7**	**105.4**	**113.1**	**115.3**	**116.2**	**117.3**	**118.4**	*120.0*	*121.6*	*123.0*	*124.2*	*125.4*	**111.6**	*118.0*	*123.5*
Percent change from prior year	**-1.3**	**-8.7**	**-2.5**	**-0.7**	**3.2**	**11.3**	**4.7**	*4.1*	*4.6*	*4.8*	*4.9*	*4.5*	**-3.3**	*5.7*	*4.7*
OECD Index, 2015 = 100													**103.8**	*109.1*	*113.5*
Percent change from prior year													**-4.7**	*5.1*	*4.1*
Non-OECD Index, 2015 = 100													**116.1**	*123.2*	*129.5*
Percent change from prior year													**-2.2**	*6.1*	*5.1*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	**106.3**	**107.7**	*109.5*	*109.6*	*109.4*	*109.2*	*108.8*	**111.9**	*107.6*	*109.3*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	**-8.3**	**-3.4**	*1.1*	*2.7*	*3.0*	*1.3*	*-0.6*	**1.9**	*-3.8*	*1.6*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

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Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	**11.07**	*11.47*	*11.69*	*11.77*	*11.97*	*12.16*	**11.28**	*11.13*	*11.90*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	**0.44**	**0.41**	*0.45*	*0.43*	*0.38*	*0.41*	*0.44*	**0.45**	*0.44*	*0.41*
Federal Gulf of Mexico (b)	**1.99**	**1.66**	**1.43**	**1.50**	**1.80**	**1.79**	**1.49**	*1.77*	*1.84*	*1.81*	*1.82*	*1.85*	**1.64**	*1.71*	*1.83*
Lower 48 States (excl GOM)	**10.35**	**8.60**	**8.92**	**8.91**	**8.44**	**9.05**	**9.17**	*9.25*	*9.42*	*9.59*	*9.74*	*9.87*	**9.19**	*8.98*	*9.66*
Crude Oil Net Imports (c)	**2.89**	**3.06**	**2.24**	**2.50**	**2.87**	**2.96**	**3.57**	*3.73*	*3.68*	*4.49*	*4.63*	*3.62*	**2.67**	*3.29*	*4.11*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	**0.18**	**0.04**	*0.19*	*0.00*	*0.00*	*0.00*	*0.10*	**-0.01**	*0.10*	*0.03*
Commercial Inventory Net Withdrawals	**-0.56**	**-0.54**	**0.38**	**0.13**	**-0.18**	**0.59**	**0.29**	*-0.12*	*-0.32*	*-0.04*	*0.26*	*-0.02*	**-0.14**	*0.15*	*-0.03*
Crude Oil Adjustment (d)	**0.63**	**0.20**	**0.46**	**0.36**	**0.42**	**0.63**	**0.61**	*0.30*	*0.22*	*0.22*	*0.23*	*0.16*	**0.41**	*0.49*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.58**	*15.57*	*15.26*	*16.44*	*17.09*	*16.02*	**14.21**	*15.16*	*16.21*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.98**	*1.05*	*1.06*	*1.05*	*1.09*	*1.09*	**0.92**	*0.96*	*1.07*
Natural Gas Plant Liquids Production	**5.17**	**4.96**	**5.34**	**5.22**	**4.86**	**5.46**	**5.51**	*5.59*	*5.67*	*5.81*	*5.94*	*6.01*	**5.17**	*5.36*	*5.86*
Renewables and Oxygenate Production (e)	**1.11**	**0.81**	**1.03**	**1.07**	**1.03**	**1.13**	**1.09**	*1.12*	*1.07*	*1.11*	*1.13*	*1.12*	**1.01**	*1.09*	*1.11*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	**0.99**	**0.96**	*1.01*	*0.97*	*1.00*	*1.02*	*1.01*	**0.91**	*0.97*	*1.00*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	**0.22**	**0.22**	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-3.86**	**-2.96**	**-3.07**	**-3.33**	**-2.94**	**-3.13**	**-3.32**	*-3.85*	*-3.72*	*-3.70*	*-4.32*	*-4.13*	**-3.30**	*-3.31*	*-3.97*
Hydrocarbon Gas Liquids	**-1.95**	**-1.84**	**-1.83**	**-2.06**	**-2.02**	**-2.23**	**-2.17**	*-2.24*	*-2.28*	*-2.34*	*-2.39*	*-2.26*	**-1.92**	*-2.17*	*-2.32*
Unfinished Oils	**0.37**	**0.23**	**0.35**	**0.18**	**0.14**	**0.25**	**0.29**	*0.28*	*0.21*	*0.26*	*0.30*	*0.20*	**0.29**	*0.24*	*0.24*
Other HC/Oxygenates	**-0.09**	**-0.04**	**-0.04**	**-0.04**	**-0.08**	**-0.04**	**-0.07**	*-0.08*	*-0.06*	*-0.04*	*-0.04*	*-0.04*	**-0.05**	*-0.07*	*-0.04*
Motor Gasoline Blend Comp.	**0.40**	**0.37**	**0.49**	**0.44**	**0.55**	**0.79**	**0.63**	*0.14*	*0.55*	*0.77*	*0.43*	*0.21*	**0.42**	*0.53*	*0.49*
Finished Motor Gasoline	**-0.71**	**-0.41**	**-0.58**	**-0.76**	**-0.66**	**-0.66**	**-0.66**	*-0.76*	*-0.93*	*-0.65*	*-0.66*	*-0.81*	**-0.62**	*-0.69*	*-0.76*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.08**	**0.03**	**0.09**	**0.09**	*0.07*	*-0.06*	*-0.04*	*0.02*	*0.07*	**0.05**	*0.07*	*0.00*
Distillate Fuel Oil	**-1.14**	**-0.86**	**-1.16**	**-0.72**	**-0.49**	**-0.90**	**-0.97**	*-0.71*	*-0.62*	*-1.04*	*-1.27*	*-0.93*	**-0.97**	*-0.77*	*-0.97*
Residual Fuel Oil	**-0.02**	**-0.01**	**0.05**	**0.05**	**0.08**	**0.05**	**0.08**	*0.10*	*-0.02*	*0.00*	*-0.04*	*0.04*	**0.02**	*0.08*	*-0.01*
Other Oils (g)	**-0.64**	**-0.49**	**-0.48**	**-0.48**	**-0.49**	**-0.49**	**-0.54**	*-0.65*	*-0.50*	*-0.59*	*-0.67*	*-0.61*	**-0.52**	*-0.54*	*-0.59*
Product Inventory Net Withdrawals	**0.06**	**-0.90**	**0.00**	**0.73**	**0.65**	**-0.26**	**0.07**	*0.38*	*0.20*	*-0.65*	*-0.33*	*0.32*	**-0.02**	*0.21*	*-0.12*
Total Supply	**19.50**	**16.07**	**18.45**	**18.72**	**18.43**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.67*	*20.37*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.37**	**2.85**	**3.01**	**3.68**	**3.40**	**3.33**	**3.23**	*3.59*	*3.77*	*3.26*	*3.32*	*3.87*	**3.23**	*3.39*	*3.55*
Unfinished Oils	**0.18**	**0.12**	**0.03**	**0.03**	**0.05**	**0.03**	**-0.05**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.09**	*0.00*	*0.00*
Motor Gasoline	**8.51**	**7.12**	**8.51**	**8.06**	**8.00**	**9.07**	**9.17**	*8.88*	*8.40*	*9.23*	*9.41*	*8.85*	**8.05**	*8.78*	*8.97*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.73**	**0.87**	**0.85**	**0.82**	**0.93**	**0.94**	*0.92*	*0.85*	*0.94*	*0.95*	*0.92*	**0.82**	*0.90*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	**1.34**	**1.52**	*1.51*	*1.46*	*1.57*	*1.70*	*1.68*	**1.08**	*1.38*	*1.60*
Distillate Fuel Oil	**4.02**	**3.49**	**3.70**	**3.94**	**3.97**	**3.93**	**3.85**	*4.01*	*4.14*	*4.01*	*3.97*	*4.14*	**3.79**	*3.94*	*4.07*
Residual Fuel Oil	**0.17**	**0.11**	**0.32**	**0.22**	**0.26**	**0.25**	**0.32**	*0.29*	*0.23*	*0.21*	*0.26*	*0.26*	**0.21**	*0.28*	*0.24*
Other Oils (g)	**1.69**	**1.68**	**1.92**	**1.71**	**1.63**	**2.08**	**2.10**	*1.79*	*1.75*	*2.00*	*2.14*	*1.86*	**1.75**	*1.90*	*1.94*
Total Consumption	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
Total Petroleum and Other Liquids Net Imports	**-0.97**	**0.11**	**-0.83**	**-0.84**	**-0.07**	**-0.16**	**0.25**	*-0.12*	*-0.04*	*0.79*	*0.31*	*-0.51*	**-0.63**	*-0.03*	*0.14*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**483.3**	**532.7**	**497.7**	**485.5**	**501.9**	**448.0**	**420.9**	*431.8*	*461.0*	*464.5*	*440.4*	*442.6*	**485.5**	*431.8*	*442.6*
Hydrocarbon Gas Liquids	**182.9**	**235.7**	**298.7**	**228.2**	**168.6**	**195.8**	**228.8**	*183.7*	*144.5*	*197.0*	*242.7*	*204.1*	**228.2**	*183.7*	*204.1*
Unfinished Oils	**101.9**	**92.5**	**81.4**	**77.6**	**93.3**	**93.0**	**89.0**	*82.8*	*93.3*	*91.1*	*90.0*	*83.1*	**77.6**	*82.8*	*83.1*
Other HC/Oxygenates	**33.4**	**25.4**	**24.6**	**29.7**	**29.1**	**27.5**	**25.2**	*26.1*	*28.2*	*27.0*	*26.7*	*27.0*	**29.7**	*26.1*	*27.0*
Total Motor Gasoline	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**225.1**	*231.9*	*241.4*	*246.5*	*233.9*	*248.8*	**243.4**	*231.9*	*248.8*
Finished Motor Gasoline	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**17.6**	*24.2*	*24.1*	*23.9*	*23.1*	*26.1*	**25.4**	*24.2*	*26.1*
Motor Gasoline Blend Comp.	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**207.5**	*207.7*	*217.3*	*222.5*	*210.7*	*222.7*	**218.0**	*207.7*	*222.7*
Jet Fuel	**39.9**	**41.6**	**40.1**	**38.6**	**39.0**	**44.7**	**41.3**	*37.7*	*37.7*	*39.0*	*41.7*	*38.8*	**38.6**	*37.7*	*38.8*
Distillate Fuel Oil	**126.8**	**176.9**	**172.5**	**161.2**	**145.5**	**140.1**	**129.3**	*136.0*	*125.6*	*130.6*	*137.8*	*139.1*	**161.2**	*136.0*	*139.1*
Residual Fuel Oil	**34.8**	**39.5**	**32.1**	**30.2**	**30.9**	**31.1**	**28.2**	*30.6*	*31.0*	*32.0*	*30.2*	*31.6*	**30.2**	*30.6*	*31.6*
Other Oils (g)	**61.9**	**59.0**	**48.3**	**49.1**	**55.8**	**54.1**	**50.1**	*53.4*	*62.4*	*60.1*	*50.8*	*52.2*	**49.1**	*53.4*	*52.2*
Total Commercial Inventory	**1326.7**	**1457.7**	**1423.2**	**1343.3**	**1301.7**	**1271.5**	**1237.9**	*1214.1*	*1225.2*	*1287.8*	*1294.3*	*1267.1*	**1343.3**	*1214.1*	*1267.1*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	**621.3**	**617.8**	*600.6*	*600.6*	*600.6*	*600.6*	*591.0*	**638.1**	*600.6*	*591.0*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.95**	**1.92**	**2.14**	**2.05**	**1.87**	**2.19**	**2.16**	*2.21*	*2.29*	*2.43*	*2.49*	*2.56*	**2.02**	*2.11*	*2.44*
Propane	**1.74**	**1.61**	**1.68**	**1.70**	**1.62**	**1.74**	**1.78**	*1.81*	*1.82*	*1.80*	*1.83*	*1.85*	**1.68**	*1.74*	*1.82*
Butanes	**0.92**	**0.86**	**0.90**	**0.89**	**0.85**	**0.92**	**0.93**	*0.96*	*0.96*	*0.96*	*0.97*	*0.98*	**0.89**	*0.92*	*0.97*
Natural Gasoline (Pentanes Plus)	**0.57**	**0.57**	**0.62**	**0.58**	**0.53**	**0.61**	**0.64**	*0.61*	*0.60*	*0.62*	*0.65*	*0.62*	**0.58**	*0.60*	*0.62*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	**0.29**	**0.27**	*0.32*	*0.32*	*0.31*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	**0.31**	**0.29**	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.26**	*0.29*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	**0.24**	**0.18**	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.24**	**-0.26**	**-0.27**	**-0.35**	**-0.39**	**-0.40**	*-0.42*	*-0.43*	*-0.45*	*-0.45*	*-0.46*	**-0.27**	*-0.39*	*-0.45*
Propane/Propylene	**-1.08**	**-1.09**	**-1.06**	**-1.31**	**-1.11**	**-1.23**	**-1.17**	*-1.26*	*-1.23*	*-1.26*	*-1.30*	*-1.22*	**-1.14**	*-1.19*	*-1.25*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.34**	**-0.34**	**-0.35**	**-0.40**	**-0.42**	*-0.37*	*-0.41*	*-0.44*	*-0.44*	*-0.39*	**-0.32**	*-0.39*	*-0.42*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	**-0.21**	**-0.18**	*-0.19*	*-0.21*	*-0.19*	*-0.20*	*-0.18*	**-0.19**	*-0.20*	*-0.20*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	**0.29**	**0.31**	*0.50*	*0.39*	*0.29*	*0.33*	*0.51*	**0.38**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	**0.14**	**0.16**	*0.16*	*0.16*	*0.18*	*0.18*	*0.18*	**0.13**	*0.15*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.71**	**1.68**	**1.67**	**1.81**	**1.54**	**1.83**	**1.73**	*1.82*	*1.94*	*1.99*	*2.05*	*2.09*	**1.72**	*1.73*	*2.02*
Propane	**1.14**	**0.58**	**0.61**	**0.97**	**1.09**	**0.65**	**0.69**	*1.01*	*1.11*	*0.53*	*0.54*	*1.04*	**0.82**	*0.86*	*0.80*
Propylene (refinery-grade)	**0.27**	**0.27**	**0.27**	**0.30**	**0.29**	**0.32**	**0.30**	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.19**	**0.23**	**0.22**	**0.29**	**0.23**	*0.21*	*0.19*	*0.22*	*0.20*	*0.20*	**0.20**	*0.24*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.36**	**0.26**	**0.24**	**0.29**	*0.26*	*0.23*	*0.21*	*0.23*	*0.24*	**0.21**	*0.26*	*0.23*
HGL Inventories (million barrels)															
Ethane	**53.2**	**50.6**	**62.5**	**74.8**	**65.8**	**67.4**	**65.9**	*68.9*	*60.6*	*59.2*	*58.0*	*60.6*	**60.3**	*67.0*	*59.6*
Propane	**60.8**	**75.8**	**100.3**	**69.9**	**39.3**	**53.2**	**69.7**	*55.9*	*36.1*	*63.2*	*90.4*	*80.2*	**69.9**	*55.9*	*80.2*
Propylene (at refineries only)	**1.5**	**1.5**	**1.5**	**1.5**	**1.1**	**1.2**	**1.1**	*1.4*	*1.4*	*1.7*	*1.9*	*1.8*	**1.5**	*1.4*	*1.8*
Butanes/Butylenes	**44.1**	**69.9**	**86.0**	**54.6**	**37.2**	**53.9**	**67.7**	*39.3*	*29.3*	*53.6*	*71.3*	*42.2*	**54.6**	*39.3*	*42.2*
Natural Gasoline (Pentanes Plus)	**24.4**	**36.0**	**38.7**	**32.6**	**22.8**	**22.3**	**22.2**	*21.0*	*18.5*	*19.7*	*20.5*	*19.8*	**32.6**	*21.0*	*19.8*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.58**	*15.57*	*15.26*	*16.44*	*17.09*	*16.02*	**14.21**	*15.16*	*16.21*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	**0.43**	**0.47**	*0.66*	*0.56*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.56*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	**1.19**	**1.19**	*1.22*	*1.18*	*1.28*	*1.31*	*1.27*	**1.06**	*1.16*	*1.26*
Unfinished Oils	**0.06**	**0.22**	**0.45**	**0.19**	**-0.08**	**0.22**	**0.39**	*0.35*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.22*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.49**	**0.85**	**0.46**	**0.71**	**0.92**	**0.78**	*0.22*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.66*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.98**	**15.16**	**16.90**	**16.22**	**16.01**	**18.41**	**18.41**	*18.01*	*17.65*	*19.27*	*19.87*	*18.55*	**16.57**	*17.72*	*18.84*
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.98**	*1.05*	*1.06*	*1.05*	*1.09*	*1.09*	**0.92**	*0.96*	*1.07*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	**0.85**	**0.74**	*0.42*	*0.52*	*0.86*	*0.80*	*0.41*	**0.55**	*0.61*	*0.65*
Finished Motor Gasoline	**9.31**	**7.53**	**9.14**	**8.98**	**8.74**	**9.82**	**9.82**	*9.75*	*9.41*	*9.94*	*10.13*	*9.87*	**8.74**	*9.54*	*9.84*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	**1.32**	**1.40**	*1.41*	*1.53*	*1.62*	*1.71*	*1.57*	**1.02**	*1.31*	*1.61*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.45**	**4.29**	**4.77**	**4.70**	*4.79*	*4.64*	*5.11*	*5.32*	*5.09*	**4.74**	*4.64*	*5.04*
Residual Fuel	**0.24**	**0.17**	**0.19**	**0.15**	**0.19**	**0.20**	**0.22**	*0.21*	*0.26*	*0.22*	*0.28*	*0.23*	**0.19**	*0.21*	*0.25*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	**2.42**	**2.52**	*2.48*	*2.35*	*2.57*	*2.71*	*2.48*	**2.26**	*2.38*	*2.53*
Total Refinery and Blender Net Production	**19.00**	**15.98**	**17.84**	**17.14**	**16.86**	**19.38**	**19.39**	*19.06*	*18.71*	*20.32*	*20.96*	*19.64*	**17.49**	*18.68*	*19.91*
Refinery Distillation Inputs	**16.37**	**13.65**	**14.56**	**14.32**	**14.25**	**16.17**	**16.19**	*15.96*	*15.60*	*16.65*	*17.30*	*16.31*	**14.72**	*15.65*	*16.47*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	**18.13**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.66**	*18.12*	*18.13*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.79**	**0.89**	**0.89**	*0.88*	*0.86*	*0.92*	*0.95*	*0.90*	**0.79**	*0.86*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**180**	**216**	**231**	*242*	*222*	*218*	*210*	*191*	**133**	*219*	*210*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	**287**	**304**	*321*	*293*	*289*	*283*	*265*	**214**	*292*	*282*
PADD 2	**226**	**179**	**207**	**202**	**247**	**288**	**304**	*308*	*277*	*287*	*275*	*254*	**204**	*288*	*273*
PADD 3	**210**	**162**	**186**	**183**	**228**	**267**	**282**	*294*	*271*	*268*	*258*	*240*	**187**	*270*	*259*
PADD 4	**247**	**200**	**233**	**221**	**247**	**311**	**360**	*345*	*307*	*308*	*299*	*278*	**226**	*317*	*298*
PADD 5	**311**	**258**	**283**	**278**	**312**	**366**	**391**	*395*	*377*	*376*	*356*	*356*	**284**	*368*	*366*
U.S. Average	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*326*	*300*	*300*	*290*	*274*	**218**	*300*	*291*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*336*	*312*	*313*	*303*	*288*	**227**	*310*	*304*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.1**	**61.8**	**68.5**	**65.1**	**69.9**	**57.8**	*58.2*	*64.9*	*68.1*	*63.1*	*68.4*	**68.5**	*58.2*	*68.4*
PADD 2	**60.2**	**52.7**	**46.2**	**50.9**	**50.7**	**50.6**	**47.2**	*48.8*	*53.1*	*52.1*	*50.1*	*50.4*	**50.9**	*48.8*	*50.4*
PADD 3	**85.8**	**91.3**	**80.4**	**84.0**	**81.9**	**81.6**	**82.0**	*85.8*	*85.4*	*88.9*	*83.7*	*90.0*	**84.0**	*85.8*	*90.0*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	**6.2**	**7.8**	*8.0*	*7.9*	*7.9*	*7.5*	*8.2*	**8.7**	*8.0*	*8.2*
PADD 5	**35.6**	**29.7**	**31.5**	**31.4**	**31.4**	**29.0**	**30.2**	*31.1*	*30.0*	*29.5*	*29.5*	*31.8*	**31.4**	*31.1*	*31.8*
U.S. Total	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**225.1**	*231.9*	*241.4*	*246.5*	*233.9*	*248.8*	**243.4**	*231.9*	*248.8*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**17.6**	*24.2*	*24.1*	*23.9*	*23.1*	*26.1*	**25.4**	*24.2*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**207.5**	*207.7*	*217.3*	*222.5*	*210.7*	*222.7*	**218.0**	*207.7*	*222.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**103.02**	**96.83**	**97.29**	**98.53**	**97.65**	**101.12**	**102.51**	*102.98*	*103.49*	*104.13*	*105.34*	*106.49*	**98.91**	*101.09*	*104.87*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	**0.95**	**0.87**	*0.91*	*0.92*	*0.77*	*0.73*	*0.88*	**0.92**	*0.94*	*0.83*
Federal GOM (a)	**2.80**	**2.28**	**1.75**	**1.81**	**2.26**	**2.25**	**1.94**	*2.31*	*2.33*	*2.25*	*2.14*	*2.10*	**2.16**	*2.19*	*2.20*
Lower 48 States (excl GOM)	**99.25**	**93.68**	**94.67**	**95.75**	**94.37**	**97.92**	**99.70**	*99.76*	*100.25*	*101.11*	*102.47*	*103.51*	**95.83**	*97.96*	*101.84*
Total Dry Gas Production	**95.29**	**89.57**	**89.99**	**91.14**	**90.62**	**93.20**	**94.52**	*94.94*	*95.41*	*96.00*	*97.12*	*98.18*	**91.49**	*93.34*	*96.69*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	**0.02**	**0.05**	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.10*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	**9.81**	**9.62**	*10.50*	*11.14*	*11.26*	*11.55*	*12.01*	**6.53**	*9.81*	*11.49*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.68**	**6.81**	**7.10**	*6.80*	*7.35*	*6.36*	*6.38*	*6.72*	**6.84**	*7.34*	*6.70*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.21**	**8.31**	**8.67**	**8.62**	*9.13*	*9.14*	*8.56*	*9.33*	*9.35*	**7.91**	*8.68*	*9.09*
Supplemental Gaseous Fuels	**0.18**	**0.17**	**0.17**	**0.17**	**0.18**	**0.15**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	**0.17**	*0.16*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	**-9.12**	**-7.83**	*4.11*	*14.46*	*-10.33*	*-7.98*	*4.80*	**-0.46**	*1.03*	*0.19*
Total Supply	**99.98**	**71.00**	**76.96**	**87.05**	**99.23**	**72.57**	**75.75**	*86.59*	*97.43*	*72.56*	*74.99*	*88.71*	**83.74**	*83.48*	*83.38*
Balancing Item (b)	**-0.55**	**-0.29**	**-0.20**	**-0.93**	**0.06**	**-0.63**	**-0.74**	*-0.48*	*-0.65*	*-0.87*	*0.38*	*-0.14*	**-0.49**	*-0.45*	*-0.32*
Total Primary Supply	**99.44**	**70.72**	**76.76**	**86.12**	**99.29**	**71.94**	**75.01**	*86.11*	*96.77*	*71.69*	*75.37*	*88.57*	**83.25**	*83.03*	*83.06*
Consumption (billion cubic feet per day)															
Residential	**22.95**	**8.25**	**3.84**	**16.10**	**25.67**	**7.51**	**3.46**	*16.38*	*24.56*	*7.83*	*3.84*	*17.43*	**12.77**	*13.20*	*13.37*
Commercial	**14.04**	**5.85**	**4.39**	**10.40**	**14.87**	**6.24**	**4.69**	*11.01*	*14.62*	*6.66*	*5.16*	*11.81*	**8.66**	*9.18*	*9.54*
Industrial	**24.31**	**20.32**	**20.92**	**23.53**	**23.81**	**21.49**	**21.26**	*23.94*	*24.32*	*22.33*	*21.55*	*24.46*	**22.27**	*22.62*	*23.16*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.65**	**29.14**	**37.86**	*26.63*	*24.72*	*27.16*	*36.91*	*26.44*	**31.74**	*30.09*	*28.83*
Lease and Plant Fuel	**5.14**	**4.83**	**4.85**	**4.91**	**4.87**	**5.04**	**5.11**	*5.13*	*5.16*	*5.19*	*5.25*	*5.31*	**4.93**	*5.04*	*5.23*
Pipeline and Distribution Use	**3.31**	**2.32**	**2.53**	**2.85**	**3.28**	**2.38**	**2.48**	*2.87*	*3.24*	*2.37*	*2.49*	*2.95*	**2.75**	*2.75*	*2.76*
Vehicle Use	**0.13**	**0.10**	**0.13**	**0.13**	**0.14**	**0.15**	**0.15**	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.44**	**70.72**	**76.76**	**86.12**	**99.29**	**71.94**	**75.01**	*86.11*	*96.77*	*71.69*	*75.37*	*88.57*	**83.25**	*83.03*	*83.06*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,029**	**3,133**	**3,840**	**3,341**	**1,801**	**2,583**	**3,303**	*2,925*	*1,623*	*2,563*	*3,297*	*2,856*	**3,341**	*2,925*	*2,856*
East Region (d)	**385**	**655**	**890**	**763**	**313**	**515**	**806**	*675*	*234*	*487*	*702*	*510*	**763**	*675*	*510*
Midwest Region (d)	**471**	**747**	**1,053**	**918**	**395**	**630**	**966**	*817*	*335*	*569*	*913*	*802*	**918**	*817*	*802*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	**991**	**1,048**	*1,044*	*782*	*1,047*	*1,102*	*1,004*	**1,155**	*1,044*	*1,004*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	**175**	**205**	*156*	*97*	*150*	*219*	*201*	**195**	*156*	*201*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	**246**	**247**	*202*	*144*	*279*	*330*	*307*	**282**	*202*	*307*
Alaska	**23**	**25**	**31**	**28**	**23**	**27**	**31**	*31*	*31*	*31*	*31*	*31*	**28**	*31*	*31*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	**4.53**	*5.75*	*5.45*	*3.67*	*3.64*	*3.59*	**2.11**	*4.26*	*4.09*
Residential Retail															
New England	**14.05**	**14.74**	**18.47**	**14.90**	**14.66**	**16.24**	**20.39**	*16.36*	*15.83*	*16.30*	*18.39*	*13.99*	**14.73**	*15.74*	*15.52*
Middle Atlantic	**10.77**	**11.84**	**17.83**	**11.77**	**10.43**	**13.49**	**19.70**	*13.84*	*12.69*	*14.23*	*18.03*	*11.76*	**11.76**	*12.32*	*13.01*
E. N. Central	**6.99**	**9.47**	**18.18**	**8.02**	**7.41**	**12.69**	**21.91**	*12.42*	*11.05*	*13.11*	*17.89*	*9.21*	**8.38**	*10.19*	*11.12*
W. N. Central	**7.22**	**10.02**	**17.42**	**8.67**	**7.49**	**11.66**	**19.96**	*11.83*	*10.59*	*13.22*	*18.43*	*10.04*	**8.69**	*9.84*	*11.20*
S. Atlantic	**11.86**	**15.14**	**23.48**	**13.82**	**11.95**	**18.04**	**26.89**	*15.87*	*14.22*	*18.72*	*23.93*	*13.31*	**13.88**	*14.89*	*15.28*
E. S. Central	**9.67**	**13.22**	**20.81**	**10.61**	**9.35**	**14.78**	**23.25**	*15.89*	*13.16*	*17.42*	*23.13*	*13.94*	**11.13**	*11.94*	*14.86*
W. S. Central	**8.48**	**14.16**	**20.70**	**11.55**	**9.23**	**15.86**	**23.17**	*14.29*	*11.72*	*16.89*	*21.39*	*11.96*	**11.32**	*12.55*	*13.41*
Mountain	**7.53**	**9.35**	**12.50**	**8.09**	**7.90**	**10.64**	**15.38**	*10.21*	*10.00*	*11.73*	*14.86*	*9.25*	**8.40**	*9.48*	*10.39*
Pacific	**13.10**	**13.44**	**14.16**	**13.39**	**14.20**	**15.01**	**15.88**	*15.15*	*15.61*	*16.01*	*16.21*	*14.86*	**13.38**	*14.82*	*15.52*
U.S. Average	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**20.16**	*13.52*	*12.58*	*14.72*	*18.53*	*11.46*	**10.76**	*12.20*	*12.95*
Commercial Retail															
New England	**10.06**	**10.49**	**11.04**	**10.20**	**10.39**	**11.13**	**12.20**	*12.16*	*12.69*	*12.35*	*11.33*	*10.75*	**10.27**	*11.23*	*11.88*
Middle Atlantic	**7.87**	**7.01**	**6.73**	**7.44**	**7.92**	**8.00**	**8.01**	*9.16*	*9.78*	*9.24*	*8.29*	*8.46*	**7.45**	*8.32*	*9.09*
E. N. Central	**5.73**	**6.56**	**8.77**	**6.19**	**6.11**	**8.60**	**10.65**	*8.90*	*9.08*	*9.63*	*9.78*	*7.25*	**6.23**	*7.66*	*8.61*
W. N. Central	**5.97**	**6.59**	**8.20**	**6.56**	**6.32**	**7.71**	**9.83**	*9.18*	*9.36*	*9.28*	*9.75*	*7.58*	**6.41**	*7.64*	*8.80*
S. Atlantic	**8.51**	**9.21**	**9.54**	**8.86**	**8.69**	**9.84**	**10.30**	*10.60*	*10.80*	*11.10*	*10.61*	*9.17*	**8.86**	*9.64*	*10.33*
E. S. Central	**8.36**	**9.18**	**10.23**	**8.67**	**8.33**	**9.90**	**11.97**	*11.31*	*10.86*	*11.31*	*11.06*	*9.50*	**8.79**	*9.85*	*10.50*
W. S. Central	**6.02**	**7.20**	**8.13**	**7.45**	**6.91**	**8.58**	**9.96**	*9.92*	*9.51*	*9.61*	*9.16*	*7.97*	**6.93**	*8.43*	*9.05*
Mountain	**6.07**	**6.68**	**7.38**	**6.38**	**6.50**	**7.76**	**9.28**	*8.63*	*8.67*	*9.00*	*9.46*	*7.99*	**6.40**	*7.64*	*8.59*
Pacific	**9.48**	**9.37**	**9.52**	**9.63**	**10.46**	**10.31**	**11.36**	*10.96*	*11.16*	*10.80*	*10.77*	*10.04*	**9.51**	*10.72*	*10.68*
U.S. Average	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**10.02**	*9.72*	*9.88*	*9.97*	*9.70*	*8.42*	**7.49**	*8.69*	*9.41*
Industrial Retail															
New England	**8.18**	**7.43**	**6.17**	**7.73**	**8.59**	**8.08**	**7.77**	*9.58*	*10.54*	*9.48*	*7.74*	*8.36*	**7.56**	*8.67*	*9.24*
Middle Atlantic	**7.40**	**6.84**	**7.49**	**7.78**	**7.66**	**7.36**	**7.77**	*9.32*	*10.12*	*9.17*	*8.31*	*8.42*	**7.40**	*8.17*	*9.31*
E. N. Central	**4.85**	**4.52**	**4.15**	**5.12**	**5.43**	**8.14**	**8.70**	*8.38*	*8.48*	*7.21*	*6.33*	*6.05*	**4.77**	*7.16*	*7.28*
W. N. Central	**4.01**	**3.32**	**3.15**	**4.15**	**5.13**	**4.34**	**5.27**	*7.06*	*7.56*	*5.87*	*5.14*	*5.38*	**3.71**	*5.51*	*6.06*
S. Atlantic	**4.20**	**3.73**	**3.76**	**4.65**	**5.12**	**4.75**	**6.05**	*7.59*	*7.81*	*5.91*	*5.33*	*5.43*	**4.11**	*5.86*	*6.19*
E. S. Central	**4.03**	**3.34**	**3.37**	**4.15**	**4.72**	**4.28**	**5.36**	*7.27*	*7.48*	*5.65*	*4.94*	*5.12*	**3.76**	*5.40*	*5.86*
W. S. Central	**2.20**	**1.94**	**2.20**	**2.91**	**5.75**	**3.20**	**4.45**	*5.97*	*5.74*	*4.01*	*3.84*	*3.73*	**2.33**	*4.87*	*4.33*
Mountain	**4.36**	**4.54**	**4.57**	**4.85**	**4.98**	**5.28**	**6.67**	*7.33*	*7.64*	*7.10*	*6.83*	*6.35*	**4.58**	*5.99*	*7.00*
Pacific	**7.31**	**6.27**	**6.05**	**7.06**	**8.28**	**7.24**	**7.80**	*8.47*	*9.04*	*8.15*	*7.78*	*7.50*	**6.74**	*8.05*	*8.14*
U.S. Average	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.11**	*6.79*	*6.98*	*5.07*	*4.64*	*4.80*	**3.32**	*5.47*	*5.41*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.2**	**116.2**	**135.9**	**134.1**	**140.3**	**142.7**	**153.3**	*145.6*	*153.6*	*145.4*	*157.4*	*154.9*	**535.3**	*582.0*	*611.4*
Appalachia	**39.8**	**29.5**	**33.9**	**35.5**	**40.8**	**39.5**	**40.1**	*41.0*	*43.7*	*42.9*	*40.2*	*41.3*	**138.7**	*161.4*	*168.1*
Interior	**25.8**	**20.0**	**23.2**	**21.8**	**25.0**	**23.3**	**25.7**	*24.4*	*25.7*	*24.9*	*27.1*	*27.5*	**90.7**	*98.4*	*105.2*
Western	**83.6**	**66.7**	**78.8**	**76.8**	**74.5**	**80.0**	**87.5**	*80.2*	*84.3*	*77.6*	*90.1*	*86.1*	**305.9**	*322.2*	*338.1*
Primary Inventory Withdrawals	**0.5**	**1.3**	**4.0**	**1.9**	**-4.5**	**2.1**	**2.7**	*-2.0*	*-1.3*	*-2.1*	*-0.8*	*-5.2*	**7.7**	*-1.7*	*-9.3*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	**1.5**	**1.3**	*1.1*	*0.9*	*0.9*	*1.1*	*1.1*	**5.1**	*5.0*	*4.0*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	**22.1**	**22.5**	*23.7*	*27.1*	*18.3*	*19.1*	*25.2*	**69.1**	*89.1*	*89.7*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	**11.7**	**12.5**	*13.9*	*14.6*	*10.7*	*12.2*	*13.6*	**42.1**	*48.4*	*51.1*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	**10.4**	**10.0**	*9.9*	*12.5*	*7.6*	*6.9*	*11.6*	**27.0**	*40.7*	*38.6*
Total Primary Supply	**131.0**	**103.9**	**125.9**	**118.3**	**116.2**	**124.2**	**134.8**	*121.0*	*126.2*	*125.9*	*138.7*	*125.7*	**479.0**	*496.2*	*516.4*
Secondary Inventory Withdrawals	**-16.6**	**-5.1**	**21.5**	**-3.3**	**21.3**	**0.2**	**27.8**	*5.3*	*3.9*	*-8.7*	*17.2*	*0.2*	**-3.5**	*54.7*	*12.6*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	**2.0**	**2.0**	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.3**	**100.3**	**149.3**	**117.3**	**139.5**	**126.5**	**164.6**	*128.3*	*131.9*	*119.0*	*157.7*	*127.7*	**483.2**	*558.8*	*536.4*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**4.4**	**4.5**	**3.8**	*4.0*	*5.3*	*4.5*	*4.2*	*4.7*	**14.4**	*16.7*	*18.8*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**128.1**	**113.8**	**156.3**	*118.5*	*119.7*	*107.9*	*146.9*	*116.2*	**436.5**	*516.6*	*490.7*
Retail and Other Industry	**7.4**	**5.8**	**6.1**	**7.2**	**6.8**	**6.3**	**6.6**	*6.9*	*6.9*	*6.6*	*6.6*	*6.8*	**26.5**	*26.7*	*26.9*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.3**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.8*
Other Industrial	**7.1**	**5.6**	**6.0**	**7.0**	**6.6**	**6.2**	**6.5**	*6.7*	*6.7*	*6.4*	*6.4*	*6.6*	**25.7**	*25.9*	*26.1*
Total Consumption	**109.5**	**96.5**	**148.6**	**122.8**	**139.4**	**124.6**	**166.7**	*129.4*	*131.9*	*119.0*	*157.7*	*127.7*	**477.4**	*560.0*	*536.4*
Discrepancy (c)	**6.8**	**3.9**	**0.7**	**-5.5**	**0.1**	**1.9**	**-2.1**	*-1.1*	*0.0*	*0.0*	*0.0*	*0.0*	**5.8**	*-1.2*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**25.5**	**23.6**	**28.1**	**26.1**	**23.4**	*25.4*	*26.6*	*28.7*	*29.5*	*34.7*	**23.6**	*25.4*	*34.7*
Secondary Inventories	**150.6**	**155.7**	**134.2**	**137.5**	**116.1**	**115.9**	**88.1**	*82.8*	*78.9*	*87.6*	*70.4*	*70.2*	**137.5**	*82.8*	*70.2*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	**82.3**	*77.3*	*73.5*	*82.0*	*64.7*	*64.8*	**132.7**	*77.3*	*64.8*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**2.6**	**2.6**	**3.6**	*3.4*	*3.6*	*3.5*	*3.4*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.5**	**1.9**	**2.1**	*2.0*	*1.6*	*2.0*	*2.1*	*2.0*	**1.7**	*2.0*	*2.0*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	**6.32**	**6.32**	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	**0.267**	*0.300*	*0.322*	*0.292*	*0.289*	*0.302*	**0.216**	*0.268*	*0.301*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**966**	**933**	**1,148**	**962**	**989**	**984**	**1,163**	*976*	*976*	*994*	*1,160*	*990*	**4,009**	*4,112*	*4,119*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	**948**	**1,123**	*938*	*938*	*957*	*1,118*	*951*	**3,853**	*3,960*	*3,963*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	**33**	**37**	*35*	*35*	*34*	*38*	*36*	**143**	*138*	*142*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**4**	*3*	*3*	*3*	*4*	*3*	**13**	*14*	*14*
Net Imports	**10**	**11**	**15**	**12**	**11**	**11**	**13**	*9*	*11*	*12*	*14*	*11*	**47**	*45*	*48*
Total Supply	**976**	**944**	**1,163**	**973**	**999**	**995**	**1,177**	*986*	*987*	*1,006*	*1,174*	*1,001*	**4,056**	*4,157*	*4,167*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**53**	**65**	**61**	*57*	*45*	*67*	*58*	*56*	**254**	*236*	*225*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**914**	**898**	**1,085**	*899*	*908*	*906*	*1,079*	*910*	**3,664**	*3,797*	*3,804*
Residential Sector	**340**	**334**	**453**	**334**	**379**	**328**	**445**	*338*	*360*	*325*	*434*	*343*	**1,462**	*1,490*	*1,462*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	**322**	**376**	*317*	*309*	*326*	*376*	*319*	**1,276**	*1,319*	*1,331*
Industrial Sector	**231**	**216**	**242**	**231**	**229**	**247**	**263**	*243*	*238*	*253*	*268*	*247*	**920**	*981*	*1,005*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	**1**	**2**	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	**32**	**36**	*34*	*33*	*33*	*37*	*35*	**138**	*134*	*138*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	**930**	**1,116**	*929*	*942*	*939*	*1,116*	*945*	**3,802**	*3,921*	*3,942*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,753**	**2,386**	**3,220**	*2,443*	*2,589*	*2,338*	*3,121*	*2,464*	**10,723**	*10,802*	*10,513*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	**82.3**	*77.3*	*73.5*	*82.0*	*64.7*	*64.8*	**132.7**	*77.3*	*64.8*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	**7.5**	**7.3**	*8.2*	*7.9*	*7.8*	*7.8*	*8.1*	**8.3**	*8.2*	*8.1*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**15.9**	**15.3**	**15.3**	*15.6*	*15.5*	*15.4*	*15.4*	*15.7*	**16.8**	*15.6*	*15.7*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.26**	**4.49**	*5.94*	*5.86*	*3.76*	*3.69*	*3.82*	**2.39**	*5.12*	*4.20*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**13.09**	**13.69**	*13.99*	*14.55*	*14.55*	*13.13*	*12.53*	**9.15**	*12.98*	*13.67*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.20**	**16.21**	*18.73*	*17.87*	*16.89*	*16.28*	*15.91*	**10.73**	*15.64*	*16.81*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.97**	*13.85*	*13.88*	*14.41*	*14.35*	*13.99*	**13.20**	*13.68*	*14.17*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.58**	*11.15*	*11.61*	*11.45*	*11.68*	*11.07*	**10.65**	*11.24*	*11.46*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.59**	*6.89*	*7.14*	*6.94*	*7.49*	*6.75*	**6.66**	*7.14*	*7.09*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	**39.74**	**52.31**	*49.89*	*45.27*	*41.26*	*38.86*	*31.55*	**26.99**	*189.57*	*39.24*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	**36.90**	**72.02**	*29.82*	*20.20*	*18.15*	*19.27*	*16.74*	**38.15**	*45.87*	*18.59*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	**33.67**	**52.57**	*64.80*	*64.35*	*57.72*	*59.26*	*53.36*	**26.52**	*51.57*	*58.67*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	**31.85**	**50.42**	*59.62*	*61.40*	*51.07*	*52.27*	*47.22*	**22.85**	*46.66*	*52.99*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	**33.71**	**51.32**	*56.60*	*50.38*	*39.89*	*44.74*	*38.28*	**24.49**	*44.18*	*43.32*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	**33.82**	**49.36**	*55.62*	*50.41*	*40.16*	*43.63*	*36.95*	**25.43**	*45.94*	*42.79*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	**30.86**	**48.63**	*47.28*	*45.07*	*37.19*	*42.98*	*33.14*	**22.55**	*94.27*	*39.60*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	**32.93**	**44.18**	*52.06*	*48.36*	*38.04*	*40.15*	*35.07*	**22.62**	*42.57*	*40.40*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	**32.17**	**42.76**	*48.06*	*47.36*	*35.36*	*35.88*	*34.15*	**23.48**	*37.68*	*38.19*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	**51.51**	**91.61**	*31.31*	*20.56*	*20.30*	*18.59*	*18.06*	**25.46**	*52.25*	*19.38*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	**46.57**	**79.86**	*27.17*	*17.01*	*16.82*	*16.74*	*14.60*	**39.64**	*48.83*	*16.29*

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**10.9**	**14.6**	**11.0**	**12.9**	**10.8**	**13.8**	*11.1*	*12.4*	*10.3*	*12.9*	*11.0*	**48.2**	*48.6*	*46.6*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**36.1**	**30.3**	**42.1**	*31.4*	*36.6*	*30.3*	*39.6*	*31.8*	**137.1**	*139.9*	*138.4*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.2**	**43.1**	**56.4**	*44.4*	*47.7*	*41.7*	*52.6*	*44.6*	**190.0**	*194.2*	*186.5*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.9**	**23.7**	**31.3**	*26.0*	*31.3*	*24.6*	*32.8*	*28.6*	**105.8**	*110.9*	*117.3*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**95.2**	**85.1**	**111.9**	*86.3*	*89.9*	*84.6*	*109.4*	*86.7*	**370.6**	*378.5*	*370.6*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.8**	**25.6**	**35.9**	*27.2*	*31.8*	*26.0*	*36.2*	*27.7*	**118.8**	*122.5*	*121.6*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**56.8**	**49.5**	**74.4**	*49.8*	*49.8*	*50.3*	*75.7*	*50.1*	**226.5**	*230.5*	*225.9*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.7**	**26.9**	**35.0**	*23.4*	*22.9*	*25.3*	*34.3*	*24.2*	**108.4**	*109.0*	*106.7*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**39.0**	**32.2**	**43.1**	*37.1*	*36.6*	*30.9*	*39.4*	*36.7*	**151.5**	*151.5*	*143.7*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	**1.2**	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**378.9**	**328.4**	**445.2**	*337.9*	*360.1*	*325.2*	*434.1*	*342.6*	**1,462.0**	*1,490.4*	*1,462.1*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	**11.7**	**13.6**	*11.6*	*11.7*	*11.6*	*13.3*	*11.6*	**47.5**	*48.6*	*48.2*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.6**	**33.3**	**40.1**	*34.4*	*35.6*	*34.1*	*40.1*	*35.2*	**138.9**	*142.4*	*145.0*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.7**	**42.2**	**49.0**	*42.0*	*42.4*	*42.6*	*48.4*	*42.3*	**169.7**	*174.9*	*175.7*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.0**	**23.7**	**27.6**	*24.5*	*24.7*	*24.1*	*28.0*	*25.2*	**96.0**	*99.8*	*102.1*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.8**	**77.3**	**89.3**	*73.9*	*71.4*	*78.5*	*89.5*	*74.2*	**300.2**	*311.2*	*313.7*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.9**	**21.7**	**25.7**	*21.0*	*21.0*	*22.1*	*25.9*	*21.1*	**85.8**	*89.4*	*90.0*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.4**	**50.2**	**57.7**	*47.5*	*43.0*	*52.0*	*58.8*	*47.8*	**189.4**	*197.8*	*201.6*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	**24.8**	**28.9**	*23.3*	*22.4*	*24.6*	*28.9*	*23.7*	**94.7**	*99.0*	*99.5*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**35.2**	**35.3**	**42.4**	*37.5*	*35.6*	*35.5*	*41.3*	*37.0*	**148.3**	*150.5*	*149.4*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	**1.3**	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	**5.2**	*5.2*	*5.3*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.6**	**321.6**	**375.6**	*316.9*	*309.1*	*326.3*	*375.7*	*319.5*	**1,275.7**	*1,318.7*	*1,330.6*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.8**	**4.0**	**4.2**	*3.8*	*3.8*	*4.0*	*4.2*	*3.8*	**14.8**	*15.7*	*15.7*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.6**	**17.9**	**19.2**	*18.3*	*18.3*	*18.4*	*19.6*	*18.6*	**70.4**	*73.1*	*74.9*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.8**	**46.6**	**48.7**	*44.7*	*46.7*	*47.3*	*49.6*	*45.5*	**168.7**	*184.7*	*189.1*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.0**	**24.2**	**26.0**	*24.1*	*24.8*	*25.4*	*26.9*	*24.6*	**87.3**	*97.3*	*101.6*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.4**	**35.9**	**37.5**	*34.8*	*34.2*	*36.4*	*38.2*	*35.3*	**131.7**	*141.7*	*144.1*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.8**	**25.0**	**25.9**	*24.4*	*24.9*	*25.5*	*26.3*	*24.6*	**91.1**	*99.2*	*101.3*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**44.1**	**49.7**	**53.4**	*51.8*	*46.1*	*51.8*	*55.2*	*52.9*	**188.1**	*198.9*	*206.1*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.2**	**21.6**	**23.4**	*20.3*	*19.1*	*21.5*	*23.5*	*20.6*	**82.9**	*84.4*	*84.7*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.1**	**20.9**	**23.1**	*19.5*	*18.5*	*21.3*	*23.4*	*19.6*	**80.1**	*81.7*	*82.8*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	**1.1**	**1.2**	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.6*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**228.8**	**246.9**	**262.6**	*242.9*	*237.6*	*252.8*	*268.0*	*246.7*	**919.5**	*981.2*	*1,005.0*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	**26.7**	**31.6**	*26.5*	*28.0*	*26.0*	*30.5*	*26.5*	**111.0**	*113.3*	*110.9*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.2**	**82.3**	**102.2**	*84.9*	*91.4*	*83.6*	*100.2*	*86.5*	**349.7**	*358.6*	*361.5*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.9**	**132.0**	**154.2**	*131.2*	*136.9*	*131.7*	*150.7*	*132.5*	**528.8**	*554.3*	*551.8*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.0**	**71.6**	**84.9**	*74.6*	*80.9*	*74.1*	*87.7*	*78.4*	**289.2**	*308.1*	*321.1*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.7**	**198.6**	**239.0**	*195.2*	*195.8*	*199.9*	*237.4*	*196.5*	**803.7**	*832.5*	*829.6*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.5**	**72.4**	**87.5**	*72.6*	*77.7*	*73.6*	*88.3*	*73.3*	**295.7**	*311.0*	*312.9*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**143.3**	**149.5**	**185.6**	*149.1*	*138.9*	*154.2*	*189.8*	*150.9*	**604.2**	*627.4*	*633.8*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	**73.3**	**87.3**	*67.0*	*64.4*	*71.4*	*86.8*	*68.5*	**286.2**	*292.5*	*291.1*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**92.5**	**88.6**	**108.9**	*94.2*	*91.0*	*87.9*	*104.3*	*93.5*	**380.6**	*384.3*	*376.6*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	**3.6**	**3.7**	*3.8*	*3.6*	*3.6*	*3.8*	*3.8*	**14.6**	*14.7*	*14.7*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**914.0**	**898.4**	**1,085.0**	*899.3*	*908.5*	*905.8*	*1,079.3*	*910.4*	**3,663.7**	*3,796.6*	*3,804.0*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.76**	**21.32**	**20.95**	**20.80**	**21.38**	**20.82**	**21.31**	*22.18*	*23.69*	*23.53*	*24.25*	*25.02*	**21.20**	*21.42*	*24.13*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.62**	**16.28**	**16.98**	*17.08*	*16.72*	*17.28*	*17.74*	*17.34*	**15.92**	*16.50*	*17.28*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.38**	**14.40**	**14.19**	*14.36*	*14.09*	*15.11*	*14.86*	*14.73*	**13.48**	*14.07*	*14.68*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.88**	**12.76**	**13.20**	*11.88*	*10.87*	*12.35*	*12.23*	*10.96*	**11.99**	*12.17*	*11.58*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.66**	**12.31**	**12.45**	*12.42*	*12.54*	*13.13*	*13.13*	*12.69*	**11.88**	*12.22*	*12.88*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.18**	**12.22**	**12.02**	*12.02*	*11.84*	*12.62*	*12.24*	*12.09*	**11.36**	*11.83*	*12.18*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**11.85**	**11.71**	**11.88**	*12.33*	*13.00*	*12.18*	*12.07*	*12.26*	**11.29**	*11.93*	*12.34*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.53**	**12.09**	**12.37**	*11.95*	*11.86*	*12.32*	*12.37*	*11.73*	**11.88**	*12.03*	*12.10*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.76**	**18.15**	**19.01**	*16.72*	*16.99*	*18.94*	*19.69*	*17.02*	**16.67**	*17.69*	*18.16*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.97**	*13.85*	*13.88*	*14.41*	*14.35*	*13.99*	**13.20**	*13.68*	*14.17*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.28**	**15.75**	**16.40**	*16.46*	*17.45*	*17.04*	*17.72*	*17.57*	**15.90**	*16.23*	*17.45*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.48**	**13.34**	**14.65**	*13.33*	*13.29*	*14.10*	*15.05*	*13.53*	**12.47**	*13.50*	*14.03*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.40**	**10.69**	**10.76**	*10.91*	*11.05*	*11.29*	*11.15*	*11.01*	**10.19**	*10.69*	*11.13*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.10**	**10.19**	**10.86**	*9.72*	*9.14*	*9.72*	*9.85*	*8.80*	**9.66**	*10.00*	*9.39*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.29**	**9.18**	**9.54**	*9.82*	*10.03*	*9.76*	*9.89*	*9.89*	**9.13**	*9.46*	*9.89*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.96**	**11.23**	**11.33**	*11.35*	*11.58*	*11.68*	*11.64*	*11.48*	**10.70**	*11.22*	*11.60*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**11.28**	**8.86**	**8.44**	*7.91*	*10.99*	*8.85*	*8.47*	*8.05*	**7.90**	*9.03*	*9.01*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.11**	**9.76**	**10.23**	*9.48*	*9.21*	*9.75*	*10.00*	*9.08*	**9.58**	*9.69*	*9.54*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.53**	**16.00**	**17.76**	*15.78*	*15.23*	*16.48*	*17.47*	*15.01*	**15.18**	*16.10*	*16.09*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.58**	*11.15*	*11.61*	*11.45*	*11.68*	*11.07*	**10.65**	*11.24*	*11.46*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.49**	**12.78**	**13.40**	*12.76*	*14.10*	*13.27*	*13.86*	*13.12*	**12.26**	*13.11*	*13.59*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.50**	**6.55**	**7.13**	*6.62*	*6.58*	*6.55*	*6.91*	*6.27*	**6.35**	*6.71*	*6.58*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.92**	**6.92**	**7.32**	*7.09*	*7.12*	*7.05*	*7.31*	*6.96*	**6.66**	*7.07*	*7.11*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**6.97**	**7.30**	**7.97**	*6.87*	*7.02*	*7.44*	*8.04*	*6.87*	**7.20**	*7.30*	*7.36*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.24**	**6.30**	**7.00**	*6.45*	*6.51*	*6.36*	*6.91*	*6.25*	**6.17**	*6.51*	*6.51*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.75**	**5.87**	**6.23**	*5.85*	*5.86*	*5.91*	*6.18*	*5.70*	**5.54**	*5.93*	*5.92*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.60**	**5.45**	**5.95**	*5.49*	*6.95*	*5.39*	*5.70*	*5.19*	**5.07**	*6.07*	*5.77*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.23**	**6.62**	**7.36**	*6.02*	*6.17*	*6.51*	*7.12*	*6.00*	**6.21**	*6.59*	*6.48*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.64**	**10.70**	**12.82**	*11.19*	*9.75*	*10.78*	*12.70*	*11.42*	**10.71**	*11.18*	*11.24*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.59**	*6.89*	*7.14*	*6.94*	*7.49*	*6.75*	**6.66**	*7.14*	*7.09*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.19**	**17.34**	**18.11**	*18.28*	*19.72*	*19.02*	*19.93*	*19.99*	**17.68**	*17.99*	*19.68*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.56**	**12.94**	**14.18**	*13.26*	*13.32*	*13.58*	*14.51*	*13.37*	**12.58**	*13.27*	*13.72*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.35**	**10.58**	**10.92**	*10.77*	*10.76*	*10.97*	*11.18*	*10.86*	**10.24**	*10.66*	*10.95*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.16**	**10.07**	**10.84**	*9.55*	*9.16*	*9.81*	*10.19*	*8.99*	**9.77**	*9.93*	*9.55*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.91**	**10.00**	**10.50**	*10.37*	*10.56*	*10.56*	*10.90*	*10.47*	**9.91**	*10.21*	*10.64*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.48**	**9.73**	**10.10**	*9.75*	*9.85*	*10.01*	*10.26*	*9.77*	**9.38**	*9.78*	*9.99*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.37**	**8.67**	**9.10**	*8.54*	*10.37*	*8.77*	*9.10*	*8.45*	**8.29**	*9.16*	*9.14*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.15**	**9.69**	**10.32**	*9.30*	*9.25*	*9.68*	*10.16*	*9.09*	**9.48**	*9.67*	*9.59*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.50**	**15.53**	**17.20**	*15.19*	*14.81*	*15.95*	*17.22*	*15.03*	**14.82**	*15.67*	*15.80*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.94**	**10.92**	**11.59**	*11.01*	*11.34*	*11.25*	*11.71*	*11.00*	**10.66**	*11.14*	*11.34*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**354.7**	**342.6**	**474.2**	**340.7**	**318.2**	**345.4**	**452.8**	*324.9*	*298.0*	*325.2*	*445.5*	*326.4*	**1,512.2**	*1,441.3*	*1,395.1*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**230.3**	**203.8**	**280.8**	*214.3*	*217.6*	*195.1*	*263.1*	*210.1*	**768.2**	*929.1*	*886.0*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.5**	**185.2**	**203.3**	*191.1*	*195.3*	*191.1*	*204.7*	*193.0*	**789.9**	*778.1*	*784.1*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**198.0**	**208.2**	**180.7**	*202.4*	*220.7*	*240.1*	*199.7*	*215.7*	**760.6**	*789.3*	*876.1*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	**60.7**	*57.3*	*67.7*	*78.4*	*63.6*	*58.0*	**289.9**	*254.6*	*267.7*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	**75.0**	*110.7*	*114.3*	*106.6*	*82.0*	*117.6*	**336.7**	*377.3*	*420.4*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	**33.8**	*23.8*	*28.2*	*44.8*	*43.1*	*29.5*	**90.1**	*114.3*	*145.7*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	**7.0**	*6.5*	*6.6*	*6.4*	*6.9*	*6.4*	**27.5**	*27.1*	*26.3*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	**4.1**	*4.1*	*3.9*	*3.9*	*4.1*	*4.2*	**16.5**	*16.0*	*16.0*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	**-1.0**	**-2.1**	*-1.1*	*-1.0*	*-1.0*	*-2.0*	*-1.0*	**-5.3**	*-5.3*	*-5.0*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**5.2**	**3.5**	**4.6**	*3.8*	*4.5*	*3.7*	*4.3*	*3.6*	**16.5**	*17.1*	*16.2*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	**0.8**	**0.9**	*0.9*	*0.9*	*0.7*	*0.9*	*0.9*	**3.1**	*3.3*	*3.5*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.9**	**1.8**	**1.8**	*1.8*	*1.8*	*1.8*	*1.8*	*1.9*	**7.5**	*7.2*	*7.2*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**951.8**	**947.8**	**1,122.8**	*938.0*	*937.9*	*956.8*	*1,117.9*	*950.5*	**3,852.8**	*3,960.3*	*3,963.2*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**12.1**	**11.0**	**16.6**	*13.2*	*13.6*	*12.6*	*16.1*	*11.8*	**47.7**	*52.8*	*54.1*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	**0.0**	**0.3**	*1.1*	*0.5*	*0.2*	*0.1*	*0.6*	**0.2**	*1.9*	*1.4*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	**7.1**	**7.3**	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.1*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	**1.8**	**1.7**	*1.9*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*7.2*	*7.3*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.8**	**2.9**	**2.7**	*2.9*	*3.0*	*3.1*	*2.8*	*3.0*	**10.3**	*11.2*	*11.9*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	**1.4**	*1.5*	*1.5*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.7**	**23.0**	**29.0**	*25.0*	*26.6*	*24.7*	*27.8*	*24.8*	**92.9**	*101.7*	*104.0*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.4**	**26.9**	**32.5**	*27.9*	*29.3*	*27.4*	*32.0*	*28.5*	**113.0**	*116.7*	*117.2*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**12.8**	**14.0**	**20.0**	*14.1*	*14.4*	*14.4*	*20.1*	*14.9*	**57.1**	*60.9*	*63.8*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.3**	**7.7**	**7.3**	*6.9*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*31.1*	*27.3*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	**7.2**	**7.3**	*7.4*	*7.1*	*7.1*	*7.0*	*7.2*	**31.4**	*29.3*	*28.4*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	**2.0**	**1.7**	*2.2*	*2.1*	*2.2*	*1.9*	*2.5*	**7.6**	*7.8*	*8.6*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.3**	*0.1*	*0.4*	*0.1*	*0.2*	*0.1*	**0.6**	*0.9*	*0.8*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**31.7**	**31.0**	**36.6**	*30.8*	*30.5*	*30.9*	*35.9*	*31.6*	**135.4**	*130.0*	*128.9*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	**34.7**	**43.4**	*36.5*	*37.2*	*36.1*	*43.1*	*37.0*	**145.3**	*151.2*	*153.4*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**72.5**	**70.9**	**91.6**	*69.1*	*68.4*	*69.1*	*90.2*	*72.2*	**315.8**	*304.0*	*299.9*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**50.5**	**39.8**	**55.7**	*38.2*	*44.8*	*39.8*	*47.6*	*40.2*	**148.3**	*184.2*	*172.4*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.4**	**64.6**	**70.4**	*68.1*	*67.9*	*67.8*	*72.0*	*66.6*	**275.7**	*271.5*	*274.2*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	**2.4**	**2.1**	*2.2*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*9.4*	*9.0*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.1**	**11.0**	**8.8**	*11.9*	*12.0*	*12.5*	*9.6*	*12.7*	**39.1**	*42.8*	*46.8*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**1.0**	**0.5**	**0.3**	*0.7*	*0.8*	*0.6*	*0.3*	*0.6*	**2.2**	*2.6*	*2.3*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**206.2**	**189.3**	**229.0**	*190.1*	*196.6*	*192.4*	*221.3*	*194.3*	**791.1**	*814.6*	*804.6*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.0**	**194.4**	**177.8**	**214.4**	*181.3*	*193.3*	*178.6*	*207.8*	*184.4*	**732.4**	*767.9*	*764.2*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**57.6**	**57.2**	**73.1**	*57.0*	*49.9*	*55.1*	*71.8*	*55.9*	**254.2**	*244.8*	*232.8*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	**33.7**	**45.4**	*34.0*	*38.4*	*35.9*	*49.1*	*36.1*	**118.3**	*149.4*	*159.4*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	**50.9**	**54.6**	*52.1*	*51.7*	*52.6*	*56.9*	*54.8*	**210.1**	*211.4*	*216.0*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.8**	**8.7**	**8.3**	*8.4*	*10.3*	*7.6*	*6.7*	*7.8*	**38.7**	*35.2*	*32.3*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.0**	**5.9**	**5.3**	*4.2*	*4.4*	*6.9*	*6.4*	*4.7*	**17.4**	*19.4*	*22.5*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	**-0.2**	**-0.5**	*-0.2*	*-0.1*	*-0.2*	*-0.6*	*-0.2*	**-1.1**	*-0.9*	*-1.0*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.4**	**156.2**	**186.3**	*155.4*	*154.7*	*157.9*	*190.2*	*159.1*	**637.6**	*659.2*	*661.9*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.0**	**161.2**	**179.7**	*153.5*	*157.1*	*159.4*	*187.6*	*158.9*	**649.7**	*657.4*	*663.0*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.5**	**43.7**	**51.6**	*36.9*	*33.9*	*45.5*	*51.5*	*40.4*	**179.5**	*166.8*	*171.4*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	**5.3**	**6.2**	*5.3*	*2.8*	*3.0*	*4.7*	*4.9*	**15.9**	*21.4*	*15.4*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	**7.2**	**7.2**	*7.6*	*7.9*	*7.3*	*8.1*	*7.1*	**29.4**	*29.9*	*30.4*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.4**	**2.3**	**1.9**	**2.4**	**3.2**	**2.9**	*2.7*	*3.1*	*3.4*	*3.2*	*2.8*	**8.4**	*11.2*	*12.5*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	**0.7**	**0.7**	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**3.3**	*2.9*	*3.1*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**50.3**	**60.2**	**68.7**	*53.1*	*48.6*	*60.0*	*68.4*	*56.0*	**236.7**	*232.3*	*233.0*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.6**	**54.9**	**68.2**	*53.2*	*47.8*	*59.0*	*67.3*	*52.7*	**232.8**	*226.9*	*226.7*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**43.9**	**43.2**	**53.4**	**37.7**	**34.5**	**40.2**	**49.3**	*33.6*	*31.0*	*37.7*	*48.8*	*33.0*	**178.3**	*157.6*	*150.5*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**69.7**	**60.1**	**81.7**	*64.4*	*71.1*	*60.6*	*74.8*	*61.5*	**218.4**	*275.9*	*268.1*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	**22.6**	**25.2**	*23.0*	*23.8*	*22.2*	*23.7*	*23.0*	**95.1**	*94.3*	*92.7*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**2.8**	**2.9**	**2.7**	*2.3*	*2.4*	*2.8*	*2.3*	*2.1*	**11.8**	*10.7*	*9.6*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**24.3**	**23.2**	**18.7**	*27.9*	*26.5*	*25.2*	*20.0*	*28.8*	**81.3**	*94.1*	*100.4*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.8**	**1.3**	**1.5**	*1.1*	*1.7*	*1.4*	*1.5*	*1.0*	**5.2**	*5.8*	*5.6*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**156.7**	**150.3**	**179.1**	*152.4*	*156.5*	*149.8*	*171.0*	*149.5*	**590.0**	*638.5*	*626.9*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.0**	**154.2**	**181.1**	*154.7*	*153.9*	*155.9*	*177.9*	*157.0*	**618.7**	*648.9*	*644.7*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.4**	**14.5**	**19.1**	*11.1*	*10.9*	*14.3*	*21.7*	*12.9*	**71.6**	*57.1*	*59.9*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**21.8**	**19.8**	**30.9**	*21.9*	*22.5*	*16.9*	*28.9*	*21.6*	**79.2**	*94.4*	*89.9*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	**2.8**	**4.3**	*4.4*	*4.3*	*4.4*	*4.1*	*2.5*	**16.8**	*15.5*	*15.2*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	**5.1**	**4.7**	*3.6*	*3.6*	*4.3*	*3.9*	*3.1*	**21.8**	*18.7*	*15.0*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**22.8**	**23.6**	**19.7**	*26.3*	*28.9*	*26.1*	*22.0*	*28.8*	**80.6**	*92.4*	*105.9*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	**0.1**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.5**	*0.7*	*0.6*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.7**	**65.9**	**78.7**	*67.4*	*70.5*	*66.1*	*80.8*	*69.2*	**270.5**	*278.8*	*286.5*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.7**	**66.2**	**76.4**	*62.5*	*65.3*	*65.4*	*79.8*	*66.0*	**262.1**	*269.7*	*276.6*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.0**	**40.0**	**57.4**	*34.0*	*27.8*	*32.9*	*50.6*	*28.3*	**174.6**	*164.5*	*139.6*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.3**	**18.5**	**22.4**	*17.7*	*12.3*	*18.3*	*22.6*	*15.4*	**67.2**	*74.9*	*68.7*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	**9.8**	**11.0**	*9.0*	*10.7*	*10.0*	*10.6*	*10.8*	**41.4**	*40.3*	*42.0*
Conventional hydropower	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.3**	**0.2**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	**1.1**	*0.9*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**25.2**	**27.6**	**23.2**	*31.1*	*35.2*	*37.4*	*30.1*	*35.3*	**92.6**	*107.1*	*138.0*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	**0.3**	**0.4**	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.5**	*1.3*	*1.4*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	**114.6**	*92.4*	*86.6*	*99.1*	*114.3*	*90.3*	**378.4**	*389.0*	*390.3*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	**114.6**	*92.4*	*86.6*	*99.1*	*114.3*	*90.3*	**378.4**	*389.0*	*390.3*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**20.9**	**20.1**	**29.5**	*25.7*	*25.9*	*21.0*	*30.8*	*24.3*	**89.6**	*96.2*	*102.0*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**22.5**	**19.0**	**27.1**	*24.7*	*18.1*	*13.8*	*27.4*	*23.1*	**86.1**	*93.3*	*82.4*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	**1.2**	**2.5**	*2.5*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.7*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.3**	**32.0**	**26.7**	*26.3*	*32.8*	*40.5*	*30.3*	*27.6*	**136.0**	*119.2*	*131.3*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.3**	**16.6**	**14.6**	*16.3*	*16.6*	*17.7*	*15.8*	*17.4*	**55.6**	*62.9*	*67.4*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*	**0.6**	*0.8*	*0.8*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**95.6**	**89.2**	**100.6**	*95.6*	*96.0*	*95.6*	*107.0*	*95.0*	**377.4**	*381.0*	*393.7*
Net energy for load (f)	**91.3**	**81.6**	**94.8**	**87.6**	**88.4**	**84.1**	**97.2**	*91.1*	*89.1*	*85.9*	*96.6*	*90.1*	**355.3**	*360.9*	*361.7*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**11.0**	**15.8**	**20.3**	*13.5*	*7.8*	*8.2*	*17.1*	*11.6*	**61.7**	*60.6*	*44.8*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**5.9**	**5.6**	**8.1**	*4.4*	*5.0*	*5.0*	*5.4*	*4.1*	**25.9**	*24.1*	*19.5*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	**7.1**	**8.6**	*7.7*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.8*	*32.1*
Conventional hydropower	**2.7**	**4.0**	**3.7**	**2.5**	**2.5**	**3.3**	**3.1**	*2.1*	*2.6*	*3.9*	*3.8*	*2.6*	**12.8**	*11.0*	*12.9*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	**3.8**	**3.2**	*4.2*	*4.9*	*4.9*	*4.2*	*5.3*	**10.5**	*14.2*	*19.4*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.8**	**35.7**	**43.4**	*32.0*	*28.9*	*29.6*	*39.4*	*31.1*	**142.7**	*142.0*	*129.0*
Net energy for load (f)	**20.6**	**24.4**	**34.4**	**20.6**	**19.5**	**25.6**	**31.9**	*20.5*	*18.7*	*24.3*	*31.9*	*20.9*	**100.0**	*97.5*	*95.8*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.6**	**17.4**	**28.8**	*20.6*	*13.6*	*13.7*	*26.2*	*20.2*	**79.9**	*83.4*	*73.7*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	**1.4**	**2.6**	*2.1*	*1.7*	*1.2*	*2.0*	*2.2*	**6.7**	*7.9*	*7.1*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	**4.2**	**5.0**	*4.3*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.5*	*16.7*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.0**	**3.2**	**3.4**	*2.5*	*3.4*	*6.8*	*6.1*	*3.2*	**16.8**	*11.1*	*19.5*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.5**	**20.9**	**18.6**	*15.0*	*15.9*	*21.7*	*19.6*	*16.0*	**65.8**	*69.9*	*73.1*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**-0.1**	**-0.1**	*0.2*	*0.0*	*-0.1*	*-0.1*	*0.3*	**0.2**	*0.0*	*0.1*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.7**	**47.1**	**58.2**	*44.7*	*39.1*	*47.1*	*58.1*	*45.8*	**185.8**	*188.7*	*190.2*
Net energy for load (f)	**58.6**	**59.9**	**76.8**	**60.8**	**55.6**	**63.3**	**77.4**	*60.7*	*56.3*	*62.2*	*76.1*	*60.9*	**256.1**	*257.0*	*255.4*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.035**	**0.037**	**0.037**	**0.038**	**0.035**	**0.035**	**0.036**	*0.036*	*0.035*	*0.035*	*0.036*	*0.037*	**0.147**	*0.143*	*0.143*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.617**	**0.599**	**0.534**	*0.522*	*0.616*	*0.714*	*0.579*	*0.528*	**2.581**	*2.272*	*2.437*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.195**	**0.320**	**0.308**	*0.217*	*0.256*	*0.408*	*0.393*	*0.269*	**0.820**	*1.040*	*1.326*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.059**	**0.057**	**0.058**	*0.059*	*0.058*	*0.057*	*0.058*	*0.058*	**0.238**	*0.232*	*0.232*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.050**	**0.045**	**0.051**	*0.041*	*0.045*	*0.041*	*0.048*	*0.041*	**0.185**	*0.187*	*0.175*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	**0.683**	*1.008*	*1.041*	*0.970*	*0.746*	*1.071*	**3.065**	*3.435*	*3.828*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.833**	**1.923**	**1.671**	*1.883*	*2.050*	*2.226*	*1.861*	*2.003*	**7.037**	*7.310*	*8.140*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.190**	*0.190*	*0.183*	*0.192*	*0.198*	*0.194*	**0.699**	*0.738*	*0.767*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	**0.011**	**0.011**	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	**0.039**	**0.037**	*0.040*	*0.039*	*0.038*	*0.038*	*0.040*	**0.156**	*0.156*	*0.155*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	**0.344**	**0.352**	*0.356*	*0.347*	*0.345*	*0.358*	*0.360*	**1.376**	*1.390*	*1.410*
Subtotal	**0.594**	**0.521**	**0.558**	**0.588**	**0.555**	**0.579**	**0.588**	*0.593*	*0.577*	*0.583*	*0.601*	*0.602*	**2.262**	*2.316*	*2.363*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	**0.043**	**0.043**	*0.030*	*0.035*	*0.051*	*0.052*	*0.036*	**0.123**	*0.146*	*0.174*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	**0.009**	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	**0.021**	*0.021*	*0.020*	*0.020*	*0.021*	*0.020*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.070**	**0.085**	**0.086**	*0.072*	*0.076*	*0.093*	*0.095*	*0.078*	**0.290**	*0.313*	*0.342*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.066**	**0.101**	**0.102**	*0.072*	*0.080*	*0.124*	*0.127*	*0.089*	**0.291**	*0.341*	*0.421*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	**0.113**	**0.115**	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.458**	*0.455*	*0.455*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	**0.224**	**0.227**	*0.197*	*0.202*	*0.248*	*0.252*	*0.214*	**0.788**	*0.836*	*0.916*
Transportation Sector															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.061**	*0.071*	*0.072*	*0.075*	*0.080*	*0.088*	**0.276**	*0.258*	*0.315*
Ethanol (f)	**0.258**	**0.222**	**0.266**	**0.259**	**0.244**	**0.283**	**0.289**	*0.276*	*0.256*	*0.286*	*0.292*	*0.282*	**1.006**	*1.091*	*1.116*
Subtotal	**0.320**	**0.289**	**0.340**	**0.333**	**0.300**	**0.353**	**0.350**	*0.347*	*0.327*	*0.361*	*0.373*	*0.370*	**1.282**	*1.350*	*1.431*
All Sectors Total															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.061**	*0.071*	*0.072*	*0.075*	*0.080*	*0.088*	**0.276**	*0.258*	*0.315*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.190**	*0.190*	*0.183*	*0.192*	*0.198*	*0.194*	**0.699**	*0.738*	*0.767*
Ethanol (f)	**0.268**	**0.231**	**0.277**	**0.269**	**0.253**	**0.293**	**0.297**	*0.293*	*0.265*	*0.297*	*0.303*	*0.293*	**1.045**	*1.138*	*1.158*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	**0.052**	**0.055**	*0.053*	*0.052*	*0.052*	*0.053*	*0.054*	**0.214**	*0.211*	*0.211*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.620**	**0.601**	**0.537**	*0.524*	*0.619*	*0.717*	*0.582*	*0.530*	**2.592**	*2.283*	*2.448*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.292**	**0.467**	**0.461**	*0.328*	*0.380*	*0.596*	*0.584*	*0.403*	**1.246**	*1.547*	*1.962*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	**0.104**	**0.105**	*0.108*	*0.106*	*0.104*	*0.105*	*0.107*	**0.430**	*0.425*	*0.422*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	**0.523**	**0.536**	*0.532*	*0.524*	*0.520*	*0.542*	*0.537*	**2.101**	*2.111*	*2.123*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	**0.683**	*1.008*	*1.041*	*0.970*	*0.746*	*1.071*	**3.065**	*3.435*	*3.828*
Total Consumption	**2.925**	**3.001**	**2.826**	**2.907**	**2.946**	**3.164**	**2.915**	*3.093*	*3.233*	*3.510*	*3.181*	*3.268*	**11.659**	*12.117*	*13.192*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,348**	**6,346**	**6,296**	**6,295**	**6,285**	**6,141**	**6,143**	*6,184*	*6,187*	*6,190*	*6,190*	*6,190*	**6,295**	*6,184*	*6,190*
Waste	**3,867**	**3,865**	**3,792**	**3,790**	**3,781**	**3,779**	**3,781**	*3,822*	*3,825*	*3,829*	*3,829*	*3,829*	**3,790**	*3,822*	*3,829*
Wood	**2,480**	**2,480**	**2,505**	**2,505**	**2,505**	**2,362**	**2,362**	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	**2,505**	*2,362*	*2,362*
Conventional Hydroelectric	**78,528**	**78,522**	**78,669**	**78,671**	**78,672**	**78,744**	**78,747**	*78,765*	*78,786*	*78,796*	*78,837*	*78,840*	**78,671**	*78,765*	*78,840*
Geothermal	**2,466**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	*2,500*	*2,500*	*2,500*	*2,500*	*2,525*	**2,483**	*2,500*	*2,525*
Large-Scale Solar (b)	**39,067**	**41,160**	**42,961**	**47,586**	**50,256**	**52,222**	**55,880**	*63,333*	*65,718*	*69,665*	*72,133*	*81,531*	**47,586**	*63,333*	*81,531*
Wind	**106,055**	**107,549**	**109,076**	**118,045**	**120,930**	**124,472**	**126,735**	*135,042*	*136,197*	*137,896*	*138,606*	*141,903*	**118,045**	*135,042*	*141,903*
Other Sectors (c)															
Biomass	**6,295**	**6,296**	**6,292**	**6,302**	**6,280**	**6,284**	**6,289**	*6,289*	*6,289*	*6,289*	*6,281*	*6,281*	**6,302**	*6,289*	*6,281*
Waste	**770**	**771**	**767**	**777**	**775**	**778**	**778**	*778*	*778*	*778*	*778*	*778*	**777**	*778*	*778*
Wood	**5,525**	**5,525**	**5,525**	**5,525**	**5,505**	**5,505**	**5,510**	*5,510*	*5,510*	*5,510*	*5,503*	*5,503*	**5,525**	*5,510*	*5,503*
Conventional Hydroelectric	**279**	**279**	**279**	**279**	**279**	**279**	**277**	*279*	*279*	*279*	*279*	*279*	**279**	*279*	*279*
Large-Scale Solar (b)	**443**	**456**	**462**	**468**	**472**	**472**	**489**	*538*	*538*	*538*	*541*	*541*	**468**	*538*	*541*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**28,888**	**30,385**	**31,805**	*33,487*	*35,262*	*37,149*	*39,151*	*41,276*	**27,724**	*33,487*	*41,276*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,076**	**19,144**	**20,183**	*21,354*	*22,596*	*23,926*	*25,347*	*26,865*	**17,238**	*21,354*	*26,865*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,725**	**9,104**	**9,447**	*9,892*	*10,358*	*10,847*	*11,358*	*11,893*	**8,430**	*9,892*	*11,893*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,088**	**2,138**	**2,175**	*2,241*	*2,308*	*2,376*	*2,446*	*2,518*	**2,056**	*2,241*	*2,518*
Wind	**111**	**337**	**346**	**346**	**346**	**346**	**346**	*346*	*346*	*346*	*346*	*346*	**346**	*346*	*346*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	**7.0**	*6.5*	*6.6*	*6.4*	*6.9*	*6.4*	**27.5**	*27.1*	*26.3*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.0**	**3.9**	**3.8**	*3.9*	*3.9*	*3.9*	*3.9*	*3.9*	**16.1**	*15.6*	*15.6*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	**2.7**	**3.2**	*2.5*	*2.7*	*2.5*	*3.0*	*2.5*	**11.4**	*11.5*	*10.8*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	**60.7**	*57.3*	*67.7*	*78.4*	*63.6*	*58.0*	**289.9**	*254.6*	*267.7*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	**4.1**	*4.1*	*3.9*	*3.9*	*4.1*	*4.2*	**16.5**	*16.0*	*16.0*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	**33.8**	*23.8*	*28.2*	*44.8*	*43.1*	*29.5*	**90.1**	*114.3*	*145.7*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	**75.0**	*110.7*	*114.3*	*106.6*	*82.0*	*117.6*	**336.7**	*377.3*	*420.4*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.0**	**6.8**	**7.1**	*7.1*	*7.0*	*6.8*	*7.1*	*7.1*	**28.6**	*28.0*	*28.0*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.6**	**0.6**	*0.7*	*0.7*	*0.6*	*0.6*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.7**	**6.4**	**6.4**	**6.4**	**6.3**	**6.2**	**6.4**	*6.4*	*6.3*	*6.2*	*6.4*	*6.4*	**25.8**	*25.3*	*25.3*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.7**	**9.8**	**14.8**	**14.8**	*10.4*	*11.9*	*18.1*	*18.5*	*13.0*	**41.7**	*49.8*	*61.6*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	**9.1**	**9.1**	*6.4*	*7.4*	*11.5*	*11.8*	*8.3*	**25.4**	*30.6*	*38.9*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	**4.5**	**4.5**	*3.2*	*3.7*	*5.4*	*5.5*	*3.8*	**12.9**	*15.3*	*18.3*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	**1.1**	**1.2**	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.3*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*1.0*	*0.9*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,368**	**19,430**	*19,661*	*19,880*	*20,101*	*20,300*	*20,463*	**18,385**	*19,379*	*20,186*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,014**	**11,756**	**12,821**	**12,928**	**13,283**	**13,666**	**13,676**	*13,829*	*13,919*	*14,016*	*14,108*	*14,196*	**12,630**	*13,614*	*14,060*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,420**	**3,123**	**3,319**	**3,457**	**3,564**	**3,593**	**3,573**	*3,592*	*3,633*	*3,668*	*3,700*	*3,731*	**3,329**	*3,580*	*3,683*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-21**	**-290**	**15**	**57**	**-94**	**-174**	**-88**	*-59*	*11*	*85*	*145*	*181*	**-60**	*-104*	*105*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,346**	**3,378**	**3,360**	**3,356**	**3,391**	**3,374**	**3,396**	*3,408*	*3,435*	*3,455*	*3,472*	*3,483*	**3,360**	*3,392*	*3,461*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,442**	**1,943**	**2,166**	**2,279**	**2,262**	**2,304**	**2,302**	*2,341*	*2,394*	*2,447*	*2,498*	*2,550*	**2,208**	*2,303*	*2,472*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,284**	**2,718**	**3,188**	**3,412**	**3,488**	**3,549**	**3,593**	*3,610*	*3,666*	*3,712*	*3,758*	*3,809*	**3,150**	*3,560*	*3,736*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,740**	**15,544**	*15,237*	*15,179*	*15,335*	*15,495*	*15,596*	**15,677**	*15,935*	*15,401*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	**145.1**	**147.3**	*148.2*	*149.4*	*150.7*	*151.8*	*152.7*	**142.3**	*146.0*	*151.2*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	**5.9**	**5.1**	*4.7*	*4.5*	*4.3*	*4.0*	*3.8*	**8.1**	*5.5*	*4.2*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	**1.59**	**1.57**	*1.52*	*1.47*	*1.42*	*1.38*	*1.35*	**1.40**	*1.57*	*1.41*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**100.0**	**87.1**	**95.5**	**97.4**	**98.3**	**99.9**	**100.9**	*101.7*	*102.8*	*104.2*	*105.7*	*106.7*	**95.0**	*100.2*	*104.8*
Manufacturing	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.7**	**100.1**	*101.2*	*102.2*	*103.8*	*105.6*	*107.0*	**93.2**	*99.3*	*104.6*
Food	**101.8**	**93.8**	**98.0**	**100.1**	**101.2**	**100.7**	**99.1**	*99.2*	*99.3*	*99.7*	*100.1*	*100.7*	**98.4**	*100.0*	*99.9*
Paper	**99.5**	**91.5**	**90.7**	**94.9**	**93.9**	**95.0**	**95.5**	*95.9*	*95.7*	*96.1*	*96.7*	*97.2*	**94.2**	*95.1*	*96.4*
Petroleum and Coal Products	**98.0**	**77.3**	**84.0**	**86.7**	**90.5**	**96.0**	**95.2**	*96.2*	*97.1*	*97.9*	*98.5*	*98.6*	**86.5**	*94.5*	*98.0*
Chemicals	**95.0**	**89.9**	**92.5**	**94.7**	**91.8**	**99.0**	**99.7**	*101.1*	*101.4*	*102.7*	*103.8*	*104.1*	**93.0**	*97.9*	*103.0*
Nonmetallic Mineral Products	**99.7**	**88.1**	**94.6**	**98.4**	**97.4**	**95.2**	**95.5**	*96.1*	*96.3*	*96.4*	*96.6*	*97.0*	**95.2**	*96.0*	*96.6*
Primary Metals	**95.9**	**72.9**	**83.3**	**90.3**	**92.4**	**96.7**	**98.3**	*98.5*	*97.6*	*99.1*	*100.9*	*101.4*	**85.6**	*96.5*	*99.7*
Coal-weighted Manufacturing (a)	**97.1**	**86.7**	**93.0**	**96.6**	**94.2**	**97.2**	**97.1**	*98.0*	*98.2*	*99.3*	*100.6*	*101.3*	**93.3**	*96.6*	*99.8*
Distillate-weighted Manufacturing (a)	**97.0**	**84.4**	**92.0**	**95.7**	**94.6**	**97.1**	**96.9**	*97.4*	*97.5*	*98.4*	*99.3*	*99.8*	**92.3**	*96.5*	*98.8*
Electricity-weighted Manufacturing (a)	**97.1**	**83.4**	**91.6**	**95.4**	**94.5**	**97.7**	**98.2**	*98.9*	*99.1*	*100.4*	*101.8*	*102.6*	**91.9**	*97.3*	*101.0*
Natural Gas-weighted Manufacturing (a)	**95.5**	**84.1**	**89.7**	**93.7**	**90.5**	**96.1**	**95.6**	*96.5*	*96.5*	*97.7*	*99.0*	*99.5*	**90.8**	*94.7*	*98.2*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	**2.69**	**2.73**	*2.75*	*2.77*	*2.78*	*2.79*	*2.80*	**2.59**	*2.70*	*2.78*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.11**	**2.23**	**2.29**	*2.33*	*2.32*	*2.28*	*2.27*	*2.26*	**1.94**	*2.24*	*2.28*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.51**	**1.84**	**2.14**	**2.29**	*2.45*	*2.30*	*2.22*	*2.13*	*2.01*	**1.43**	*2.18*	*2.17*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.1**	*120.2*	*120.9*	*121.5*	*122.1*	*122.7*	**113.7**	*118.2*	*121.8*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,764**	**6,868**	**8,262**	**8,009**	**7,682**	**8,939**	**9,031**	*8,881*	*8,181*	*9,305*	*9,408*	*8,993*	**7,728**	*8,638*	*8,975*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**362**	**478**	**537**	**537**	**595**	**725**	*700*	*657*	*692*	*701*	*648*	**502**	*640*	*675*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**151**	**208**	**238**	**245**	**340**	**391**	*388*	*405*	*451*	*449*	*408*	**231**	*341*	*428*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	**243.3**	**218.5**	*199.5*	*204.7*	*231.7*	*232.9*	*242.5*	**217.5**	*214.9*	*227.9*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	**0.267**	*0.300*	*0.322*	*0.292*	*0.289*	*0.302*	**0.216**	*0.268*	*0.301*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**558**	**441**	**520**	**523**	**517**	**559**	**568**	*567*	*552*	*569*	*586*	*578*	**2,042**	*2,212*	*2,286*
Natural Gas	**490**	**347**	**381**	**428**	**484**	**353**	**365**	*428*	*472*	*352*	*374*	*441*	**1,647**	*1,631*	*1,638*
Coal	**202**	**177**	**271**	**225**	**255**	**228**	**312**	*237*	*243*	*219*	*288*	*235*	**875**	*1,032*	*984*
Total Energy (c)	**1,252**	**969**	**1,175**	**1,179**	**1,259**	**1,142**	**1,249**	*1,236*	*1,269*	*1,143*	*1,251*	*1,256*	**4,575**	*4,886*	*4,920*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2012)															
New England	**980**	**889**	**959**	**967**	**976**	**993**	**997**	*1,009*	*1,019*	*1,031*	*1,042*	*1,049*	**949**	*994*	*1,035*
Middle Atlantic	**2,706**	**2,484**	**2,659**	**2,699**	**2,740**	**2,788**	**2,789**	*2,820*	*2,855*	*2,893*	*2,927*	*2,950*	**2,637**	*2,784*	*2,906*
E. N. Central	**2,468**	**2,238**	**2,421**	**2,452**	**2,482**	**2,521**	**2,524**	*2,551*	*2,579*	*2,605*	*2,627*	*2,649*	**2,395**	*2,520*	*2,615*
W. N. Central	**1,184**	**1,080**	**1,165**	**1,185**	**1,201**	**1,220**	**1,220**	*1,233*	*1,245*	*1,256*	*1,267*	*1,275*	**1,153**	*1,218*	*1,261*
S. Atlantic	**3,369**	**3,079**	**3,296**	**3,332**	**3,381**	**3,433**	**3,445**	*3,483*	*3,519*	*3,557*	*3,591*	*3,618*	**3,269**	*3,436*	*3,571*
E. S. Central	**829**	**738**	**808**	**819**	**834**	**845**	**847**	*856*	*864*	*871*	*877*	*883*	**798**	*845*	*874*
W. S. Central	**2,333**	**2,114**	**2,283**	**2,313**	**2,332**	**2,365**	**2,375**	*2,406*	*2,434*	*2,463*	*2,493*	*2,515*	**2,261**	*2,369*	*2,476*
Mountain	**1,278**	**1,154**	**1,239**	**1,250**	**1,264**	**1,284**	**1,292**	*1,308*	*1,324*	*1,339*	*1,353*	*1,365*	**1,230**	*1,287*	*1,345*
Pacific	**3,645**	**3,321**	**3,568**	**3,583**	**3,675**	**3,746**	**3,768**	*3,819*	*3,863*	*3,906*	*3,942*	*3,977*	**3,529**	*3,752*	*3,922*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**96.1**	**82.6**	**91.6**	**94.6**	**95.1**	**96.4**	**92.7**	*93.8*	*94.6*	*95.9*	*97.4*	*98.5*	**91.3**	*94.5*	*96.6*
Middle Atlantic	**95.0**	**79.2**	**89.9**	**92.5**	**93.0**	**94.3**	**91.1**	*92.4*	*93.4*	*95.0*	*96.5*	*97.5*	**89.2**	*92.7*	*95.6*
E. N. Central	**95.9**	**79.0**	**91.8**	**94.4**	**95.0**	**95.8**	**99.0**	*100.3*	*101.6*	*103.3*	*105.3*	*107.0*	**90.3**	*97.5*	*104.3*
W. N. Central	**98.0**	**86.0**	**94.7**	**97.1**	**98.0**	**99.3**	**100.6**	*101.7*	*102.5*	*103.8*	*105.6*	*106.8*	**94.0**	*99.9*	*104.7*
S. Atlantic	**98.6**	**85.8**	**95.2**	**98.4**	**98.9**	**100.3**	**104.9**	*105.9*	*106.9*	*108.6*	*110.4*	*111.7*	**94.5**	*102.5*	*109.4*
E. S. Central	**96.6**	**79.9**	**93.6**	**96.7**	**97.8**	**98.9**	**105.7**	*106.4*	*107.2*	*108.6*	*110.4*	*112.0*	**91.7**	*102.2*	*109.5*
W. S. Central	**100.2**	**88.9**	**95.7**	**97.9**	**98.8**	**100.4**	**95.1**	*96.4*	*97.7*	*99.4*	*101.2*	*102.6*	**95.7**	*97.7*	*100.2*
Mountain	**102.8**	**92.2**	**101.3**	**104.0**	**105.2**	**107.6**	**114.3**	*115.3*	*116.3*	*118.0*	*119.8*	*121.3*	**100.1**	*110.6*	*118.8*
Pacific	**96.4**	**84.0**	**91.6**	**93.3**	**93.5**	**94.7**	**95.3**	*96.3*	*97.6*	*99.5*	*101.3*	*102.7*	**91.3**	*94.9*	*100.3*
Real Personal Income (Billion $2012)															
New England	**883**	**960**	**918**	**911**	**983**	**922**	**913**	*898*	*898*	*908*	*918*	*925*	**918**	*929*	*912*
Middle Atlantic	**2,248**	**2,477**	**2,401**	**2,326**	**2,553**	**2,381**	**2,352**	*2,309*	*2,304*	*2,330*	*2,357*	*2,372*	**2,363**	*2,399*	*2,341*
E. N. Central	**2,465**	**2,716**	**2,572**	**2,543**	**2,837**	**2,608**	**2,571**	*2,530*	*2,522*	*2,546*	*2,570*	*2,587*	**2,574**	*2,636*	*2,556*
W. N. Central	**1,160**	**1,259**	**1,182**	**1,197**	**1,316**	**1,221**	**1,209**	*1,191*	*1,184*	*1,193*	*1,204*	*1,211*	**1,199**	*1,234*	*1,198*
S. Atlantic	**3,284**	**3,531**	**3,398**	**3,350**	**3,744**	**3,457**	**3,446**	*3,393*	*3,386*	*3,420*	*3,456*	*3,480*	**3,391**	*3,510*	*3,435*
E. S. Central	**916**	**1,004**	**942**	**931**	**1,060**	**960**	**956**	*941*	*937*	*944*	*952*	*958*	**948**	*979*	*948*
W. S. Central	**2,053**	**2,200**	**2,122**	**2,093**	**2,343**	**2,164**	**2,143**	*2,120*	*2,122*	*2,148*	*2,175*	*2,193*	**2,117**	*2,192*	*2,159*
Mountain	**1,222**	**1,322**	**1,261**	**1,249**	**1,389**	**1,277**	**1,270**	*1,252*	*1,250*	*1,264*	*1,277*	*1,286*	**1,263**	*1,297*	*1,269*
Pacific	**2,765**	**2,962**	**2,955**	**2,876**	**3,142**	**2,955**	**2,928**	*2,871*	*2,863*	*2,892*	*2,919*	*2,939*	**2,889**	*2,974*	*2,903*
Households (Thousands)															
New England	**6,018**	**6,031**	**6,041**	**6,049**	**6,057**	**6,058**	**6,052**	*6,061*	*6,070*	*6,081*	*6,095*	*6,108*	**6,049**	*6,061*	*6,108*
Middle Atlantic	**16,348**	**16,383**	**16,420**	**16,450**	**16,479**	**16,484**	**16,486**	*16,520*	*16,551*	*16,588*	*16,623*	*16,661*	**16,450**	*16,520*	*16,661*
E. N. Central	**18,941**	**18,999**	**19,038**	**19,057**	**19,088**	**19,096**	**19,101**	*19,145*	*19,183*	*19,217*	*19,251*	*19,289*	**19,057**	*19,145*	*19,289*
W. N. Central	**8,618**	**8,653**	**8,675**	**8,697**	**8,720**	**8,729**	**8,736**	*8,760*	*8,782*	*8,809*	*8,836*	*8,860*	**8,697**	*8,760*	*8,860*
S. Atlantic	**25,839**	**25,970**	**26,062**	**26,164**	**26,256**	**26,310**	**26,354**	*26,459*	*26,558*	*26,670*	*26,778*	*26,883*	**26,164**	*26,459*	*26,883*
E. S. Central	**7,709**	**7,743**	**7,765**	**7,788**	**7,808**	**7,817**	**7,827**	*7,851*	*7,874*	*7,900*	*7,926*	*7,949*	**7,788**	*7,851*	*7,949*
W. S. Central	**15,055**	**15,138**	**15,195**	**15,260**	**15,315**	**15,348**	**15,382**	*15,448*	*15,512*	*15,581*	*15,650*	*15,713*	**15,260**	*15,448*	*15,713*
Mountain	**9,385**	**9,448**	**9,496**	**9,549**	**9,597**	**9,632**	**9,665**	*9,718*	*9,767*	*9,817*	*9,868*	*9,913*	**9,549**	*9,718*	*9,913*
Pacific	**18,878**	**18,947**	**18,990**	**19,037**	**19,069**	**19,072**	**19,077**	*19,123*	*19,172*	*19,224*	*19,275*	*19,316*	**19,037**	*19,123*	*19,316*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.8**	**6.9**	**7.0**	**7.1**	**7.2**	*7.2*	*7.3*	*7.4*	*7.4*	*7.5*	**6.9**	*7.1*	*7.4*
Middle Atlantic	**20.1**	**16.7**	**17.9**	**18.2**	**18.3**	**18.5**	**18.8**	*18.9*	*19.1*	*19.4*	*19.6*	*19.7*	**18.2**	*18.6*	*19.4*
E. N. Central	**22.3**	**19.3**	**20.7**	**20.8**	**20.9**	**21.1**	**21.4**	*21.5*	*21.7*	*21.8*	*22.0*	*22.1*	**20.8**	*21.2*	*21.9*
W. N. Central	**10.8**	**9.7**	**10.2**	**10.2**	**10.3**	**10.4**	**10.5**	*10.6*	*10.6*	*10.7*	*10.8*	*10.8*	**10.2**	*10.5*	*10.7*
S. Atlantic	**29.3**	**26.2**	**27.4**	**27.8**	**27.9**	**28.1**	**28.6**	*28.8*	*29.0*	*29.2*	*29.4*	*29.6*	**27.7**	*28.3*	*29.3*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	**8.0**	**8.1**	**8.2**	*8.2*	*8.2*	*8.3*	*8.3*	*8.4*	**7.9**	*8.1*	*8.3*
W. S. Central	**17.9**	**16.2**	**16.7**	**17.0**	**17.1**	**17.3**	**17.6**	*17.7*	*17.8*	*17.9*	*18.1*	*18.2*	**17.0**	*17.4*	*18.0*
Mountain	**11.2**	**10.0**	**10.5**	**10.6**	**10.7**	**10.9**	**11.1**	*11.1*	*11.2*	*11.3*	*11.4*	*11.5*	**10.6**	*11.0*	*11.4*
Pacific	**24.0**	**20.9**	**21.6**	**21.9**	**21.9**	**22.4**	**22.9**	*23.1*	*23.3*	*23.6*	*23.7*	*23.9*	**22.1**	*22.6*	*23.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,731**	**971**	**115**	**1,994**	**3,009**	**779**	**83**	*2,012*	*3,104*	*879*	*139*	*2,147*	**5,812**	*5,883*	*6,269*
Middle Atlantic	**2,463**	**834**	**85**	**1,827**	**2,815**	**666**	**57**	*1,797*	*2,858*	*708*	*90*	*1,966*	**5,209**	*5,335*	*5,620*
E. N. Central	**2,785**	**846**	**126**	**2,099**	**3,085**	**708**	**69**	*2,089*	*3,111*	*743*	*135*	*2,257*	**5,856**	*5,952*	*6,246*
W. N. Central	**3,039**	**800**	**167**	**2,316**	**3,230**	**721**	**88**	*2,344*	*3,233*	*714*	*168*	*2,476*	**6,322**	*6,383*	*6,591*
South Atlantic	**1,110**	**254**	**17**	**880**	**1,349**	**211**	**10**	*888*	*1,351*	*195*	*14*	*948*	**2,262**	*2,458*	*2,507*
E. S. Central	**1,480**	**336**	**20**	**1,226**	**1,790**	**312**	**19**	*1,222*	*1,756*	*252*	*22*	*1,315*	**3,062**	*3,344*	*3,345*
W. S. Central	**970**	**102**	**8**	**739**	**1,295**	**122**	**1**	*743*	*1,099*	*80*	*5*	*831*	**1,818**	*2,161*	*2,015*
Mountain	**2,220**	**676**	**128**	**1,780**	**2,305**	**662**	**109**	*1,866*	*2,243*	*694*	*144*	*1,878*	**4,805**	*4,943*	*4,959*
Pacific	**1,537**	**527**	**65**	**1,089**	**1,564**	**483**	**76**	*1,283*	*1,570*	*592*	*87*	*1,230*	**3,218**	*3,406*	*3,480*
U.S. Average	**1,880**	**543**	**71**	**1,424**	**2,107**	**472**	**51**	*1,460*	*2,089*	*494*	*77*	*1,539*	**3,917**	*4,089*	*4,199*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**822**	**105**	**2,127**	**3,133**	**855**	**107**	*2,099*	*3,100*	*852*	*107*	*2,112*	**6,207**	*6,194*	*6,171*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,912**	**677**	**71**	*1,911*	*2,886*	*684*	*71*	*1,915*	**5,606**	*5,571*	*5,556*
E. N. Central	**3,198**	**698**	**102**	**2,197**	**3,157**	**731**	**105**	*2,170*	*3,133*	*727*	*97*	*2,182*	**6,195**	*6,162*	*6,139*
W. N. Central	**3,288**	**703**	**132**	**2,380**	**3,248**	**728**	**133**	*2,368*	*3,220*	*726*	*125*	*2,389*	**6,502**	*6,478*	*6,459*
South Atlantic	**1,461**	**169**	**10**	**953**	**1,395**	**181**	**11**	*916*	*1,380*	*187*	*11*	*915*	**2,593**	*2,503*	*2,493*
E. S. Central	**1,849**	**214**	**15**	**1,277**	**1,771**	**231**	**16**	*1,249*	*1,763*	*243*	*15*	*1,246*	**3,356**	*3,267*	*3,267*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	**86**	**3**	*786*	*1,145*	*93*	*3*	*779*	**2,078**	*2,015*	*2,020*
Mountain	**2,198**	**721**	**136**	**1,850**	**2,188**	**704**	**135**	*1,850*	*2,181*	*685*	*132*	*1,840*	**4,905**	*4,877*	*4,838*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	**553**	**81**	*1,147*	*1,455*	*523*	*79*	*1,144*	**3,283**	*3,242*	*3,201*
U.S. Average	**2,153**	**473**	**64**	**1,512**	**2,112**	**483**	**65**	*1,487*	*2,095*	*479*	*62*	*1,488*	**4,202**	*4,147*	*4,125*
Cooling Degree Days															
New England	**0**	**103**	**542**	**0**	**0**	**144**	**460**	*2*	*0*	*80*	*403*	*2*	**644**	*606*	*485*
Middle Atlantic	**0**	**157**	**684**	**4**	**0**	**185**	**637**	*13*	*0*	*147*	*531*	*5*	**845**	*835*	*682*
E. N. Central	**2**	**218**	**607**	**2**	**2**	**250**	**630**	*41*	*0*	*209*	*518*	*6*	**829**	*923*	*733*
W. N. Central	**6**	**294**	**661**	**3**	**8**	**311**	**746**	*24*	*3*	*256*	*650*	*9*	**964**	*1,090*	*918*
South Atlantic	**195**	**614**	**1,225**	**296**	**150**	**615**	**1,176**	*275*	*136*	*656*	*1,160*	*237*	**2,330**	*2,215*	*2,190*
E. S. Central	**74**	**425**	**1,062**	**81**	**41**	**437**	**1,019**	*115*	*30*	*505*	*1,031*	*62*	**1,642**	*1,611*	*1,628*
W. S. Central	**174**	**841**	**1,505**	**210**	**91**	**771**	**1,475**	*286*	*101*	*867*	*1,488*	*192*	**2,731**	*2,623*	*2,648*
Mountain	**10**	**463**	**1,075**	**117**	**10**	**528**	**960**	*45*	*17*	*424*	*933*	*76*	**1,665**	*1,544*	*1,450*
Pacific	**25**	**195**	**714**	**123**	**24**	**253**	**705**	*48*	*27*	*171*	*595*	*60*	**1,057**	*1,030*	*853*
U.S. Average	**70**	**393**	**931**	**120**	**49**	**411**	**905**	*118*	*48*	*398*	*847*	*93*	**1,513**	*1,482*	*1,385*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	**80**	**474**	*1*	*0*	*87*	*472*	*1*	**554**	*555*	*561*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	**163**	**610**	*6*	*0*	*162*	*609*	*7*	**786**	*779*	*779*
E. N. Central	**3**	**240**	**579**	**8**	**3**	**234**	**572**	*7*	*3*	*237*	*571*	*11*	**829**	*816*	*822*
W. N. Central	**7**	**296**	**696**	**11**	**7**	**294**	**686**	*10*	*7*	*299*	*681*	*12*	**1,010**	*997*	*999*
South Atlantic	**127**	**695**	**1,201**	**247**	**143**	**679**	**1,194**	*260*	*147*	*667*	*1,189*	*268*	**2,270**	*2,275*	*2,270*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	**532**	**1,065**	*74*	*44*	*518*	*1,058*	*83*	**1,747**	*1,714*	*1,702*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	**880**	**1,567**	*210*	*113*	*853*	*1,536*	*221*	**2,775**	*2,772*	*2,723*
Mountain	**24**	**430**	**934**	**80**	**24**	**441**	**949**	*85*	*23*	*459*	*945*	*82*	**1,468**	*1,499*	*1,508*
Pacific	**31**	**185**	**624**	**78**	**31**	**193**	**647**	*86*	*31*	*208*	*664*	*84*	**919**	*957*	*987*
U.S. Average	**47**	**419**	**891**	**99**	**52**	**413**	**892**	*104*	*53*	*412*	*889*	*108*	**1,455**	*1,461*	*1,462*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

December 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The December *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. Notably, the emergence of the SARS-CoV-2 Omicron variant raises uncertainty about the level of energy consumption throughout the world compared with last month's forecast. U.S. gross domestic product (GDP) declined by 3.4% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 5.5% in 2021 and by 4.4% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. The U.S. macroeconomic forecast and the global macroeconomic forecast from Oxford Economics were completed in mid-November before the Omicron variant was identified. In addition to uncertainty about macroeconomic conditions, winter weather along with the evolving effects of consumer behavior on energy demand because of the pandemic present a wide range of potential outcomes for energy consumption. Supply uncertainty in the forecast results from the production decisions of OPEC+ and with the rate at which U.S. oil and natural gas producers increase drilling.

- Brent crude oil spot prices averaged $81 per barrel (b) in November, a $3/b decrease from October 2021 but a $38/b increase from November 2020. Crude oil prices have risen over the past year as result of steady draws on global oil inventories, which averaged 1.4 million barrels per day (b/d) during the first three quarters of 2021. Crude oil prices fell significantly on November 26, and the Brent spot price began December below $70/b. The drop in prices followed the identification of the new COVID-19 Omicron variant, which raised the possibility that petroleum demand could decline in the near term.

- We expect Brent prices will average $71/b in December and $73/b in the first quarter of 2022 (1Q22). For 2022 as a whole, we expect that growth in production from OPEC+, of U.S. tight oil, and from other non-OPEC countries will outpace slowing growth in global oil consumption, especially in light of renewed concerns about COVID-19 variants. We expect Brent prices will remain near current levels in 2022, averaging $70/b.

- We estimate that 99.7 million b/d of petroleum and liquid fuels was consumed globally in November, a 4.9 million b/d increase from November 2020 but 1.1 million b/d less than in November 2019. We revised down our forecast of consumption of petroleum

and liquid fuels for 4Q21 and 1Q22, partly as a result of recently announced travel restrictions following reported outbreaks of the Omicron variant of COVID-19. The potential effects of the spread of this variant are uncertain, which introduces downside risks to the global oil consumption forecast, particularly for jet fuel. We forecast that global consumption of petroleum and liquid fuels will average 96.9 million b/d for all of 2021, which is a 5.1 million b/d increase from 2020. We forecast that global consumption of petroleum and liquid fuels will increase by 3.5 million b/d in 2022 to average 100.5 million b/d.

- U.S. regular gasoline retail prices averaged $3.39 per gallon (gal) in November, a 10 cents/gal increase from October and $1.29/gal higher than in November 2020. The November monthly average was the highest since September 2014. We forecast that retail gasoline prices will average $3.13/gal in December before falling to $3.01/gal in January and $2.88/gal on average in 2022.

- Total U.S. crude oil production was an estimated 11.7 million b/d in November. We forecast that it will rise to an average of 11.8 million b/d in 2022 and to an average of 12.1 million b/d in 4Q22.

Natural Gas

- In November, the natural gas spot price at Henry Hub averaged $5.05 per million British thermal units (MMBtu), down from the October average of $5.51/MMBtu but up from an average of $3.25/MMBtu in the first half of 2021 (1H21). After rising in recent months, natural gas prices declined in November amid mild weather across much of the country that resulted in less natural gas used for space heating than expected. Decreased demand for natural gas also contributed to inventory levels moving closer to the five-year (2016–20) average. Global demand for U.S. liquefied natural gas (LNG) has remained high, limiting some downward pressure on natural gas prices.

- The Henry Hub spot price averages $4.58/MMBtu from December 2021 through February 2022 in our forecast and then generally declines through 2022, averaging $3.98/MMBtu in 2022 amid rising U.S. natural gas production and slowing growth in LNG exports. We forecast that U.S. inventory draws will be similar to the five-year average this winter, and we expect that factor, along with rising U.S. natural gas exports and relatively flat production through March, will keep U.S. natural gas prices near recent levels before downward price pressures emerge. Because of uncertainty around seasonal demand, we expect natural gas prices to remain volatile over the coming months, and winter temperatures will be a key driver of natural gas consumption and prices.

- We estimate that U.S. LNG exports averaged 10.7 billion cubic feet per day (Bcf/d) in November 2021, a 0.8 Bcf/d increase from October, supported by large price differences

between the Henry Hub price in the United States and spot prices in Europe and Asia. LNG exports resumed from Cove Point LNG in late October after that facility's annual maintenance was completed. In our forecast, LNG exports average 9.8 Bcf/d for all of 2021, a 50% increase from 2020. We expect that LNG exports will average 11.1 Bcf/d from December through March. We expect high levels of LNG exports to continue into 2022, averaging 11.5 Bcf/d for the year, a 17% increase from 2021. The forecast reflects our assumption that global natural gas demand remains high and U.S. LNG export capacity increases.

- U.S. natural gas inventories ended November 2021 at more than 3.5 trillion cubic feet (Tcf), 3% less than the five-year average for this time of year. Less natural gas was injected into storage this summer than the previous five-year average, largely as a result of more electricity consumption in June because of hot weather, and because of increased exports. However, storage levels moved closer to average as injections outpaced the five-year average in September, October, and early November. We expect natural gas inventories to fall by 2.0 Tcf during the November-to-March withdrawal season, ending March below 1.7 Tcf, which would be 2% less than the 2017–21 average for that time of year.

- We estimate dry U.S. natural gas production averaged 96.1 Bcf/d in the United States in November, up 1.0 Bcf/d from the average in October. Production in November was up from an average of 91.9 Bcf/d in 1H21. Natural gas production in the forecast rises to an average of 95.3 Bcf/d during the rest of this winter (December−March) and averages 96.0 Bcf/d for all of 2022, driven by natural gas and crude oil price levels that we expect will be sufficient to support enough drilling to sustain production growth.

Electricity, coal, renewables, and emissions

- We forecast that the share of electricity generation produced by natural gas in the United States will average 37% in 2021 and 35% in 2022, down from 39% in 2020. For 2021, the annual share for natural gas as a generation fuel declines in response to our expectation of a higher delivered natural gas price for electricity generators, which we forecast will average $4.99/MMBtu compared with $2.40/MMBtu in 2020. The natural gas share declines in 2022 as a result of continued high fuel costs and an increasing share of renewable generation. As a result of the higher expected natural gas prices, the annual forecast share of electricity generation from coal rises from 20% in 2020 to 23% in 2021 and then drops slightly to 22% in 2022. For renewable energy sources, new additions of solar and wind generating capacity have been offset somewhat by reduced generation from hydropower this year. As a result, we forecast that the share of all renewables in U.S. electricity generation will average 20% in 2021, about the same as last year, before rising to 22% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and 2022.

- We expect coal production to rise by 48 million short tons (MMst), or 9%, in 2021 and by an additional 38 MMst (6%) in 2022. The increase in production reflects more demand and higher prices for coal in the electric power sector because of higher natural gas prices this year compared with last year. Despite the increase in production, growth has not kept pace with rising domestic demand for steam coal in the electric power sector and export growth. As a result, coal inventories held by the electric power sector fall by an expected 51 MMst (38%) in 2021 and a further 10 MMst (13%) in 2022.

- Planned additions to U.S. wind and solar capacity in 2021 and 2022 increase electricity generation from those sources in our forecast. We estimate that the U.S. electric power sector added 14.6 gigawatts (GW) of new wind capacity in 2020. We expect 17.2 GW of new wind capacity will come online in 2021 and 7.1 GW in 2022. Utility-scale solar capacity rose by an estimated 10.4 GW in 2020. Our forecast for added utility-scale solar capacity is 16.2 GW for 2021 and 20.9 GW for 2022. We expect significant solar capacity additions in Texas during the forecast period. In addition, in 2020, small-scale solar capacity (systems less than 1 megawatt) increased by 4.4 GW to 27.6 GW. In particular, Texas and Florida had large increases of small-scale solar capacity in 2020. We project that small-scale solar capacity will grow by 5.1 GW in 2021 and by 5.0 GW in 2022.

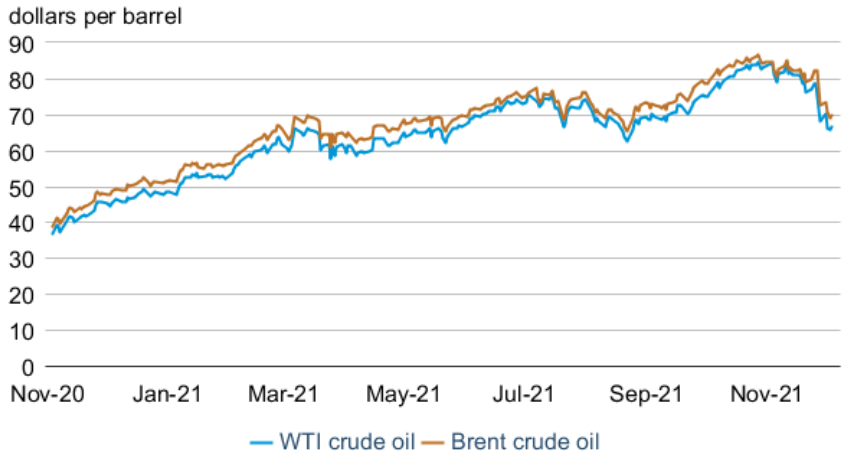
- U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption due to reduced economic activity and to end user responses to the COVID-19 pandemic. For 2021, we forecast energy-related CO_2 emissions will increase about 7% from 2020 as economic activity increases and leads to rising energy use. We expect a 1% increase in energy-related CO_2 emissions in 2022. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 17% in 2021 and then fall by 3% in 2022.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $69.67 per barrel (b) on December 2, 2021, a decrease of $15.04/b from the November 1 price of $84.71/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $17.55/b during the same period, settling at $66.50/b on December 2 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: Graph by EIA, based on CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

The front-month futures price for Brent crude oil decreased $9.50/b (11.6%) on November 26 after the World Health Organization designated the SARS-CoV-2 Omicron variant as a *Variant of Concern*. The price decline reflected market expectations that oil consumption might fall in the coming months as a result of the Omicron variant. The one-day percentage decrease for Brent crude oil on November 26 was the largest since April 21 2020, and larger percentage decreases have occurred on only four days since 2000 (three of which were in March and April 2020, the other in September 2001). In comparison, daily Brent crude oil prices typically change by less than 2%, and in 2021, prior to the price drop, the most the Brent crude oil price decreased in a single day was 6.9%.

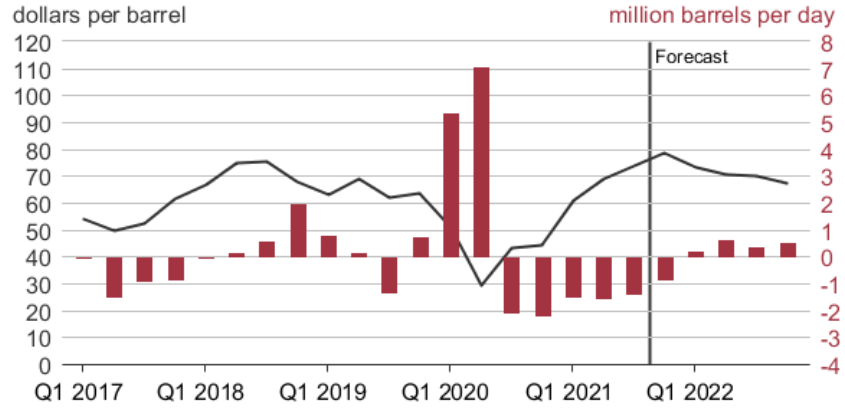
Prior to the price decrease on November 26, crude oil prices were already lower than they were at the beginning of November, likely due to gradual increases in production from OPEC+ members and the United States and rising COVID-19 counts in Europe. These factors had already introduced additional uncertainty in oil demand forecasts, even before the Omicron variant was identified. High COVID-19 case counts in November have prompted renewed mobility restrictions in Austria, work-from-home mandates in Ireland and the Netherlands, and several other guidelines in the rest of Europe. Although COVID-related concerns may have placed some

downward pressure on prices earlier in the month, prices remained above $80/b throughout most of November as a result of the same trends that have caused prices to rise for much of 2021. Those trends include declining global petroleum stocks amid crude oil production restraint from OPEC+ and the potential for natural gas-to-oil fuel switching in parts of Asia and Europe.

Crude oil prices may have also experienced downward pressures in early November because of expectations that the United States and other countries would release strategic oil reserves. The United States announced the release of 50 million barrels of crude oil from the Strategic Petroleum Reserve (SPR) on November 23, and other nations also agreed to release reserves.

We estimate that world crude oil consumption has exceeded crude oil production for five consecutive quarters going back to the third quarter of 2020 (3Q20), which has resulted in persistent global petroleum stock withdrawals that have averaged 1.7 million barrels per day (b/d) over this period **(Figure 2)**. These stock draws have contributed to consistent increases in crude oil prices in each of those quarters. We forecast stock draws will slow to 0.9 million b/d in 4Q21. With global oil stocks forecast to continue falling in December and with supply and demand moving into relative balance in 1Q22, we expect limited upward price pressure could emerge in the coming months. We forecast Brent spot prices will average $73/b in 1Q22. In our forecast, global oil stocks rise by an average of 0.5 million b/d from 2Q22 through 4Q22, as production begins to increase faster than global demand. These stock builds should contribute to downward pressure on crude oil prices, and our Brent forecast averages $71/b in 2Q22, $70/b in 3Q22, and $67/b in 4Q22.

Figure 2. World liquid fuels stock changes and Brent crude oil prices



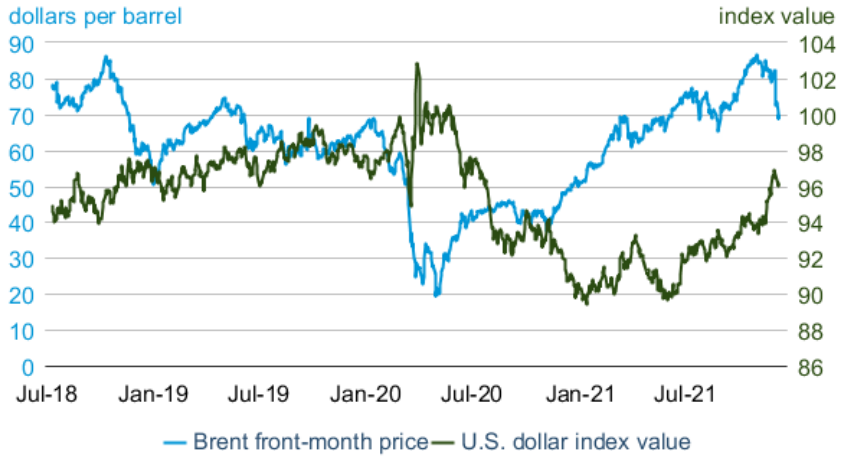
eia Source: U.S. Energy Information Administration

The Omicron variant has introduced additional uncertainty into oil markets for the coming months, and this uncertainty is reflected in the recent increase in oil price volatility. It is not yet clear how Omicron will affect oil markets and the broader economy. One of the most likely markets to be affected is jet fuel, and some flights have already been canceled because of the

variant. We expect global oil demand to rise by 3.5 million b/d in 2022. The forecast is subject to significant revisions.

Crude oil prices and the U.S. dollar index: The U.S. dollar index increased in November and developed a negative correlation with crude oil prices, which could reflect both reduced global economic growth expectations and financial flows from risky assets, such as commodities, into safer assets, such as U.S. Treasury bills. The U.S. dollar index measures the value of the U.S. dollar against the exchange rates of six currencies. The euro represents 58% of the currency weighting in the index, and the Japanese yen, British pound, Canadian dollar, Swiss franc, and Swedish krona make up the rest. The U.S. dollar index increased in November and reached 96.2 on December 2, which aside from a few days in late November was the highest since July 16, 2020 **(Figure 3)**. The higher value of the U.S. dollar likely reflects increased demand for dollars as a financial safe haven as the euro has decreased in value, likely following increased COVID-19 case counts in Eurozone countries. The higher value of the dollar may also reflect expectations of higher U.S. interest rates, following announcements that the Federal Reserve will reduce its monthly asset purchases.

Figure 3. Brent crude oil price vs. the value of the U.S. dollar



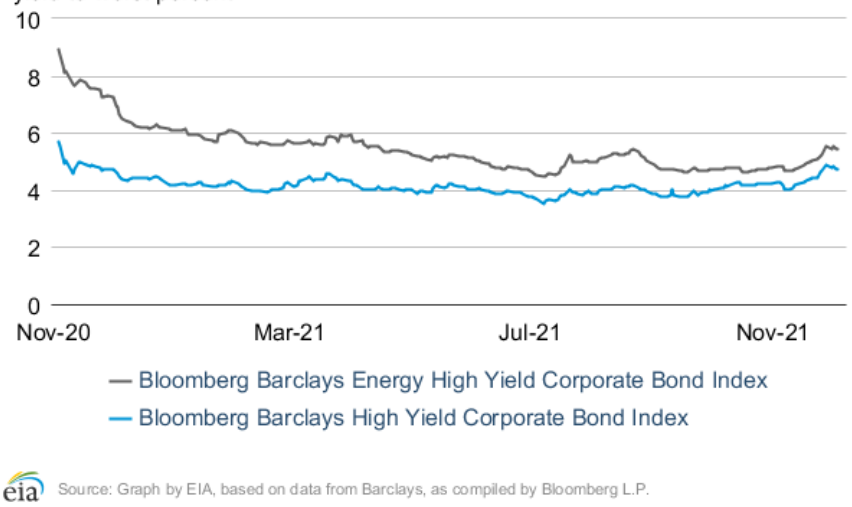
eia Source: Graph by EIA, based on data from Intercontinental Exchange, as compiled by Bloomberg L.P.

Because Brent crude oil is priced in dollars, oil-importing countries that use a currency that has depreciated relative to the dollar have not experienced the full extent of falling crude oil prices. From November 1 to December 2, the price of Brent crude oil decreased $15.04/b (17.8%). However, the euro fell by 2.6% compared with the U.S. dollar over the same period, meaning countries that use the euro have not experienced as steep of a relative price decrease in crude oil compared with countries that use the U.S. dollar or have currencies pegged to the dollar.

High yield bonds: Bond yields for companies with a credit rating lower than investment grade, called high yield bonds, were low for energy companies as well as broadly across all sectors in the first nine months of 2021. The lower yields reflected less default risk and reduced borrowing

costs for these companies. However, yields increased slightly in October and increased more substantially in November, particularly in the second half of the month, likely in response to some of the recent economic growth concerns and heightened market volatility. The Bloomberg Barclays Energy High Yield Corporate Bond Index's yield-to-worst (YTW), which represents the minimum achievable yield on the bonds after accounting for early prepayment, increased to 5.43% as of December 2, 2021, and the broader high yield index increased to 4.71% **(Figure 4)**. The low bond yields for exploration and production companies along with relatively high crude oil prices should result in an ample availability of funding to support the production increase in 2022. We forecast U.S. crude oil production will average 11.8 million b/d in 2022, a 0.7 million b/d increase from this year. Production in our forecast surpasses 12.0 million b/d in 4Q22.

Figure 4. High yield bonds



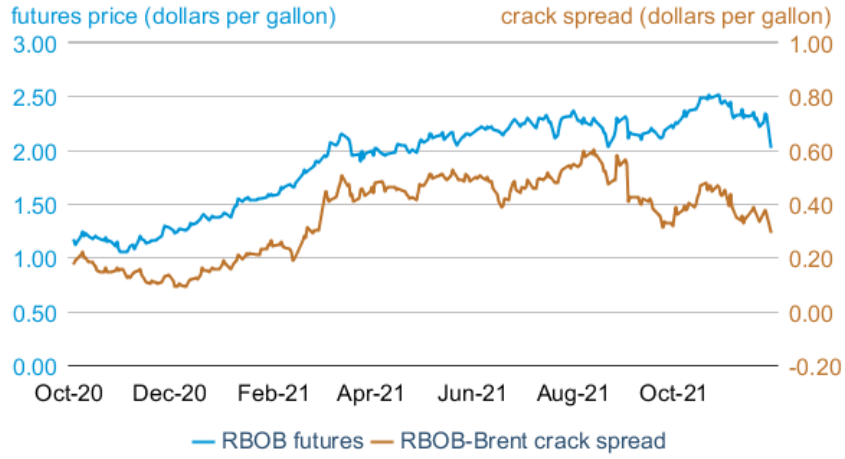
eia Source: Graph by EIA, based on data from Barclays, as compiled by Bloomberg L.P.

Recent declines in crude oil prices and heightened volatility increase the risk of some oil producers' ability to repay principal and interest on their debt. Furthermore, recent increases in interest rates likely reflect some market expectations for tighter monetary policy, which would also affect high yield bonds. Despite the recent increase in yields, the energy high yield bond index has narrowed to an average of 0.61% higher than the broad high yield index in November. Also, despite the recent increase in yields, bond yields for exploration and production companies remain relatively low.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $1.97 per gallon (gal) on December 2, a 44 cents/gal decrease from November 1 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 8 cents/gal to settle at 31 cents/gal during the same period. The average RBOB–Brent crack spread in November was 36 cents/gal, a 7 cents/gal decrease from October.

Figure 4. Historical RBOB front-month futures prices and crack spreads

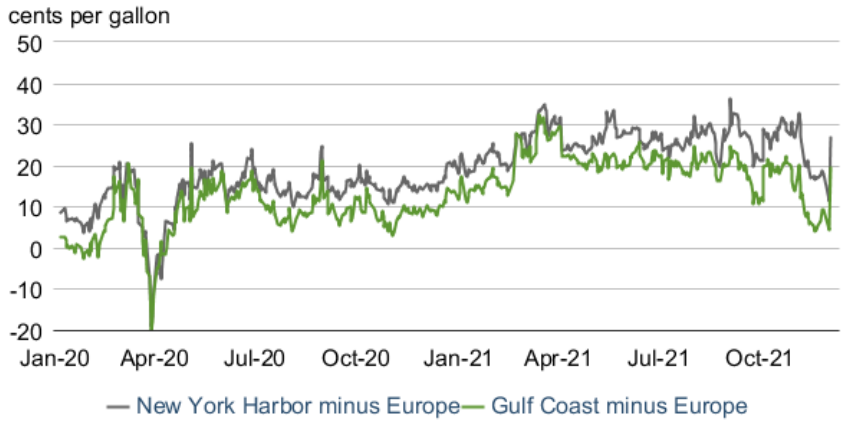


Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

The front-month RBOB price in November averaged $2.28/gal for the month, a 14 cent/gal decrease from October. The decrease partly reflects a decline in U.S. gasoline consumption, which fell by 0.3 million barrels per day (b/d) from October to 8.9 million b/d in November. Lower demand, combined with increased refinery production, contributed to an overall increase in gasoline inventories in the United States of almost 3.4 million barrels from October. The RBOB price decreased to $1.98/gal at the end of November, a 43 cents/gal decrease from November 1, primarily reflecting lower crude oil prices. The gasoline crack spread in late November similarly decreased to just under 30 cents/gal, its lowest level since February 2021. The decrease in RBOB prices and the crack spread likely reflected market expectations that responses to the Omicron variant could reduce demand.

Gasoline price differentials to Europe: In mid-November, U.S. gasoline spot price differentials to Europe narrowed to 17 cents/gal at New York Harbor (NYH) and 4 cents/gal at the U.S. Gulf Coast (USGC)—the smallest difference since 2020. Spreads in NYH narrowed further to 11 cents/gal at the end of November **(Figure 6)**. The narrowing spreads occurred as a drop in U.S. gasoline demand coincided with increased petroleum product prices in Europe. Higher prices in Europe likely reflect increased refining costs because of higher natural gas prices, along with higher-than-average gasoline demand since July. Gasoline crack spreads in Europe have been increasing compared with the five-year average since early October, during a period when they would normally be decreasing because of colder weather and lower seasonal demand. The rising prices in Europe have contributed to the mid-November decline in differentials to U.S. prices and to decreased U.S. imports of gasoline. According to our *Weekly Petroleum Status Report*, the rolling four-week average of U.S. gasoline imports decreased from 949,000 b/d during the week ending October 1 to 588,000 b/d during the week ending November 5, a 38% decline.

Figure 6. Gasoline spot price differentials, United States and Europe (Jan 2020–Nov 2021)

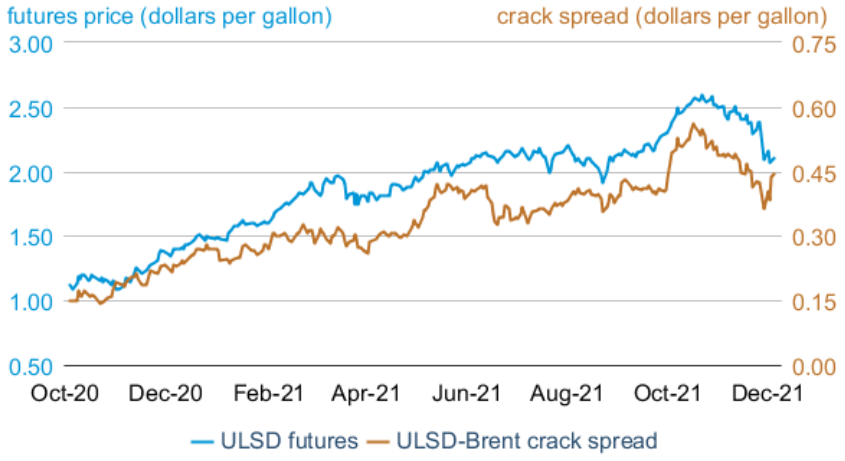


Source: Graph by EIA, based on data from Bloomberg L.P.

After the U.S. gasoline premiums narrowed for much of the past month, they widened during early December amid market volatility and uncertainty over the demand impact from the Omicron variant.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.10/gal on December 2, a 40 cents/gal decrease from November 1 **(Figure 7)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased 4 cents/gal during the same period and settled at 44 cents/gal on December 2.

Figure 7. Historical ULSD front-month futures prices and crack spreads



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

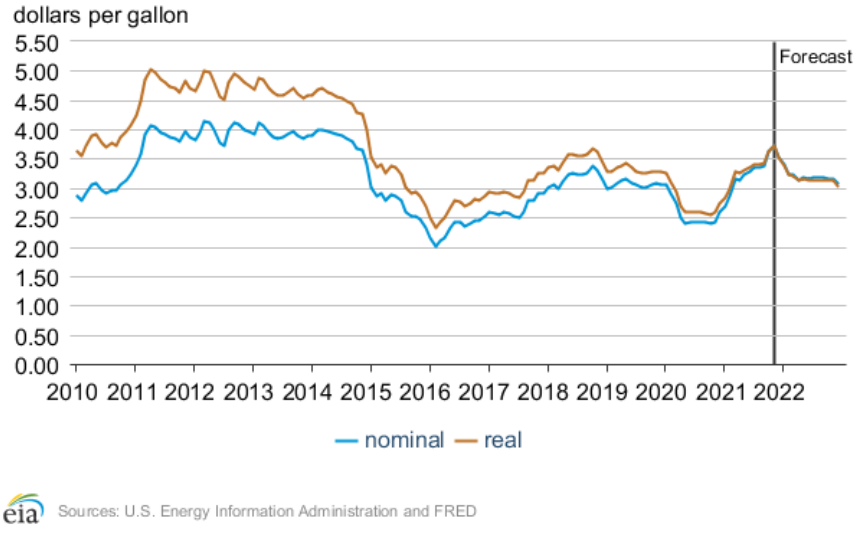
The ULSD–Brent crack spread in November averaged 45 cents/gal, down 7 cents/gal from October's average but up 25 cents/gal from November 2020. Recent changes in crude oil prices

caused by concerns about the Omicron variant increased volatility in the crack spread, which decreased 6 cents/gal on November 26 (the largest single-day decrease since April 2020) and then increased 7 cents/gal through December 1. We estimate that U.S. distillate consumption increased by 0.1 million b/d (2.8%) from October to 4.2 million b/d in November, more than the five-year average but just below 2019 levels. U.S. distillate production increased from October as refineries came back from maintenance, but it remained below the five-year average.

Our recent *Weekly Petroleum Status Report* data show that lower-than-average distillate production and relatively high distillate demand resulted in continued inventory drawdowns, mainly in the Midwest (PADD 2). In the Northeast (PADDs 1A and 1B), where heating oil is used as a primary source of home heating, inventories remained relatively flat, likely mild because of temperatures in October and November. Inventories in the Northeast have been at least 20% below average since mid-May.

Retail diesel prices: The average retail price for on-highway diesel in November was $3.73/gal, $1.30/gal (53%) higher than in November 2020. Compared with levels before the COVID-19 pandemic, prices are 66 cents/gal (21%) higher than at the same time in 2019 **(Figure 8)**. Rising crude oil prices are the primary driver of U.S. diesel prices, making up 52% of the total cost to produce a gallon of diesel in October 2021. Diesel serves as an input cost to other sectors of the economy, such as trucking, where rising diesel prices have contributed to freight rates increasing 36% year over year as of October. Although the November price was the highest since September 2014 in nominal terms, adjusting for inflation shows that recent prices are nearly the same in real terms as prices in 2018, but lower than prices in 2014. Compared with November 2014, November 2021 nominal prices are 2% higher, but in real terms they are 12% lower. We forecast nominal diesel prices will decline from December 2021 and average $3.19/gal in 2022.

Figure 8. U.S. monthly average retail diesel price

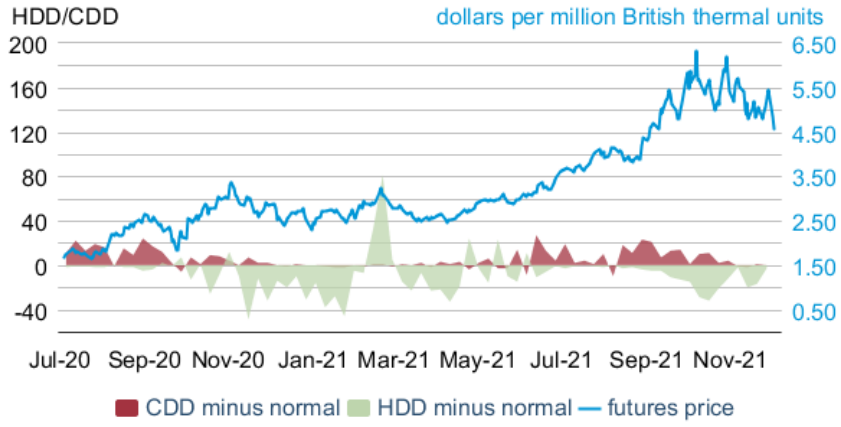


eia Sources: U.S. Energy Information Administration and FRED

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $4.06 per million British thermal units (MMBtu) on December 2, 2021, down $1.13 cents/MMBtu from November 1, 2021 **(Figure 9)**. The average closing price for front-month natural gas futures in November was $5.12/MMBtu, the highest November monthly average in real terms since November 2009.

Figure 9. Natural gas front-month futures prices and actual minus historical average HDD and CDD

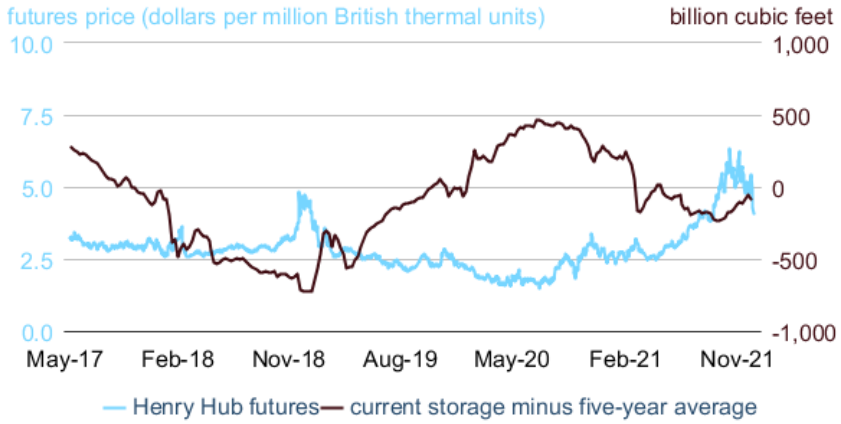


Sources: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

Mild weather throughout November and forecasts for a warm start to December have contributed to a decline in natural gas futures prices. As weather gets colder, consumption of natural gas typically increases in the residential and commercial sectors for space heating. However, November 2021 was relatively warm; the United States experienced 479 heating degree days (HDDs), 38 fewer than the November 2011–20 average of 517 HDDs. Milder temperatures affected demand for natural gas in the residential and commercial sectors. We estimate that combined residential and commercial natural gas consumption was 26.7 billion cubic feet per day (Bcf/d) in November, 1.0 Bcf/d less than the five-year (2016–20) average.

Less-than-average natural gas consumption in the residential and commercial sectors in November resulted in natural gas storage levels increasing against their five-year average **(Figure 10)**. U.S. natural gas storage typically experiences a net draw during November. Injections often continue through mid-November, but those injections are usually more than offset by draws in the second half of the month. We estimate that U.S. working natural gas inventories decreased by 103 Bcf during November, which was 3.5% less than the five-year average inventory change for that time. At the end of the month, we estimate that storage inventories totaled 3,540 Bcf, which was 3.0% below the five-year average.

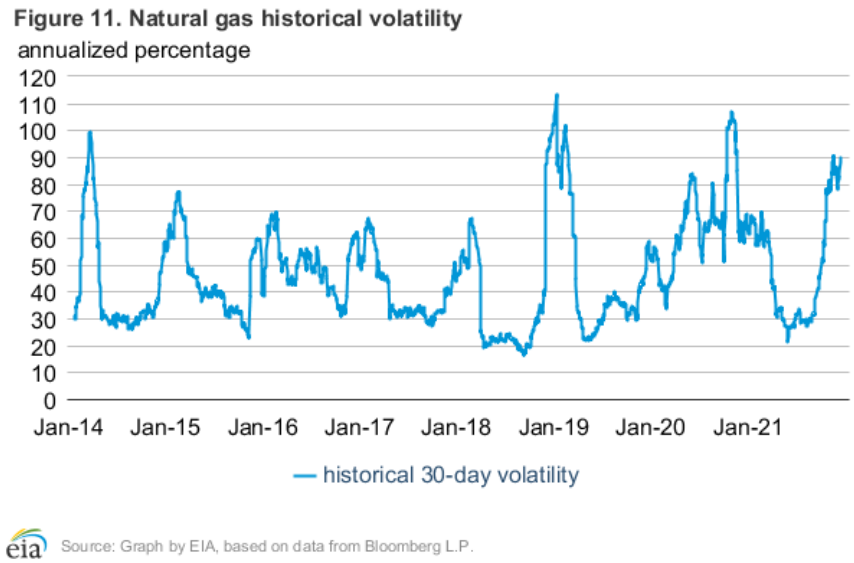
Figure 10. U.S. natural gas front-month futures prices and current storage deviation from five-year average



eia Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

The spread between international and domestic natural gas prices remained high in November and contributed to high demand for U.S. liquefied natural gas (LNG) exports. International LNG spot and forward prices established records during the first week of October in northern Asia and Europe. They remained high throughout November. U.S. LNG exports averaged 10.7 Bcf/d in November, or approximately 104% of total nameplate LNG export capacity. We forecast LNG exports will continue to increase between December 2021 and late 2022 as a result of the optimization of operations at Cheniere's Sabine Pass and Corpus Christi terminals; the completion of Train 6 at Sabine Pass LNG, which started producing LNG in November; and the completion of a new LNG terminal at Calcasieu Pass, Louisiana. We forecast LNG exports will average 11.1 Bcf/d from December 2021 to February 2022, with exports above 11 Bcf/d in each month during that period. If those levels are reached, December would be the first month on record in which U.S. LNG exports are more than 11 Bcf/d.

Historical volatility: Volatility of U.S. natural gas futures prices has risen in the past three months **(Figure 11)**. Historical volatility measures the magnitude of daily changes in closing prices for a commodity during a given time in the past. Based on rolling front-month contracts, the 30-day historical volatility of U.S. natural gas futures prices was 29.8% for April through August of this year. In September, volatility rose to 49.4%, compared with the 2015–19 September average of 30.6%. In October, volatility once again rose to 78.3%, compared with the 2015–19 October average of 32.7%. In November, historical volatility averaged 85.0%, compared with the 2015−19 November average of 53.7%. During November, daily front-month prices for intraday natural gas futures contracts ranged as high as $5.88/MMBtu on November 4, and as low as $4.48/MMBtu on November 30.



We forecast the Henry Hub spot price will average $4.50/MMBtu in December, $4.64/MMBtu in January, and $4.61/MMBtu in February. These prices are lower than we forecast last month. We expect U.S. working natural gas in storage to end March at 1,659 Bcf, which is 36 Bcf higher than forecast last month. However, this forecast is highly uncertain as reflected in the recent price volatility. Weather, which is a significant source of uncertainty in this forecast, will continue to be a key indicator of price formation this winter.

Notable forecast changes

- The December STEO forecast incorporates the latest updates to EIA's *International Energy Statistics*, including historical petroleum consumption and production data for all non-OECD countries for 2019 and updated 2020 petroleum consumption data for several of the largest consuming countries. These historical data updates resulted in us lowering supply and consumption data for 2019 and 2020, and lowering total supply and consumption forecasts through 2022. We made the most significant revisions to data for Argentina, Brazil, Russia, and Hong Kong for 2019 and 2020. We also made additional revisions to a number of data series from 2000 to 2019 that resulted in lower values for consumption, which were offset by nearly equivalent reductions to refinery gains for most countries. These changes to historical data are reflected in our forecast.

- We forecast natural gas spot prices at Henry Hub will average $4.58/MMBtu in 1Q22, compared with a forecast of $5.24/MMBtu in the November STEO. The lower forecast reflects our expectation that U.S. natural gas inventories will finish the withdrawal season at the end of March at a higher level than previously expected.

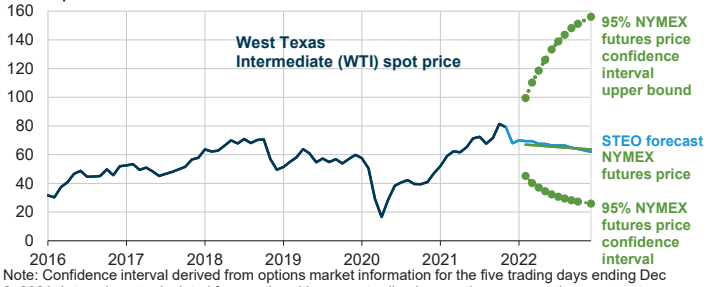
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Short-Term Energy Outlook
Chart Gallery

December 7, 2021

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

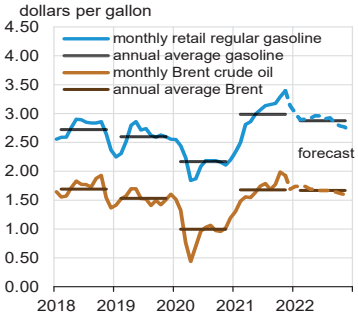


Note: Confidence interval derived from options market information for the five trading days ending Dec 2, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

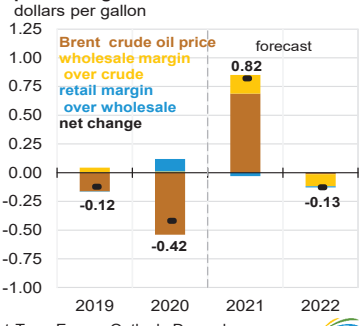
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

eia

U.S. gasoline and crude oil prices
dollars per gallon



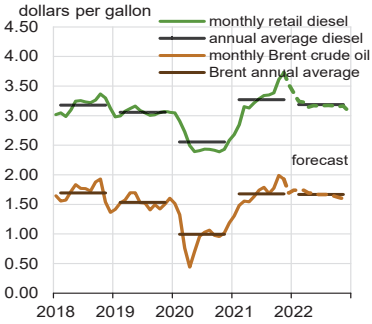
Components of annual gasoline price changes
dollars per gallon



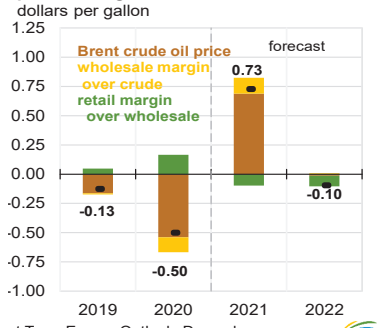
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021, and Refinitiv an LSEG Business

eia

U.S. diesel and crude oil prices



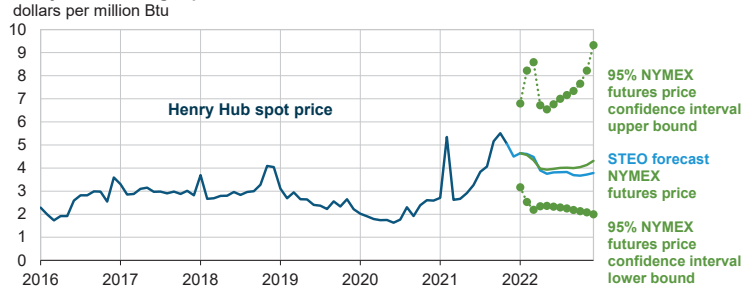
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

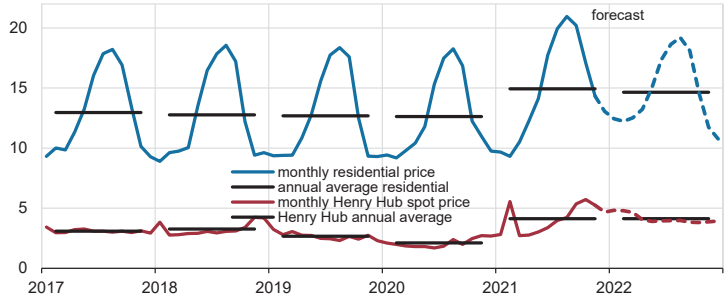


Note: Confidence interval derived from options market information for the five trading days ending Dec 2, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

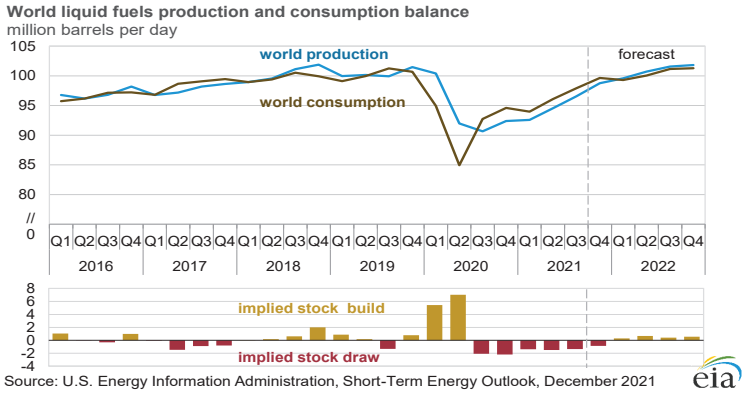
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021, CME Group, and Refinitiv an LSEG Business

U.S. natural gas prices

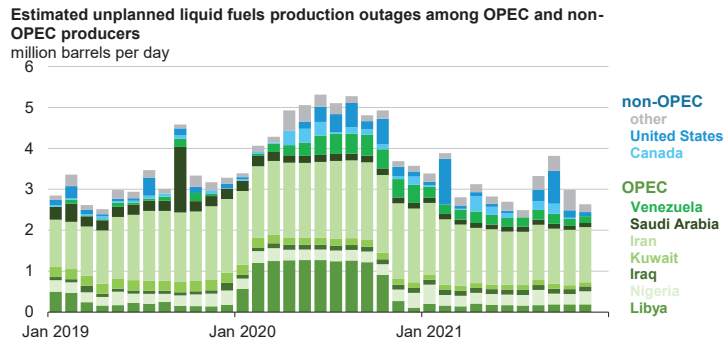
dollars per thousand cubic feet



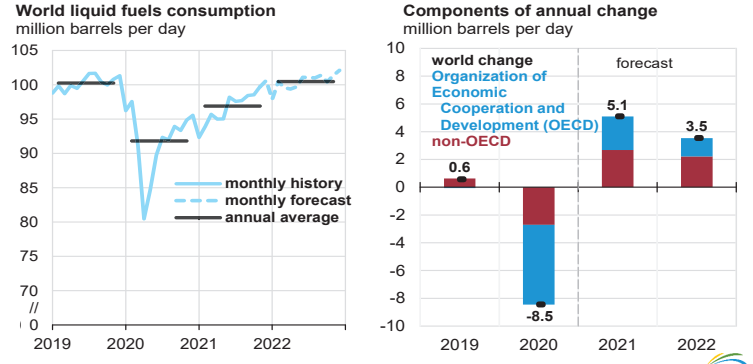
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021, and Refinitiv an LSEG Business



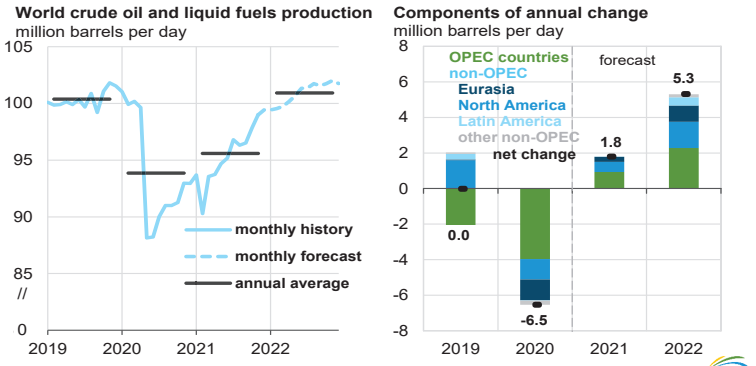
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



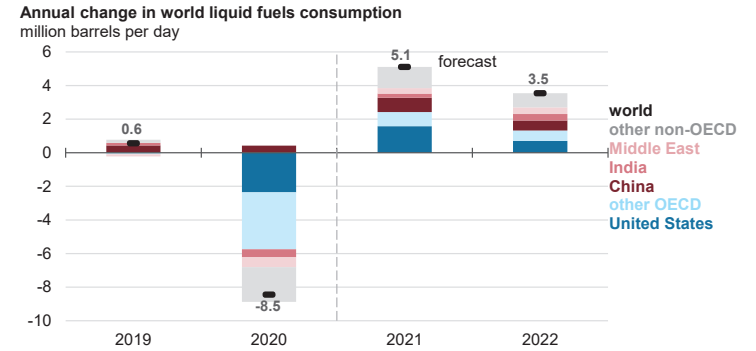
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



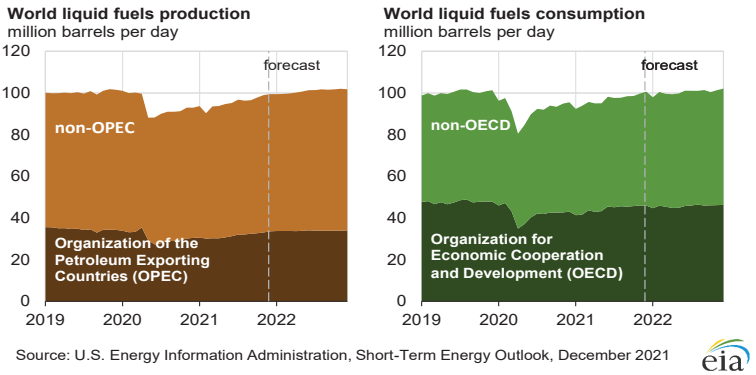
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

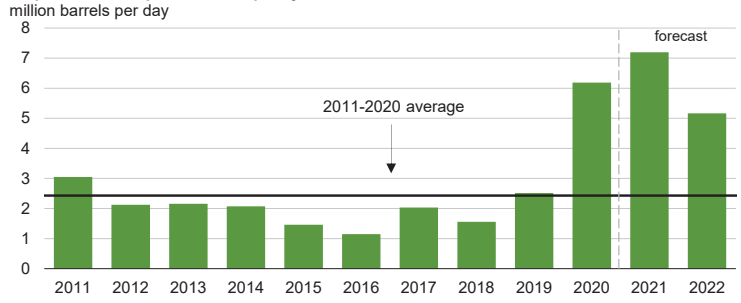


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



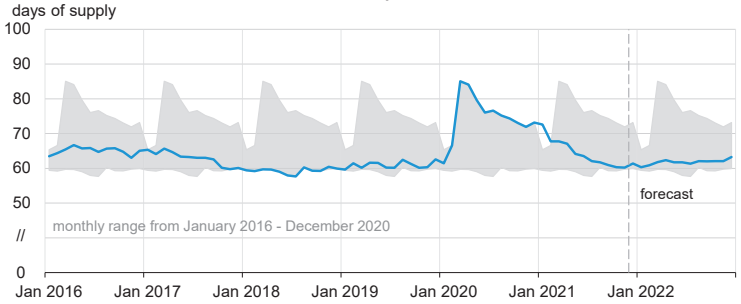
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



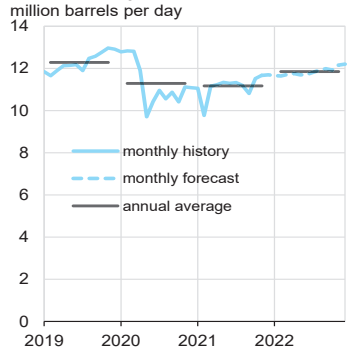
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

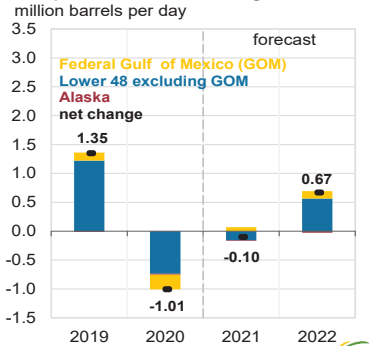


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

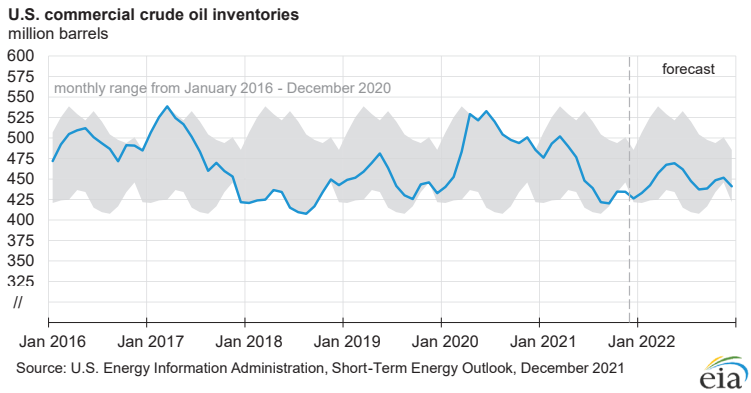
U.S. crude oil production
million barrels per day

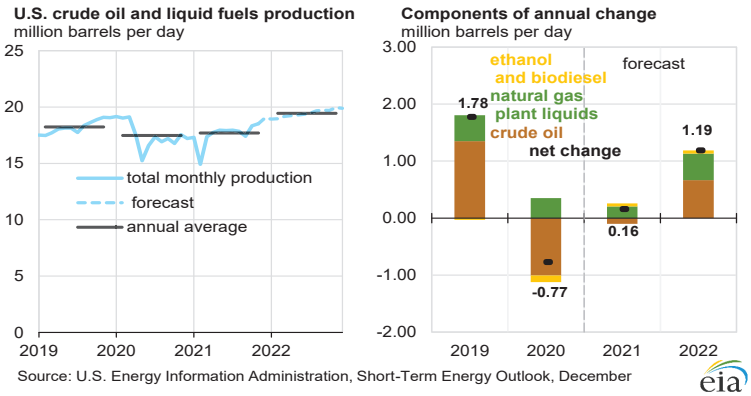


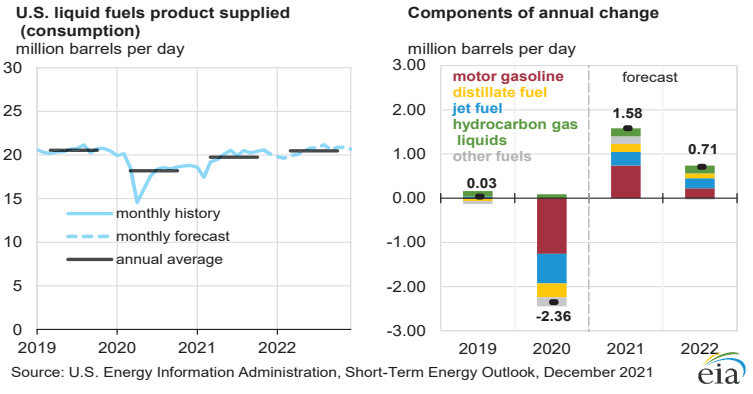
Components of annual change
million barrels per day



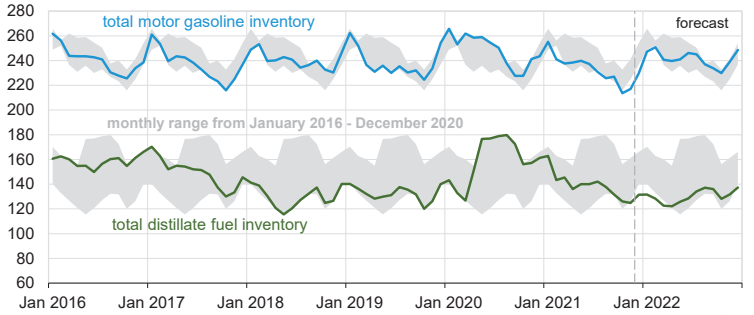
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2016 - December 2020
forecast
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021
eia


U.S. crude oil and liquid fuels production
million barrels per day
25
20
15
10
5
0
total monthly production
forecast
annual average
2019
2020
2021
2022
Components of annual change
million barrels per day
3.00
2.00
1.00
0.00
-1.00
-2.00
ethanol
and biodiesel
natural gas
plant liquids
crude oil
net change
forecast
1.78
-0.77
0.16
1.19
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December
eia

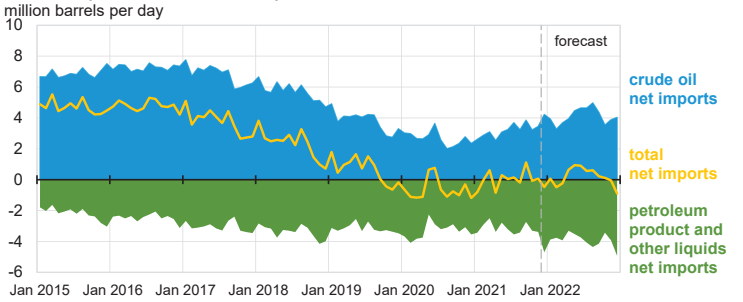

U.S. liquid fuels product supplied (consumption)
million barrels per day
30
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2019
2020
2021
2022
Components of annual change
million barrels per day
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
forecast
0.03
-2.36
1.58
0.71
2019
2020
2021
2022
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021
eia

U.S. gasoline and distillate inventories
million barrels



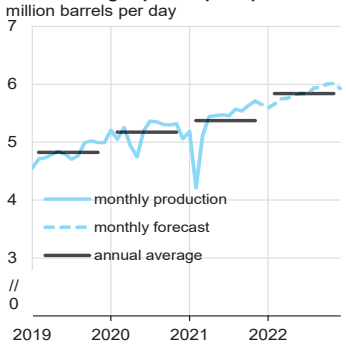
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

U.S. net imports of crude oil and liquid fuels
million barrels per day

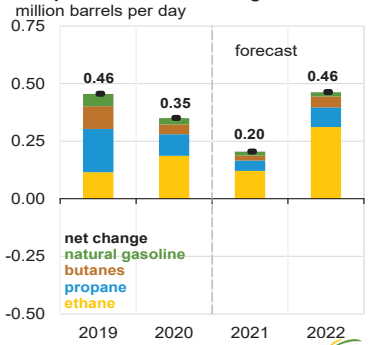


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

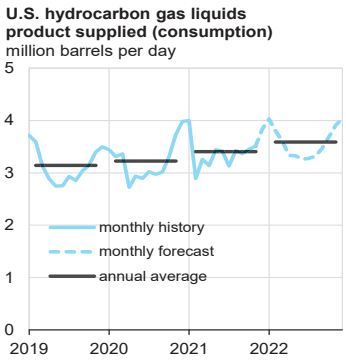
U.S. natural gas plant liquids production
million barrels per day

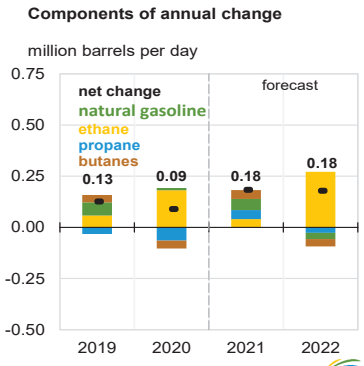


Components of annual change
million barrels per day

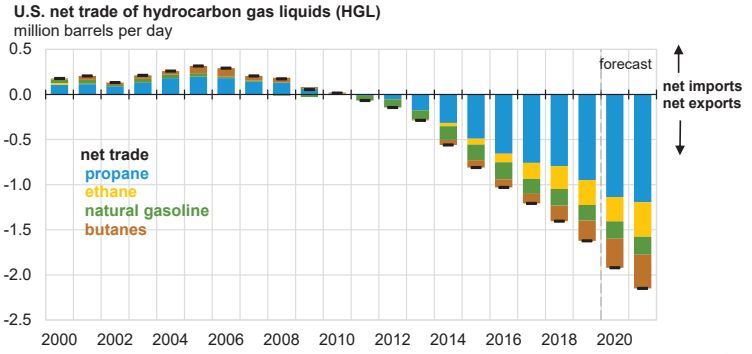


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

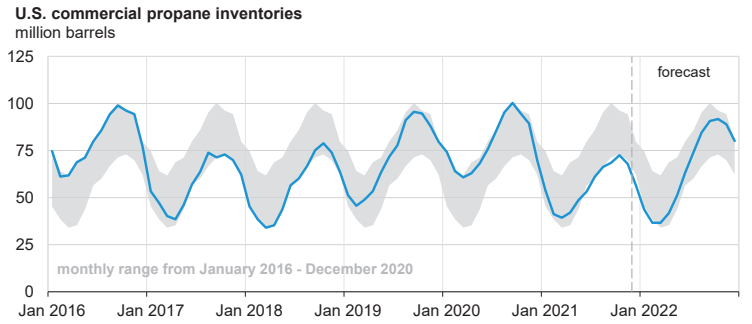




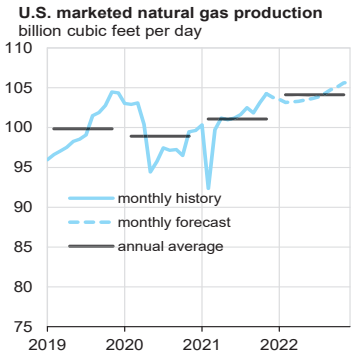
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

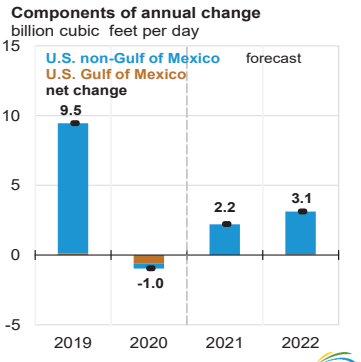


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

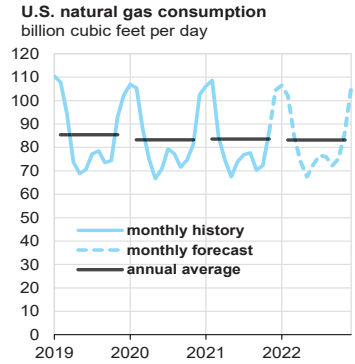


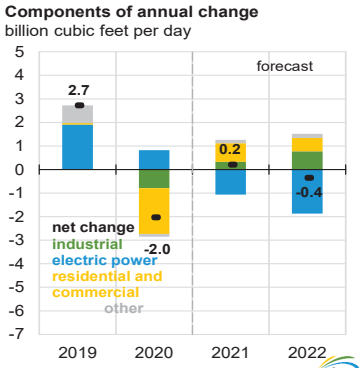
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



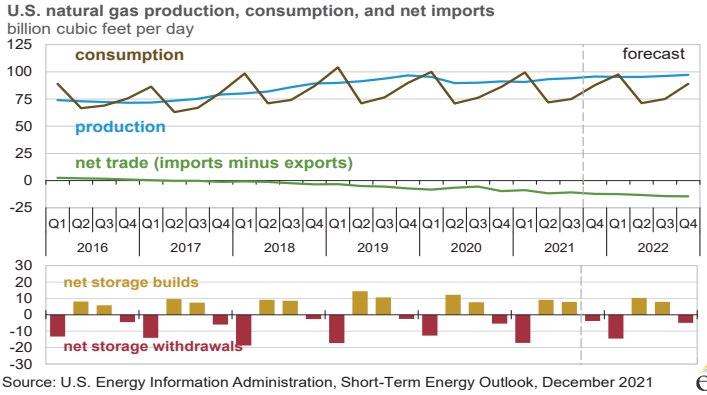


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

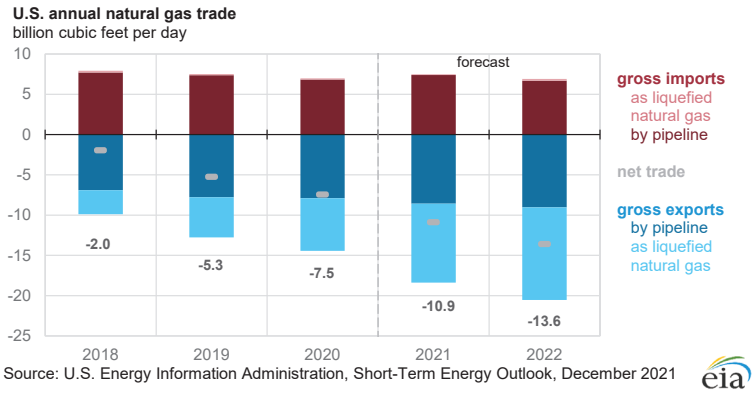




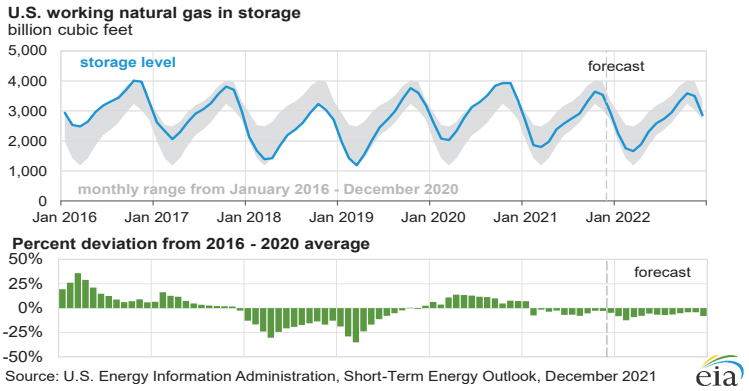
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



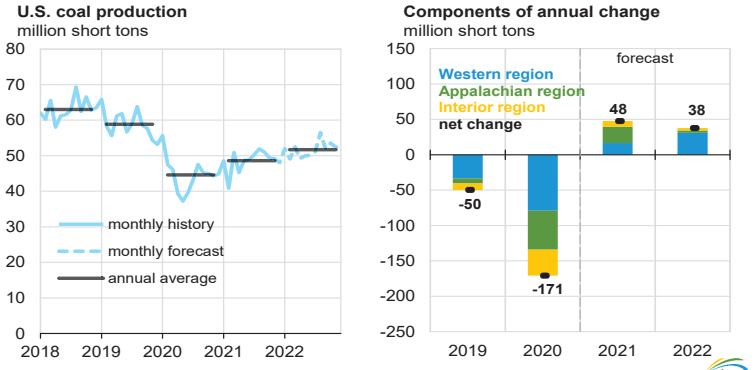
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



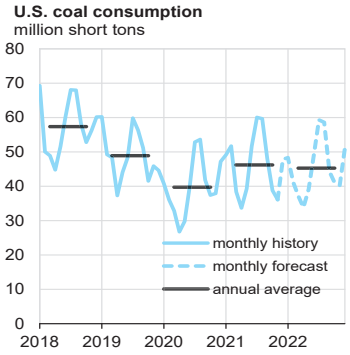
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

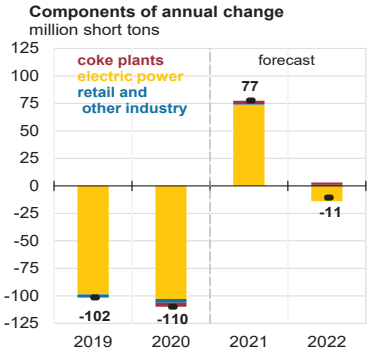


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

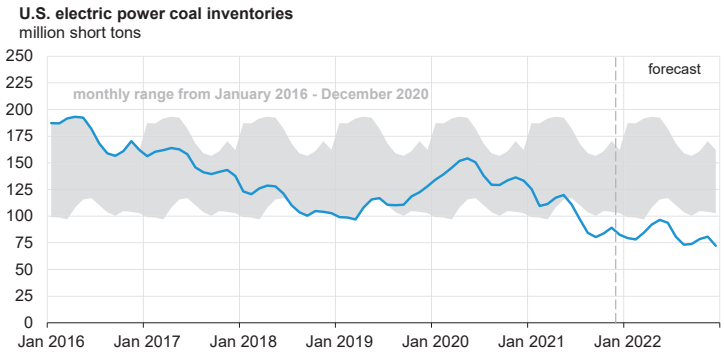


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

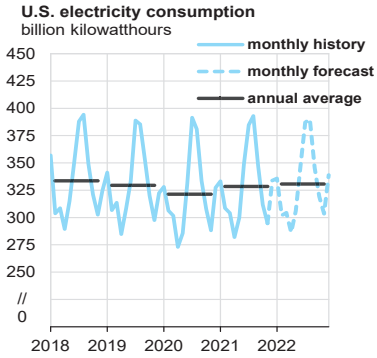


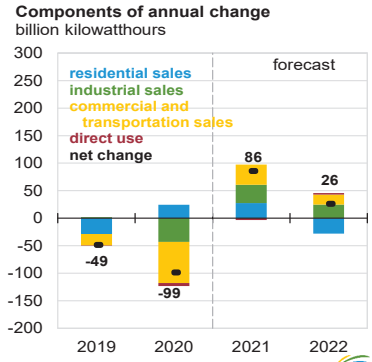


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

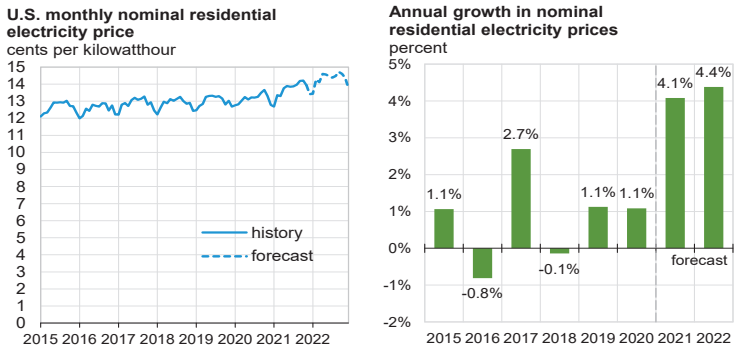


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

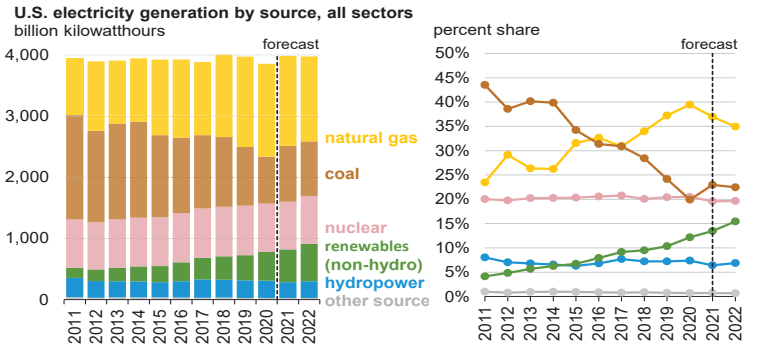




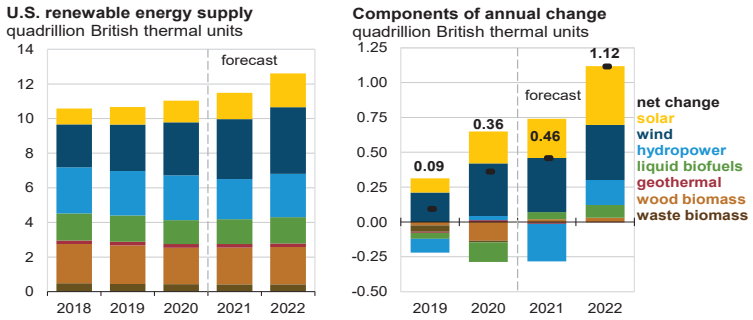
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



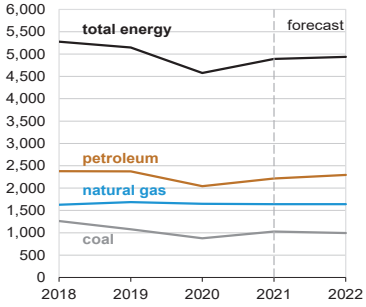
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021



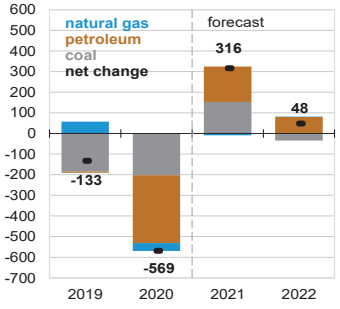
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

U.S. annual CO2 emissions by source
million metric tons

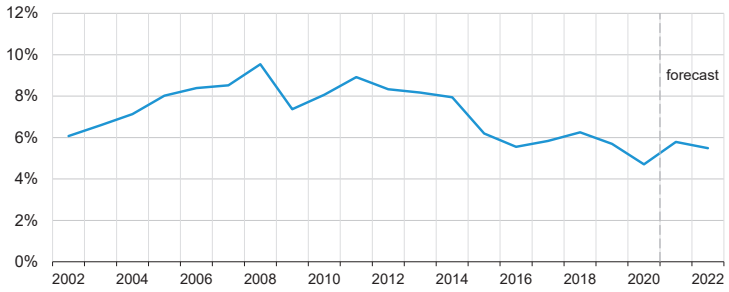


Components of annual change
million metric tons



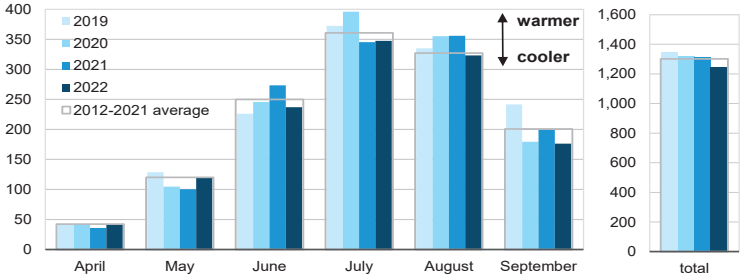
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

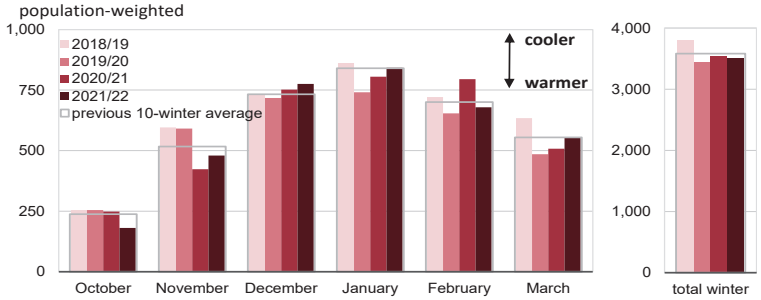
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

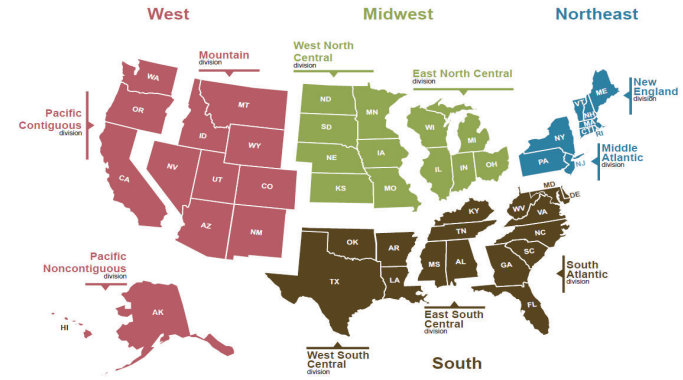
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2021

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	**11.11**	*11.63*	*11.67*	*11.72*	*11.91*	*12.09*	**11.28**	*11.18*	*11.85*
Dry Natural Gas Production															
(billion cubic feet per day)	**95.29**	**89.57**	**89.99**	**91.14**	**90.62**	**93.20**	**94.01**	*95.59*	*95.22*	*95.35*	*96.10*	*97.21*	**91.49**	*93.37*	*95.97*
Coal Production															
(million short tons)	**149**	**116**	**136**	**134**	**140**	**143**	**153**	*147*	*154*	*149*	*160*	*158*	**535**	*583*	*621*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.21**	*20.35*	*19.79*	*20.43*	*20.86*	*20.80*	**18.19**	*19.77*	*20.47*
Natural Gas															
(billion cubic feet per day)	**99.89**	**70.83**	**76.16**	**86.21**	**99.39**	**71.94**	**75.05**	*87.67*	*97.47*	*71.25*	*74.99*	*88.88*	**83.26**	*83.46*	*83.10*
Coal (b)															
(million short tons)	**110**	**96**	**148**	**122**	**139**	**125**	**168**	*123*	*127*	*122*	*162*	*133*	**477**	*554*	*543*
Electricity															
(billion kilowatt hours per day)	**10.29**	**9.78**	**12.02**	**10.04**	**10.51**	**10.23**	**12.23**	*10.22*	*10.47*	*10.34*	*12.21*	*10.45*	**10.53**	*10.80*	*10.87*
Renewables (c)															
(quadrillion Btu)	**2.91**	**3.00**	**2.83**	**2.89**	**2.95**	**3.17**	**2.92**	*3.11*	*3.27*	*3.53*	*3.23*	*3.28*	**11.64**	*12.15*	*13.31*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.21**	**20.63**	**23.47**	**23.82**	**25.05**	**23.16**	**24.37**	*24.53*	*25.13*	*23.37*	*24.67*	*25.25*	**93.13**	*97.11*	*98.41*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	**70.61**	*75.96*	*69.66*	*67.15*	*66.01*	*62.98*	**39.17**	*67.87*	*66.42*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.02*	*4.58*	*3.82*	*3.78*	*3.73*	**2.03**	*3.97*	*3.98*
Coal															
(dollars per million Btu)	**1.92**	**1.91**	**1.93**	**1.91**	**1.91**	**1.92**	**2.03**	*2.03*	*2.04*	*2.04*	*2.03*	*2.02*	**1.92**	*1.98*	*2.03*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,368**	**19,465**	*19,675*	*19,915*	*20,150*	*20,363*	*20,518*	**18,385**	*19,391*	*20,236*
Percent change from prior year	**0.6**	**-9.1**	**-2.9**	**-2.3**	**0.5**	**12.2**	**4.9**	*4.8*	*4.5*	*4.0*	*4.6*	*4.3*	**-3.4**	*5.5*	*4.4*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.2**	*120.2*	*121.2*	*121.8*	*122.3*	*122.9*	**113.7**	*118.2*	*122.0*
Percent change from prior year	**1.7**	**0.7**	**1.3**	**1.5**	**2.1**	**4.1**	**4.6**	*4.9*	*4.6*	*3.6*	*2.6*	*2.2*	**1.3**	*3.9*	*3.2*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,740**	**15,513**	*15,275*	*15,265*	*15,411*	*15,571*	*15,659*	**15,677**	*15,937*	*15,476*
Percent change from prior year	**1.6**	**12.5**	**6.9**	**4.0**	**15.1**	**-4.7**	**-1.7**	*-1.1*	*-11.3*	*-2.1*	*0.4*	*2.5*	**6.2**	*1.7*	*-2.9*
Manufacturing Production Index															
(Index, 2017=100)	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.7**	**100.0**	*100.9*	*102.1*	*103.7*	*105.4*	*106.8*	**93.2**	*99.2*	*104.5*
Percent change from prior year	**-2.7**	**-15.3**	**-5.2**	**-2.4**	**-0.2**	**17.2**	**6.1**	*4.4*	*4.9*	*5.0*	*5.5*	*5.9*	**-6.4**	*6.5*	*5.3*
Weather															
U.S. Heating Degree-Days	**1,880**	**543**	**71**	**1,424**	**2,108**	**473**	**51**	*1,436*	*2,077*	*492*	*77*	*1,541*	**3,919**	*4,067*	*4,187*
U.S. Cooling Degree-Days	**70**	**393**	**931**	**120**	**49**	**410**	**901**	*112*	*48*	*400*	*847*	*93*	**1,514**	*1,472*	*1,387*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	**70.61**	*75.96*	*69.66*	*67.15*	*66.01*	*62.98*	**39.17**	*67.87*	*66.42*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	**68.91**	**73.45**	*78.27*	*73.00*	*70.65*	*69.67*	*66.98*	**41.69**	*70.60*	*70.05*
U.S. Imported Average	**43.75**	**26.24**	**39.87**	**40.69**	**55.27**	**64.80**	**68.46**	*73.48*	*67.44*	*64.90*	*63.54*	*60.46*	**37.22**	*66.18*	*64.03*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.76**	**40.79**	**42.09**	**57.12**	**66.11**	**70.12**	*74.96*	*68.43*	*65.91*	*64.53*	*61.47*	**39.73**	*67.44*	*65.02*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	**216**	**232**	*239*	*213*	*213*	*209*	*191*	**133**	*218*	*206*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	**204**	**219**	*242*	*217*	*212*	*211*	*205*	**129**	*212*	*211*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	**180**	**197**	*218*	*206*	*193*	*188*	*191*	**125**	*197*	*196*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	**182**	**199**	*232*	*213*	*210*	*208*	*203*	**131**	*197*	*208*
No. 6 Residual Fuel Oil (a)	**177**	**93**	**116**	**119**	**162**	**181**	**194**	*184*	*163*	*160*	*154*	*148*	**126**	*181*	*156*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*327*	*294*	*295*	*289*	*274*	**218**	*300*	*288*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*337*	*306*	*307*	*302*	*287*	**227**	*310*	*301*
On-highway Diesel Fuel	**289**	**243**	**243**	**247**	**290**	**321**	**336**	*362*	*329*	*316*	*317*	*313*	**256**	*328*	*319*
Heating Oil	**280**	**200**	**214**	**230**	**272**	**283**	**297**	*343*	*331*	*305*	*286*	*287*	**244**	*299*	*309*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	**4.53**	*5.22*	*4.76*	*3.97*	*3.93*	*3.87*	**2.11**	*4.13*	*4.13*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.02*	*4.58*	*3.82*	*3.78*	*3.73*	**2.03**	*3.97*	*3.98*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.10**	*6.62*	*6.26*	*5.19*	*4.89*	*5.07*	**3.32**	*5.43*	*5.38*
Commercial Sector	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**10.11**	*9.78*	*9.47*	*9.67*	*9.73*	*8.60*	**7.49**	*8.70*	*9.26*
Residential Sector	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**20.36**	*13.97*	*12.40*	*14.57*	*18.63*	*11.68*	**10.76**	*12.36*	*12.93*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.92**	**1.91**	**1.93**	**1.91**	**1.91**	**1.92**	**2.03**	*2.03*	*2.04*	*2.04*	*2.03*	*2.02*	**1.92**	*1.98*	*2.03*
Natural Gas	**2.39**	**2.09**	**2.28**	**2.87**	**7.24**	**3.26**	**4.36**	*5.28*	*5.16*	*4.05*	*3.97*	*4.08*	**2.40**	*4.94*	*4.27*
Residual Fuel Oil (c)	**12.14**	**6.66**	**8.84**	**8.92**	**11.28**	**13.08**	**14.21**	*14.17*	*13.69*	*13.95*	*12.99*	*12.52*	**9.15**	*13.21*	*13.26*
Distillate Fuel Oil	**13.33**	**8.49**	**10.57**	**10.89**	**13.54**	**15.20**	**16.20**	*18.48*	*16.98*	*16.48*	*16.28*	*15.93*	**10.89**	*15.61*	*16.44*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.40**	**6.63**	**7.08**	**6.54**	**7.09**	**6.92**	**7.63**	*6.98*	*7.22*	*7.05*	*7.70*	*6.97*	**6.67**	*7.17*	*7.24*
Commercial Sector	**10.27**	**10.57**	**10.92**	**10.56**	**10.99**	**11.07**	**11.64**	*11.13*	*11.51*	*11.42*	*11.69*	*11.02*	**10.59**	*11.23*	*11.42*
Residential Sector	**12.87**	**13.19**	**13.31**	**13.21**	**13.10**	**13.84**	**14.00**	*13.82*	*13.91*	*14.53*	*14.51*	*14.18*	**13.16**	*13.69*	*14.29*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

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	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Production (million barrels per day) (a)															
OECD	**32.88**	**29.10**	**29.78**	**30.49**	**30.08**	**30.75**	**31.10**	*32.23*	*32.32*	*32.41*	*32.63*	*33.16*	**30.56**	*31.05*	*32.63*
U.S. (50 States)	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.92**	*19.68*	*19.69*	*19.92*	*20.26*	*20.53*	**18.58**	*18.82*	*20.10*
Canada	**5.62**	**4.88**	**4.92**	**5.52**	**5.62**	**5.37**	**5.55**	*5.79*	*5.82*	*5.79*	*5.82*	*5.84*	**5.23**	*5.58*	*5.82*
Mexico	**2.00**	**1.93**	**1.91**	**1.90**	**1.93**	**1.95**	**1.90**	*1.92*	*1.94*	*1.90*	*1.87*	*1.83*	**1.93**	*1.92*	*1.89*
Other OECD	**4.93**	**4.85**	**4.66**	**4.78**	**4.91**	**4.38**	**4.74**	*4.85*	*4.87*	*4.80*	*4.69*	*4.96*	**4.81**	*4.72*	*4.83*
Non-OECD	**67.51**	**62.86**	**60.88**	**61.90**	**62.51**	**63.79**	**65.44**	*66.54*	*67.25*	*68.32*	*68.93*	*68.68*	**63.28**	*64.58*	*68.30*
OPEC	**33.49**	**30.71**	**28.64**	**29.99**	**30.36**	**30.76**	**32.21**	*33.15*	*33.78*	*33.90*	*33.95*	*33.98*	**30.70**	*31.63*	*33.90*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.49**	**26.86**	*27.73*	*28.20*	*28.44*	*28.44*	*28.44*	**25.60**	*26.30*	*28.38*
Other Liquids (b)	**5.21**	**5.06**	**5.01**	**5.11**	**5.28**	**5.27**	**5.35**	*5.42*	*5.58*	*5.46*	*5.50*	*5.54*	**5.10**	*5.33*	*5.52*
Eurasia	**14.71**	**13.15**	**12.69**	**13.11**	**13.38**	**13.61**	**13.58**	*14.23*	*14.41*	*14.61*	*14.74*	*14.88*	**13.41**	*13.70*	*14.66*
China	**4.89**	**4.85**	**4.88**	**4.83**	**4.99**	**5.03**	**5.01**	*4.99*	*4.99*	*5.02*	*5.02*	*5.07*	**4.86**	*5.01*	*5.02*
Other Non-OECD	**14.43**	**14.15**	**14.67**	**13.97**	**13.78**	**14.39**	**14.64**	*14.17*	*14.07*	*14.79*	*15.23*	*14.75*	**14.30**	*14.25*	*14.72*
Total World Production	**100.39**	**91.96**	**90.66**	**92.38**	**92.59**	**94.54**	**96.55**	*98.77*	*99.58*	*100.73*	*101.56*	*101.84*	**93.84**	*95.63*	*100.93*
Non-OPEC Production	**66.90**	**61.25**	**62.02**	**62.39**	**62.23**	**63.78**	**64.34**	*65.62*	*65.79*	*66.83*	*67.61*	*67.85*	**63.14**	*64.00*	*67.03*
Consumption (million barrels per day) (c)															
OECD	**45.44**	**37.42**	**42.24**	**42.79**	**42.27**	**43.94**	**45.43**	*45.91*	*45.34*	*45.17*	*46.16*	*46.20*	**41.98**	*44.40*	*45.72*
U.S. (50 States)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.21**	*20.35*	*19.79*	*20.43*	*20.86*	*20.80*	**18.19**	*19.77*	*20.47*
U.S. Territories	**0.11**	**0.12**	**0.13**	**0.12**	**0.17**	**0.15**	**0.16**	*0.17*	*0.18*	*0.16*	*0.16*	*0.17*	**0.12**	*0.16*	*0.17*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.16**	**2.39**	*2.41*	*2.34*	*2.29*	*2.41*	*2.39*	**2.19**	*2.27*	*2.36*
Europe	**13.34**	**11.01**	**12.88**	**12.51**	**11.90**	**12.60**	**13.73**	*13.42*	*13.16*	*13.25*	*13.56*	*13.20*	**12.43**	*12.92*	*13.29*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.08**	*3.44*	*3.72*	*3.04*	*3.13*	*3.45*	**3.33**	*3.33*	*3.33*
Other OECD	**6.30**	**5.34**	**5.47**	**5.77**	**5.89**	**5.91**	**5.86**	*6.13*	*6.15*	*6.00*	*6.04*	*6.20*	**5.72**	*5.95*	*6.10*
Non-OECD	**49.50**	**47.51**	**50.50**	**51.79**	**51.72**	**52.13**	**52.48**	*53.72*	*53.95*	*54.90*	*55.00*	*55.09*	**49.84**	*52.52*	*54.74*
Eurasia	**4.42**	**4.45**	**4.80**	**4.67**	**4.65**	**4.73**	**5.08**	*4.92*	*4.83*	*4.89*	*5.25*	*5.12*	**4.59**	*4.85*	*5.02*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.74**	**0.75**	**0.74**	*0.76*	*0.77*	*0.77*	*0.77*	*0.78*	**0.71**	*0.75*	*0.77*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.26**	**15.47**	**14.98**	*15.46*	*15.84*	*16.00*	*15.71*	*15.98*	**14.43**	*15.29*	*15.88*
Other Asia	**13.26**	**11.61**	**12.54**	**13.66**	**13.57**	**13.12**	**13.02**	*13.96*	*14.18*	*14.29*	*13.87*	*14.25*	**12.77**	*13.42*	*14.15*
Other Non-OECD	**17.22**	**16.67**	**17.80**	**17.64**	**17.49**	**18.07**	**18.65**	*18.62*	*18.33*	*18.95*	*19.39*	*18.95*	**17.34**	*18.21*	*18.91*
Total World Consumption	**94.94**	**84.93**	**92.74**	**94.59**	**93.98**	**96.07**	**97.91**	*99.63*	*99.29*	*100.06*	*101.15*	*101.29*	**91.81**	*96.91*	*100.46*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.49**	**-1.67**	**0.53**	**0.91**	**0.47**	**0.51**	**0.37**	*0.57*	*0.09*	*-0.53*	*-0.09*	*0.39*	**-0.18**	*0.48*	*-0.03*
Other OECD	**-0.51**	**-1.16**	**0.04**	**0.69**	**0.81**	**0.13**	**0.56**	*0.09*	*-0.12*	*-0.04*	*-0.10*	*-0.29*	**-0.23**	*0.40*	*-0.14*
Other Stock Draws and Balance	**-4.45**	**-4.20**	**1.52**	**0.60**	**0.12**	**0.88**	**0.43**	*0.20*	*-0.26*	*-0.09*	*-0.22*	*-0.64*	**-1.62**	*0.41*	*-0.30*
Total Stock Draw	**-5.45**	**-7.03**	**2.08**	**2.20**	**1.39**	**1.52**	**1.36**	*0.87*	*-0.29*	*-0.67*	*-0.41*	*-0.54*	**-2.02**	*1.28*	*-0.48*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,327**	**1,458**	**1,423**	**1,343**	**1,302**	**1,271**	**1,241**	*1,208*	*1,224*	*1,289*	*1,297*	*1,269*	**1,343**	*1,208*	*1,269*
OECD Commercial Inventory	**2,970**	**3,206**	**3,168**	**3,025**	**2,911**	**2,868**	**2,786**	*2,745*	*2,772*	*2,841*	*2,858*	*2,857*	**3,025**	*2,745*	*2,857*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.94**	**24.25**	**25.12**	**25.70**	**25.16**	**26.36**	**26.37**	*27.38*	*27.45*	*27.61*	*27.94*	*28.20*	**25.75**	*26.33*	*27.80*
Canada	**5.62**	**4.88**	**4.92**	**5.52**	**5.62**	**5.37**	**5.55**	*5.79*	*5.82*	*5.79*	*5.82*	*5.84*	**5.23**	*5.58*	*5.82*
Mexico	**2.00**	**1.93**	**1.91**	**1.90**	**1.93**	**1.95**	**1.90**	*1.92*	*1.94*	*1.90*	*1.87*	*1.83*	**1.93**	*1.92*	*1.89*
United States	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.92**	*19.68*	*19.69*	*19.92*	*20.26*	*20.53*	**18.58**	*18.82*	*20.10*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.62**	**6.28**	**6.67**	*6.11*	*5.97*	*6.73*	*7.19*	*6.74*	**6.15**	*6.17*	*6.66*
Argentina	**0.71**	**0.62**	**0.66**	**0.64**	**0.65**	**0.69**	**0.73**	*0.71*	*0.73*	*0.74*	*0.77*	*0.76*	**0.66**	*0.69*	*0.75*
Brazil	**3.42**	**3.88**	**4.27**	**3.51**	**3.22**	**3.89**	**4.22**	*3.66*	*3.42*	*4.26*	*4.62*	*4.05*	**3.77**	*3.75*	*4.09*
Colombia	**0.90**	**0.78**	**0.77**	**0.78**	**0.77**	**0.74**	**0.76**	*0.78*	*0.80*	*0.71*	*0.73*	*0.78*	**0.81**	*0.76*	*0.75*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	**0.50**	**0.49**	*0.50*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.50*	*0.53*
Other Central and S. America	**0.44**	**0.41**	**0.41**	**0.45**	**0.47**	**0.45**	**0.48**	*0.47*	*0.48*	*0.48*	*0.54*	*0.63*	**0.43**	*0.47*	*0.54*
Europe	**4.35**	**4.26**	**4.07**	**4.21**	**4.32**	**3.84**	**4.13**	*4.28*	*4.30*	*4.22*	*4.11*	*4.39*	**4.22**	*4.14*	*4.25*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	**1.90**	**2.06**	*2.14*	*2.16*	*2.12*	*2.10*	*2.27*	**2.01**	*2.05*	*2.16*
United Kingdom	**1.16**	**1.14**	**0.98**	**1.05**	**1.06**	**0.81**	**0.94**	*1.01*	*1.01*	*0.99*	*0.89*	*1.00*	**1.08**	*0.95*	*0.97*
Eurasia	**14.71**	**13.15**	**12.69**	**13.11**	**13.38**	**13.61**	**13.58**	*14.23*	*14.41*	*14.61*	*14.74*	*14.88*	**13.41**	*13.70*	*14.66*
Azerbaijan	**0.76**	**0.69**	**0.66**	**0.69**	**0.75**	**0.70**	**0.71**	*0.72*	*0.75*	*0.75*	*0.74*	*0.74*	**0.70**	*0.72*	*0.74*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	**1.86**	**1.72**	*1.98*	*1.99*	*1.99*	*1.95*	*1.98*	**1.86**	*1.86*	*1.98*
Russia	**11.53**	**10.24**	**9.97**	**10.26**	**10.42**	**10.71**	**10.80**	*11.17*	*11.30*	*11.50*	*11.68*	*11.79*	**10.50**	*10.78*	*11.57*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	**0.24**	**0.24**	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.11**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.11**	*0.12*	*0.14*	*0.14*	*0.14*	*0.14*	**0.11**	*0.11*	*0.14*
Middle East	**3.16**	**3.12**	**3.08**	**3.13**	**3.15**	**3.18**	**3.20**	*3.23*	*3.26*	*3.25*	*3.25*	*3.24*	**3.12**	*3.19*	*3.25*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	**0.97**	**0.98**	*1.03*	*1.04*	*1.04*	*1.04*	*1.04*	**0.96**	*0.99*	*1.04*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.89**	**1.91**	**1.92**	*1.92*	*1.93*	*1.93*	*1.93*	*1.93*	**1.87**	*1.91*	*1.93*
Asia and Oceania	**9.25**	**8.99**	**9.02**	**8.96**	**9.19**	**9.11**	**9.05**	*9.02*	*9.08*	*9.08*	*9.06*	*9.08*	**9.05**	*9.09*	*9.08*
Australia	**0.48**	**0.49**	**0.49**	**0.48**	**0.47**	**0.42**	**0.49**	*0.48*	*0.48*	*0.48*	*0.48*	*0.47*	**0.49**	*0.46*	*0.48*
China	**4.89**	**4.85**	**4.88**	**4.83**	**4.99**	**5.03**	**5.01**	*4.99*	*4.99*	*5.02*	*5.02*	*5.07*	**4.86**	*5.01*	*5.02*
India	**0.92**	**0.86**	**0.88**	**0.88**	**0.90**	**0.90**	**0.89**	*0.89*	*0.90*	*0.89*	*0.89*	*0.89*	**0.89**	*0.90*	*0.89*
Indonesia	**0.92**	**0.90**	**0.88**	**0.89**	**0.88**	**0.85**	**0.85**	*0.84*	*0.83*	*0.82*	*0.82*	*0.81*	**0.89**	*0.86*	*0.82*
Malaysia	**0.73**	**0.62**	**0.64**	**0.64**	**0.66**	**0.62**	**0.57**	*0.58*	*0.62*	*0.62*	*0.61*	*0.60*	**0.66**	*0.61*	*0.61*
Vietnam	**0.23**	**0.22**	**0.21**	**0.21**	**0.21**	**0.21**	**0.20**	*0.19*	*0.18*	*0.17*	*0.17*	*0.16*	**0.21**	*0.20*	*0.17*
Africa	**1.48**	**1.43**	**1.41**	**1.39**	**1.40**	**1.40**	**1.33**	*1.36*	*1.33*	*1.33*	*1.33*	*1.33*	**1.43**	*1.37*	*1.33*
Egypt	**0.62**	**0.62**	**0.60**	**0.58**	**0.59**	**0.60**	**0.58**	*0.61*	*0.56*	*0.56*	*0.56*	*0.56*	**0.60**	*0.59*	*0.56*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	**0.16**	**0.15**	*0.16*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.16*	*0.18*
Total non-OPEC liquids	**66.90**	**61.25**	**62.02**	**62.39**	**62.23**	**63.78**	**64.34**	*65.62*	*65.79*	*66.83*	*67.61*	*67.85*	**63.14**	*64.00*	*67.03*
OPEC non-crude liquids	**5.21**	**5.06**	**5.01**	**5.11**	**5.28**	**5.27**	**5.35**	*5.42*	*5.58*	*5.46*	*5.50*	*5.54*	**5.10**	*5.33*	*5.52*
Non-OPEC + OPEC non-crude	**72.11**	**66.32**	**67.04**	**67.50**	**67.51**	**69.05**	**69.69**	*71.04*	*71.37*	*72.29*	*73.12*	*73.40*	**68.24**	*69.33*	*72.55*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.62**	**0.61**	**0.50**	**0.80**	-	-	-	-	-	**0.61**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	**1.02**	**0.90**	**0.84**	**0.86**	**0.87**	**0.88**	**0.92**	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	**1.08**	**1.11**	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	**0.27**	**0.26**	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	**0.10**	**0.10**	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	**0.17**	**0.18**	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	**2.47**	**2.48**	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	**3.98**	**4.07**	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	**2.36**	**2.45**	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	**1.16**	**1.18**	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	**1.32**	**1.28**	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	**8.53**	**9.55**	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	**2.65**	**2.76**	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	**0.53**	**0.53**	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.49**	**26.86**	*27.73*	*28.20*	*28.44*	*28.44*	*28.44*	**25.60**	*26.30*	*28.38*
Other Liquids (a)	**5.21**	**5.06**	**5.01**	**5.11**	**5.28**	**5.27**	**5.35**	*5.42*	*5.58*	*5.46*	*5.50*	*5.54*	**5.10**	*5.33*	*5.52*
Total OPEC Production	**33.49**	**30.71**	**28.64**	**29.99**	**30.36**	**30.76**	**32.21**	*33.15*	*33.78*	*33.90*	*33.95*	*33.98*	**30.70**	*31.63*	*33.90*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	**26.85**	**26.86**	*26.83*	*26.98*	*27.18*	*27.18*	*27.18*	**25.98**	*26.77*	*27.13*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	**6.71**	**6.73**	*6.71*	*6.49*	*6.42*	*6.39*	*6.36*	**5.81**	*6.72*	*6.42*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	**33.56**	**33.59**	*33.54*	*33.47*	*33.60*	*33.57*	*33.54*	**31.79**	*33.49*	*33.55*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	**6.87**	**5.56**	*4.87*	*4.66*	*4.59*	*4.61*	*4.61*	**5.49**	*6.07*	*4.62*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.20**	**1.20**	**1.18**	*0.94*	*0.61*	*0.56*	*0.52*	*0.49*	**0.70**	*1.13*	*0.55*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.20**	**8.07**	**6.74**	*5.81*	*5.27*	*5.16*	*5.13*	*5.10*	**6.19**	*7.20*	*5.16*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	**2.38**	**2.40**	-	-	-	-	-	**3.92**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.77**	**19.44**	**22.21**	**22.44**	**22.20**	**23.83**	**24.23**	*24.52*	*23.79*	*24.39*	*24.94*	*24.86*	**21.97**	*23.70*	*24.50*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.16**	**2.39**	*2.41*	*2.34*	*2.29*	*2.41*	*2.39*	**2.19**	*2.27*	*2.36*
Mexico	**1.85**	**1.40**	**1.50**	**1.58**	**1.62**	**1.63**	**1.62**	*1.75*	*1.65*	*1.67*	*1.66*	*1.67*	**1.58**	*1.65*	*1.66*
United States	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.21**	*20.35*	*19.79*	*20.43*	*20.86*	*20.80*	**18.19**	*19.77*	*20.47*
Central and South America	**5.81**	**5.72**	**5.86**	**5.96**	**6.00**	**6.14**	**6.36**	*6.46*	*6.29*	*6.37*	*6.49*	*6.51*	**5.84**	*6.24*	*6.41*
Brazil	**2.70**	**2.76**	**2.85**	**2.85**	**2.79**	**2.90**	**3.02**	*3.11*	*2.94*	*2.95*	*3.04*	*3.05*	**2.79**	*2.95*	*2.99*
Europe	**14.04**	**11.70**	**13.59**	**13.23**	**12.65**	**13.34**	**14.47**	*14.18*	*13.93*	*14.02*	*14.33*	*13.98*	**13.14**	*13.67*	*14.07*
Eurasia	**4.42**	**4.45**	**4.80**	**4.67**	**4.65**	**4.73**	**5.08**	*4.92*	*4.83*	*4.89*	*5.25*	*5.12*	**4.59**	*4.85*	*5.02*
Russia	**3.21**	**3.29**	**3.56**	**3.43**	**3.42**	**3.52**	**3.81**	*3.64*	*3.53*	*3.62*	*3.92*	*3.78*	**3.38**	*3.60*	*3.71*
Middle East	**7.90**	**7.43**	**8.43**	**8.05**	**7.79**	**8.20**	**8.72**	*8.38*	*8.28*	*8.75*	*9.16*	*8.50*	**7.95**	*8.28*	*8.67*
Asia and Oceania	**34.81**	**32.14**	**33.77**	**35.94**	**36.35**	**35.46**	**34.76**	*36.70*	*37.71*	*37.12*	*36.54*	*37.69*	**34.17**	*35.82*	*37.26*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.26**	**15.47**	**14.98**	*15.46*	*15.84*	*16.00*	*15.71*	*15.98*	**14.43**	*15.29*	*15.88*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.08**	*3.44*	*3.72*	*3.04*	*3.13*	*3.45*	**3.33**	*3.33*	*3.33*
India	**4.83**	**3.76**	**4.14**	**5.05**	**4.94**	**4.37**	**4.45**	*4.98*	*5.14*	*5.19*	*4.85*	*5.14*	**4.45**	*4.68*	*5.08*
Africa	**4.19**	**4.06**	**4.08**	**4.30**	**4.35**	**4.37**	**4.27**	*4.46*	*4.47*	*4.52*	*4.44*	*4.63*	**4.16**	*4.36*	*4.52*
Total OECD Liquid Fuels Consumption	**45.44**	**37.42**	**42.24**	**42.79**	**42.27**	**43.94**	**45.43**	*45.91*	*45.34*	*45.17*	*46.16*	*46.20*	**41.98**	*44.40*	*45.72*
Total non-OECD Liquid Fuels Consumption	**49.50**	**47.51**	**50.50**	**51.79**	**51.72**	**52.13**	**52.48**	*53.72*	*53.95*	*54.90*	*55.00*	*55.09*	**49.84**	*52.52*	*54.74*
Total World Liquid Fuels Consumption	**94.94**	**84.93**	**92.74**	**94.59**	**93.98**	**96.07**	**97.91**	*99.63*	*99.29*	*100.06*	*101.15*	*101.29*	**91.81**	*96.91*	*100.46*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.6**	**105.3**	**113.2**	**115.4**	**116.2**	**117.3**	**118.5**	*120.1*	*121.6*	*123.0*	*124.2*	*125.4*	**111.6**	*118.0*	*123.5*
Percent change from prior year	**-1.4**	**-8.8**	**-2.4**	**-0.6**	**3.2**	**11.4**	**4.7**	*4.1*	*4.6*	*4.8*	*4.8*	*4.4*	**-3.3**	*5.8*	*4.7*
OECD Index, 2015 = 100													**103.8**	*109.2*	*113.6*
Percent change from prior year													**-4.7**	*5.2*	*4.1*
Non-OECD Index, 2015 = 100													**116.1**	*123.2*	*129.5*
Percent change from prior year													**-2.2**	*6.1*	*5.1*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	**106.3**	**107.7**	*109.3*	*109.3*	*109.4*	*109.2*	*108.9*	**111.9**	*107.5*	*109.2*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	**-8.3**	**-3.4**	*0.9*	*2.4*	*2.9*	*1.3*	*-0.4*	**1.9**	*-3.9*	*1.6*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	**11.11**	*11.63*	*11.67*	*11.72*	*11.91*	*12.09*	**11.28**	*11.18*	*11.85*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	**0.44**	**0.41**	*0.44*	*0.43*	*0.38*	*0.41*	*0.42*	**0.45**	*0.44*	*0.41*
Federal Gulf of Mexico (b)	**1.99**	**1.66**	**1.43**	**1.50**	**1.80**	**1.79**	**1.49**	*1.78*	*1.84*	*1.82*	*1.83*	*1.87*	**1.64**	*1.71*	*1.84*
Lower 48 States (excl GOM)	**10.35**	**8.60**	**8.92**	**8.91**	**8.44**	**9.05**	**9.22**	*9.41*	*9.40*	*9.52*	*9.66*	*9.80*	**9.19**	*9.03*	*9.60*
Crude Oil Net Imports (c)	**2.89**	**3.06**	**2.24**	**2.50**	**2.87**	**2.96**	**3.60**	*3.64*	*3.65*	*4.35*	*4.67*	*3.82*	**2.67**	*3.27*	*4.12*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	**0.18**	**0.04**	*0.22*	*0.27*	*0.18*	*0.00*	*0.08*	**-0.01**	*0.11*	*0.13*
Commercial Inventory Net Withdrawals	**-0.56**	**-0.54**	**0.38**	**0.13**	**-0.18**	**0.59**	**0.30**	*-0.06*	*-0.34*	*-0.05*	*0.25*	*-0.03*	**-0.14**	*0.16*	*-0.04*
Crude Oil Adjustment (d)	**0.63**	**0.20**	**0.46**	**0.36**	**0.42**	**0.63**	**0.56**	*0.27*	*0.22*	*0.22*	*0.23*	*0.16*	**0.41**	*0.47*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.60**	*15.69*	*15.47*	*16.42*	*17.05*	*16.14*	**14.21**	*15.19*	*16.27*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.97**	*1.04*	*1.07*	*1.05*	*1.08*	*1.10*	**0.92**	*0.96*	*1.08*
Natural Gas Plant Liquids Production	**5.17**	**4.96**	**5.34**	**5.22**	**4.86**	**5.46**	**5.52**	*5.67*	*5.67*	*5.81*	*5.91*	*5.98*	**5.17**	*5.38*	*5.84*
Renewables and Oxygenate Production (e)	**1.11**	**0.81**	**1.03**	**1.07**	**1.03**	**1.13**	**1.10**	*1.13*	*1.07*	*1.12*	*1.14*	*1.13*	**1.01**	*1.10*	*1.11*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	**0.99**	**0.96**	*1.04*	*0.97*	*1.01*	*1.02*	*1.02*	**0.91**	*0.97*	*1.01*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	**0.22**	**0.22**	*0.21*	*0.21*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-3.86**	**-2.96**	**-3.07**	**-3.33**	**-2.94**	**-3.13**	**-3.24**	*-3.80*	*-3.86*	*-3.53*	*-4.20*	*-4.10*	**-3.30**	*-3.28*	*-3.92*
Hydrocarbon Gas Liquids	**-1.95**	**-1.84**	**-1.83**	**-2.06**	**-2.02**	**-2.23**	**-2.16**	*-2.19*	*-2.24*	*-2.30*	*-2.32*	*-2.22*	**-1.92**	*-2.15*	*-2.27*
Unfinished Oils	**0.37**	**0.23**	**0.35**	**0.18**	**0.14**	**0.25**	**0.22**	*0.26*	*0.20*	*0.25*	*0.30*	*0.20*	**0.29**	*0.22*	*0.24*
Other HC/Oxygenates	**-0.09**	**-0.04**	**-0.04**	**-0.04**	**-0.08**	**-0.04**	**-0.03**	*-0.12*	*-0.06*	*-0.04*	*-0.03*	*-0.03*	**-0.05**	*-0.07*	*-0.04*
Motor Gasoline Blend Comp.	**0.40**	**0.37**	**0.49**	**0.44**	**0.55**	**0.79**	**0.66**	*0.24*	*0.57*	*0.77*	*0.43*	*0.21*	**0.42**	*0.56*	*0.49*
Finished Motor Gasoline	**-0.71**	**-0.41**	**-0.58**	**-0.76**	**-0.66**	**-0.66**	**-0.68**	*-0.81*	*-1.02*	*-0.61*	*-0.66*	*-0.75*	**-0.62**	*-0.70*	*-0.76*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.08**	**0.03**	**0.09**	**0.09**	*0.05*	*0.02*	*0.02*	*0.03*	*0.05*	**0.05**	*0.06*	*0.03*
Distillate Fuel Oil	**-1.14**	**-0.86**	**-1.16**	**-0.72**	**-0.49**	**-0.90**	**-0.94**	*-0.79*	*-0.77*	*-1.03*	*-1.25*	*-0.95*	**-0.97**	*-0.78*	*-1.00*
Residual Fuel Oil	**-0.02**	**-0.01**	**0.05**	**0.05**	**0.08**	**0.05**	**0.08**	*0.10*	*-0.02*	*0.00*	*-0.04*	*0.04*	**0.02**	*0.08*	*0.00*
Other Oils (g)	**-0.64**	**-0.49**	**-0.48**	**-0.48**	**-0.49**	**-0.49**	**-0.50**	*-0.55*	*-0.53*	*-0.59*	*-0.66*	*-0.63*	**-0.52**	*-0.50*	*-0.60*
Product Inventory Net Withdrawals	**0.06**	**-0.90**	**0.00**	**0.73**	**0.65**	**-0.26**	**0.03**	*0.42*	*0.17*	*-0.66*	*-0.34*	*0.33*	**-0.02**	*0.21*	*-0.13*
Total Supply	**19.50**	**16.07**	**18.45**	**18.72**	**18.43**	**20.03**	**20.21**	*20.35*	*19.79*	*20.43*	*20.86*	*20.80*	**18.19**	*19.76*	*20.47*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.37**	**2.85**	**3.01**	**3.68**	**3.40**	**3.33**	**3.31**	*3.60*	*3.81*	*3.31*	*3.36*	*3.88*	**3.23**	*3.41*	*3.59*
Unfinished Oils	**0.18**	**0.12**	**0.03**	**0.03**	**0.05**	**0.03**	**-0.05**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	**0.09**	*0.01*	*0.00*
Motor Gasoline	**8.51**	**7.12**	**8.51**	**8.06**	**8.00**	**9.07**	**9.13**	*8.94*	*8.40*	*9.28*	*9.41*	*8.96*	**8.05**	*8.79*	*9.01*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.73**	**0.87**	**0.85**	**0.82**	**0.93**	**0.94**	*0.93*	*0.85*	*0.95*	*0.95*	*0.93*	**0.82**	*0.90*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	**1.34**	**1.52**	*1.53*	*1.44*	*1.59*	*1.71*	*1.68*	**1.08**	*1.38*	*1.61*
Distillate Fuel Oil	**4.02**	**3.49**	**3.70**	**3.94**	**3.97**	**3.93**	**3.87**	*4.09*	*4.14*	*4.04*	*3.98*	*4.15*	**3.79**	*3.97*	*4.08*
Residual Fuel Oil	**0.17**	**0.11**	**0.32**	**0.22**	**0.26**	**0.25**	**0.33**	*0.35*	*0.24*	*0.21*	*0.26*	*0.26*	**0.21**	*0.30*	*0.24*
Other Oils (g)	**1.69**	**1.68**	**1.92**	**1.71**	**1.63**	**2.08**	**2.10**	*1.84*	*1.77*	*2.01*	*2.15*	*1.87*	**1.75**	*1.91*	*1.95*
Total Consumption	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.21**	*20.35*	*19.79*	*20.43*	*20.86*	*20.80*	**18.19**	*19.77*	*20.47*
Total Petroleum and Other Liquids Net Imports	**-0.97**	**0.11**	**-0.83**	**-0.84**	**-0.07**	**-0.16**	**0.35**	*-0.16*	*-0.21*	*0.83*	*0.47*	*-0.28*	**-0.63**	*-0.01*	*0.20*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**483.3**	**532.7**	**497.7**	**485.5**	**501.9**	**448.0**	**420.4**	*426.2*	*457.0*	*461.7*	*438.5*	*441.0*	**485.5**	*426.2*	*441.0*
Hydrocarbon Gas Liquids	**182.9**	**235.7**	**298.7**	**228.2**	**168.6**	**195.8**	**225.6**	*191.2*	*150.9*	*202.9*	*248.3*	*208.9*	**228.2**	*191.2*	*208.9*
Unfinished Oils	**101.9**	**92.5**	**81.4**	**77.6**	**93.3**	**93.0**	**90.2**	*83.5*	*93.5*	*91.2*	*90.0*	*83.3*	**77.6**	*83.5*	*83.3*
Other HC/Oxygenates	**33.4**	**25.4**	**24.6**	**29.7**	**29.1**	**27.5**	**25.4**	*26.0*	*28.1*	*26.9*	*26.6*	*26.9*	**29.7**	*26.0*	*26.9*
Total Motor Gasoline	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**227.0**	*229.6*	*240.6*	*246.2*	*233.8*	*248.5*	**243.4**	*229.6*	*248.5*
Finished Motor Gasoline	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**18.5**	*24.0*	*24.0*	*23.9*	*23.1*	*26.1*	**25.4**	*24.0*	*26.1*
Motor Gasoline Blend Comp.	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**208.5**	*205.6*	*216.6*	*222.3*	*210.6*	*222.5*	**218.0**	*205.6*	*222.5*
Jet Fuel	**39.9**	**41.6**	**40.1**	**38.6**	**39.0**	**44.7**	**42.0**	*35.8*	*36.3*	*37.9*	*40.8*	*38.0*	**38.6**	*35.8*	*38.0*
Distillate Fuel Oil	**126.8**	**176.9**	**172.5**	**161.2**	**145.5**	**140.1**	**131.7**	*131.4*	*122.7*	*128.4*	*136.1*	*137.4*	**161.2**	*131.4*	*137.4*
Residual Fuel Oil	**34.8**	**39.5**	**32.1**	**30.2**	**30.9**	**31.1**	**28.0**	*28.0*	*29.6*	*31.1*	*29.8*	*31.1*	**30.2**	*28.0*	*31.1*
Other Oils (g)	**61.9**	**59.0**	**48.3**	**49.1**	**55.8**	**54.1**	**50.5**	*56.5*	*65.2*	*62.6*	*53.0*	*54.3*	**49.1**	*56.5*	*54.3*
Total Commercial Inventory	**1326.7**	**1457.7**	**1423.2**	**1343.3**	**1301.7**	**1271.5**	**1240.7**	*1208.3*	*1223.9*	*1288.9*	*1296.9*	*1269.3*	**1343.3**	*1208.3*	*1269.3*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	**621.3**	**617.8**	*597.3*	*573.3*	*556.7*	*556.7*	*548.9*	**638.1**	*597.3*	*548.9*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.95**	**1.92**	**2.14**	**2.05**	**1.87**	**2.19**	**2.18**	*2.30*	*2.31*	*2.43*	*2.49*	*2.56*	**2.02**	*2.14*	*2.45*
Propane	**1.74**	**1.61**	**1.68**	**1.70**	**1.62**	**1.74**	**1.75**	*1.79*	*1.81*	*1.80*	*1.81*	*1.83*	**1.68**	*1.73*	*1.81*
Butanes	**0.92**	**0.86**	**0.90**	**0.89**	**0.85**	**0.92**	**0.93**	*0.96*	*0.96*	*0.96*	*0.96*	*0.97*	**0.89**	*0.91*	*0.96*
Natural Gasoline (Pentanes Plus)	**0.57**	**0.57**	**0.62**	**0.58**	**0.53**	**0.61**	**0.65**	*0.61*	*0.59*	*0.62*	*0.64*	*0.62*	**0.58**	*0.60*	*0.62*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.00*	*0.01*
Propane	**0.29**	**0.24**	**0.27**	**0.27**	**0.25**	**0.29**	**0.28**	*0.32*	*0.31*	*0.31*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	**0.31**	**0.29**	*0.29*	*0.28*	*0.29*	*0.28*	*0.28*	**0.26**	*0.29*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	**0.24**	**0.18**	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.01**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.01**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.30**	**-0.24**	**-0.26**	**-0.27**	**-0.35**	**-0.39**	**-0.41**	*-0.38*	*-0.42*	*-0.44*	*-0.45*	*-0.46*	**-0.27**	*-0.38*	*-0.44*
Propane/Propylene	**-1.08**	**-1.09**	**-1.06**	**-1.31**	**-1.11**	**-1.23**	**-1.19**	*-1.26*	*-1.20*	*-1.24*	*-1.25*	*-1.21*	**-1.14**	*-1.20*	*-1.22*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.34**	**-0.34**	**-0.35**	**-0.40**	**-0.38**	*-0.36*	*-0.40*	*-0.44*	*-0.43*	*-0.38*	**-0.32**	*-0.37*	*-0.41*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	**-0.21**	**-0.18**	*-0.19*	*-0.21*	*-0.19*	*-0.19*	*-0.18*	**-0.19**	*-0.20*	*-0.19*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	**0.29**	**0.31**	*0.49*	*0.40*	*0.29*	*0.33*	*0.51*	**0.38**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	**0.14**	**0.16**	*0.16*	*0.16*	*0.18*	*0.18*	*0.18*	**0.13**	*0.15*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.71**	**1.68**	**1.67**	**1.81**	**1.54**	**1.83**	**1.80**	*1.86*	*1.98*	*2.00*	*2.05*	*2.09*	**1.72**	*1.76*	*2.03*
Propane	**1.14**	**0.58**	**0.61**	**0.97**	**1.09**	**0.65**	**0.66**	*0.97*	*1.12*	*0.56*	*0.56*	*1.03*	**0.82**	*0.84*	*0.82*
Propylene (refinery-grade)	**0.27**	**0.27**	**0.27**	**0.30**	**0.29**	**0.32**	**0.30**	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.19**	**0.23**	**0.22**	**0.29**	**0.25**	*0.21*	*0.19*	*0.23*	*0.21*	*0.20*	**0.20**	*0.24*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.36**	**0.26**	**0.24**	**0.30**	*0.26*	*0.23*	*0.22*	*0.24*	*0.25*	**0.21**	*0.26*	*0.23*
HGL Inventories (million barrels)															
Ethane	**53.2**	**50.6**	**62.5**	**74.8**	**65.8**	**67.4**	**64.6**	*68.6*	*63.1*	*61.7*	*60.2*	*62.3*	**60.3**	*66.6*	*61.8*
Propane	**60.8**	**75.8**	**100.3**	**69.9**	**39.3**	**53.2**	**68.6**	*56.5*	*36.7*	*63.4*	*90.7*	*80.1*	**69.9**	*56.5*	*80.1*
Propylene (at refineries only)	**1.5**	**1.5**	**1.5**	**1.5**	**1.1**	**1.2**	**1.3**	*1.5*	*1.4*	*1.7*	*1.9*	*1.8*	**1.5**	*1.5*	*1.8*
Butanes/Butylenes	**44.1**	**69.9**	**86.0**	**54.6**	**37.2**	**53.9**	**69.4**	*42.6*	*32.5*	*56.8*	*74.5*	*45.3*	**54.6**	*42.6*	*45.3*
Natural Gasoline (Pentanes Plus)	**24.4**	**36.0**	**38.7**	**32.6**	**22.8**	**22.3**	**22.3**	*21.1*	*18.5*	*19.7*	*20.6*	*19.9*	**32.6**	*21.1*	*19.9*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.60**	*15.69*	*15.47*	*16.42*	*17.05*	*16.14*	**14.21**	*15.19*	*16.27*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	**0.43**	**0.47**	*0.65*	*0.56*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.56*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	**1.19**	**1.20**	*1.22*	*1.18*	*1.29*	*1.32*	*1.29*	**1.06**	*1.16*	*1.27*
Unfinished Oils	**0.06**	**0.22**	**0.45**	**0.19**	**-0.08**	**0.22**	**0.31**	*0.33*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.20*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.49**	**0.85**	**0.46**	**0.71**	**0.92**	**0.81**	*0.24*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.67*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.98**	**15.16**	**16.90**	**16.22**	**16.01**	**18.41**	**18.39**	*18.13*	*17.86*	*19.27*	*19.84*	*18.69*	**16.57**	*17.74*	*18.92*
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.97**	*1.04*	*1.07*	*1.05*	*1.08*	*1.10*	**0.92**	*0.96*	*1.08*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	**0.85**	**0.76**	*0.42*	*0.51*	*0.86*	*0.79*	*0.40*	**0.55**	*0.62*	*0.64*
Finished Motor Gasoline	**9.31**	**7.53**	**9.14**	**8.98**	**8.74**	**9.82**	**9.83**	*9.74*	*9.50*	*9.96*	*10.12*	*9.92*	**8.74**	*9.54*	*9.88*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	**1.32**	**1.41**	*1.42*	*1.43*	*1.58*	*1.71*	*1.60*	**1.02**	*1.31*	*1.58*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.45**	**4.29**	**4.77**	**4.72**	*4.89*	*4.81*	*5.13*	*5.32*	*5.12*	**4.74**	*4.67*	*5.10*
Residual Fuel	**0.24**	**0.17**	**0.19**	**0.15**	**0.19**	**0.20**	**0.21**	*0.24*	*0.28*	*0.22*	*0.28*	*0.23*	**0.19**	*0.21*	*0.25*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	**2.42**	**2.44**	*2.45*	*2.40*	*2.57*	*2.70*	*2.51*	**2.26**	*2.35*	*2.55*
Total Refinery and Blender Net Production	**19.00**	**15.98**	**17.84**	**17.14**	**16.86**	**19.38**	**19.36**	*19.17*	*18.93*	*20.32*	*20.93*	*19.79*	**17.49**	*18.70*	*20.00*
Refinery Distillation Inputs	**16.37**	**13.65**	**14.56**	**14.32**	**14.25**	**16.17**	**16.22**	*16.09*	*15.78*	*16.63*	*17.26*	*16.41*	**14.72**	*15.69*	*16.53*
Refinery Operable Distillation Capacity	**18.98**	**18.75**	**18.55**	**18.39**	**18.11**	**18.13**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.66**	*18.12*	*18.13*
Refinery Distillation Utilization Factor	**0.86**	**0.73**	**0.78**	**0.78**	**0.79**	**0.89**	**0.89**	*0.89*	*0.87*	*0.92*	*0.95*	*0.91*	**0.79**	*0.87*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	**153**	**104**	**137**	**133**	**180**	**216**	**232**	*239*	*213*	*213*	*209*	*191*	**133**	*218*	*206*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	**287**	**304**	*322*	*285*	*282*	*282*	*265*	**214**	*292*	*279*
PADD 2	**226**	**179**	**207**	**202**	**247**	**288**	**304**	*308*	*270*	*281*	*274*	*254*	**204**	*288*	*270*
PADD 3	**210**	**162**	**186**	**183**	**228**	**267**	**282**	*294*	*263*	*261*	*257*	*240*	**187**	*270*	*255*
PADD 4	**247**	**200**	**233**	**221**	**247**	**311**	**360**	*346*	*301*	*301*	*298*	*278*	**226**	*318*	*294*
PADD 5	**311**	**258**	**283**	**278**	**312**	**366**	**391**	*403*	*376*	*372*	*356*	*356*	**284**	*370*	*365*
U.S. Average	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*327*	*294*	*295*	*289*	*274*	**218**	*300*	*288*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*337*	*306*	*307*	*302*	*287*	**227**	*310*	*301*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.1**	**61.8**	**68.5**	**65.1**	**69.9**	**59.0**	*58.7*	*65.0*	*68.1*	*63.1*	*68.6*	**68.5**	*58.7*	*68.6*
PADD 2	**60.2**	**52.7**	**46.2**	**50.9**	**50.7**	**50.6**	**46.9**	*48.3*	*53.0*	*52.1*	*50.1*	*50.3*	**50.9**	*48.3*	*50.3*
PADD 3	**85.8**	**91.3**	**80.4**	**84.0**	**81.9**	**81.6**	**82.9**	*85.4*	*85.3*	*88.9*	*83.7*	*89.9*	**84.0**	*85.4*	*89.9*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	**6.2**	**7.6**	*7.8*	*7.8*	*7.9*	*7.5*	*8.2*	**8.7**	*7.8*	*8.2*
PADD 5	**35.6**	**29.7**	**31.5**	**31.4**	**31.4**	**29.0**	**30.6**	*29.3*	*29.3*	*29.2*	*29.4*	*31.6*	**31.4**	*29.3*	*31.6*
U.S. Total	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**227.0**	*229.6*	*240.6*	*246.2*	*233.8*	*248.5*	**243.4**	*229.6*	*248.5*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**18.5**	*24.0*	*24.0*	*23.9*	*23.1*	*26.1*	**25.4**	*24.0*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**208.5**	*205.6*	*216.6*	*222.3*	*210.6*	*222.5*	**218.0**	*205.6*	*222.5*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	**103.02**	**96.83**	**97.29**	**98.53**	**97.65**	**101.12**	**101.99**	*103.72*	*103.32*	*103.46*	*104.27*	*105.48*	**98.91**	*101.14*	*104.14*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	**0.95**	**0.90**	*0.90*	*0.92*	*0.78*	*0.74*	*0.87*	**0.92**	*0.94*	*0.82*
Federal GOM (a)	**2.80**	**2.28**	**1.75**	**1.81**	**2.26**	**2.25**	**1.81**	*2.32*	*2.33*	*2.26*	*2.16*	*2.14*	**2.16**	*2.16*	*2.22*
Lower 48 States (excl GOM)	**99.25**	**93.68**	**94.67**	**95.75**	**94.37**	**97.92**	**99.28**	*100.50*	*100.07*	*100.42*	*101.37*	*102.47*	**95.83**	*98.04*	*101.09*
Total Dry Gas Production	**95.29**	**89.57**	**89.99**	**91.14**	**90.62**	**93.20**	**94.01**	*95.59*	*95.22*	*95.35*	*96.10*	*97.21*	**91.49**	*93.37*	*95.97*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	**0.02**	**0.03**	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.10*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	**9.81**	**9.60**	*10.50*	*11.14*	*11.26*	*11.55*	*12.01*	**6.53**	*9.80*	*11.49*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.68**	**6.81**	**7.24**	*6.88*	*7.35*	*6.35*	*6.38*	*6.72*	**6.84**	*7.40*	*6.70*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.21**	**8.31**	**8.67**	**8.49**	*8.86*	*9.00*	*8.49*	*9.29*	*9.33*	**7.91**	*8.58*	*9.03*
Supplemental Gaseous Fuels	**0.18**	**0.17**	**0.17**	**0.17**	**0.18**	**0.15**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.17**	*0.16*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	**-9.12**	**-7.87**	*3.73*	*14.47*	*-10.21*	*-7.86*	*4.89*	**-0.46**	*0.92*	*0.27*
Total Supply	**99.98**	**71.00**	**76.96**	**87.05**	**99.23**	**72.57**	**75.48**	*87.21*	*97.37*	*72.09*	*74.12*	*87.84*	**83.74**	*83.56*	*82.81*
Balancing Item (b)	**-0.09**	**-0.18**	**-0.80**	**-0.84**	**0.16**	**-0.62**	**-0.43**	*0.47*	*0.09*	*-0.84*	*0.87*	*1.04*	**-0.48**	*-0.11*	*0.30*
Total Primary Supply	**99.89**	**70.83**	**76.16**	**86.21**	**99.39**	**71.94**	**75.05**	*87.67*	*97.47*	*71.25*	*74.99*	*88.88*	**83.26**	*83.46*	*83.10*
Consumption (billion cubic feet per day)															
Residential	**22.95**	**8.25**	**3.84**	**16.10**	**25.67**	**7.50**	**3.62**	*15.98*	*24.42*	*7.77*	*3.85*	*17.41*	**12.77**	*13.14*	*13.32*
Commercial	**14.04**	**5.85**	**4.39**	**10.40**	**14.87**	**6.24**	**4.68**	*10.64*	*14.58*	*6.64*	*5.23*	*11.53*	**8.66**	*9.08*	*9.47*
Industrial	**24.31**	**20.32**	**20.92**	**23.53**	**23.81**	**21.47**	**21.12**	*24.01*	*24.78*	*22.51*	*21.64*	*24.56*	**22.27**	*22.60*	*23.37*
Electric Power (c)	**30.00**	**29.16**	**39.50**	**28.28**	**26.75**	**29.17**	**37.93**	*28.79*	*25.11*	*26.64*	*36.42*	*26.98*	**31.75**	*30.69*	*28.81*
Lease and Plant Fuel	**5.14**	**4.83**	**4.85**	**4.91**	**4.87**	**5.04**	**5.08**	*5.17*	*5.15*	*5.16*	*5.20*	*5.26*	**4.93**	*5.04*	*5.19*
Pipeline and Distribution Use	**3.31**	**2.32**	**2.53**	**2.85**	**3.28**	**2.38**	**2.48**	*2.93*	*3.28*	*2.36*	*2.49*	*2.98*	**2.75**	*2.76*	*2.78*
Vehicle Use	**0.13**	**0.10**	**0.13**	**0.13**	**0.14**	**0.15**	**0.15**	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.89**	**70.83**	**76.16**	**86.21**	**99.39**	**71.94**	**75.05**	*87.67*	*97.47*	*71.25*	*74.99*	*88.88*	**83.26**	*83.46*	*83.10*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,029**	**3,133**	**3,840**	**3,341**	**1,801**	**2,583**	**3,305**	*2,962*	*1,659*	*2,588*	*3,311*	*2,862*	**3,341**	*2,962*	*2,862*
East Region (d)	**385**	**655**	**890**	**763**	**313**	**515**	**804**	*709*	*265*	*508*	*716*	*517*	**763**	*709*	*517*
Midwest Region (d)	**471**	**747**	**1,053**	**918**	**395**	**630**	**966**	*830*	*346*	*578*	*918*	*804*	**918**	*830*	*804*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	**991**	**1,051**	*1,028*	*778*	*1,047*	*1,102*	*1,004*	**1,155**	*1,028*	*1,004*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	**175**	**205**	*155*	*93*	*146*	*216*	*199*	**195**	*155*	*199*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	**246**	**248**	*210*	*149*	*281*	*332*	*309*	**282**	*210*	*309*
Alaska	**23**	**25**	**31**	**28**	**23**	**27**	**30**	*29*	*29*	*29*	*29*	*29*	**28**	*29*	*29*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

STF-3-12 Attachment E

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	**4.53**	*5.22*	*4.76*	*3.97*	*3.93*	*3.87*	**2.11**	*4.13*	*4.13*
Residential Retail															
New England	**14.05**	**14.74**	**18.47**	**14.90**	**14.66**	**16.24**	**20.41**	*16.38*	*15.52*	*16.00*	*18.40*	*14.15*	**14.73**	*15.76*	*15.37*
Middle Atlantic	**10.77**	**11.84**	**17.83**	**11.77**	**10.43**	**13.49**	**19.81**	*13.88*	*12.30*	*13.99*	*18.09*	*11.95*	**11.76**	*12.36*	*12.86*
E. N. Central	**6.99**	**9.47**	**18.18**	**8.02**	**7.41**	**12.69**	**22.36**	*13.17*	*11.16*	*13.24*	*18.08*	*9.46*	**8.38**	*10.39*	*11.30*
W. N. Central	**7.22**	**10.02**	**17.42**	**8.67**	**7.49**	**11.66**	**20.31**	*12.65*	*10.66*	*13.08*	*18.50*	*10.23*	**8.69**	*10.03*	*11.31*
S. Atlantic	**11.86**	**15.14**	**23.48**	**13.82**	**11.95**	**18.04**	**27.38**	*16.54*	*14.26*	*18.59*	*24.03*	*13.51*	**13.88**	*15.13*	*15.38*
E. S. Central	**9.67**	**13.22**	**20.81**	**10.61**	**9.35**	**14.78**	**22.94**	*15.57*	*12.37*	*16.80*	*23.27*	*14.24*	**11.13**	*12.03*	*14.47*
W. S. Central	**8.48**	**14.16**	**20.70**	**11.55**	**9.23**	**15.85**	**23.76**	*14.70*	*11.00*	*16.38*	*21.59*	*12.25*	**11.32**	*12.65*	*13.15*
Mountain	**7.53**	**9.35**	**12.50**	**8.09**	**7.90**	**10.64**	**15.58**	*11.00*	*10.09*	*11.52*	*14.87*	*9.38*	**8.40**	*9.71*	*10.45*
Pacific	**13.10**	**13.44**	**14.16**	**13.39**	**14.20**	**15.01**	**15.90**	*15.20*	*15.21*	*15.71*	*16.24*	*15.03*	**13.38**	*14.84*	*15.37*
U.S. Average	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**20.36**	*13.97*	*12.40*	*14.57*	*18.63*	*11.68*	**10.76**	*12.36*	*12.93*
Commercial Retail															
New England	**10.06**	**10.49**	**11.04**	**10.20**	**10.39**	**11.13**	**12.24**	*12.13*	*12.26*	*12.00*	*11.32*	*10.90*	**10.27**	*11.23*	*11.68*
Middle Atlantic	**7.87**	**7.01**	**6.73**	**7.44**	**7.92**	**8.00**	**7.96**	*8.94*	*9.33*	*8.95*	*8.24*	*8.54*	**7.45**	*8.25*	*8.88*
E. N. Central	**5.73**	**6.56**	**8.77**	**6.19**	**6.11**	**8.60**	**11.03**	*9.34*	*8.75*	*9.28*	*9.88*	*7.48*	**6.23**	*7.83*	*8.49*
W. N. Central	**5.97**	**6.59**	**8.20**	**6.56**	**6.32**	**7.71**	**9.94**	*9.15*	*8.80*	*9.01*	*9.88*	*7.82*	**6.41**	*7.64*	*8.59*
S. Atlantic	**8.51**	**9.21**	**9.54**	**8.86**	**8.69**	**9.84**	**10.35**	*10.50*	*10.29*	*10.87*	*10.76*	*9.42*	**8.86**	*9.62*	*10.18*
E. S. Central	**8.36**	**9.18**	**10.23**	**8.67**	**8.33**	**9.90**	**11.95**	*11.15*	*10.34*	*10.97*	*11.09*	*9.68*	**8.79**	*9.81*	*10.30*
W. S. Central	**6.02**	**7.20**	**8.13**	**7.45**	**6.91**	**8.57**	**10.12**	*10.13*	*9.05*	*9.23*	*9.22*	*8.18*	**6.93**	*8.52*	*8.87*
Mountain	**6.07**	**6.68**	**7.38**	**6.38**	**6.50**	**7.76**	**9.26**	*8.66*	*8.47*	*8.75*	*9.39*	*8.03*	**6.40**	*7.64*	*8.47*
Pacific	**9.48**	**9.37**	**9.52**	**9.63**	**10.46**	**10.31**	**11.31**	*10.97*	*10.82*	*10.49*	*10.71*	*10.13*	**9.51**	*10.72*	*10.53*
U.S. Average	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**10.11**	*9.78*	*9.47*	*9.67*	*9.73*	*8.60*	**7.49**	*8.70*	*9.26*
Industrial Retail															
New England	**8.18**	**7.43**	**6.17**	**7.73**	**8.59**	**8.08**	**7.85**	*9.60*	*9.99*	*9.19*	*7.86*	*8.61*	**7.56**	*8.70*	*9.07*
Middle Atlantic	**7.40**	**6.84**	**7.49**	**7.78**	**7.66**	**7.36**	**7.90**	*9.36*	*9.58*	*8.87*	*8.36*	*8.62*	**7.40**	*8.20*	*9.06*
E. N. Central	**4.85**	**4.52**	**4.15**	**5.12**	**5.43**	**8.14**	**8.48**	*7.98*	*7.73*	*7.07*	*6.57*	*6.33*	**4.77**	*6.98*	*7.06*
W. N. Central	**4.01**	**3.32**	**3.15**	**4.15**	**5.13**	**4.34**	**5.25**	*6.80*	*6.86*	*5.75*	*5.32*	*5.64*	**3.71**	*5.43*	*5.94*
S. Atlantic	**4.20**	**3.73**	**3.76**	**4.65**	**5.12**	**4.75**	**6.01**	*7.34*	*6.97*	*5.98*	*5.61*	*5.72*	**4.11**	*5.79*	*6.11*
E. S. Central	**4.03**	**3.34**	**3.37**	**4.15**	**4.72**	**4.28**	**5.37**	*7.04*	*6.63*	*5.69*	*5.21*	*5.40*	**3.76**	*5.34*	*5.77*
W. S. Central	**2.20**	**1.94**	**2.20**	**2.91**	**5.75**	**3.20**	**4.36**	*5.61*	*4.89*	*4.23*	*4.12*	*4.02*	**2.33**	*4.75*	*4.31*
Mountain	**4.36**	**4.54**	**4.57**	**4.85**	**4.98**	**5.31**	**6.66**	*7.21*	*7.26*	*6.86*	*6.79*	*6.44*	**4.58**	*5.96*	*6.85*
Pacific	**7.31**	**6.27**	**6.05**	**7.06**	**8.28**	**7.24**	**8.88**	*10.24*	*9.32*	*8.16*	*7.95*	*7.74*	**6.74**	*8.91*	*8.32*
U.S. Average	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.10**	*6.62*	*6.26*	*5.19*	*4.89*	*5.07*	**3.32**	*5.43*	*5.38*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	**149.2**	**116.2**	**135.9**	**134.1**	**140.3**	**142.7**	**153.3**	*146.6*	*153.5*	*149.3*	*159.6*	*158.2*	**535.3**	*583.0*	*620.7*
Appalachia	**39.8**	**29.5**	**33.9**	**35.5**	**40.8**	**39.5**	**40.1**	*41.2*	*42.3*	*41.6*	*39.8*	*41.2*	**138.7**	*161.6*	*165.0*
Interior	**25.8**	**20.0**	**23.2**	**21.8**	**25.0**	**23.3**	**25.7**	*24.9*	*25.3*	*24.0*	*26.2*	*26.6*	**90.7**	*98.8*	*102.1*
Western	**83.6**	**66.7**	**78.8**	**76.8**	**74.5**	**80.0**	**87.5**	*80.5*	*85.9*	*83.6*	*93.6*	*90.4*	**305.9**	*322.5*	*353.5*
Primary Inventory Withdrawals	**0.5**	**1.3**	**4.0**	**1.9**	**-4.5**	**2.1**	**2.6**	*-2.0*	*-1.3*	*-2.2*	*-0.8*	*-5.2*	**7.7**	*-1.8*	*-9.6*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	**1.5**	**1.1**	*0.8*	*0.8*	*0.9*	*1.1*	*1.1*	**5.1**	*4.6*	*3.9*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	**22.1**	**20.7**	*21.2*	*26.4*	*18.2*	*19.3*	*25.4*	**69.1**	*84.8*	*89.2*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	**11.7**	**11.4**	*12.5*	*14.4*	*10.7*	*12.2*	*13.6*	**42.1**	*46.0*	*51.0*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	**10.4**	**9.3**	*8.7*	*11.9*	*7.5*	*7.0*	*11.8*	**27.0**	*38.8*	*38.3*
Total Primary Supply	**131.0**	**103.9**	**125.9**	**118.3**	**116.2**	**124.2**	**136.4**	*124.2*	*126.6*	*129.8*	*140.6*	*128.8*	**479.0**	*500.9*	*525.7*
Secondary Inventory Withdrawals	**-16.6**	**-5.1**	**21.5**	**-3.8**	**22.3**	**0.2**	**29.3**	*-1.9*	*-1.8*	*-9.5*	*19.7*	*1.9*	**-4.1**	*49.9*	*10.3*
Waste Coal (a)	**1.9**	**1.5**	**2.0**	**2.3**	**2.0**	**2.0**	**2.0**	*2.0*	*1.8*	*1.8*	*1.8*	*1.8*	**7.7**	*8.0*	*7.4*
Total Supply	**116.2**	**100.3**	**149.3**	**116.8**	**140.5**	**126.5**	**167.7**	*124.3*	*126.7*	*122.1*	*162.1*	*132.5*	**482.6**	*558.9*	*543.4*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**4.4**	**4.5**	**4.1**	*4.6*	*5.5*	*4.7*	*4.4*	*4.9*	**14.4**	*17.5*	*19.6*
Electric Power Sector (b)	**98.0**	**87.1**	**139.0**	**111.7**	**127.9**	**113.8**	**157.0**	*110.9*	*114.0*	*110.5*	*150.8*	*120.5*	**435.8**	*509.6*	*495.7*
Retail and Other Industry	**7.4**	**5.8**	**6.1**	**7.2**	**6.8**	**6.3**	**6.7**	*7.1*	*7.2*	*6.9*	*6.9*	*7.1*	**26.5**	*27.0*	*28.1*
Residential and Commercial	**0.3**	**0.1**	**0.1**	**0.2**	**0.3**	**0.2**	**0.2**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.8*
Other Industrial	**7.1**	**5.6**	**6.0**	**7.0**	**6.6**	**6.2**	**6.5**	*6.9*	*7.0*	*6.7*	*6.7*	*6.9*	**25.7**	*26.2*	*27.3*
Total Consumption	**109.6**	**96.3**	**148.3**	**122.4**	**139.2**	**124.6**	**167.8**	*122.7*	*126.7*	*122.1*	*162.1*	*132.5*	**476.7**	*554.2*	*543.4*
Discrepancy (c)	**6.6**	**3.9**	**1.0**	**-5.7**	**1.3**	**1.9**	**-0.1**	*1.6*	*0.0*	*0.0*	*0.0*	*0.0*	**5.9**	*4.7*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**25.5**	**23.6**	**28.1**	**26.1**	**23.4**	*25.5*	*26.8*	*29.0*	*29.8*	*35.0*	**23.6**	*25.5*	*35.0*
Secondary Inventories	**150.7**	**155.8**	**134.3**	**138.1**	**115.8**	**115.6**	**86.2**	*88.1*	*89.9*	*99.4*	*79.7*	*77.8*	**138.1**	*88.1*	*77.8*
Electric Power Sector	**145.3**	**150.5**	**129.2**	**133.3**	**111.5**	**110.9**	**80.4**	*82.6*	*84.5*	*93.7*	*73.9*	*72.2*	**133.3**	*82.6*	*72.2*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**2.6**	**2.6**	**3.6**	*3.4*	*3.6*	*3.5*	*3.5*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.5**	**1.9**	**2.1**	*2.0*	*1.6*	*2.0*	*2.2*	*2.1*	**1.7**	*2.0*	*2.1*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.3**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.37**	**6.37**	**6.37**	**6.37**	**6.32**	**6.32**	**6.32**	*6.32*	*6.30*	*6.30*	*6.30*	*6.30*	**6.37**	*6.32*	*6.30*
Total Raw Steel Production (Million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	**0.267**	*0.276*	*0.311*	*0.287*	*0.284*	*0.295*	**0.216**	*0.262*	*0.294*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.92**	**1.91**	**1.93**	**1.91**	**1.91**	**1.92**	**2.03**	*2.03*	*2.04*	*2.04*	*2.03*	*2.02*	**1.92**	*1.98*	*2.03*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	**971**	**936**	**1,141**	**959**	**991**	**985**	**1,167**	*990*	*971*	*992*	*1,161*	*1,001*	**4,007**	*4,132*	*4,126*
Electric Power Sector (a)	**930**	**899**	**1,101**	**921**	**954**	**948**	**1,126**	*951*	*933*	*955*	*1,120*	*962*	**3,851**	*3,980*	*3,970*
Industrial Sector (b)	**38**	**34**	**36**	**35**	**34**	**33**	**37**	*35*	*35*	*34*	*37*	*36*	**143**	*139*	*142*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**4**	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**10**	**11**	**15**	**12**	**12**	**13**	**15**	*11*	*12*	*13*	*15*	*12*	**47**	*51*	*51*
Total Supply	**981**	**947**	**1,156**	**971**	**1,003**	**998**	**1,181**	*1,001*	*983*	*1,005*	*1,176*	*1,013*	**4,054**	*4,183*	*4,176*
Losses and Unaccounted for (c)	**44**	**57**	**50**	**47**	**57**	**67**	**56**	*61*	*41*	*64*	*53*	*51*	**199**	*242*	*209*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**900**	**857**	**1,071**	**889**	**913**	**898**	**1,089**	*915*	*909*	*908*	*1,086*	*927*	**3,718**	*3,815*	*3,830*
Residential Sector	**341**	**335**	**454**	**335**	**379**	**328**	**446**	*339*	*360*	*326*	*435*	*343*	**1,465**	*1,492*	*1,464*
Commercial Sector	**317**	**295**	**363**	**312**	**304**	**321**	**377**	*321*	*310*	*328*	*379*	*325*	**1,287**	*1,324*	*1,342*
Industrial Sector	**240**	**226**	**252**	**241**	**229**	**247**	**264**	*253*	*237*	*253*	*270*	*257*	**959**	*992*	*1,017*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	**1**	**2**	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**36**	**33**	**35**	**34**	**33**	**32**	**36**	*34*	*34*	*33*	*37*	*34*	**138**	*135*	*138*
Total Consumption	**936**	**890**	**1,106**	**923**	**946**	**931**	**1,125**	*940*	*942*	*941*	*1,123*	*962*	**3,856**	*3,941*	*3,967*
Average residential electricity usage per customer (kWh)	**2,500**	**2,457**	**3,329**	**2,457**	**2,751**	**2,387**	**3,239**	*2,441*	*2,585*	*2,339*	*3,126*	*2,466*	**10,743**	*10,819*	*10,516*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.3**	**150.5**	**129.2**	**133.3**	**111.5**	**110.9**	**80.4**	*82.6*	*84.5*	*93.7*	*73.9*	*72.2*	**133.3**	*82.6*	*72.2*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	**7.4**	**7.1**	*8.1*	*7.9*	*7.8*	*7.8*	*8.1*	**8.3**	*8.1*	*8.1*
Distillate Fuel (mmb)	**16.7**	**16.9**	**17.5**	**17.1**	**16.0**	**15.5**	**15.4**	*15.8*	*15.7*	*15.6*	*15.6*	*15.9*	**17.1**	*15.8*	*15.9*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.92**	**1.91**	**1.93**	**1.91**	**1.91**	**1.92**	**2.03**	*2.03*	*2.04*	*2.04*	*2.03*	*2.02*	**1.92**	*1.98*	*2.03*
Natural Gas	**2.39**	**2.09**	**2.28**	**2.87**	**7.24**	**3.26**	**4.36**	*5.28*	*5.16*	*4.05*	*3.97*	*4.08*	**2.40**	*4.94*	*4.27*
Residual Fuel Oil	**12.14**	**6.66**	**8.84**	**8.92**	**11.28**	**13.08**	**14.21**	*14.17*	*13.69*	*13.95*	*12.99*	*12.52*	**9.15**	*13.21*	*13.26*
Distillate Fuel Oil	**13.33**	**8.49**	**10.57**	**10.89**	**13.54**	**15.20**	**16.20**	*18.48*	*16.98*	*16.48*	*16.28*	*15.93*	**10.89**	*15.61*	*16.44*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.87**	**13.19**	**13.31**	**13.21**	**13.10**	**13.84**	**14.00**	*13.82*	*13.91*	*14.53*	*14.51*	*14.18*	**13.16**	*13.69*	*14.29*
Commercial Sector	**10.27**	**10.57**	**10.92**	**10.56**	**10.99**	**11.07**	**11.64**	*11.13*	*11.51*	*11.42*	*11.69*	*11.02*	**10.59**	*11.23*	*11.42*
Industrial Sector	**6.40**	**6.63**	**7.08**	**6.54**	**7.09**	**6.92**	**7.63**	*6.98*	*7.22*	*7.05*	*7.70*	*6.97*	**6.67**	*7.17*	*7.24*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	**39.74**	**52.31**	*50.81*	*280.28*	*131.44*	*272.15*	*242.23*	**26.99**	*189.80*	*231.53*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	**36.90**	**72.02**	*44.18*	*12.62*	*27.40*	*34.15*	*29.74*	**38.15**	*49.46*	*25.98*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	**33.67**	**52.57**	*63.02*	*60.70*	*58.81*	*61.20*	*54.44*	**26.52**	*51.13*	*58.79*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	**31.85**	**50.42**	*61.01*	*57.46*	*52.91*	*56.40*	*50.72*	**22.85**	*47.01*	*54.38*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	**33.71**	**51.32**	*62.76*	*47.03*	*43.16*	*49.69*	*41.11*	**24.49**	*45.72*	*45.25*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	**33.82**	**49.36**	*58.74*	*46.28*	*43.12*	*48.76*	*39.75*	**25.43**	*46.72*	*44.48*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	**30.86**	**48.63**	*49.63*	*43.65*	*42.61*	*50.80*	*38.28*	**22.55**	*94.86*	*43.83*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	**32.93**	**44.18**	*51.81*	*45.08*	*41.84*	*45.04*	*38.95*	**22.62**	*42.51*	*42.73*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	**32.17**	**42.76**	*48.65*	*43.25*	*38.79*	*39.40*	*37.10*	**23.48**	*37.83*	*39.64*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	**51.51**	**91.61**	*43.45*	*11.14*	*24.76*	*28.43*	*26.73*	**25.46**	*55.28*	*22.76*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	**46.57**	**79.86**	*39.49*	*9.99*	*24.54*	*31.75*	*27.64*	**39.64**	*51.91*	*23.48*

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**11.7**	**11.0**	**14.6**	**11.0**	**12.9**	**10.8**	**14.0**	*11.2*	*12.2*	*10.3*	*13.2*	*11.2*	**48.3**	*48.9*	*46.8*
Middle Atlantic	**32.2**	**30.6**	**43.6**	**30.9**	**36.0**	**30.3**	**41.9**	*31.8*	*36.3*	*30.3*	*39.6*	*32.0*	**137.2**	*140.0*	*138.2*
E. N. Central	**46.4**	**43.8**	**56.6**	**43.5**	**50.1**	**43.1**	**56.3**	*44.8*	*47.6*	*41.7*	*52.7*	*45.3*	**190.3**	*194.3*	*187.3*
W. N. Central	**27.8**	**24.0**	**30.2**	**24.7**	**29.9**	**23.7**	**31.0**	*25.5*	*31.4*	*24.7*	*32.6*	*28.2*	**106.7**	*110.1*	*116.9*
S. Atlantic	**84.7**	**86.8**	**115.4**	**85.8**	**95.2**	**85.1**	**111.5**	*87.7*	*90.0*	*84.7*	*109.5*	*87.5*	**372.7**	*379.4*	*371.7*
E. S. Central	**28.4**	**25.6**	**36.4**	**26.0**	**33.5**	**25.3**	**35.8**	*27.0*	*31.4*	*25.8*	*36.2*	*27.1*	**116.3**	*121.5*	*120.4*
W. S. Central	**49.2**	**53.1**	**76.8**	**48.9**	**56.8**	**50.0**	**76.1**	*49.6*	*49.8*	*50.7*	*76.3*	*48.9*	**228.1**	*232.5*	*225.8*
Mountain	**22.6**	**25.8**	**36.2**	**24.1**	**23.7**	**26.9**	**35.2**	*23.2*	*23.0*	*25.3*	*34.5*	*24.2*	**108.6**	*109.0*	*107.0*
Pacific contiguous	**36.6**	**33.2**	**42.9**	**38.7**	**39.0**	**32.2**	**43.0**	*37.0*	*36.8*	*31.1*	*39.5*	*37.6*	**151.4**	*151.2*	*144.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.4**	**1.3**	**1.1**	**1.2**	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*5.0*	*4.9*
Total	**340.8**	**335.0**	**453.9**	**334.9**	**378.5**	**328.5**	**445.8**	*339.2*	*359.8*	*325.7*	*435.2*	*343.2*	**1,464.6**	*1,492.0*	*1,463.9*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	**11.7**	**13.5**	*11.7*	*11.7*	*11.6*	*13.3*	*11.7*	**47.5**	*48.7*	*48.2*
Middle Atlantic	**36.0**	**31.2**	**39.1**	**33.4**	**34.6**	**33.2**	**39.7**	*34.8*	*35.6*	*34.0*	*39.8*	*35.5*	**139.7**	*142.4*	*144.8*
E. N. Central	**42.9**	**38.1**	**47.0**	**40.7**	**41.7**	**42.1**	**48.9**	*42.2*	*42.4*	*42.7*	*48.6*	*42.7*	**168.6**	*174.9*	*176.4*
W. N. Central	**24.8**	**21.7**	**26.4**	**23.4**	**24.0**	**23.7**	**27.6**	*24.3*	*24.9*	*24.3*	*28.2*	*25.1*	**96.3**	*99.6*	*102.4*
S. Atlantic	**72.4**	**70.2**	**86.1**	**72.7**	**70.8**	**77.3**	**89.6**	*74.6*	*71.7*	*78.8*	*90.3*	*75.0*	**301.4**	*312.3*	*315.8*
E. S. Central	**20.7**	**19.5**	**25.4**	**20.5**	**20.7**	**21.5**	**26.0**	*21.2*	*20.9*	*22.0*	*26.3*	*21.3*	**86.0**	*89.3*	*90.4*
W. S. Central	**46.4**	**46.3**	**57.2**	**47.5**	**42.4**	**50.5**	**58.7**	*49.5*	*43.2*	*52.9*	*60.6*	*50.5*	**197.4**	*201.0*	*207.2*
Mountain	**22.5**	**22.3**	**27.6**	**22.9**	**21.9**	**24.8**	**28.8**	*23.4*	*22.5*	*24.6*	*28.8*	*23.8*	**95.3**	*98.9*	*99.8*
Pacific contiguous	**37.6**	**34.3**	**40.2**	**38.0**	**35.2**	**35.3**	**43.1**	*38.5*	*35.8*	*35.7*	*42.2*	*38.3*	**150.1**	*152.1*	*152.0*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	**1.3**	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	**5.2**	*5.3*	*5.4*
Total	**316.9**	**295.3**	**363.4**	**311.8**	**304.3**	**321.5**	**377.2**	*321.5*	*309.8*	*327.9*	*379.3*	*325.4*	**1,287.4**	*1,324.4*	*1,342.5*
Industrial Sector															
New England	**3.9**	**3.7**	**4.1**	**3.9**	**3.8**	**4.0**	**4.2**	*4.0*	*3.8*	*4.0*	*4.2*	*4.0*	**15.6**	*15.9*	*16.0*
Middle Atlantic	**18.4**	**16.6**	**19.0**	**18.0**	**17.6**	**17.9**	**19.4**	*18.9*	*18.3*	*18.4*	*19.9*	*19.2*	**72.0**	*73.8*	*75.8*
E. N. Central	**46.1**	**39.7**	**46.8**	**44.7**	**44.5**	**46.4**	**48.6**	*47.5*	*46.8*	*47.2*	*49.8*	*48.5*	**177.3**	*187.0*	*192.3*
W. N. Central	**23.1**	**21.5**	**24.5**	**23.4**	**23.0**	**24.2**	**26.0**	*24.9*	*24.7*	*25.4*	*27.0*	*25.5*	**92.5**	*98.1*	*102.7*
S. Atlantic	**33.9**	**32.0**	**35.2**	**34.6**	**33.4**	**35.9**	**38.3**	*36.0*	*34.4*	*36.5*	*39.0*	*36.6*	**135.6**	*143.6*	*146.4*
E. S. Central	**24.1**	**22.1**	**24.3**	**23.8**	**23.7**	**24.9**	**26.1**	*24.9*	*24.7*	*25.3*	*26.4*	*25.0*	**94.3**	*99.6*	*101.4*
W. S. Central	**49.1**	**47.5**	**50.7**	**51.3**	**44.1**	**49.7**	**54.3**	*53.8*	*45.6*	*51.8*	*56.1*	*55.0*	**198.5**	*201.9*	*208.6*
Mountain	**20.1**	**20.3**	**22.7**	**19.9**	**19.2**	**21.6**	**23.2**	*20.1*	*19.2*	*21.6*	*23.4*	*20.4*	**83.0**	*84.1*	*84.6*
Pacific contiguous	**20.7**	**21.1**	**23.6**	**20.4**	**18.2**	**20.9**	**23.1**	*21.6*	*18.8*	*21.4*	*23.2*	*21.4*	**85.7**	*83.8*	*84.8*
AK and HI	**1.2**	**1.1**	**1.2**	**1.2**	**1.1**	**1.2**	**1.2**	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.6**	*4.6*	*4.6*
Total	**240.4**	**225.5**	**252.1**	**241.0**	**228.5**	**246.7**	**264.4**	*252.8*	*237.3*	*252.8*	*270.2*	*256.9*	**959.1**	*992.4*	*1,017.2*
Total All Sectors (a)															
New England	**28.0**	**25.3**	**32.1**	**26.5**	**28.5**	**26.6**	**31.7**	*27.1*	*27.8*	*25.9*	*30.7*	*27.0*	**111.8**	*114.0*	*111.5*
Middle Atlantic	**87.5**	**79.1**	**102.5**	**83.1**	**89.1**	**82.2**	**101.8**	*86.2*	*91.0*	*83.5*	*100.1*	*87.4*	**352.1**	*359.4*	*362.0*
E. N. Central	**135.6**	**121.7**	**150.5**	**129.0**	**136.4**	**131.7**	**154.0**	*134.6*	*137.0*	*131.7*	*151.2*	*136.6*	**536.7**	*556.7*	*556.6*
W. N. Central	**75.7**	**67.2**	**81.1**	**71.6**	**77.0**	**71.6**	**84.6**	*74.7*	*80.9*	*74.4*	*87.8*	*78.9*	**295.6**	*307.9*	*322.0*
S. Atlantic	**191.3**	**189.3**	**237.0**	**193.4**	**199.7**	**198.6**	**239.6**	*198.6*	*196.3*	*200.3*	*239.0*	*199.4*	**810.9**	*836.5*	*835.0*
E. S. Central	**73.2**	**67.2**	**86.1**	**70.2**	**77.8**	**71.8**	**87.8**	*73.1*	*76.9*	*73.1*	*88.8*	*73.4*	**296.7**	*310.5*	*312.2*
W. S. Central	**144.8**	**146.9**	**184.7**	**147.7**	**143.4**	**150.2**	**189.2**	*152.9*	*138.7*	*155.5*	*193.1*	*154.5*	**624.1**	*635.6*	*641.8*
Mountain	**65.2**	**68.5**	**86.5**	**66.9**	**64.9**	**73.3**	**87.3**	*66.8*	*64.7*	*71.5*	*86.9*	*68.5*	**287.1**	*292.2*	*291.6*
Pacific contiguous	**95.1**	**88.7**	**107.0**	**97.2**	**92.5**	**88.6**	**109.3**	*97.3*	*91.5*	*88.3*	*105.1*	*97.5*	**387.9**	*387.8*	*382.4*
AK and HI	**3.8**	**3.4**	**3.6**	**3.9**	**3.7**	**3.6**	**3.7**	*3.8*	*3.6*	*3.6*	*3.8*	*3.9*	**14.7**	*14.8*	*14.9*
Total	**900.1**	**857.2**	**1,071.0**	**889.5**	**913.0**	**898.2**	**1,089.0**	*915.1*	*908.6*	*907.9*	*1,086.3*	*927.1*	**3,717.7**	*3,815.2*	*3,829.9*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	**21.83**	**21.37**	**21.00**	**20.84**	**21.39**	**21.36**	**21.45**	*22.43*	*23.77*	*24.15*	*24.38*	*25.28*	**21.25**	*21.64*	*24.38*
Middle Atlantic	**15.49**	**15.97**	**16.19**	**16.00**	**15.63**	**16.52**	**16.94**	*17.03*	*16.74*	*17.54*	*17.71*	*17.34*	**15.93**	*16.53*	*17.33*
E. N. Central	**13.21**	**13.81**	**13.43**	**13.82**	**13.39**	**14.50**	**14.16**	*14.42*	*14.11*	*15.22*	*14.82*	*14.81*	**13.56**	*14.10*	*14.72*
W. N. Central	**10.96**	**12.55**	**12.86**	**11.42**	**10.89**	**12.77**	**13.29**	*11.91*	*10.87*	*12.35*	*12.35*	*11.11*	**11.96**	*12.20*	*11.66*
S. Atlantic	**11.70**	**11.71**	**11.95**	**11.74**	**11.66**	**12.34**	**12.49**	*12.37*	*12.55*	*13.14*	*13.16*	*12.70*	**11.79**	*12.22*	*12.90*
E. S. Central	**11.24**	**11.51**	**11.24**	**11.41**	**11.20**	**12.24**	**12.00**	*11.98*	*11.86*	*12.63*	*12.22*	*12.10*	**11.34**	*11.83*	*12.18*
W. S. Central	**10.93**	**11.31**	**11.19**	**11.26**	**11.85**	**11.70**	**11.81**	*12.22*	*13.13*	*12.51*	*12.63*	*13.10*	**11.18**	*11.88*	*12.82*
Mountain	**11.32**	**11.94**	**12.05**	**11.53**	**11.53**	**12.09**	**12.33**	*11.85*	*11.88*	*12.32*	*12.34*	*11.66*	**11.76**	*11.99*	*12.08*
Pacific	**15.70**	**16.18**	**17.76**	**16.81**	**16.75**	**18.15**	**19.43**	*16.69*	*17.03*	*19.07*	*20.28*	*17.21*	**16.67**	*17.80*	*18.40*
U.S. Average	**12.87**	**13.19**	**13.31**	**13.21**	**13.10**	**13.84**	**14.00**	*13.82*	*13.91*	*14.53*	*14.51*	*14.18*	**13.16**	*13.69*	*14.29*
Commercial Sector															
New England	**16.18**	**15.60**	**15.91**	**15.60**	**16.32**	**15.97**	**16.80**	*17.10*	*17.87*	*17.43*	*18.21*	*18.28*	**15.84**	*16.55*	*17.96*
Middle Atlantic	**11.68**	**12.52**	**13.21**	**12.40**	**12.53**	**13.24**	**14.79**	*13.49*	*13.37*	*13.98*	*15.18*	*13.69*	**12.47**	*13.56*	*14.09*
E. N. Central	**10.01**	**10.45**	**10.27**	**10.36**	**10.40**	**10.70**	**10.68**	*10.95*	*11.07*	*11.30*	*11.09*	*11.08*	**10.27**	*10.68*	*11.13*
W. N. Central	**9.06**	**10.12**	**10.32**	**9.09**	**9.10**	**10.19**	**10.83**	*9.69*	*9.13*	*9.72*	*9.86*	*8.91*	**9.65**	*9.98*	*9.42*
S. Atlantic	**9.15**	**8.95**	**9.01**	**9.12**	**9.29**	**9.19**	**9.53**	*9.74*	*10.01*	*9.75*	*9.89*	*9.87*	**9.06**	*9.44*	*9.88*
E. S. Central	**10.78**	**10.85**	**10.63**	**10.70**	**10.98**	**11.24**	**11.27**	*11.31*	*11.55*	*11.65*	*11.56*	*11.48*	**10.73**	*11.21*	*11.56*
W. S. Central	**7.78**	**7.81**	**7.83**	**7.87**	**10.39**	**8.90**	**8.55**	*7.79*	*10.08*	*8.67*	*8.15*	*7.22*	**7.82**	*8.84*	*8.46*
Mountain	**8.88**	**9.69**	**9.96**	**9.17**	**9.11**	**9.76**	**10.20**	*9.38*	*9.25*	*9.76*	*9.99*	*9.05*	**9.45**	*9.65*	*9.54*
Pacific	**13.35**	**14.71**	**17.08**	**14.96**	**14.52**	**16.00**	**18.08**	*15.84*	*15.33*	*16.54*	*17.94*	*15.35*	**15.07**	*16.21*	*16.34*
U.S. Average	**10.27**	**10.57**	**10.92**	**10.56**	**10.99**	**11.07**	**11.64**	*11.13*	*11.51*	*11.42*	*11.69*	*11.02*	**10.59**	*11.23*	*11.42*
Industrial Sector															
New England	**13.05**	**12.91**	**12.98**	**12.60**	**13.49**	**12.98**	**13.68**	*13.38*	*14.14*	*13.48*	*14.15*	*13.75*	**12.89**	*13.38*	*13.88*
Middle Atlantic	**6.40**	**6.38**	**6.44**	**6.29**	**6.52**	**6.60**	**7.25**	*6.74*	*6.56*	*6.63*	*7.09*	*6.38*	**6.38**	*6.79*	*6.67*
E. N. Central	**6.62**	**6.87**	**6.87**	**6.74**	**6.97**	**6.96**	**7.39**	*7.27*	*7.14*	*7.13*	*7.44*	*7.14*	**6.78**	*7.16*	*7.21*
W. N. Central	**6.87**	**7.22**	**7.76**	**6.55**	**6.97**	**7.30**	**8.00**	*6.84*	*7.01*	*7.46*	*8.10*	*6.84*	**7.11**	*7.29*	*7.37*
S. Atlantic	**6.06**	**6.17**	**6.58**	**6.18**	**6.24**	**6.31**	**7.05**	*6.55*	*6.46*	*6.42*	*7.01*	*6.40*	**6.25**	*6.55*	*6.58*
E. S. Central	**5.47**	**5.52**	**5.70**	**5.52**	**5.75**	**5.86**	**6.27**	*5.91*	*5.85*	*5.95*	*6.27*	*5.79*	**5.55**	*5.95*	*5.97*
W. S. Central	**5.03**	**4.97**	**5.21**	**5.02**	**7.23**	**5.45**	**6.00**	*5.58*	*7.42*	*5.60*	*6.32*	*5.79*	**5.06**	*6.02*	*6.24*
Mountain	**5.79**	**6.20**	**6.94**	**5.99**	**6.27**	**6.63**	**7.39**	*6.19*	*6.16*	*6.59*	*7.27*	*6.21*	**6.25**	*6.66*	*6.59*
Pacific	**8.65**	**9.96**	**11.88**	**10.51**	**9.69**	**10.72**	**12.62**	*10.88*	*9.66*	*10.91*	*12.71*	*11.14*	**10.30**	*11.06*	*11.19*
U.S. Average	**6.40**	**6.63**	**7.08**	**6.54**	**7.09**	**6.92**	**7.63**	*6.98*	*7.22*	*7.05*	*7.70*	*6.97*	**6.67**	*7.17*	*7.24*
All Sectors (a)															
New England	**18.08**	**17.68**	**17.83**	**17.31**	**18.21**	**17.68**	**18.40**	*18.72*	*19.92*	*19.47*	*20.27*	*20.46*	**17.73**	*18.26*	*20.04*
Middle Atlantic	**11.96**	**12.56**	**13.21**	**12.40**	**12.58**	**12.98**	**14.21**	*13.30*	*13.33*	*13.64*	*14.57*	*13.42*	**12.56**	*13.31*	*13.77*
E. N. Central	**9.95**	**10.49**	**10.40**	**10.27**	**10.38**	**10.62**	**10.91**	*10.80*	*10.78*	*11.04*	*11.18*	*10.91*	**10.28**	*10.69*	*10.98*
W. N. Central	**9.09**	**10.06**	**10.49**	**9.07**	**9.16**	**10.07**	**10.86**	*9.49*	*9.16*	*9.82*	*10.24*	*9.03*	**9.69**	*9.92*	*9.58*
S. Atlantic	**9.73**	**9.75**	**10.08**	**9.75**	**9.91**	**10.02**	**10.51**	*10.32*	*10.55*	*10.58*	*10.92*	*10.47*	**9.84**	*10.20*	*10.64*
E. S. Central	**9.21**	**9.34**	**9.49**	**9.21**	**9.48**	**9.72**	**10.08**	*9.72*	*9.85*	*10.02*	*10.26*	*9.77*	**9.32**	*9.76*	*9.99*
W. S. Central	**7.92**	**8.16**	**8.50**	**8.00**	**9.99**	**8.69**	**9.13**	*8.45*	*10.30*	*8.90*	*9.39*	*8.57*	**8.17**	*9.06*	*9.27*
Mountain	**8.77**	**9.50**	**10.04**	**9.07**	**9.16**	**9.69**	**10.31**	*9.28*	*9.27*	*9.71*	*10.19*	*9.13*	**9.40**	*9.67*	*9.62*
Pacific	**13.22**	**14.12**	**16.20**	**14.75**	**14.50**	**15.52**	**17.45**	*15.05*	*14.84*	*16.05*	*17.65*	*15.13*	**14.63**	*15.71*	*15.97*
U.S. Average	**10.22**	**10.56**	**11.03**	**10.47**	**10.89**	**10.94**	**11.63**	*10.98*	*11.34*	*11.32*	*11.83*	*11.07*	**10.59**	*11.13*	*11.41*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	**362.3**	**345.5**	**468.8**	**342.9**	**320.7**	**345.6**	**453.6**	*350.8*	*301.9*	*317.6*	*437.4*	*331.4*	**1,519.6**	*1,470.7*	*1,388.2*
Coal	**170.5**	**151.2**	**247.9**	**198.2**	**230.0**	**203.8**	**280.9**	*199.8*	*207.0*	*199.5*	*269.0*	*216.9*	**767.7**	*914.4*	*892.4*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.4**	**186.6**	**202.8**	*190.8*	*193.5*	*190.2*	*203.9*	*192.3*	**789.9**	*778.6*	*779.9*
Renewable Energy Sources:	**187.3**	**206.3**	**175.5**	**182.9**	**197.9**	**207.3**	**183.2**	*204.4*	*224.6*	*242.3*	*204.4*	*215.8*	**752.0**	*792.7*	*887.0*
Conventional Hydropower	**73.8**	**80.8**	**68.5**	**61.0**	**68.7**	**65.8**	**60.8**	*61.0*	*70.5*	*79.2*	*65.0*	*59.0*	**284.1**	*256.2*	*273.7*
Wind	**86.5**	**88.2**	**68.9**	**93.6**	**96.9**	**96.1**	**76.8**	*110.0*	*115.2*	*107.8*	*83.4*	*116.7*	**337.2**	*379.8*	*423.2*
Solar (a)	**16.2**	**27.0**	**27.4**	**17.8**	**21.2**	**34.7**	**34.5**	*23.1*	*28.4*	*45.2*	*45.0*	*29.7*	**88.5**	*113.5*	*148.3*
Biomass	**7.0**	**6.4**	**6.9**	**6.6**	**7.2**	**6.8**	**7.2**	*6.4*	*6.6*	*6.3*	*6.9*	*6.4*	**26.8**	*27.6*	*26.2*
Geothermal	**3.7**	**3.9**	**3.8**	**4.0**	**3.8**	**3.9**	**4.0**	*3.9*	*3.9*	*3.8*	*4.0*	*4.0*	**15.4**	*15.6*	*15.7*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	**-1.0**	**-1.8**	*-1.1*	*-0.9*	*-1.0*	*-1.8*	*-1.0*	**-5.3**	*-4.9*	*-4.7*
Petroleum (b)	**4.0**	**3.9**	**4.4**	**4.1**	**5.2**	**3.5**	**4.7**	*4.0*	*4.5*	*3.7*	*4.4*	*3.8*	**16.3**	*17.5*	*16.4*
Other Gases	**1.0**	**0.5**	**0.8**	**0.9**	**0.7**	**0.8**	**0.9**	*0.9*	*0.9*	*0.8*	*0.9*	*0.9*	**3.2**	*3.3*	*3.5*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.8**	**1.8**	**1.8**	*1.9*	*1.8*	*1.8*	*1.8*	*1.9*	**7.6**	*7.3*	*7.2*
Total Generation	**930.2**	**899.0**	**1,101.5**	**920.8**	**953.6**	**948.4**	**1,126.2**	*951.5*	*933.4*	*954.8*	*1,120.0*	*961.9*	**3,851.5**	*3,979.6*	*3,970.0*
New England (ISO-NE)															
Natural Gas	**10.7**	**10.5**	**16.5**	**11.4**	**12.1**	**11.0**	**15.7**	*12.3*	*13.1*	*13.0*	*15.6*	*10.7*	**49.1**	*51.2*	*52.4*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	**0.0**	**0.0**	*0.9*	*0.3*	*0.1*	*0.0*	*0.6*	**0.2**	*1.4*	*1.1*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	**7.1**	**7.3**	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.1*	*27.7*
Conventional hydropower	**2.3**	**2.1**	**0.7**	**1.6**	**1.7**	**1.5**	**1.5**	*1.9*	*2.0*	*2.2*	*1.2*	*1.8*	**6.6**	*6.6*	*7.2*
Nonhydro renewables (d)	**2.5**	**2.7**	**2.4**	**2.6**	**2.8**	**2.9**	**2.6**	*2.6*	*3.0*	*3.1*	*2.8*	*2.7*	**10.1**	*11.0*	*11.5*
Other energy sources (e)	**0.3**	**0.3**	**0.3**	**0.4**	**0.4**	**0.3**	**0.3**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	**1.4**	*1.5*	*1.5*
Total generation	**23.2**	**20.5**	**27.3**	**22.0**	**24.6**	**22.9**	**27.6**	*23.8*	*25.9*	*25.0*	*27.2*	*23.3*	**93.0**	*98.8*	*101.4*
Net energy for load (f)	**28.1**	**25.4**	**31.9**	**27.6**	**29.4**	**26.9**	**32.4**	*28.2*	*29.0*	*27.3*	*32.1*	*28.7*	**113.0**	*116.9*	*117.1*
New York (NYISO)															
Natural Gas	**12.2**	**11.5**	**20.4**	**13.0**	**12.8**	**14.1**	**19.7**	*14.8*	*14.6*	*14.2*	*20.4*	*15.1*	**57.1**	*61.5*	*64.2*
Coal	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.1**	*0.0*	*0.0*
Nuclear	**10.7**	**9.2**	**9.0**	**9.6**	**9.3**	**7.7**	**7.2**	*6.8*	*6.3*	*6.8*	*6.5*	*6.8*	**38.4**	*30.9*	*26.4*
Conventional hydropower	**7.4**	**7.5**	**7.4**	**7.2**	**6.9**	**6.8**	**6.9**	*7.1*	*6.9*	*6.9*	*6.9*	*7.0*	**29.5**	*27.8*	*27.6*
Nonhydro renewables (d)	**1.8**	**1.7**	**1.5**	**1.9**	**1.8**	**1.8**	**1.6**	*2.1*	*2.0*	*2.0*	*1.8*	*2.3*	**6.9**	*7.3*	*8.0*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.6**	**0.2**	**0.4**	*0.1*	*0.4*	*0.1*	*0.2*	*0.1*	**0.8**	*1.3*	*0.9*
Total generation	**32.5**	**30.0**	**38.5**	**31.9**	**31.5**	**30.6**	**35.8**	*31.0*	*30.2*	*30.0*	*35.8*	*31.3*	**132.9**	*128.9*	*127.2*
Net energy for load (f)	**35.5**	**32.6**	**42.4**	**34.7**	**36.6**	**34.7**	**42.8**	*37.2*	*37.0*	*36.0*	*43.0*	*37.3*	**145.2**	*151.3*	*153.3*
Mid-Atlantic (PJM)															
Natural Gas	**80.6**	**70.6**	**96.1**	**69.8**	**72.7**	**70.7**	**88.8**	*79.6*	*70.2*	*67.6*	*90.0*	*73.6*	**317.2**	*311.9*	*301.4*
Coal	**33.8**	**29.6**	**46.6**	**38.0**	**50.5**	**39.9**	**55.4**	*35.2*	*42.4*	*40.5*	*50.6*	*41.8*	**147.9**	*181.0*	*175.2*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.3**	**64.6**	**70.5**	*67.7*	*67.8*	*67.6*	*71.9*	*66.5*	**275.7**	*271.2*	*273.7*
Conventional hydropower	**3.0**	**2.8**	**1.8**	**1.8**	**2.6**	**2.3**	**2.2**	*2.4*	*2.7*	*2.6*	*1.7*	*2.1*	**9.4**	*9.5*	*9.0*
Nonhydro renewables (d)	**10.4**	**9.9**	**6.7**	**10.9**	**11.0**	**10.7**	**9.2**	*11.9*	*11.8*	*12.2*	*10.3*	*12.5*	**37.9**	*42.8*	*46.7*
Other energy sources (e)	**0.7**	**0.6**	**0.4**	**0.7**	**0.9**	**0.6**	**0.4**	*0.6*	*0.7*	*0.6*	*0.4*	*0.6*	**2.4**	*2.5*	*2.3*
Total generation	**197.3**	**180.6**	**222.5**	**190.2**	**206.0**	**188.8**	**226.6**	*197.4*	*195.6*	*191.2*	*224.7*	*197.0*	**790.6**	*818.8*	*808.5*
Net energy for load (f)	**183.7**	**164.4**	**206.9**	**177.0**	**194.5**	**177.5**	**215.3**	*185.7*	*192.5*	*178.2*	*208.1*	*187.4*	**731.9**	*773.0*	*766.2*
Southeast (SERC)															
Natural Gas	**63.1**	**59.3**	**73.3**	**58.8**	**58.0**	**57.2**	**73.1**	*61.9*	*52.8*	*55.4*	*70.6*	*57.3*	**254.4**	*250.2*	*236.1*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	**33.7**	**44.3**	*30.5*	*35.1*	*36.5*	*49.9*	*35.4*	**118.3**	*144.8*	*156.9*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	**52.2**	**54.1**	*51.7*	*51.3*	*52.2*	*56.4*	*54.4*	**210.1**	*211.9*	*214.3*
Conventional hydropower	**13.5**	**12.2**	**10.4**	**10.0**	**11.6**	**10.4**	**10.9**	*10.8*	*11.5*	*8.4*	*7.3*	*8.2*	**46.1**	*43.6*	*35.4*
Nonhydro renewables (d)	**3.3**	**4.8**	**4.7**	**3.8**	**3.9**	**5.7**	**5.4**	*4.1*	*4.4*	*6.8*	*6.4*	*4.6*	**16.7**	*19.1*	*22.2*
Other energy sources (e)	**0.0**	**-0.3**	**-0.6**	**-0.2**	**0.0**	**-0.2**	**-0.5**	*-0.2*	*0.0*	*-0.2*	*-0.5*	*-0.2*	**-1.1**	*-0.9*	*-0.9*
Total generation	**156.6**	**148.7**	**186.3**	**152.9**	**163.7**	**159.0**	**187.3**	*158.8*	*155.0*	*159.0*	*190.2*	*159.8*	**644.5**	*668.7*	*664.0*
Net energy for load (f)	**155.7**	**151.1**	**187.2**	**154.4**	**163.0**	**161.7**	**183.2**	*156.8*	*157.0*	*159.6*	*188.5*	*160.4*	**648.5**	*664.8*	*665.5*
Florida (FRCC)															
Natural Gas	**40.4**	**45.9**	**52.9**	**41.6**	**34.7**	**43.8**	**52.5**	*41.4*	*34.4*	*44.7*	*50.1*	*43.7*	**180.8**	*172.4*	*172.9*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	**5.3**	**5.6**	*3.4*	*2.7*	*3.0*	*4.0*	*2.9*	**15.9**	*18.9*	*12.6*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	**7.2**	**7.2**	*7.3*	*7.8*	*7.3*	*8.0*	*7.1*	**29.4**	*29.5*	*30.2*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.8**	**2.3**	**2.2**	**1.9**	**2.4**	**3.1**	**2.9**	*2.7*	*3.2*	*3.6*	*3.4*	*3.0*	**8.3**	*11.1*	*13.2*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	**0.7**	**0.7**	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**3.3**	*2.9*	*3.1*
Total generation	**52.6**	**60.1**	**69.3**	**55.8**	**50.4**	**60.2**	**68.9**	*55.5*	*49.1*	*59.4*	*66.3*	*57.5*	**237.8**	*235.0*	*232.2*
Net energy for load (f)	**49.6**	**53.7**	**72.4**	**56.6**	**50.6**	**55.1**	**70.4**	*53.4*	*47.6*	*58.8*	*67.4*	*52.8*	**232.3**	*229.5*	*226.6*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	**46.2**	**45.5**	**52.6**	**38.5**	**35.5**	**41.0**	**50.1**	*43.7*	*36.3*	*36.4*	*49.5*	*35.2*	**182.8**	*170.3*	*157.4*
Coal	**51.2**	**41.1**	**68.4**	**57.7**	**69.7**	**60.1**	**83.2**	*60.4*	*66.6*	*63.0*	*78.4*	*66.2*	**218.4**	*273.4*	*274.2*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	**22.6**	**25.2**	*24.1*	*22.9*	*22.2*	*23.8*	*23.1*	**95.1**	*95.4*	*92.0*
Conventional hydropower	**2.9**	**3.2**	**2.6**	**2.5**	**2.8**	**2.7**	**2.5**	*2.2*	*2.4*	*2.8*	*2.3*	*2.1*	**11.1**	*10.2*	*9.6*
Nonhydro renewables (d)	**19.8**	**19.6**	**16.1**	**23.7**	**24.1**	**23.1**	**18.5**	*27.8*	*26.3*	*25.0*	*19.9*	*28.8*	**79.2**	*93.5*	*100.0*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.3**	**1.8**	**1.3**	**1.7**	*1.2*	*1.7*	*1.4*	*1.5*	*1.1*	**5.3**	*5.9*	*5.7*
Total generation	**148.2**	**133.5**	**165.4**	**144.8**	**157.5**	**150.9**	**181.2**	*159.3*	*156.1*	*150.8*	*175.4*	*156.5*	**591.8**	*648.8*	*638.9*
Net energy for load (f)	**154.0**	**142.3**	**172.4**	**149.7**	**159.1**	**154.0**	**180.7**	*157.8*	*153.2*	*155.7*	*178.5*	*159.7*	**618.4**	*651.6*	*647.1*
Central (Southwest Power Pool)															
Natural Gas	**17.6**	**15.7**	**22.5**	**13.1**	**12.7**	**14.3**	**18.7**	*10.8*	*11.0*	*13.8*	*21.2*	*11.7*	**68.9**	*56.5*	*57.7*
Coal	**14.7**	**14.1**	**24.3**	**17.8**	**21.8**	**19.8**	**31.3**	*19.2*	*21.8*	*17.1*	*27.1*	*19.7*	**70.8**	*92.1*	*85.6*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	**2.8**	**4.2**	*4.3*	*4.3*	*4.3*	*4.0*	*2.5*	**16.8**	*15.5*	*15.2*
Conventional hydropower	**5.1**	**5.3**	**3.5**	**3.0**	**4.2**	**3.9**	**3.6**	*2.9*	*3.4*	*4.1*	*3.7*	*3.0*	**16.8**	*14.6*	*14.2*
Nonhydro renewables (d)	**21.3**	**22.4**	**17.5**	**23.4**	**22.9**	**23.8**	**20.5**	*27.8*	*28.9*	*26.3*	*21.8*	*30.1*	**84.7**	*95.1*	*107.2*
Other energy sources (e)	**0.3**	**0.2**	**0.2**	**0.3**	**0.3**	**0.1**	**0.1**	*0.3*	*0.2*	*0.1*	*0.1*	*0.3*	**0.9**	*0.8*	*0.7*
Total generation	**63.3**	**62.0**	**72.2**	**61.4**	**66.0**	**64.7**	**78.4**	*65.4*	*69.6*	*65.8*	*78.0*	*67.3*	**258.9**	*274.5*	*280.6*
Net energy for load (f)	**62.1**	**63.1**	**75.2**	**61.2**	**64.7**	**66.5**	**76.6**	*63.4*	*65.1*	*65.6*	*79.9*	*66.5*	**261.6**	*271.2*	*277.1*
Texas (ERCOT)															
Natural Gas	**37.5**	**41.7**	**59.6**	**35.3**	**33.2**	**39.6**	**57.2**	*35.7*	*27.8*	*30.1*	*46.5*	*26.5*	**174.1**	*165.8*	*130.9*
Coal	**12.6**	**15.3**	**19.7**	**17.2**	**16.3**	**18.5**	**22.7**	*16.8*	*10.0*	*18.9*	*24.8*	*17.3*	**64.8**	*74.3*	*71.0*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	**9.8**	**11.0**	*8.9*	*10.7*	*10.0*	*10.6*	*10.8*	**41.4**	*40.2*	*42.1*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.2**	**0.1**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**21.9**	**24.6**	**20.5**	**23.6**	**25.2**	**27.8**	**23.7**	*30.3*	*35.4*	*38.3*	*31.5*	*35.0*	**90.7**	*107.0*	*140.3*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	**0.3**	**0.4**	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.5**	*1.3*	*1.4*
Total generation	**83.1**	**91.8**	**111.3**	**87.0**	**85.6**	**96.2**	**115.2**	*92.2*	*84.4*	*97.9*	*114.0*	*90.1*	**373.2**	*389.2*	*386.4*
Net energy for load (f)	**83.1**	**91.8**	**111.3**	**87.0**	**85.6**	**96.2**	**115.2**	*92.2*	*84.4*	*97.9*	*114.0*	*90.1*	**373.2**	*389.2*	*386.4*
Northwest															
Natural Gas	**24.5**	**16.9**	**27.7**	**22.3**	**20.9**	**20.1**	**28.2**	*25.7*	*19.1*	*16.5*	*28.5*	*24.1*	**91.4**	*95.0*	*88.2*
Coal	**24.6**	**17.9**	**26.9**	**25.1**	**22.5**	**19.1**	**26.6**	*24.8*	*22.2*	*14.1*	*25.1*	*25.1*	**94.5**	*93.1*	*86.4*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	**1.2**	**2.5**	*2.5*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.7*	*9.6*
Conventional hydropower	**33.1**	**37.8**	**32.5**	**29.2**	**33.8**	**31.0**	**25.7**	*27.1*	*33.5*	*39.9*	*30.8*	*27.9*	**132.6**	*117.7*	*132.0*
Nonhydro renewables (d)	**14.5**	**14.4**	**13.4**	**14.6**	**15.9**	**17.0**	**15.2**	*15.9*	*17.1*	*17.4*	*16.3*	*17.1*	**56.9**	*64.0*	*67.8*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*	**0.4**	*0.7*	*0.8*
Total generation	**99.2**	**89.2**	**103.0**	**93.8**	**95.8**	**88.7**	**98.5**	*96.3*	*94.3*	*90.5*	*103.3*	*96.8*	**385.2**	*379.2*	*384.8*
Net energy for load (f)	**91.3**	**81.5**	**94.6**	**87.5**	**89.6**	**84.5**	**96.9**	*91.1*	*89.2*	*86.0*	*96.7*	*91.9*	**354.9**	*362.1*	*363.7*
Southwest															
Natural Gas	**11.8**	**14.6**	**20.1**	**14.7**	**10.9**	**15.7**	**20.1**	*11.5*	*9.6*	*12.6*	*18.2*	*11.4*	**61.1**	*58.2*	*51.8*
Coal	**5.8**	**5.9**	**9.4**	**7.2**	**5.5**	**5.6**	**8.3**	*6.0*	*3.9*	*4.6*	*6.6*	*5.2*	**28.3**	*25.4*	*20.4*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	**7.1**	**8.6**	*7.6*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.8*	*32.1*
Conventional hydropower	**2.6**	**4.0**	**3.8**	**2.5**	**2.5**	**3.2**	**3.2**	*2.2*	*2.6*	*3.8*	*3.8*	*2.5*	**12.8**	*11.1*	*12.7*
Nonhydro renewables (d)	**2.7**	**3.3**	**2.6**	**2.4**	**3.1**	**3.9**	**3.2**	*4.4*	*5.4*	*5.8*	*4.5*	*5.6*	**11.1**	*14.7*	*21.3*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.1**	*0.1*	*0.2*
Total generation	**31.1**	**35.5**	**44.7**	**33.7**	**30.4**	**35.7**	**43.4**	*31.7*	*30.0*	*34.4*	*41.7*	*32.2*	**145.0**	*141.2*	*138.4*
Net energy for load (f)	**20.5**	**24.4**	**34.3**	**20.5**	**19.7**	**25.7**	**31.8**	*20.7*	*18.7*	*24.2*	*31.8*	*21.1*	**99.7**	*97.9*	*95.9*
California															
Natural Gas	**17.0**	**12.7**	**26.5**	**23.7**	**16.5**	**17.5**	**28.8**	*21.0*	*12.4*	*12.6*	*26.1*	*21.2*	**80.0**	*83.8*	*72.3*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	**1.4**	**3.0**	*2.1*	*1.7*	*1.2*	*2.1*	*2.2*	**6.7**	*8.3*	*7.3*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	**4.2**	**5.0**	*4.3*	*4.5*	*3.8*	*4.4*	*3.9*	**16.3**	*16.4*	*16.6*
Conventional hydropower	**3.2**	**5.4**	**5.3**	**2.7**	**2.0**	**3.2**	**3.7**	*3.9*	*4.9*	*7.7*	*6.9*	*3.9*	**16.6**	*12.7*	*23.4*
Nonhydro renewables (d)	**13.1**	**19.5**	**18.9**	**12.8**	**15.5**	**21.2**	**19.2**	*13.4*	*16.2*	*22.2*	*20.3*	*14.6*	**64.4**	*69.2*	*73.2*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**-0.1**	**0.0**	*0.2*	*0.1*	*-0.1*	*-0.1*	*0.3*	**0.2**	*0.1*	*0.1*
Total generation	**39.5**	**43.7**	**57.5**	**43.5**	**38.7**	**47.4**	**59.6**	*44.9*	*39.8*	*47.4*	*59.7*	*46.2*	**184.2**	*190.6*	*193.0*
Net energy for load (f)	**58.5**	**59.7**	**76.6**	**60.6**	**56.3**	**63.6**	**77.1**	*61.1*	*56.2*	*62.1*	*76.2*	*62.1*	**255.4**	*258.0*	*256.6*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	**0.033**	**0.034**	**0.034**	**0.035**	**0.034**	**0.035**	**0.035**	*0.034*	*0.034*	*0.034*	*0.035*	*0.035*	**0.135**	*0.137*	*0.137*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.617**	**0.599**	**0.541**	*0.555*	*0.642*	*0.721*	*0.592*	*0.537*	**2.581**	*2.312*	*2.491*
Solar (b)	**0.148**	**0.246**	**0.250**	**0.162**	**0.193**	**0.316**	**0.314**	*0.210*	*0.258*	*0.412*	*0.410*	*0.270*	**0.806**	*1.033*	*1.350*
Waste Biomass (c)	**0.064**	**0.060**	**0.060**	**0.059**	**0.060**	**0.059**	**0.059**	*0.059*	*0.059*	*0.058*	*0.059*	*0.058*	**0.242**	*0.237*	*0.234*
Wood Biomass	**0.049**	**0.041**	**0.049**	**0.046**	**0.051**	**0.046**	**0.054**	*0.041*	*0.044*	*0.040*	*0.049*	*0.041*	**0.185**	*0.192*	*0.174*
Wind	**0.787**	**0.803**	**0.627**	**0.852**	**0.883**	**0.875**	**0.699**	*1.002*	*1.049*	*0.982*	*0.759*	*1.063*	**3.069**	*3.458*	*3.852*
Subtotal	**1.749**	**1.908**	**1.648**	**1.715**	**1.838**	**1.928**	**1.702**	*1.901*	*2.086*	*2.245*	*1.904*	*2.005*	**7.020**	*7.369*	*8.240*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.188**	*0.191*	*0.184*	*0.193*	*0.198*	*0.197*	**0.699**	*0.736*	*0.771*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.003*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.006**	**0.010**	**0.010**	**0.007**	**0.007**	**0.011**	**0.011**	*0.008*	*0.008*	*0.012*	*0.012*	*0.008*	**0.033**	*0.036*	*0.040*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	**0.039**	**0.037**	*0.040*	*0.039*	*0.038*	*0.038*	*0.039*	**0.156**	*0.156*	*0.154*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	**0.344**	**0.351**	*0.364*	*0.352*	*0.351*	*0.366*	*0.371*	**1.376**	*1.397*	*1.440*
Subtotal	**0.594**	**0.521**	**0.558**	**0.588**	**0.555**	**0.579**	**0.583**	*0.602*	*0.583*	*0.590*	*0.609*	*0.614*	**2.262**	*2.319*	*2.397*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.036**	**0.036**	**0.025**	**0.029**	**0.043**	**0.043**	*0.030*	*0.034*	*0.049*	*0.049*	*0.034*	**0.122**	*0.144*	*0.165*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	**0.009**	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	**0.021**	*0.021*	*0.020*	*0.020*	*0.021*	*0.020*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.066**	**0.070**	**0.084**	**0.086**	*0.071*	*0.075*	*0.090*	*0.092*	*0.076*	**0.289**	*0.312*	*0.333*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.066**	**0.101**	**0.099**	*0.069*	*0.077*	*0.118*	*0.119*	*0.081*	**0.291**	*0.335*	*0.395*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	**0.113**	**0.115**	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.458**	*0.455*	*0.455*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	**0.224**	**0.224**	*0.194*	*0.198*	*0.241*	*0.243*	*0.206*	**0.788**	*0.829*	*0.890*
Transportation Sector															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.062**	*0.069*	*0.071*	*0.079*	*0.086*	*0.091*	**0.276**	*0.258*	*0.327*
Ethanol (f)	**0.258**	**0.222**	**0.266**	**0.259**	**0.244**	**0.283**	**0.287**	*0.275*	*0.256*	*0.288*	*0.292*	*0.285*	**1.006**	*1.089*	*1.121*
Subtotal	**0.320**	**0.289**	**0.340**	**0.333**	**0.300**	**0.353**	**0.348**	*0.344*	*0.327*	*0.367*	*0.378*	*0.376*	**1.282**	*1.344*	*1.447*
All Sectors Total															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.062**	*0.069*	*0.071*	*0.079*	*0.086*	*0.091*	**0.276**	*0.258*	*0.327*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.188**	*0.191*	*0.184*	*0.193*	*0.198*	*0.197*	**0.699**	*0.736*	*0.771*
Ethanol (f)	**0.268**	**0.231**	**0.277**	**0.269**	**0.253**	**0.293**	**0.298**	*0.296*	*0.266*	*0.299*	*0.303*	*0.296*	**1.045**	*1.141*	*1.164*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	**0.052**	**0.052**	*0.051*	*0.051*	*0.051*	*0.052*	*0.052*	**0.214**	*0.207*	*0.205*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.620**	**0.601**	**0.543**	*0.557*	*0.645*	*0.724*	*0.595*	*0.540*	**2.592**	*2.322*	*2.503*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.292**	**0.467**	**0.452**	*0.316*	*0.377*	*0.590*	*0.589*	*0.394*	**1.246**	*1.528*	*1.950*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	**0.104**	**0.104**	*0.108*	*0.107*	*0.105*	*0.105*	*0.106*	**0.430**	*0.424*	*0.423*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	**0.523**	**0.538**	*0.540*	*0.529*	*0.524*	*0.551*	*0.547*	**2.101**	*2.121*	*2.151*
Wind	**0.787**	**0.803**	**0.627**	**0.852**	**0.883**	**0.875**	**0.699**	*1.002*	*1.049*	*0.982*	*0.759*	*1.063*	**3.069**	*3.458*	*3.852*
Total Consumption	**2.912**	**3.004**	**2.834**	**2.890**	**2.951**	**3.168**	**2.919**	*3.112*	*3.269*	*3.534*	*3.226*	*3.278*	**11.640**	*12.150*	*13.306*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,347**	**6,346**	**6,296**	**6,295**	**6,285**	**6,141**	**6,141**	*6,154*	*6,155*	*6,190*	*6,190*	*6,190*	**6,295**	*6,154*	*6,190*
Waste	**3,867**	**3,865**	**3,791**	**3,790**	**3,781**	**3,779**	**3,779**	*3,793*	*3,793*	*3,829*	*3,829*	*3,829*	**3,790**	*3,793*	*3,829*
Wood	**2,480**	**2,480**	**2,505**	**2,505**	**2,505**	**2,362**	**2,362**	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	**2,505**	*2,362*	*2,362*
Conventional Hydroelectric	**78,527**	**78,521**	**78,668**	**78,670**	**78,673**	**78,745**	**78,747**	*78,766*	*78,787*	*78,797*	*78,838*	*78,841*	**78,670**	*78,766*	*78,841*
Geothermal	**2,466**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	*2,500*	*2,500*	*2,500*	*2,500*	*2,525*	**2,483**	*2,500*	*2,525*
Large-Scale Solar (b)	**38,887**	**40,985**	**42,786**	**47,413**	**50,293**	**52,267**	**55,281**	*63,653*	*66,731*	*70,845*	*74,004*	*84,566*	**47,413**	*63,653*	*84,566*
Wind	**106,055**	**107,549**	**109,076**	**118,045**	**120,930**	**124,472**	**126,426**	*135,275*	*136,465*	*138,404*	*138,404*	*142,410*	**118,045**	*135,275*	*142,410*
Other Sectors (c)															
Biomass	**6,295**	**6,296**	**6,292**	**6,302**	**6,280**	**6,284**	**6,289**	*6,289*	*6,289*	*6,289*	*6,281*	*6,281*	**6,302**	*6,289*	*6,281*
Waste	**770**	**771**	**767**	**777**	**775**	**778**	**778**	*778*	*778*	*778*	*778*	*778*	**777**	*778*	*778*
Wood	**5,525**	**5,525**	**5,525**	**5,525**	**5,505**	**5,505**	**5,510**	*5,510*	*5,510*	*5,510*	*5,503*	*5,503*	**5,525**	*5,510*	*5,503*
Conventional Hydroelectric	**279**	**279**	**279**	**279**	**279**	**279**	**277**	*277*	*279*	*279*	*279*	*279*	**279**	*277*	*279*
Large-Scale Solar (b)	**443**	**456**	**462**	**468**	**474**	**474**	**489**	*535*	*535*	*541*	*543*	*552*	**468**	*535*	*552*
Small-Scale Solar (d)	**24,351**	**25,248**	**26,252**	**27,585**	**28,760**	**30,243**	**31,438**	*32,718*	*34,003*	*35,271*	*36,518*	*37,736*	**27,585**	*32,718*	*37,736*
Residential Sector	**15,064**	**15,682**	**16,364**	**17,163**	**17,959**	**19,039**	**19,974**	*20,907*	*21,798*	*22,659*	*23,485*	*24,268*	**17,163**	*20,907*	*24,268*
Commercial Sector	**7,426**	**7,641**	**7,909**	**8,376**	**8,720**	**9,074**	**9,294**	*9,586*	*9,922*	*10,271*	*10,633*	*11,008*	**8,376**	*9,586*	*11,008*
Industrial Sector	**1,861**	**1,925**	**1,979**	**2,045**	**2,080**	**2,130**	**2,170**	*2,225*	*2,283*	*2,341*	*2,400*	*2,460*	**2,045**	*2,225*	*2,460*
Wind	**111**	**337**	**346**	**346**	**346**	**346**	**346**	*346*	*346*	*346*	*346*	*346*	**346**	*346*	*346*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.0**	**6.4**	**6.9**	**6.6**	**7.2**	**6.8**	**7.2**	*6.4*	*6.6*	*6.3*	*6.9*	*6.4*	**26.8**	*27.6*	*26.2*
Waste	**4.1**	**3.9**	**3.9**	**3.8**	**4.0**	**3.9**	**3.9**	*3.9*	*3.9*	*3.8*	*3.9*	*3.8*	**15.6**	*15.6*	*15.4*
Wood	**3.0**	**2.5**	**3.0**	**2.8**	**3.2**	**2.8**	**3.4**	*2.5*	*2.8*	*2.5*	*3.0*	*2.6*	**11.2**	*12.0*	*10.8*
Conventional Hydroelectric	**73.8**	**80.8**	**68.5**	**61.0**	**68.7**	**65.8**	**60.8**	*61.0*	*70.5*	*79.2*	*65.0*	*59.0*	**284.1**	*256.2*	*273.7*
Geothermal	**3.7**	**3.9**	**3.8**	**4.0**	**3.8**	**3.9**	**4.0**	*3.9*	*3.9*	*3.8*	*4.0*	*4.0*	**15.4**	*15.6*	*15.7*
Large-Scale Solar (b)	**16.2**	**27.0**	**27.4**	**17.8**	**21.2**	**34.7**	**34.5**	*23.1*	*28.4*	*45.2*	*45.0*	*29.7*	**88.5**	*113.5*	*148.3*
Wind	**86.5**	**88.2**	**68.9**	**93.6**	**96.9**	**96.1**	**76.8**	*110.0*	*115.2*	*107.8*	*83.4*	*116.7*	**337.2**	*379.8*	*423.2*
Other Sectors (c)															
Biomass	**7.4**	**6.8**	**6.8**	**6.9**	**6.9**	**6.8**	**7.1**	*6.9*	*6.9*	*6.8*	*7.1*	*6.9*	**27.9**	*27.7*	*27.7*
Waste	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.9**	*2.7*	*2.7*
Wood	**6.7**	**6.1**	**6.1**	**6.2**	**6.2**	**6.1**	**6.4**	*6.2*	*6.2*	*6.1*	*6.4*	*6.2*	**25.0**	*24.9*	*24.9*
Conventional Hydroelectric	**0.4**	**0.3**	**0.2**	**0.2**	**0.3**	**0.3**	**0.3**	*0.2*	*0.3*	*0.3*	*0.3*	*0.2*	**1.2**	*1.1*	*1.1*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.9*
Small-Scale Solar (d)	**8.4**	**12.4**	**12.3**	**8.5**	**9.7**	**14.7**	**14.5**	*9.9*	*11.3*	*17.2*	*17.3*	*11.8*	**41.5**	*48.9*	*57.6*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.2**	**5.9**	**9.1**	**8.9**	*6.0*	*6.9*	*10.8*	*10.9*	*7.4*	**25.2**	*29.9*	*36.0*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	**4.5**	**4.5**	*3.1*	*3.5*	*5.1*	*5.1*	*3.5*	**12.9**	*15.2*	*17.3*
Industrial Sector	**0.7**	**1.0**	**1.0**	**0.7**	**0.8**	**1.1**	**1.1**	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.5**	*3.9*	*4.3*
Wind	**0.1**	**0.1**	**0.2**	**0.4**	**0.3**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*1.0*	*0.9*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,368**	**19,465**	*19,675*	*19,915*	*20,150*	*20,363*	*20,518*	**18,385**	*19,391*	*20,236*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,014**	**11,756**	**12,821**	**12,928**	**13,283**	**13,666**	**13,719**	*13,869*	*13,968*	*14,056*	*14,148*	*14,230*	**12,630**	*13,634*	*14,100*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,420**	**3,123**	**3,319**	**3,457**	**3,564**	**3,593**	**3,586**	*3,604*	*3,648*	*3,695*	*3,737*	*3,769*	**3,329**	*3,587*	*3,712*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-21**	**-290**	**15**	**57**	**-94**	**-174**	**-68**	*-41*	*30*	*109*	*172*	*200*	**-60**	*-94*	*128*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,346**	**3,378**	**3,360**	**3,356**	**3,391**	**3,374**	**3,380**	*3,381*	*3,422*	*3,444*	*3,463*	*3,472*	**3,360**	*3,382*	*3,450*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,442**	**1,943**	**2,166**	**2,279**	**2,262**	**2,304**	**2,289**	*2,303*	*2,335*	*2,388*	*2,444*	*2,500*	**2,208**	*2,290*	*2,417*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,284**	**2,718**	**3,188**	**3,412**	**3,488**	**3,549**	**3,601**	*3,613*	*3,650*	*3,694*	*3,744*	*3,795*	**3,150**	*3,563*	*3,721*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,740**	**15,513**	*15,275*	*15,265*	*15,411*	*15,571*	*15,659*	**15,677**	*15,937*	*15,476*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	**145.1**	**147.4**	*148.7*	*150.1*	*151.4*	*152.6*	*153.5*	**142.3**	*146.1*	*151.9*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	**5.9**	**5.1**	*4.5*	*4.2*	*3.9*	*3.6*	*3.5*	**8.1**	*5.4*	*3.8*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	**1.59**	**1.56**	*1.52*	*1.48*	*1.44*	*1.40*	*1.38*	**1.40**	*1.56*	*1.43*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**100.0**	**87.1**	**95.5**	**97.4**	**98.3**	**99.9**	**100.8**	*101.6*	*102.6*	*104.0*	*105.4*	*106.5*	**95.0**	*100.2*	*104.6*
Manufacturing	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.7**	**100.0**	*100.9*	*102.1*	*103.7*	*105.4*	*106.8*	**93.2**	*99.2*	*104.5*
Food	**101.8**	**93.8**	**98.0**	**100.1**	**101.2**	**100.4**	**99.0**	*98.9*	*98.4*	*98.6*	*99.0*	*99.4*	**98.4**	*99.9*	*98.9*
Paper	**99.5**	**91.5**	**90.7**	**94.9**	**93.9**	**95.0**	**95.1**	*96.1*	*96.8*	*97.0*	*97.5*	*97.8*	**94.2**	*95.0*	*97.3*
Petroleum and Coal Products	**98.0**	**77.3**	**84.0**	**86.7**	**90.5**	**95.9**	**94.3**	*96.3*	*96.5*	*97.2*	*97.8*	*98.2*	**86.5**	*94.2*	*97.4*
Chemicals	**95.0**	**89.9**	**92.5**	**94.7**	**91.8**	**99.3**	**99.5**	*101.1*	*102.3*	*103.0*	*103.9*	*104.3*	**93.0**	*97.9*	*103.4*
Nonmetallic Mineral Products	**99.7**	**88.1**	**94.6**	**98.4**	**97.4**	**95.4**	**96.5**	*97.1*	*97.9*	*97.9*	*98.2*	*98.5*	**95.2**	*96.6*	*98.1*
Primary Metals	**95.9**	**72.9**	**83.3**	**90.3**	**92.4**	**96.7**	**98.2**	*99.0*	*99.9*	*100.2*	*101.5*	*102.0*	**85.6**	*96.6*	*100.9*
Coal-weighted Manufacturing (a)	**97.1**	**86.7**	**93.0**	**96.6**	**94.2**	**97.4**	**97.4**	*98.5*	*99.4*	*100.1*	*101.2*	*101.9*	**93.3**	*96.9*	*100.7*
Distillate-weighted Manufacturing (a)	**97.0**	**84.4**	**92.0**	**95.7**	**94.6**	**97.3**	**97.1**	*97.9*	*98.6*	*99.1*	*99.9*	*100.4*	**92.3**	*96.7*	*99.5*
Electricity-weighted Manufacturing (a)	**97.1**	**83.4**	**91.6**	**95.4**	**94.5**	**97.9**	**98.2**	*99.2*	*100.2*	*101.0*	*102.2*	*103.0*	**91.9**	*97.4*	*101.6*
Natural Gas-weighted Manufacturing (a)	**95.5**	**84.1**	**89.7**	**93.7**	**90.5**	**96.4**	**95.7**	*97.1*	*97.9*	*98.5*	*99.5*	*100.1*	**90.8**	*94.9*	*99.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.59**	**2.56**	**2.59**	**2.61**	**2.63**	**2.69**	**2.73**	*2.77*	*2.77*	*2.79*	*2.79*	*2.81*	**2.59**	*2.70*	*2.79*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.11**	**2.24**	**2.33**	*2.36*	*2.35*	*2.33*	*2.33*	*2.32*	**1.94**	*2.26*	*2.33*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.51**	**1.84**	**2.14**	**2.29**	*2.42*	*2.19*	*2.16*	*2.13*	*2.01*	**1.43**	*2.17*	*2.12*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.2**	*120.2*	*121.2*	*121.8*	*122.3*	*122.9*	**113.7**	*118.2*	*122.0*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,764**	**6,868**	**8,262**	**8,009**	**7,682**	**8,939**	**9,029**	*8,882*	*8,169*	*9,340*	*9,408*	*9,085*	**7,728**	*8,637*	*9,004*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**362**	**478**	**537**	**537**	**596**	**675**	*691*	*638*	*700*	*702*	*649*	**502**	*625*	*673*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**151**	**208**	**238**	**245**	**340**	**379**	*383*	*404*	*451*	*450*	*409*	**231**	*337*	*429*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	**243.3**	**218.5**	*199.5*	*203.2*	*230.9*	*233.6*	*243.1*	**217.5**	*214.9*	*227.7*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	**0.267**	*0.276*	*0.311*	*0.287*	*0.284*	*0.295*	**0.216**	*0.262*	*0.294*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**558**	**441**	**520**	**523**	**517**	**559**	**569**	*570*	*552*	*573*	*588*	*582*	**2,042**	*2,215*	*2,295*
Natural Gas	**490**	**347**	**381**	**428**	**484**	**353**	**365**	*435*	*474*	*350*	*373*	*441*	**1,647**	*1,638*	*1,639*
Coal	**202**	**177**	**271**	**225**	**255**	**228**	**319**	*226*	*232*	*223*	*295*	*244*	**875**	*1,028*	*993*
Total Energy (c)	**1,252**	**969**	**1,175**	**1,179**	**1,259**	**1,142**	**1,256**	*1,234*	*1,261*	*1,148*	*1,259*	*1,271*	**4,575**	*4,891*	*4,939*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion $2012)															
New England	**980**	**889**	**959**	**967**	**976**	**993**	**999**	*1,010*	*1,022*	*1,034*	*1,045*	*1,053*	**949**	*994*	*1,038*
Middle Atlantic	**2,706**	**2,484**	**2,659**	**2,699**	**2,740**	**2,788**	**2,795**	*2,817*	*2,852*	*2,889*	*2,923*	*2,946*	**2,637**	*2,785*	*2,903*
E. N. Central	**2,468**	**2,238**	**2,421**	**2,452**	**2,482**	**2,521**	**2,529**	*2,551*	*2,581*	*2,609*	*2,634*	*2,654*	**2,395**	*2,521*	*2,620*
W. N. Central	**1,184**	**1,080**	**1,165**	**1,185**	**1,201**	**1,220**	**1,222**	*1,234*	*1,248*	*1,261*	*1,272*	*1,279*	**1,153**	*1,219*	*1,265*
S. Atlantic	**3,369**	**3,079**	**3,296**	**3,332**	**3,381**	**3,433**	**3,448**	*3,486*	*3,526*	*3,567*	*3,603*	*3,628*	**3,269**	*3,437*	*3,581*
E. S. Central	**829**	**738**	**808**	**819**	**834**	**845**	**849**	*857*	*866*	*874*	*882*	*887*	**798**	*846*	*878*
W. S. Central	**2,333**	**2,114**	**2,283**	**2,313**	**2,332**	**2,365**	**2,378**	*2,408*	*2,439*	*2,470*	*2,502*	*2,524*	**2,261**	*2,371*	*2,484*
Mountain	**1,278**	**1,154**	**1,239**	**1,250**	**1,264**	**1,284**	**1,296**	*1,311*	*1,330*	*1,345*	*1,360*	*1,372*	**1,230**	*1,289*	*1,352*
Pacific	**3,645**	**3,321**	**3,568**	**3,583**	**3,675**	**3,746**	**3,774**	*3,823*	*3,873*	*3,919*	*3,959*	*3,991*	**3,529**	*3,755*	*3,935*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**96.1**	**82.6**	**91.6**	**94.6**	**95.1**	**96.4**	**92.5**	*93.5*	*94.3*	*95.7*	*97.2*	*98.4*	**91.3**	*94.4*	*96.4*
Middle Atlantic	**95.0**	**79.2**	**89.9**	**92.5**	**93.0**	**94.3**	**91.0**	*92.0*	*93.2*	*94.7*	*96.2*	*97.2*	**89.2**	*92.6*	*95.3*
E. N. Central	**95.9**	**79.0**	**91.8**	**94.4**	**95.0**	**95.8**	**98.9**	*100.0*	*101.4*	*103.1*	*105.0*	*106.8*	**90.3**	*97.4*	*104.1*
W. N. Central	**98.0**	**86.0**	**94.7**	**97.1**	**98.0**	**99.3**	**100.4**	*101.0*	*102.1*	*103.4*	*105.2*	*106.4*	**94.0**	*99.7*	*104.3*
S. Atlantic	**98.6**	**85.8**	**95.2**	**98.4**	**98.9**	**100.3**	**104.9**	*105.8*	*107.0*	*108.6*	*110.5*	*111.9*	**94.5**	*102.5*	*109.5*
E. S. Central	**96.6**	**79.9**	**93.6**	**96.7**	**97.8**	**98.9**	**105.3**	*106.1*	*107.0*	*108.3*	*110.2*	*111.8*	**91.7**	*102.0*	*109.3*
W. S. Central	**100.2**	**88.9**	**95.7**	**97.9**	**98.8**	**100.4**	**95.1**	*96.2*	*97.6*	*99.2*	*100.9*	*102.3*	**95.7**	*97.6*	*100.0*
Mountain	**102.8**	**92.2**	**101.3**	**104.0**	**105.2**	**107.5**	**114.0**	*115.0*	*116.1*	*117.7*	*119.6*	*121.1*	**100.1**	*110.4*	*118.6*
Pacific	**96.4**	**84.0**	**91.6**	**93.3**	**93.5**	**94.7**	**95.3**	*96.5*	*97.8*	*99.7*	*101.5*	*103.0*	**91.3**	*95.0*	*100.5*
Real Personal Income (Billion $2012)															
New England	**883**	**960**	**918**	**911**	**983**	**922**	**912**	*900*	*903*	*913*	*923*	*929*	**918**	*929*	*917*
Middle Atlantic	**2,248**	**2,477**	**2,401**	**2,326**	**2,553**	**2,381**	**2,348**	*2,312*	*2,313*	*2,339*	*2,365*	*2,378*	**2,363**	*2,398*	*2,349*
E. N. Central	**2,465**	**2,716**	**2,572**	**2,543**	**2,837**	**2,608**	**2,566**	*2,534*	*2,534*	*2,558*	*2,584*	*2,599*	**2,574**	*2,636*	*2,569*
W. N. Central	**1,160**	**1,259**	**1,182**	**1,197**	**1,316**	**1,221**	**1,207**	*1,194*	*1,193*	*1,202*	*1,214*	*1,221*	**1,199**	*1,234*	*1,207*
S. Atlantic	**3,284**	**3,531**	**3,398**	**3,350**	**3,744**	**3,457**	**3,441**	*3,400*	*3,404*	*3,437*	*3,475*	*3,497*	**3,391**	*3,511*	*3,453*
E. S. Central	**916**	**1,004**	**942**	**931**	**1,060**	**960**	**953**	*942*	*942*	*949*	*958*	*963*	**948**	*979*	*953*
W. S. Central	**2,053**	**2,200**	**2,122**	**2,093**	**2,343**	**2,164**	**2,141**	*2,127*	*2,137*	*2,162*	*2,189*	*2,206*	**2,117**	*2,194*	*2,173*
Mountain	**1,222**	**1,322**	**1,261**	**1,249**	**1,389**	**1,277**	**1,267**	*1,254*	*1,257*	*1,270*	*1,284*	*1,294*	**1,263**	*1,297*	*1,276*
Pacific	**2,765**	**2,962**	**2,955**	**2,876**	**3,142**	**2,955**	**2,922**	*2,875*	*2,875*	*2,904*	*2,933*	*2,951*	**2,889**	*2,973*	*2,916*
Households (Thousands)															
New England	**6,019**	**6,025**	**6,035**	**6,043**	**6,053**	**6,056**	**6,049**	*6,059*	*6,070*	*6,082*	*6,098*	*6,112*	**6,043**	*6,059*	*6,112*
Middle Atlantic	**16,352**	**16,367**	**16,404**	**16,434**	**16,467**	**16,478**	**16,476**	*16,515*	*16,551*	*16,594*	*16,635*	*16,676*	**16,434**	*16,515*	*16,676*
E. N. Central	**18,945**	**18,980**	**19,019**	**19,039**	**19,074**	**19,088**	**19,089**	*19,139*	*19,184*	*19,224*	*19,265*	*19,306*	**19,039**	*19,139*	*19,306*
W. N. Central	**8,619**	**8,645**	**8,667**	**8,689**	**8,714**	**8,726**	**8,730**	*8,758*	*8,783*	*8,812*	*8,843*	*8,868*	**8,689**	*8,758*	*8,868*
S. Atlantic	**25,844**	**25,945**	**26,036**	**26,139**	**26,237**	**26,300**	**26,338**	*26,451*	*26,560*	*26,679*	*26,797*	*26,908*	**26,139**	*26,451*	*26,908*
E. S. Central	**7,711**	**7,736**	**7,757**	**7,781**	**7,803**	**7,815**	**7,822**	*7,849*	*7,874*	*7,903*	*7,931*	*7,956*	**7,781**	*7,849*	*7,956*
W. S. Central	**15,058**	**15,123**	**15,180**	**15,245**	**15,304**	**15,342**	**15,373**	*15,443*	*15,512*	*15,586*	*15,661*	*15,728*	**15,245**	*15,443*	*15,728*
Mountain	**9,387**	**9,438**	**9,487**	**9,539**	**9,590**	**9,628**	**9,659**	*9,715*	*9,768*	*9,821*	*9,875*	*9,923*	**9,539**	*9,715*	*9,923*
Pacific	**18,882**	**18,929**	**18,971**	**19,019**	**19,056**	**19,065**	**19,065**	*19,117*	*19,172*	*19,230*	*19,288*	*19,332*	**19,019**	*19,117*	*19,332*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.8**	**6.9**	**7.0**	**7.1**	**7.2**	*7.3*	*7.3*	*7.4*	*7.5*	*7.5*	**6.9**	*7.1*	*7.4*
Middle Atlantic	**20.1**	**16.7**	**17.9**	**18.2**	**18.3**	**18.5**	**18.8**	*18.9*	*19.1*	*19.3*	*19.5*	*19.6*	**18.2**	*18.6*	*19.4*
E. N. Central	**22.3**	**19.3**	**20.7**	**20.8**	**20.9**	**21.1**	**21.4**	*21.5*	*21.7*	*21.9*	*22.1*	*22.2*	**20.8**	*21.2*	*22.0*
W. N. Central	**10.8**	**9.7**	**10.2**	**10.2**	**10.3**	**10.4**	**10.5**	*10.6*	*10.7*	*10.8*	*10.8*	*10.9*	**10.2**	*10.5*	*10.8*
S. Atlantic	**29.3**	**26.2**	**27.4**	**27.8**	**27.9**	**28.1**	**28.7**	*28.9*	*29.1*	*29.4*	*29.6*	*29.8*	**27.7**	*28.4*	*29.5*
E. S. Central	**8.3**	**7.5**	**7.9**	**8.0**	**8.0**	**8.1**	**8.2**	*8.2*	*8.3*	*8.3*	*8.4*	*8.4*	**7.9**	*8.1*	*8.3*
W. S. Central	**17.9**	**16.2**	**16.7**	**17.0**	**17.1**	**17.3**	**17.6**	*17.8*	*17.9*	*18.0*	*18.2*	*18.3*	**17.0**	*17.5*	*18.1*
Mountain	**11.2**	**10.0**	**10.5**	**10.6**	**10.7**	**10.9**	**11.1**	*11.2*	*11.3*	*11.4*	*11.4*	*11.5*	**10.6**	*11.0*	*11.4*
Pacific	**24.0**	**20.9**	**21.6**	**21.9**	**21.9**	**22.4**	**22.9**	*23.2*	*23.4*	*23.7*	*23.9*	*24.1*	**22.1**	*22.6*	*23.8*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	**2,737**	**974**	**116**	**2,003**	**3,017**	**783**	**85**	*1,988*	*3,028*	*868*	*137*	*2,150*	**5,830**	*5,873*	*6,181*
Middle Atlantic	**2,468**	**836**	**85**	**1,830**	**2,818**	**668**	**57**	*1,809*	*2,811*	*695*	*88*	*1,971*	**5,220**	*5,353*	*5,566*
E. N. Central	**2,785**	**846**	**126**	**2,099**	**3,085**	**709**	**70**	*2,082*	*3,092*	*730*	*134*	*2,261*	**5,856**	*5,946*	*6,217*
W. N. Central	**3,040**	**799**	**167**	**2,315**	**3,228**	**720**	**89**	*2,251*	*3,228*	*707*	*168*	*2,479*	**6,321**	*6,288*	*6,582*
South Atlantic	**1,110**	**254**	**17**	**879**	**1,348**	**212**	**11**	*920*	*1,350*	*193*	*13*	*950*	**2,260**	*2,490*	*2,506*
E. S. Central	**1,480**	**336**	**20**	**1,225**	**1,791**	**312**	**19**	*1,270*	*1,738*	*246*	*22*	*1,312*	**3,060**	*3,392*	*3,318*
W. S. Central	**969**	**102**	**8**	**737**	**1,296**	**121**	**1**	*750*	*1,091*	*76*	*5*	*831*	**1,816**	*2,168*	*2,002*
Mountain	**2,220**	**676**	**128**	**1,780**	**2,301**	**660**	**110**	*1,748*	*2,254*	*699*	*144*	*1,881*	**4,804**	*4,819*	*4,978*
Pacific	**1,537**	**528**	**67**	**1,089**	**1,564**	**488**	**77**	*1,170*	*1,579*	*614*	*88*	*1,231*	**3,220**	*3,298*	*3,511*
U.S. Average	**1,880**	**543**	**71**	**1,424**	**2,108**	**473**	**51**	*1,436*	*2,077*	*492*	*77*	*1,541*	**3,919**	*4,067*	*4,187*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**822**	**105**	**2,127**	**3,133**	**856**	**107**	*2,100*	*3,101*	*853*	*108*	*2,110*	**6,207**	*6,196*	*6,172*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,912**	**678**	**72**	*1,911*	*2,887*	*685*	*72*	*1,917*	**5,606**	*5,572*	*5,559*
E. N. Central	**3,198**	**698**	**102**	**2,197**	**3,157**	**731**	**105**	*2,170*	*3,133*	*728*	*97*	*2,181*	**6,195**	*6,162*	*6,139*
W. N. Central	**3,288**	**703**	**132**	**2,380**	**3,248**	**728**	**133**	*2,368*	*3,219*	*726*	*125*	*2,379*	**6,502**	*6,477*	*6,450*
South Atlantic	**1,461**	**169**	**10**	**953**	**1,395**	**181**	**11**	*916*	*1,380*	*187*	*11*	*918*	**2,593**	*2,503*	*2,496*
E. S. Central	**1,849**	**214**	**15**	**1,277**	**1,771**	**231**	**16**	*1,249*	*1,763*	*243*	*15*	*1,251*	**3,356**	*3,267*	*3,272*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	**86**	**3**	*786*	*1,145*	*93*	*3*	*780*	**2,078**	*2,015*	*2,020*
Mountain	**2,198**	**721**	**136**	**1,850**	**2,188**	**704**	**135**	*1,850*	*2,180*	*685*	*132*	*1,829*	**4,905**	*4,877*	*4,826*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	**553**	**81**	*1,147*	*1,455*	*523*	*79*	*1,133*	**3,283**	*3,242*	*3,190*
U.S. Average	**2,153**	**473**	**64**	**1,512**	**2,112**	**483**	**65**	*1,487*	*2,096*	*479*	*62*	*1,486*	**4,202**	*4,148*	*4,123*
Cooling Degree Days															
New England	**0**	**102**	**538**	**0**	**0**	**141**	**452**	*6*	*0*	*79*	*402*	*2*	**639**	*600*	*482*
Middle Atlantic	**0**	**156**	**682**	**4**	**0**	**183**	**628**	*23*	*0*	*147*	*530*	*5*	**842**	*835*	*682*
E. N. Central	**2**	**218**	**606**	**2**	**2**	**250**	**627**	*30*	*0*	*211*	*518*	*6*	**828**	*909*	*735*
W. N. Central	**6**	**295**	**662**	**3**	**8**	**312**	**746**	*22*	*3*	*259*	*651*	*9*	**966**	*1,088*	*922*
South Atlantic	**194**	**614**	**1,225**	**296**	**150**	**613**	**1,172**	*263*	*135*	*652*	*1,160*	*237*	**2,329**	*2,198*	*2,184*
E. S. Central	**74**	**425**	**1,063**	**81**	**41**	**436**	**1,018**	*103*	*32*	*508*	*1,031*	*62*	**1,643**	*1,598*	*1,633*
W. S. Central	**175**	**841**	**1,508**	**212**	**90**	**770**	**1,474**	*261*	*103*	*891*	*1,491*	*192*	**2,736**	*2,595*	*2,677*
Mountain	**10**	**465**	**1,080**	**117**	**11**	**532**	**964**	*63*	*17*	*422*	*932*	*75*	**1,672**	*1,569*	*1,446*
Pacific	**25**	**195**	**713**	**125**	**24**	**250**	**696**	*45*	*27*	*168*	*593*	*60*	**1,057**	*1,014*	*847*
U.S. Average	**70**	**393**	**931**	**120**	**49**	**410**	**901**	*112*	*48*	*400*	*847*	*93*	**1,514**	*1,472*	*1,387*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	**80**	**473**	*1*	*0*	*87*	*471*	*2*	**554**	*555*	*560*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	**163**	**610**	*6*	*0*	*162*	*608*	*8*	**786**	*779*	*779*
E. N. Central	**3**	**240**	**579**	**8**	**3**	**234**	**572**	*7*	*3*	*237*	*571*	*9*	**829**	*816*	*821*
W. N. Central	**7**	**296**	**696**	**11**	**7**	**294**	**686**	*10*	*7*	*299*	*681*	*11*	**1,010**	*997*	*999*
South Atlantic	**127**	**695**	**1,201**	**247**	**143**	**679**	**1,194**	*260*	*147*	*667*	*1,188*	*266*	**2,270**	*2,275*	*2,268*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	**532**	**1,065**	*74*	*44*	*518*	*1,058*	*81*	**1,747**	*1,714*	*1,701*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	**880**	**1,568**	*210*	*113*	*853*	*1,537*	*218*	**2,775**	*2,773*	*2,721*
Mountain	**24**	**430**	**934**	**80**	**24**	**442**	**949**	*85*	*23*	*459*	*946*	*84*	**1,468**	*1,499*	*1,512*
Pacific	**31**	**185**	**624**	**78**	**31**	**193**	**647**	*86*	*31*	*207*	*663*	*84*	**919**	*957*	*985*
U.S. Average	**47**	**419**	**891**	**99**	**52**	**413**	**892**	*104*	*53*	*412*	*889*	*107*	**1,455**	*1,461*	*1,461*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 2, 2021.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the December 2021 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Oct 2021	Nov 2021	Oct 2021 - Nov 2021 Average	Oct 2020 - Nov 2020 Average	2018 - 2020 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	97.9	99.0	98.4	92.1	98.2
Global Petroleum and Other Liquids Consumption (b)	98.5	99.7	99.1	94.1	97.3
Biofuels Production (c)	2.8	2.6	2.7	2.8	2.7
Biofuels Consumption (c)	2.7	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.5	3.6	3.5	2.9	3.6
Iran Liquid Fuels Consumption	1.8	1.9	1.8	1.8	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	91.5	92.8	92.2	86.3	91.9
Consumption (d)	94.1	95.3	94.7	89.7	92.8
Production minus Consumption	-2.6	-2.4	-2.5	-3.4	-0.9
World Inventory Net Withdrawals Including Iran	0.7	0.7	0.7	2.0	-0.9
Estimated OECD Inventory Level (e) (million barrels)	2,777	2,767	2,772	3,109	2,943
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	6.2	5.9	6.1	7.7	3.4

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Oct 2021	Nov 2021	Oct 2021 - Nov 2021 Average	Oct 2020 - Nov 2020 Average	2018 - 2020 Average
Brent Front Month Futures Price ($ per barrel)	83.75	80.85	82.30	42.69	59.69
WTI Front Month Futures Price ($ per barrel)	81.22	78.65	79.94	40.41	53.76
Dubai Front Month Futures Price ($ per barrel)	81.81	79.77	80.79	42.60	59.01
Brent 1st - 13th Month Futures Spread ($ per barrel)	8.29	7.39	7.84	14.97	1.01
WTI 1st - 13th Month Futures Spread ($ per barrel)	9.09	8.62	8.86	11.72	0.57
RBOB Front Month Futures Price ($ per gallon)	2.42	2.28	2.35	1.16	1.61
Heating Oil Front Month Futures Price ($ per gallon)	2.52	2.37	2.45	1.20	1.76
RBOB - Brent Futures Crack Spread ($ per gallon)	0.43	0.36	0.39	0.15	0.19
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.52	0.45	0.49	0.18	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

January 2022

Short-Term Energy Outlook

Forecast highlights

- This edition of the *Short-Term Energy Outlook* (STEO) is the first to include forecasts for 2023.
- The STEO continues to reflect heightened levels of uncertainty as a result of the ongoing COVID-19 pandemic. Notably, the Omicron variant of COVID-19 raises questions about global energy consumption. U.S. real GDP declined by 3.4% in 2020 from 2019 levels. Based on forecasts that use the IHS Markit macroeconomic model, we estimate U.S. GDP increased 5.7% in 2021 and that it will rise by 4.3% in 2022 and by 2.8% in 2023. In addition to macroeconomic uncertainties, uncertainty about winter weather and consumer energy demand also present a wide range of potential outcomes for energy consumption. Supply uncertainty in the forecast stems from uncertainty about OPEC+ production decisions and the rate at which U.S. oil and natural gas producers will increase drilling.
- Brent crude oil spot prices averaged $71 per barrel (b) in 2021, and we forecast Brent prices will average $75/b in 2022 and $68/b in 2023.
- We estimate global liquid fuels inventories fell by an average of 1.4 million barrels per day (b/d) in 2021 compared with inventory growth of 2.1 million b/d in 2020. Global oil inventories rise in the forecast, increasing at a rate of 0.5 million b/d in 2022 and 0.6 million b/d in 2023.
- Global consumption of petroleum and liquid fuels averaged 96.9 million b/d in 2021, up by 5.0 million b/d from 2020, when consumption fell significantly because of the pandemic. We expect global liquid fuels consumption will grow by 3.6 million b/d in 2022 and 1.8 million b/d in 2023.
- Crude oil production from OPEC member countries averaged 26.3 million b/d in 2021, up from 25.6 million b/d in 2020. We forecast that average OPEC crude oil production will rise by 2.5 million b/d to average 28.8 million b/d in 2022 and average 28.9 in 2023.
- U.S. crude oil production averaged 11.2 million b/d in 2021. We expect production to average 11.8 million b/d in 2022 and to rise to 12.4 million b/d in 2023, which would be the highest annual average U.S. crude oil production on record. The current record is 12.3 million b/d, set in 2019.

- U.S. regular gasoline retail prices averaged $3.02 per gallon (gal) in 2021, compared with an average of $2.18/gal in 2020. We forecast gasoline prices will average $3.06/gal in 2022 and $2.81/gal in 2023. U.S. diesel fuel prices averaged $3.29/gal in 2021, compared with $2.56/gal in 2020, and we forecast diesel prices will average $3.33/gal in 2022 and $3.27/gal in 2023.

- The natural gas spot price at Henry Hub averaged $3.91 per million British thermal units (MMBtu) in 2021. Monthly average prices reached $5.51/MMBtu in October, but they declined in November and December as mild weather prevailed across much of the country, resulting in less natural gas used for space heating. We expect Henry Hub spot prices will average $3.82/MMBtu in the first quarter of 2022 and average $3.79/MMBtu for all of 2022 and $3.63/MMBtu in 2023.

- We estimate that U.S. liquefied natural gas (LNG) exports averaged 9.8 billion cubic feet per day (Bcf/d) in 2021, compared with 6.5 Bcf/d in 2020. We expect U.S. LNG export capacity increases will contribute to LNG exports averaging 11.5 Bcf/d in 2022 and 12.1 Bcf/d in 2023.

- U.S. dry natural gas production averaged 93.5 Bcf/d in 2021, up 2.0 Bcf/d from 2020. Natural gas production in the forecast averages 96.0 Bcf/d for all of 2022 and then rises to 97.6 Bcf/d in 2023.

- U.S. natural gas inventories ended December 2021 at 3.2 trillion cubic feet (Tcf), 3% more than the 2016–20 average. We forecast inventories will end March 2022 at 1.8 Tcf, which would be 8% more than the 2017–21 average for the end of March.

- U.S. coal production totaled 579 million short tons (MMst) in 2021, up 8% from 2020. We expect coal production will increase by 6% in 2022 and then rise 1% to a total of 619 MMst in 2023.

- U.S. coal consumption was 545 MMst in 2021, a 14% increase from 2020. The increase reflected more use of coal-fired electricity generation amid high natural gas prices. We expect coal consumption will fall by 2% in 2022 and then be relatively unchanged in 2023 at a total of 532 MMst in 2023.

- Total U.S. retail sales of electricity remain relatively unchanged in our forecast for 2022 after increasing by 2.2% in 2021. Forecast increases in sales to the commercial and industrial sectors in 2022 offset lower sales to the residential sector. We forecast total U.S. retail sales of electricity across all sectors will grow by 1.4% in 2023.

- The share of U.S. electric power generation produced by natural gas averaged 37% in 2021, and we expect it will average 35% in 2022 and 34% in 2023. Our forecast for the natural gas share as a generation fuel declines primarily as a result of increased generation from new renewable energy generating capacity. Coal's average generation

share rose to 23% in 2021 as a result of higher natural gas prices, but we expect it to decline slightly over the next two years, averaging near 22% in 2022 and 2023. We expect the nuclear share of generation will remain near 20% over the next two years.

- We expect electricity-generating capacity from renewable energy sources to continue to grow in 2022 and 2023. Our forecast includes both wind and solar capacity growth, with solar capacity growing at a faster rate. The extreme drought conditions in the West may moderate somewhat in the next year, and we forecast that the share of U.S. generation from hydropower will rise from 6% in 2021 to 7% in 2022 and 2023.

- The U.S. retail electricity price for the residential sector in our forecast averages 14.2 cents per kilowatthour in 2022, which is 4% higher than the average retail price in 2021. Forecast residential prices remain relatively the same in 2023.

- Total energy-related carbon dioxide (CO_2) emissions increased by 6.2% in 2021 as the U.S. economy started to recover from the impacts of the COVID-19 pandemic. We forecast that emissions will rise by 1.8% in 2022 and by 0.5% in 2023. Even with growth over the next two years, forecast CO_2 emissions in 2023 are 3.4% lower than 2019 levels. Energy-related CO_2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Global liquid fuels

The COVID-19 pandemic continued to affect global oil markets in 2021. Oil consumption and oil production fell sharply in early 2020 in response to the pandemic. During the second half of 2020 (2H20), however, rising economic activity and the easing of pandemic-related restrictions on other activities caused oil consumption to increase. This trend continued into 2021 with rollouts of COVID-19 vaccinations. In much of the world, vaccines contributed to increased personal travel and business activity, resulting in global oil consumption rising by 5.5% in 2021 from 2020. However, global consumption in 2021 remained 3% below 2019 levels.

For more than a year now, oil consumption has outpaced oil production. Production has remained restrained as a result of crude oil production curtailments by OPEC+ members, investment restraint from U.S. oil producers, and other supply disruptions. Oil consumption outpacing oil production has led to persistent withdrawals from global oil inventories and significant increases in oil prices. We estimate that global oil inventories have fallen for six consecutive quarters going back to the third quarter of 2020 (3Q20), declining at an average rate of 2.1 million barrels per day (b/d) in 2H20 and at an average rate of 1.4 million b/d in 2021. Brent crude oil spot prices increased from an average of $43 per barrel (b) in 3Q20 to an average of $79/b in 4Q21.

Uncertainty in global oil markets has increased heading into 2022. The way in which the Omicron variant of COVID-19 will affect economic activity and oil consumption this year is still unknown. In late 2021, some restrictions to mitigate the spread of COVID-19 began to return in

many regions, notably Europe, even before the Omicron variant surfaced. These restrictions, in combination with increased measures to combat the Omicron variant, raised the possibility that global oil consumption could decline in the coming months and added downward pressure to oil prices.

We forecast that global oil production will outpace global oil consumption during both 2022 and 2023, resulting in rising global oil inventories. We expect global oil inventories will rise by an average of 0.5 million b/d in 2022 and by 0.6 million b/d in 2023 and that these inventory builds will generally put downward pressure on crude oil prices. Brent prices average $75/b in 2022 and $68/b in 2023 in our forecast. However, oil market balances are subject to significant uncertainties during the forecast period, notably, the way in which the ongoing pandemic affects economic growth, oil demand, and the production decisions of OPEC+ members. These factors, among others, could keep oil prices volatile.

***Global petroleum and other liquid fuels consumption*.** Based on preliminary data and estimates, global consumption of petroleum and other liquid fuels grew by 5.0 million b/d in 2021. This growth followed a decline of 8.4 million b/d in 2020. We forecast global oil consumption will grow by 3.6 million b/d in 2022 and by 1.8 million b/d in 2023, reaching 100.5 million b/d in 2022 and 102.3 million b/d in 2023. If realized, the 2022 global liquid fuels consumption level would surpass the pre-pandemic 2019 level and represent a new record for world liquid fuels consumption.

Slowing growth in global oil demand in our forecast mostly reflects slowing economic growth. Our global economic growth assumptions come from Oxford Economics, which forecasts global GDP will increase by 4.5% in 2022 and by 3.9% in 2023, compared with an increase of 5.8% in 2021. In addition, oil demand in early 2021 was still significantly affected by pandemic-mitigation measures. As business activity and personal mobility increased through much of 2021, air travel remained the most affected segment of liquid fuels demand in 2021. Our forecast assumes air travel will increase throughout 2022 and into 2023, but it will continue to remain below pre-pandemic levels. With air travel and jet fuel consumption below pre-pandemic levels, we expect economic growth will be the main driver of oil consumption growth, as demand increases for fuels such as gasoline, diesel, and hydrocarbon gas liquids (HGLs).

We expect non-OECD countries, where economic growth tends to be more oil-intensive than in OECD countries, to lead the growth in demand for oil in 2022 and 2023. In our forecast, non-OECD oil consumption grows by 2.2 million b/d during 2022 and by 1.4 million b/d in 2023. Oil consumption in OECD countries grows by 1.4 million b/d in 2022 and by 0.3 million b/d in 2023.

Governments in non-OECD countries in the Asia-Pacific and Latin American regions eased mobility and business activity restrictions during 2021 as an increasing share of the population was vaccinated. However, outbreaks of the Omicron variant in some Asia-Pacific countries have led their governments to delay reopening plans or to extend current restrictions. The Middle East and African regions have been relatively slower to ease mobility restrictions than Europe

and the United States. Outbreaks of COVID-19 infections and renewed restrictions on mobility and business activity still pose a significant downside risk in these regions.

Strict mobility restrictions imposed by many of the European OECD countries in 1Q21 gradually eased in 2Q21 as a result of increasing vaccination levels. As a result, Europe experienced a significant jump in economic activity, as capacity limits and restrictions on mobility and nonessential business activity were either reduced or eliminated. However, the spread of the Omicron variant led to a sharp increase in new infections in 4Q21. Some governments have responded by renewing some measures that limit mobility and business activity. Overall, we expect relatively milder movement and business activity restrictions than in 2020 because significant portions of the populations in European countries are fully vaccinated and because some of the new government restrictions have targeted unvaccinated segments of the population.

If currently available vaccines provide insufficient protection against future variants, countries may decide to increase mobility and activity restrictions. This strategy would lead to a longer, more drawn-out recovery in global oil consumption. In addition, the pace of economic growth will drive oil consumption in 2022 and 2023. However, if supply chain issues or central bank measures to limit inflation contribute to GDP growth rates that are lower than those from Oxford Economics that are assumed in this forecast, oil consumption will likely also be lower than forecast.

Non-OPEC production of petroleum and other liquid fuels. We estimate that in 2021, non-OPEC production increased by 0.7 million b/d compared with 2020. Most of this increase came from the three largest non-OPEC producers: the United States, Russia, and Canada. We expect non-OPEC production to increase by 2.8 million b/d in 2022 and by an additional 1.6 million b/d in 2023. The United States and Russia lead production growth among non-OPEC countries in our forecast during both 2022 and 2023. Brazil, Norway, and Canada also contribute significantly to growth in the forecast.

After the United States, Russia is the world's second-largest producer of liquid fuels. Its liquid fuels production averaged 10.8 million b/d in 2021, 0.3 million b/d more than in 2020. We forecast Russia's liquid fuels production will continue to grow in 2022 and 2023 but at a slower rate. From December 2020 to December 2021, Russia's liquid fuels production grew by 0.9 million b/d. However, most of the growth in 2021 occurred during the second half of the year as OPEC+, in which Russia participates, consistently raised its production targets. This growth used up most of Russia's available spare capacity. We forecast that annual growth in oil production in Russia will average almost 0.8 million b/d during 2022 and 0.3 million b/d in 2023.

Canada's liquid fuels production increased by 0.3 million b/d in 2021 to reach a record high annual average of 5.6 million b/d. Production growth in Canada followed increased refinery demand for crude oil in the United States, the removal of production curtailments set by Alberta's provincial government, and the restart of oil sands expansion projects deferred during

the COVID-19 pandemic. In our forecast, we assume that no new upstream projects come online in Canada during 2022 or 2023. We expect oil sands output will continue to grow at smaller increments. Canada's oil sands producers have adjusted the scale and pace of upstream development and investment. These producers have increasingly moved toward smaller incremental expansions or optimizations of existing projects rather than toward larger expansions or greenfield projects. Some growth will also come from removing the bottlenecks from pipeline capacity.

We forecast Canada's production of petroleum and other liquid fuels will increase by 0.2 million b/d in 2022. Some increase in our forecast of Canada's 2022 production follows the expansion of the Enbridge Line 3 crude oil pipeline (0.37 million b/d), which became operational in October 2021. The TransMountain pipeline expansion project (0.59 million b/d) is slated to enter service at the end of 2022. Additional Enbridge expansions and optimizations to its existing pipeline system, if completed, will add more than 0.4 million b/d of export capacity over the forecast period. With this new pipeline capacity from Enbridge and other expansions, oil export constraints will be eliminated by the end of 2023. In 2023, we expect Canada's production of petroleum and other liquid fuels to grow by less than 0.1 million b/d.

Brazil's production of petroleum and other liquid fuels fell slightly in 2021. This decline reflects pandemic-related supply chain disruptions and difficulties Petrobras experienced last year when it restarted the fields that had undergone heavy maintenance in 4Q20. We expect Brazil's production to increase by 0.3 million b/d in 2022, reaching 4.0 million b/d for the first time as production facilities return to normal operation. Our forecast assumes six new floating production storage and offloading (FPSO) units will ramp up through 2023 and continue to drive growth, notably at the Sepia, Mero, and Buzios fields. Once they reach full capacity, these FPSOs will each produce between 70,000 b/d and 180,000 b/d. We expect Brazil's production of petroleum and other liquid fuels to grow by 0.1 million b/d during 2023.

Norway's production of petroleum and other liquid fuels grew by less than 0.1 million b/d in 2021, and we expect output to grow by 0.1 million b/d in 2022 and by 0.2 million b/d in 2023. Most of the growth in 2022 comes from the ramp-up in production at the Martin Linge field, which came online in July 2021. The Johan Sverdrup field, which was the main driver of growth in 2021, again is the main source of our forecast growth in 2023. Production from Phase 1 of the project averaged over 0.5 million b/d in 2021, almost 0.1 million b/d more than the peak production of 0.44 million b/d originally expected by the project developers. Phase 2 of the project, with an expected peak production of 0.22 million b/d, will start in 4Q22.

Some of the largest production declines in our forecast occur in Mexico. Mexico's crude oil and other liquid fuels production averaged 1.9 million b/d in 2021, almost unchanged from 2020 and 2019. Last year, the ramp-up of output from the Ixachi, Pokoch, and Hokchi fields stemmed Mexico's long-term production declines. Production in Mexico of petroleum and other liquids falls slightly in 2022 in our forecast. We expect Mexico's oil production to fall faster in 2023, with a decline of 0.1 million b/d. These decreases reflect financial constraints at Mexico's

national oil company, PEMEX, and continued large declines in mature fields. New growth in foreign-operated fields in 2021 and beyond will not offset declines from PEMEX's older fields, in particular the Maloob field.

We forecast that output across a number of other non-OPEC producers will decline in 2022 and 2023, notably in Indonesia and Colombia.

OPEC production of petroleum and other liquid fuels. At the January 2022 OPEC+ meeting, participants reaffirmed their decision to continue to increase production by 0.4 million b/d monthly, with future adjustments possible depending on market conditions. Our forecast assumes that OPEC member countries will not fully increase production in accordance with their targets in 2022. Some countries will be unable to meet their new targets because of wide-ranging challenges to bring idled capacity back online, and other countries will limit increases to avoid large global imbalances between oil production and oil demand.

OPEC crude oil production averaged 26.3 million b/d in 2021, up 0.7 million b/d from 2020. We forecast that average OPEC crude oil production will increase by an additional 2.5 million b/d to average 28.8 million b/d in 2022 and then average 28.9 million b/d in 2023. Our OPEC crude oil production forecast is subject to considerable uncertainty, driven both by country compliance with existing production targets and uncertain future global demand growth.

OPEC+ has instituted monthly meetings to assess global oil market conditions, and the group's production targets are subject to regular adjustments. OPEC+ has indicated that it will adjust production targets in response to changes in global oil demand, but the path of global oil demand in the coming months remains uncertain.

Even with increased OPEC crude oil production, remaining surplus production capacity will be more than sufficient to meet additional demand even if consumption exceeds our expectations. We expect that OPEC surplus crude oil production capacity will decline from 6.0 million b/d in 2021 to average 3.9 million b/d in both 2022 and 2023, compared with an average surplus capacity of 2.2 million b/d from 2010–19. These estimates do not include additional capacity in Iran that is offline because of U.S. sanctions.

Among the OPEC countries, Iran, Libya, and Venezuela are not subject to production targets in the OPEC+ agreement. The STEO forecast assumes current U.S. sanctions remain in place for Iran and Venezuela for the entire forecast period. We also expect that OPEC+ will not implement further production cuts to accommodate any potential increases in oil output from Iran or Venezuela.

After five years of declines, Venezuela's crude oil production rose from 0.5 million b/d in 2020 to almost 0.6 million b/d in 2021, driven by increased service company activity and increased access to condensate and other diluents for blending with Venezuela's heavy crude oil. Despite increases in 2021, we expect Venezuela's crude oil production to decline as a result of ongoing operational difficulties, lack of field and facility maintenance, and continuing sanctions.

Libya's crude oil production rose by 0.8 million b/d to an average of almost 1.2 million b/d in 2021 compared with 2020 after the eastern and western security forces signed a ceasefire agreement in October 2020. The newly formed unified government provided stability among the various factions in Libya in March 2021. Our forecast assumes generally stable production in Libya in 2022 and 2023. However, our forecast of Libya's crude oil production is subject to heightened uncertainty as a result of the tentative political and security situation in Libya and the lack of a budget to support oil and natural gas infrastructure maintenance and repair. Presidential and parliamentary elections set for December 2021 were delayed. Additionally, a blockade at four oil fields disrupted 0.3 million b/d of crude oil production in Libya in late December.

OPEC non-crude oil liquids. OPEC production of non-crude oil liquids increased from 5.1 million b/d on average in 2020 to 5.3 million b/d in 2021. The 2021 production level reflects increases in production of associated liquids as a result of relaxed OPEC production cuts. We expect production of non-crude oil liquids will increase further in 2022 to 5.5 million b/d and stay at that level in 2023.

Global oil inventories. We estimate that global oil inventories decreased by an average of 1.4 million b/d in 2021, after increasing by 2.1 million b/d in 2020. In our forecast, global oil inventories increase by 0.5 million b/d in 2022 and by 0.6 million b/d in 2023. This inventory growth in largely reflects growth in global oil production paired with slowing growth in oil consumption. Global oil supply increases in the forecast, in part, because of easing production cuts from OPEC+ producers and the effects of higher 2021 oil prices on U.S. tight oil production.

Total oil inventories in the OECD fell from 3.0 billion barrels at the end of 2020 to 2.7 billion barrels at the end of 2021. We expect oil inventories in the OECD to rise to 2.8 billion barrels at the end of 2022 and to 2.9 billion barrels at the end of 2021.

Crude oil prices. Oil prices rose during much of 2021, with Brent crude oil spot prices averaging $71/b for the year compared with $42/b in 2020. Rising prices reflected growth in global oil demand that outpaced near-term growth in oil production, resulting in falling global oil inventories. During 2021, Brent prices reached their highest monthly average of $84/b during October. Brent prices fell to an average of $74/b in December, which largely reflected concerns about how the Omicron variant and potential mitigation efforts may affect near-term oil demand. In addition, increases in crude oil supply from OPEC+ members have likely also contributed to lower oil prices. However, crude oil prices ended December at $77/b as concerns that Omicron would lead to significant declines in oil consumption eased and as some crude oil production went offline in Libya.

We expect Brent crude oil spot prices will average $75/b in 2022. Forecast prices remain near current levels in 1Q22, averaging $79/b for the quarter. Oil markets are generally balanced in 1Q22 in our forecast. After 1Q22, we expect inventory builds through the end of 2022, averaging 0.7 million b/d from 2Q22 through 4Q22. We expect some downward oil price

pressures during this period, with Brent crude oil prices falling to an average of $71/b by 4Q22. Although inventories build in our forecast, inventory levels are currently lower than in 2019, which may dampen some of the downward price pressures associated with rising inventories. Forecast inventory builds accelerate in 2023, and we expect that Brent crude oil prices will average $68/b for the year.

Global economic developments and numerous uncertainties surrounding the pandemic in the coming months could push oil prices higher or lower than our current price forecast. Our current price path reflects global oil consumption that increases by 4% from 2021 in 2022 and by an additional 2% in 2023. However, this forecast depends on how any potential new COVID-19 variants develop and how oil consumption behavior changes as the pandemic evolves. Global supply chain disruptions have also likely exacerbated inflationary price effects across all sectors in recent months. How central banks respond to inflation may affect economic growth and oil demand during the forecast period. The duration of, and compliance with, the latest OPEC+ production targets also remains uncertain. Our forecast includes the assumption that OPEC+ will limit production increase to less than the current target of 0.4 million b/d per month. However, this assumption leaves more spare OPEC crude oil production capacity than seen during much of the 2010–19 period. If OPEC countries choose to produce from this capacity rather than hold it as spare, prices would likely be lower than our forecast. In addition, the degree to which the U.S. shale industry responds to the recent relatively high oil prices will affect the oil price path in the coming quarters.

We forecast West Texas Intermediate (WTI) crude oil prices will average about $3/b less than Brent prices in the first half of 2022 before widening to a discount of $4/b less than Brent prices through 2023. This price discount is based on our assumption that the recent discount of WTI to Brent, which averaged less than $3/b in 2021, reflected low global demand for oil exports and relatively low levels of U.S. crude oil production. As global refinery demand for crude oil and U.S. crude oil supply increases, we expect the WTI discount to return to $4/b by 2H22. This discount reflects the relative cost of exporting crude oil from the distribution hub in Cushing, Oklahoma, to Asia, compared with the cost of exporting Brent crude oil from the North Sea to Asia.

U.S. liquid fuels

U.S. Consumption. We forecast that petroleum and liquid fuels consumption in the United States will average 20.6 million barrels per day (b/d) in 2022, which would slightly surpass consumption from 2019. In 2023, we forecast that consumption will surpass 2019 levels and reach 20.9 million b/d. The forecast growth in petroleum and liquid fuels consumption is led by increases in gasoline consumption in 2022 and by hydrocarbon gas liquids (HGLs) in 2023.

We forecast that U.S. consumption of HGLs will increase by 0.2 million b/d in 2022 and by 0.1 million b/d in 2023, to reach annual averages of 3.6 million b/d in 2022 and 3.7 million b/d in 2023. We expect all of the HGL consumption growth in 2022 and nearly all of the growth in 2023 to be from increased use of ethane as a petrochemical feedstock. We expect two additional

petrochemical crackers to come online in the United States during the next two years, both of which will exclusively use ethane as a feedstock. As a result, our forecast of ethane consumption rises by 0.3 million b/d in 2022 and by 0.1 million b/d in 2023.

In this STEO, we expect that continuing effects from the COVID-19 pandemic will limit U.S. gasoline consumption and that consumption through 2023 will remain below levels seen before the pandemic in 2019. We forecast that gasoline consumption will increase by almost 0.3 million b/d (3.1%) from 2021 levels to an average approaching 9.1 million b/d in 2022. In 2023, we expect that consumption growth will slow to 0.1 million b/d (1.0%) and that annual consumption will average more than 9.1 million b/d, below the 2019 consumption level of 9.3 million b/d.

Although we expect U.S. gasoline consumption will remain below 2019 levels, we forecast that vehicle miles traveled (VMT) will exceed 2019 levels in 2022 and 2023. In the first half of 2022 (1H22), we expect VMT will be below 1H19 levels. We expect that people's responses to the COVID-19 pandemic will continue to limit driving activity, particularly in 1Q22. We assume the effects of the COVID-19 pandemic on gasoline demand will decrease after 1Q22, and driving activity will increase over the summer season, with personal travel and employment growth bringing VMT above 2019 levels in 2H22. Annual VMT in our forecast for 2022 is about equal to 2019 levels. We expect that VMT growth will continue in 2023 and that VMT will increase by 2.2% compared with 2022.

We expect increasing vehicle fuel efficiency, measured in miles per gallon, to offset some of the increased VMT. In 2022 and 2023, vehicle efficiency will likely increase 1%–2% each year. On December 20, the Biden administration released a final rule for greenhouse gas emissions from cars and trucks for model years 2023–26. The final rule increases the stringency of emissions standards by 5%–10% for each model year and replaces the previous standard that increased 1.5% annually. Because the new rule only applies to new cars and because car manufactures have a great deal of flexibility of when they announce a new model year, we expect that the new rule will have limited effects on fleet-wide vehicle efficiency during 2023.

U.S. distillate consumption increased by almost 0.2 million b/d (4.3%) in 2021. We expect that distillate consumption will increase by more than 0.1 million b/d (3.1%) in 2022 and by less than 0.1 million b/d (1.4%) in 2023, largely because of slowing U.S. GDP growth. Based on forecasts from IHS Markit, annual GDP growth in 2021 averaged 5.7% and is expected to fall to 4.3% in 2022 and 2.8% in 2023. The decreasing rate of GDP growth in our forecast largely slows demand growth for distillate fuel, which includes diesel fuel. Distillate demand, particularly diesel fuel, is closely tied with economic activity and freight movement (such as trucking and rail). We assume that the effects of supply chain bottlenecks on distillate demand will generally decrease compared with 2021, contributing to annual distillate demand growth. If supply chain bottlenecks worsen, however, actual distillate fuel consumption may be less than forecast. Conversely, if supply chain bottlenecks improve, distillate demand could rise above the current forecast.

U.S. jet fuel consumption in the forecast rises from 1.4 million b/d in 2021 to 1.6 million b/d in 2022 and 1.7 million b/d in 2023. We expect responses to the COVID-19 pandemic will have decreasing effects on jet fuel consumption moving further into the forecast period. Jet fuel demand, however, has been the most affected by the pandemic, decreasing from 1.7 million b/d in 2019 to 1.1 million b/d in 2020. Variants of COVID-19 (such as Omicron) could deter people from flying, which may lead to jet fuel consumption being less than forecast.

U.S. Crude oil supply. U.S. crude oil production averaged 11.2 million b/d in 2021, down 0.1 million b/d from 2020 as a result of well freeze-offs during extreme cold in February and well shut-ins during Hurricane Ida in late August and early September. Production in 2021 was 1.1 million b/d lower than the annual record of 12.3 million b/d set in 2019. We expect annual average U.S crude oil production to increase to 11.8 million b/d in 2022 and to 12.4 million b/d in 2023, which would set a new record. Despite our forecast of record annual average crude oil production in 2023, we do not expect production in any month in the forecast will surpass the monthly record of 12.97 million b/d set in November 2019. Production growth reflects oil prices that we expect will be sufficient to lead to continued increases in upstream development activity, which we forecast will proceed at a pace that will more than offset decline rates.

Annual average production numbers can conceal important monthly trends in oil production. For example, in February 2021, monthly average crude oil production from the Lower 48 states (L48) fell by 14% from January, from 8.8 million b/d to 7.6 million b/d, as a result of extreme cold. This event disrupted production operations across the country, particularly in Texas, which experienced widespread well freeze-offs. L48 production increased to 8.9 million b/d in March, as normal operations resumed. Because most L48 production is unconventional tight oil, we expect drilling activity and decline rate dynamics to mainly drive L48 production going forward. Tight oil wells have steep declines in the early years of their production, requiring continuous drilling of new wells to maintain unchanging production rates.

We expect production to increase for most of 2022, as more new wells come online to offset decline rates. For U.S. tight oil production, our models include a four-to-six-month lag between a change in oil price and change in production. We expect that WTI crude oil prices above $70/b during most of 2H21 and 1H22 increase the number of active drilling rigs and contribute to L48 production growth. We expect annual average L48 production of 9.6 million b/d for 2022.

We expect the WTI crude oil price to average $71/b in 2022. This price is up $3/b from the 2021 average and is sufficient for producers to realize positive cash flows in many areas, particularly the more productive areas of the Permian Basin. Producers saw increased cash flow in 2021, having held back on capital investments and cut costs, as crude oil prices rose significantly. Restrained investment led to fewer rig additions than what we have observed at similar crude oil price levels in previous years. With financial conditions among operators improved, we expect development to proceed at a modest pace. We expect average month-over-month L48 production growth to be 50,000 b/d in 2022. Most of L48 growth in the forecast comes from the Permian Basin. We expect L48 production growth to slow to a monthly average of 40,000 b/d in

2023, as a decline in oil prices in our forecast slows rig additions. Annual average L48 crude oil production for 2023 is 10.2 million b/d.

From 2020 to 2021, annual average production in the U.S. Federal Gulf of Mexico (GOM) increased from 1.6 million b/d to 1.7 million b/d. This increase occurred despite Hurricane Ida, which affected the GOM in late August 2021, causing monthly average crude oil production from the region to decline from 1.9 million b/d in July 2021 to 1.1 million b/d in September 2021. At the peak of the hurricane-related disruptions, 96% of GOM crude oil production was shut in, according to estimates by the U.S. Department of Interior's Bureau of Safety and Environmental Enforcement. We expect annual average GOM production of 1.8 million b/d in 2022 and remain near that level in 2023, still below the record 1.9 million b/d of 2019.

Alaska's crude oil production in the forecast stays near the 2021 level of 0.4 million b/d in both 2022 and 2023.

Hydrocarbon gas liquids supply. We forecast U.S. production of hydrocarbon gas liquids (HGLs) to increase by 0.5 million b/d in 2022 to an average of 5.9 million b/d and then increase to an average of 6.1 million b/d in 2023. HGL production will increase as a result of rising production of natural gas in 2022 and 2023, higher rates of natural gas processing plant utilization, and continuing efficiency improvements in the U.S. natural gas processing plant fleet. Ethane production will rise to meet growing demand from the domestic industry and global importers for ethane as a petrochemical feedstock. We expect U.S. ethane production to increase by 0.3 million b/d and by 0.2 million b/d in 2022 and 2023, respectively, reaching an average of 2.6 million b/d in 2023. We expect net ethane exports to grow by 40,000 b/d in 2022 and by 20,000 2023 as a result of rising global petrochemical demand and additional capacity to ship U.S. ethane overseas. We forecast propane production will rise by almost 0.1 million b/d in both 2022 and 2023.

Liquid biofuels. After COVID-19-related responses reduced demand for transportation fuels in 2020, U.S. biofuels consumption returned near to pre-pandemic levels in 2021. We forecast biofuels consumption will increase further in 2022, based on our expectation of increased demand for transportation fuels and the current targets in the Renewable Fuel Standard (RFS) program. Based on the current RFS targets, we forecast increases in biomass-based diesel production, consumption, and net imports.

U.S. biodiesel production increases in 2022 and 2023 in our forecast. U.S. biodiesel production decreased by 10% from 2020 to 2021, averaging an estimated 107,000 b/d in 2021. We expect biodiesel production will increase by 7% to average 114,000 b/d in 2022 and increase to 115,000 b/d in 2023. These production increases follow our expectation of growing U.S diesel consumption, along with higher RFS targets and the continuation of the $1/gal biodiesel and renewable diesel tax credit through December 2022.

Net U.S. imports of biomass-based diesel increased by 31% to 28,000 b/d in 2021, and we expect net imports to increase to an average of 46,000 b/d in both 2022 and 2023. Increased net imports of biomass-based diesel primarily reflect increased volumes of renewable diesel imported to meet both California Low Carbon Fuel Standard requirements and the federal RFS targets.

U.S. ethanol production increased in 2021 from 2020 but remained lower than 2019 levels. U.S. ethanol production in 2021 averaged 980,000 b/d, an increase of 8% from 2020. Ethanol production in our forecast rises to an average of 1.02 million b/d in both 2022 and 2023.

U.S. ethanol consumption averaged 910,000 b/d in 2021, an increase of 10% from 2020. We forecast ethanol consumption will average 930,000 b/d in 2022 and almost 950,000 b/d in 2023. The increase in ethanol consumption reflects our expectation of increasing gasoline demand. At the forecast levels for 2022 and 2023, the ethanol share of gasoline consumption would be near 2020 and 2021 levels of 10.3%.

Product prices. Reduced demand for liquid fuels in the United States during 2020 led to low prices for gasoline and diesel fuel during the same period. In 2021, increases in economic activity and personal mobility contributed to increasing prices for crude oil, gasoline, and diesel fuel compared with 2020. U.S. retail prices for regular-grade gasoline averaged $3.02/gal during 2021, and retail diesel prices averaged $3.29/gal, up 84 cents/gal and 73 cents/gal, respectively, from their 2020 averages.

Higher retail prices for gasoline and diesel in the United States reflect an increase in demand for petroleum fuels as well as increasing crude oil prices. After decreasing significantly in 2020, refinery margins (the difference between the wholesale price of gasoline and the price of Brent crude oil) reached their highest levels since 2014 for both gasoline and diesel in 2021. Refinery margins increased significantly beyond their recent five-year averages, driven primarily by rising fuel demand amid still restrained refinery production. Significant increases in renewable identification number (RIN) prices, which are embedded in wholesale product prices, also raised refinery margins.

Supply disruptions also contributed to increased refinery margins for those facilities that continued operations during several instances in 2021. In February, a severe cold weather system in Texas resulted in a reduction in refinery operations along the U.S. Gulf Coast. In May, a cyberattack on the Colonial Pipeline put upward pressure on retail fuel prices because of related logistical constraints. In August, hurricanes along the U.S. Gulf Coast (particularly in Louisiana) caused flooding and temporary refinery shutdowns, which also contributed to lower refinery production at that time.

Wholesale U.S. refinery gasoline margins started 2021 at a monthly average of 27 cents/gal in January, before increasing to 62 cents/gal in August. We estimate margins averaged 49 cents/gal in December, resulting in an average of 48 cents/gal for 2021, up from 31 cents/gal in

2020 and 32 cents/gal in 2019. As forecast refinery runs continue to increase and inventories grow, we estimate gasoline refinery margins will decrease over the forecast period, averaging 42 cents/gal in 2022 and 38 cents/gal in 2023.

Ongoing uncertainty and volatility related to the COVID-19 pandemic, the Omicron variant, and potential future variants all present additional downside risks for refinery margins and wholesale product prices. However, potential short-term disruptions related to inclement weather, like those that took place in February and August 2021, present upside risks for product prices throughout the forecast.

We expect U.S. regular retail gasoline prices will average $3.20/gal in 1Q22, 64 cents/gal higher than at the same time last year, but down 13 cents/gal compared with 4Q21. We expect the U.S. regular retail gasoline price will average $3.28/gal in January 2022 before decreasing through the year as crude oil prices and refinery margins fall, eventually averaging $2.77/gal in December 2022. We forecast the U.S. regular gasoline retail price, which averaged $3.02/gal in 2021, will average $3.06/gal in 2022 and $2.81/gal in 2023.

Regional annual average forecast prices for 2022 range from a low of $2.71/gal in the Gulf Coast region (PADD 3) to a high of $3.86/gal in the West Coast region (PADD 5). Reduced refinery capacity on the West Coast compared with 2019 pre-pandemic levels is likely to contribute to higher refinery margins, wholesale prices, and resale margins in that region in the future.

The retail price of diesel fuel in the United States averaged $3.29/gal in 2021, which was 73 cents/gal higher than in 2020. We forecast the diesel price will average $3.33/gal in 2022 and $3.27/gal in 2023. We expect that global economic activity returning to pre-pandemic levels will help drive diesel refinery margins higher than their multiyear lows in 2020 during the forecast period. Diesel refinery margins averaged 42 cents/gal in 2021, which was 4 cent/gal higher than the 2016–20 average and 12 cents/gal higher than levels seen in 2020. We forecast that diesel refinery margins will average 47 cents/gal in 2022 and 45 cents/gal in 2023.

Natural gas

Natural gas consumption. Consumption of natural gas in the United States averaged 83.0 billion cubic feet per day (Bcf/d) in 2021, almost unchanged from 2020. We expect U.S. natural gas consumption will remain at nearly the same level in both 2022 and 2023.

The largest natural gas-consuming sector in the United States is the electric power sector. We forecast that the electric power sector will consume an average 28.8 Bcf/d in 2022, which is 6% less than in 2021. This decline is a result of rising electricity-generating capacity from renewable energy. We expect that the consumption of natural gas by the electric power sector will decline by 0.5 Bcf/d (2%) in 2023.

Industrial sector consumption of natural gas in our forecast increases by 3% during 2022, averaging 23.2 Bcf/d, and grows to 23.5 Bcf/d in 2023, as demand for industrial goods and economic activity increases.

We expect combined U.S. residential and commercial natural gas consumption will average 22.6 Bcf/d in 2022, up 4% from 2021. Based on National Oceanic and Atmospheric Administration forecasts, this STEO assumes colder temperatures this year, with 6% more heating degree days (HDDs) across the United States in 2022 compared with 2021. We expect natural gas consumption in the U.S. residential and commercial sectors to increase by 1% to 22.8 Bcf/d in 2023, driven by the assumption of slightly colder weather than 2022.

Natural gas production. U.S. production of dry natural gas averaged an estimated 93.5 Bcf/d in 2021, up 2.0 Bcf/d (2%) from 2020. Natural gas production fell in 2020 as a result of low natural gas and oil prices that reduced drilling activity. Production grew in 2021 as drilling activity came back online, especially in the Permian Basin, where associated gas production in that region contributed to the overall growth in natural gas production. We forecast dry natural gas production will increase by 2.5 Bcf/d (3%) in 2022. Recent increases in oil and domestic natural gas prices contribute to an overall increase in drilling activity in 2022 that will lead to production growth from 2Q22 onward. Growth in dry natural gas production in 2022 is led by the Haynesville region, where production tends to be sensitive to change in U.S. benchmark Henry Hub natural gas prices, and by the Permian Basin, where production tends to be more sensitive to oil prices. In 2023, we expect dry natural gas production to increase by 1.5 Bcf/d (2%) to reach 97.6 Bcf/d.

Natural gas trade. We forecast natural gas exports will reach record highs in 2022 and continue to grow in 2023. Net natural gas exports averaged 10.7 Bcf/d in 2021 and we forecast that they will increase to 13.4 Bcf/d in 2022 and 14.3 Bcf/d in 2023. A combination of both rising liquefied natural gas (LNG) exports and increases in pipeline exports to Mexico will drive this increase.

The United States exported an estimated 11.2 Bcf/d of LNG in December 2021, an increase of 0.7 Bcf/d over the previous record set in November. LNG export growth in 2021 was driven by rising natural gas demand and high LNG prices in Europe and Asia, reductions in global supply because of several unplanned outages at LNG export facilities worldwide, and cold weather in key LNG consumption markets, particularly in Asia.

Rising demand for LNG imports in Europe and Asia and the completion of planned projects that will bring new U.S. LNG export capacity online in 2022 supports growth in LNG exports in the forecast. We forecast that U.S. LNG exports will average 11.5 Bcf/d in 2022, up from 9.8 Bcf/d in 2021. In 2023, we forecast that U.S. LNG exports will average 12.1 Bcf/d. The completion of Train 6 at Sabine Pass, the optimization of operations at Sabine Pass and Corpus Christi LNG terminals, and the completion of a new LNG export facility—Calcasieu Pass LNG—are all expected

in 2022; these expansions will increase total U.S. LNG export capacity in 2022 to become the world's largest.

As of December 2021, existing U.S. LNG baseload liquefaction capacity was 10.1 Bcf/d, and peak capacity was 12.2 Bcf/d (including uprates to LNG production capacity at Sabine Pass and Corpus Christi). By the end of 2022, U.S. baseload capacity will increase to 11.4 Bcf/d, and peak capacity will increase to 13.8 Bcf/d, across seven LNG export facilities and 44 liquefaction trains, including 16 full-scale, 18 mid-scale, and 10 small-scale trains at Sabine Pass, Cove Point, Corpus Christi, Cameron, Elba Island, Freeport, and Calcasieu Pass.

Pipeline exports of U.S. natural gas have also increased as more infrastructure has been built to transport natural gas both to and within Mexico and as more natural gas-fired power plants come online in Mexico. Gross U.S. pipeline exports to Mexico and Canada in the forecast average 8.9 Bcf/d in 2022, up 0.4 Bcf/d (5.0%) from 2021, and 9.2 Bcf/d in 2023.

U.S. natural gas pipeline imports, almost all of which come from Canada, increased by 0.7 Bcf/d in 2021. We forecast natural gas pipeline imports to decrease 0.7 Bcf/d in 2022 because the United States will import less natural gas in response to increases in domestic production. Pipeline imports in the forecast remain relatively unchanged in 2023.

Natural gas inventories. U.S. working natural gas inventories ended December at 3,221 Bcf, 4% less than one year ago, but 3% more than the five-year (2016–20) average. We forecast close-to-average storage withdrawals in 1Q22, resulting in inventories that total 1,822 Bcf at the end of March, which would be 8% more than the five-year (2017–21) average for that time of year. For the 2022 April–October storage injection season, injections in our forecast do not keep pace with the five-year average rate. The lower-than-average injections reflect demand growth in the industrial sector and rising demand for U.S. exports. We expect that inventories will reach 3,668 Bcf at the end of October 2022, which would be within 1% of the five-year average for the end of October and nearly identical to inventory at the end of October 2021.

Natural gas prices. Henry Hub spot prices averaged $3.91/MMBtu in 2021. Natural gas prices were volatile throughout 2021. Early in 2021, volatility resulted from near record-high spot prices during the extreme winter weather in February. During the rest of the year, Henry Hub prices rose from $2.62/MMBtu in March to $5.51/MMBtu in October, before falling back to $3.76/MMBtu in December, amid a warmer-than-normal start to the heating season across most of the country.

We forecast the Henry Hub spot price will average $3.79/MMBtu in 2022. In 1Q22, we forecast the average Henry Hub spot price of natural gas will be $3.82/MMBtu. We expect prices will stay near current levels as natural gas inventory levels remain near the five-year average levels. Prices average $3.78/MMBtu for the remaining three quarters of 2022. We expect the Henry Hub spot price of natural gas to average $3.63/MMBtu in 2023.

Although we expect natural prices to decline in 2022 and 2023 compared with 2021, prices in the forecast stay relatively high compared with recent years. This dynamic is partly the result of reductions in coal-fired electricity-generating capacity and ongoing constraints in the coal market, which make increases in coal generation (and associated decreases in natural gas generation) less sensitive to rising natural gas prices than they have been in recent years. In addition, natural gas price volatility could result from weather-related increases or decreases in demand and uncertainties about the way in which rising levels of natural gas exports could affect the U.S. market.

Coal

Coal production. U.S. coal production totaled 579 million short tons (MMst) in 2021, up 44 MMst (8%) from 2020. The 2021 increase primarily reflected more consumption of coal in the electric power sector amid an increase in natural gas spot prices, which made coal more economically competitive relative to natural gas for electricity generation dispatch.

In 2022, we expect U.S. coal production to increase by 33 MMst (6%) to 612 MMst. Our forecast coal production increases by 27 MMst (8%) in the Western Region, 3 MMst (3%) in the Interior Region, and 2 MMst (2%) in Appalachia.

In 2023, we expect coal production to increase by 8 MMst (1%) to 619 MMst. Coal production rises by 8 MMst (2%) in the Western Region and by 3 MMst (3%) in the Interior Region. Forecast production declines by 2 MMst (1%) in Appalachia.

Despite less demand from the electric power sector, we expect coal production will grow in 2022 and 2023. The expected increased production reflects demand to replenish depleted coal stocks. Electric power sector inventories saw significant draws in 2021, and we expect stocks to increase by the end of 2023. In our forecast, inventories reach 85 MMst at the end of 2022 and 91 MMst at the end of 2023. In addition, we expect rising demand for coking coal—used for steelmaking—both domestically and for export.

Much of the decrease in coal mine capacity that occurred in 2020 appears to be permanent. Coal producers have experienced labor and capital shortages, which we expect will continue to limit supply in the forecast. Despite these limitations, we forecast more coal production in 2022 and 2023 than in 2021 as utilization at existing mines rises.

Coal consumption. In this forecast, we expect the retirement of approximately 19 gigawatts (GW) of coal-fired power plant capacity through 2023, a decline of 9%. As a result, we forecast electric power sector demand for coal will decrease by 14 MMst in 2022 and by 2 MMst in 2023. Rising natural gas prices led to increased demand for coal-fired power generation in 2H21. We expect that natural gas prices will remain relatively high compared with past years, keeping coal consumption in the electric power sector above 2020 levels but below 2021 levels. The expected decline in electric power sector consumption leads to a decline in overall coal consumption in

our forecast. We forecast total U.S. coal consumption for all sectors to decrease by 11 MMst (2%) in 2022 to 534 MMst and by a further 3 MMst (<1%) in 2023 to 532 MMst.

Coal is an essential component of the steel-making process. Demand for coal to make steel increases by 16% in 2022 and by 3% in 2023, particularly for infrastructure-related materials. As a result, we expect demand for coking coal to rise by more than 3 MMst from 2021 to 2023, offsetting some of the decline in electric power sector coal consumption.

Coal trade. Annual U.S. coal exports increased by an estimated 26% in 2021 to reach 87 MMst. Metallurgical coal exports were 47 MMst in 2021, 12% more than the previous year, and steam coal exports were 40 MMst, 47% more than in 2020.

A majority of the 25 leading U.S. coal export destinations increased their imports of U.S. coal in 2021 through October, which is our most recent data. The ongoing trade dispute between Australia and China has continued to increase opportunities for swing coal suppliers, such as the United States, to gain market share and increase overall exports of coal. Between January and October 2021, China imported almost 11 MMst of U.S. coal, more than in the previous four years combined. Metallurgical coal accounts for a large share of China's imports, representing about 90% of China's imports of U.S. coal in 2021.

We expect U.S. coal exports will rise by 1 MMst in 2022 and by 3 MMst in 2023. The increase reflects our assumption that the seaborne coal market in 2022 and 2023 will experience slightly higher demand for U.S. coal. Metallurgical coal will drive the increase in coal exports. We assume global steel production, which increased moderately 2021, will grow further during the forecast period and increase U.S. metallurgical coal exports to 50 MMst in 2022 and 55 MMst in 2023. Forecast U.S. steam coal exports total 38 MMst in 2022 and 37 MMst in 2023, largely unchanged from 2021.

Coal prices. The delivered coal price to U.S. electricity generators averaged an estimated $1.98/MMBtu in 2021. Coal prices increased throughout the year as a result of coal market constraints, averaging $1.92/MMBtu in 1H21 and $2.03/MMBtu in 2H21. We forecast that coal prices will fall to $1.94/MMBtu in 2022 and to $1.81/MMBtu in 2023.

Electricity

Electricity consumption. We forecast that consumption of electricity in the United States, including retail sales and direct use of electricity, will increase by 0.6% in 2022 and 1.4% in 2023. Preliminary data indicate that electricity consumption grew by 2.0% in 2021, and year-over-year growth was fastest in the first half of last year when the economy began to return to pre-pandemic patterns.

Year-to-year changes in residential electricity consumption are most related to changes in temperature, often measured using heating degree days (HDDs) and cooling degree days (CDDs). In 2021, retail sales of electricity to the residential sector grew by 1.2%. Most of this

growth last year occurred in 1Q21 when residential electricity consumption grew by 11% from the same quarter in 2020 in response to colder weather. Part of this increased residential consumption during the first quarter may also have reflected changing patterns of electricity use as more people work from home compared with the months in 1Q20 before the pandemic. Residential electricity sales during the last three quarters of 2021 averaged about 1.8% less than the same period in 2020.

In 2022, our forecast include 6.5% more HDDs for the United States than last year, with most of that increase occurring in 4Q22 compared to a mild start to this winter. The increase is less in the southern area of the country where heating with electricity is more prevalent. Cooler temperatures during the summer months of 2022 throughout most of the country (6.4% fewer CDDs) than in 2021 would lead to less use of air-conditioning. The effect of cooler forecast summer temperatures offsets the effect of a colder forecasted 4Q22, leading to an overall 2.2% decline in annual residential retail sales of electricity in our forecast during 2022. We expect residential electricity sales to grow by 2.1% in 2023.

The colder winter weather early in 2021 led to more electricity consumption in the commercial sector, but economic activity and growth in private-sector jobs were still limited at that time. The number of people employed during 1Q21 was 5.6% lower than during the same period in 2020; however, employment during the last three quarters of 2021 returned to an average of 5.8% year-over-year growth. As a result, retail sales of electricity to the commercial sector grew by an estimated 2.7% in 2021. For 2022, we forecast commercial sector electricity use to grow by 1.7%, reflecting the effect of continued economic growth offset somewhat by expected milder summer temperatures this year. We expect commercial sector electricity consumption to grow by 0.4% in 2023.

The U.S. industrial production index for electricity-intensive industries increased by 5.9% in 2021 after declining by 6.4% in 2020. This increase helped to raise U.S. retail electricity sales to the industrial sector by an estimated 2.9% last year. We expect the electricity-weighted industrial production index to grow by 4.1% and 2.5% in 2022 and 2023, respectively, leading to forecast growth in U.S. industrial sector electricity use of 2.8% in 2022 and 1.7% in 2023.

Electricity generation. Electricity generation by the U.S. electric power sector grew by an estimated 2.9% in 2021 after having fallen 2.9% in 2020, which was the largest decline in generation since 2009. We expect the U.S. electric power sector will generate about the same amount of electricity in 2022 as in 2021. Total electric power sector generation in the forecast grows by 1.3% in 2023.

Up until 2021, U.S. coal-fired electricity generation had fallen every year since 2014. However, we estimate that coal generation in 2021 grew by 17%. Some of this increase was a result of the overall increase in U.S. electricity demand last year after the pandemic-related decline in 2020, but most of the increase in coal generation last year was in response to natural gas prices that have been much higher than in past years. We estimate that the cost of natural gas delivered to

U.S. electric generators in 2021 averaged $4.88/MMBtu, twice the average cost in 2020. Higher fuel costs also contributed to an estimated 3% decline in U.S. natural gas generation in 2021.

We expect the delivered cost of natural gas for electricity generation will fall to an average of $4.10/MMBtu in 2022. However, that price remains higher than the average price in recent years. Despite a forecast of lower fuel costs, U.S. natural gas generation is likely to decline in 2022 as rapidly growing renewable energy sources produce more generation. We forecast the share of total U.S. generation from natural gas will average 35% in 2022, down from 37% in 2021. The decline in natural gas generation is especially pronounced in Texas, where a large amount of solar and wind capacity is scheduled to come online.

Lower natural gas prices also tend to discourage generation from coal, and we forecast the U.S. coal generation share to average 22% in 2022, which is slightly below last year. This forecast decline in coal generation is largest in the Northeast and western areas of the country.

We expect the share of generation from renewable sources will increase from 20% in 2021 to 23% in 2022 and to 24% in 2023. We expect most of the increase in renewables generation will come from new solar and wind capacity expansions in the electric power sector. We forecast that hydropower will fuel about 7% of generation in both 2022 and 2023. In 2021, the drought affecting the West restrained electricity generation by hydropower. U.S. hydropower generation contributed about 6% of the total in 2021, which is the lowest share since 2015. In the forecast, the share of total generation for renewables other than hydropower, which was 13% in 2021, rises to 16% in 2022 and to 17% in 2023.

In April 2021, New York's Indian Point nuclear power plant retired. This retirement contributed to the reduction in the nuclear share of U.S. total generation from 21% in 2020 to 20% last year. The Palisades nuclear power plant in Michigan is scheduled to retire in the summer of 2022. However, we expect the amount of U.S. nuclear generation will remain relatively steady in the forecast as two reactors at the Vogtle plant in Georgia are scheduled to come online in 2022 and 2023.

Over the next two years, our forecast of the U.S. electricity generating capacity from renewable sources continues to grow. Growth in wind capacity begins to moderate, but growth in solar capacity remains strong. Since 2019, more non-hydropower renewables capacity has been added to the U.S. generation fleet than natural gas capacity. This trend continues during the forecast period; operators report 29 gigawatts (GW) of planned utility-scale solar and wind capacity additions in 2022 and 28 GW in 2023. Preliminary data indicate that operators plan to add 5 GW of battery storage capacity in 2022 and 5 GW in 2023, annual increases of 84% in 2022 and 47% in 2023. Most planned battery storage additions will be paired with solar capacity.

We forecast that in 2022 additions of utility-scale solar capacity in GW will exceed wind additions for the first time. We expect that 21 GW of solar photovoltaic (PV) capacity will be

added by the electric power sector in 2022. We forecast an additional 25 GW for 2023. We forecast small-scale solar PV capacity will increase by about 5 GW in 2022 and by a similar amount in 2023. Residential PV accounts for 70% of this additional small-scale solar PV capacity for 2022 and 64% for 2023.

Preliminary data indicate that solar PV capacity additions continued in 2021 despite tariff and supply chain issues. Forecast solar capacity growth reflects various state and federal policies to support renewable energy. We expect growth to continue over the forecast period, supported by the solar investment tax credit (ITC) under the Consolidated Appropriations Act. Under the ITC, projects that start in 2022 are eligible for a 26% tax credit. The credit drops to 22% for projects that start in 2023. States such as Texas and Florida are set to add significant solar PV in the next two years.

Wind capacity in the electric power sector grows by 7 GW in 2022 in our forecast and by an additional 4 GW in 2023. This growth in forecast wind capacity for 2022 and 2023 marks a decline from the record of 17 GW added in 2021, which surpassed the previous record of 14 GW set in 2020. This slowing growth in wind can be partly attributed to the phasedown of the production tax credit (PTC) and supply chain issues. The PTC, which at the end of 2020 was extended through the 2021 calendar year, provides a 2.5 cents per kilowatthour (kWh) benefit for facilities entering service or securing 5% safe harboring (spending at least 5% of total estimated project cost). Producers of safe harbored projects are able to claim the PTC four years after they qualify.

Because wind capacity is often added at the end of the calendar year, increases in generation frequently lag behind increases in capacity for the year they occur in, and they are reflected in the generation for the next year.

Electricity prices. Wholesale electricity prices throughout the country trended higher in 2021, reflecting the increasing cost of natural gas for power generation. Last year, average annual wholesale prices ranged from $38 per megawatthour (MWh) in Florida to $190/MWh in Texas, though the Texas average would be $43/MWh excluding February when severely cold temperatures caused hourly prices to surge in excess of $6,000/MWh. We expect 2022 average wholesale electricity prices at trading hubs in the eastern part of the country will generally be higher than in 2021, with the exception of PJM, where we expect prices will be mostly unchanged. In the central and western areas, we expect wholesale prices will be lower at most hubs in 2021, with the exception of California where we expect slightly higher prices.

We forecast the U.S. retail electricity price for the residential sector will average 14.2 cents/kWh in 2022, which is 3.8% higher than the average retail price in 2021. Forecast residential prices remain relatively constant in 2023.

U.S. economic assumptions and energy-related carbon dioxide emissions

U.S. economy. We incorporate IHS Markit's macroeconomic forecast model for the United States with our own energy price forecasts to create STEO forecasts.

Based on this model, we estimate that U.S. real GDP grew by 5.7% in 2021. In 2022, U.S. real GDP will grow by 4.3% and by 2.8% in 2023. In comparison, real U.S. GDP fell by 3.4% in 2020. Total industrial production mirrors this pattern. Following a decline of 7.2% in 2020, we estimate it grew by 5.6% in 2021 and will increase by 4.6% in 2022 and 2.8% in 2023. The unemployment rate fell to an estimated 4.2% in December 2021 and our forecast assumes it will fall to an average 3.6% in 2022 and to 3.4% in 2023. This follows an unemployment rate of 8.1% in 2020. Nonfarm payroll employment increased by a total of 3.9 million persons in 2021 (2.7%), and our forecast assumes it will rise by 5.6 million in 2022 (3.8%) and 2.4 million in 2023 (1.6%). Price levels were notably elevated in 2021 when the Consumer Price Index (CPI) rose 4.6%. However, CPI growth in our forecast slows to 3.4% in 2022 and to 2.1% in 2023.

Energy-related carbon dioxide emissions. Energy-related carbon dioxide (CO_2) emissions rose by 6.2% in 2021 relative to 2020, and we estimate that they will rise by 1.8% in 2022 and by 0.5% in 2023. Energy-related CO_2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix. Forecast petroleum-related CO_2 emissions increase by 4.8% in 2022 and by 1.1% in 2023 as economic and mobility activity return to pre-pandemic patterns. We forecast a decrease in coal CO_2 emissions and a modest increase in natural gas CO_2 emissions over the next two years. We forecast CO_2 emissions from coal to fall by 3.0% in 2022 and by 0.3% in 2023 as coal-fired electricity generation is displaced, primarily by renewable sources. We expect CO_2 emissions from natural gas to rise by 0.7% in 2022 and by 0.1% in 2023 as demand for space heating rises.

Notable forecast changes

- For more information, see the detailed table of forecast changes.

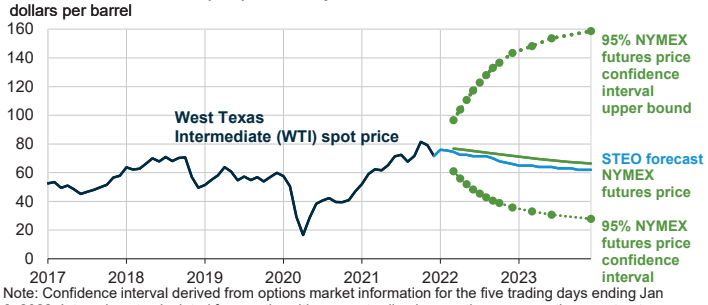
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

January 11, 2022

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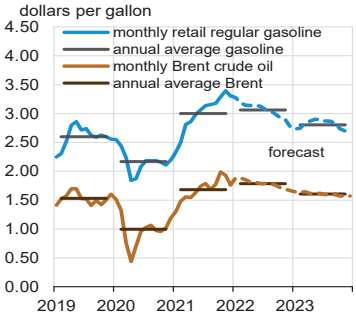
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



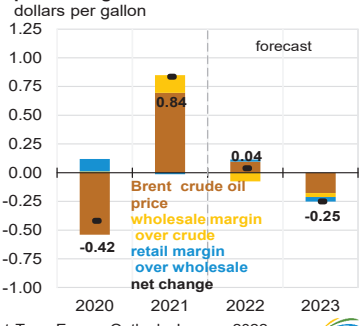
Note: Confidence interval derived from options market information for the five trading days ending Jan 6, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

U.S. gasoline and crude oil prices
dollars per gallon



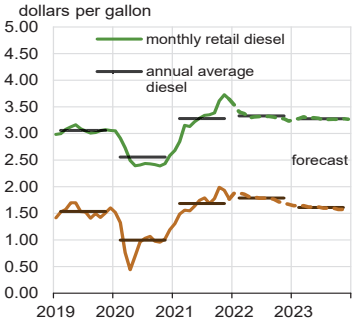
Components of annual gasoline price changes
dollars per gallon



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022, and Refinitiv an LSEG Business

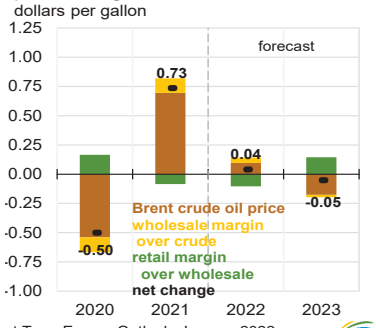
U.S. diesel and crude oil prices

dollars per gallon



Components of annual diesel prices changes

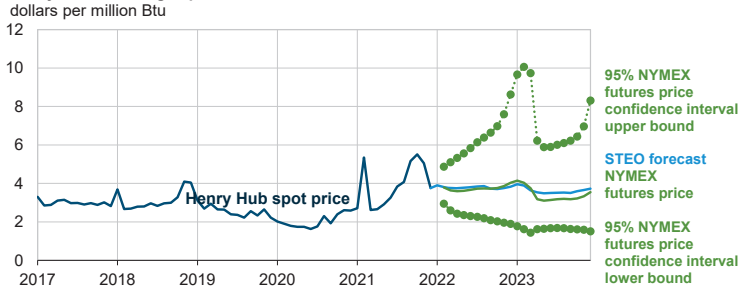
dollars per gallon



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

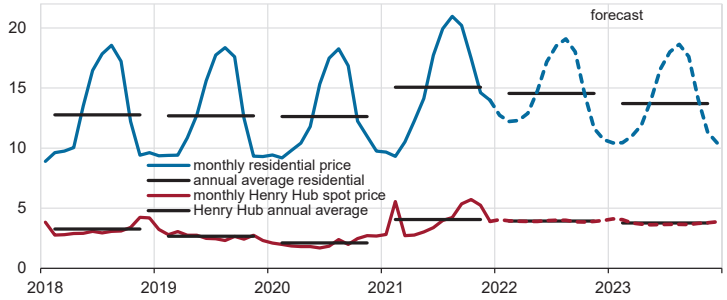


Note: Confidence interval derived from options market information for the five trading days ending Jan 6, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

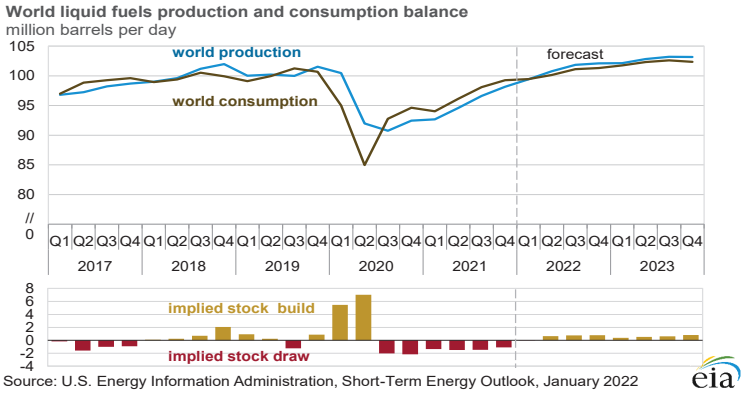
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022, CME Group, and Refinitiv an LSEG Business

U.S. natural gas prices

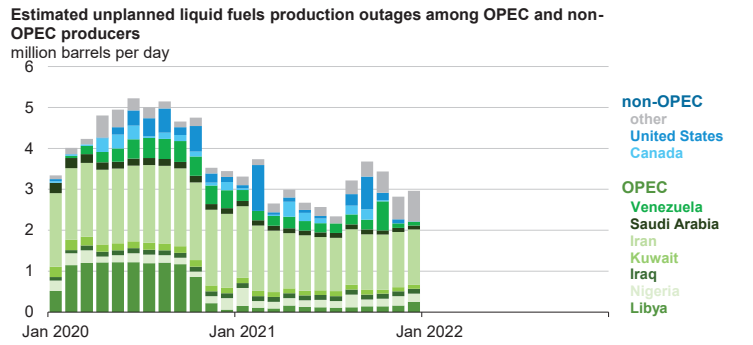
dollars per thousand cubic feet



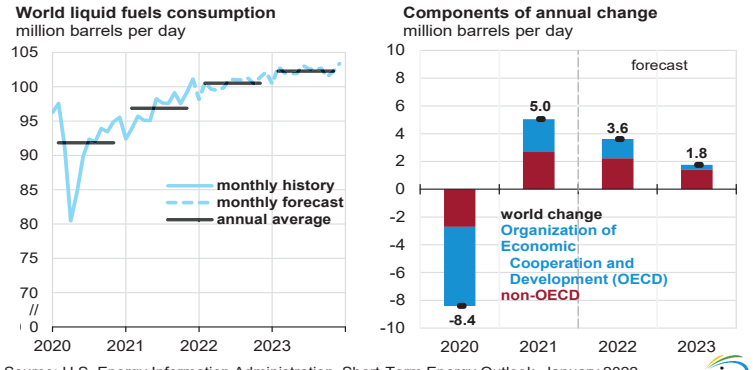
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022, and Refinitiv an LSEG Business



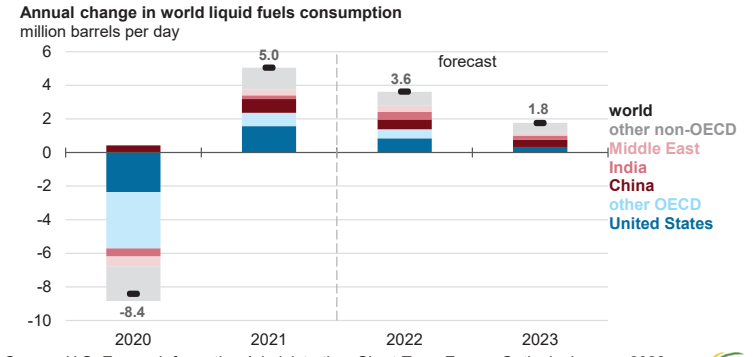
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



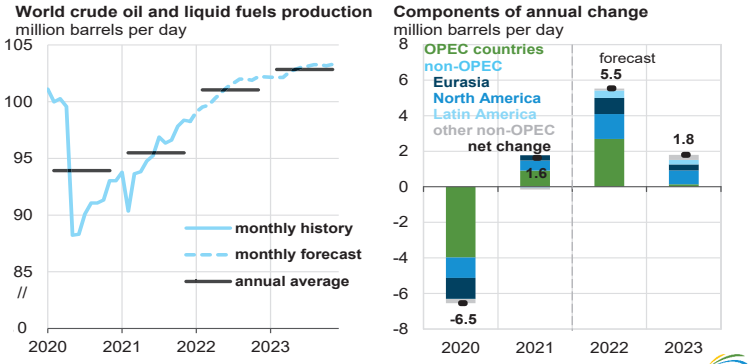
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



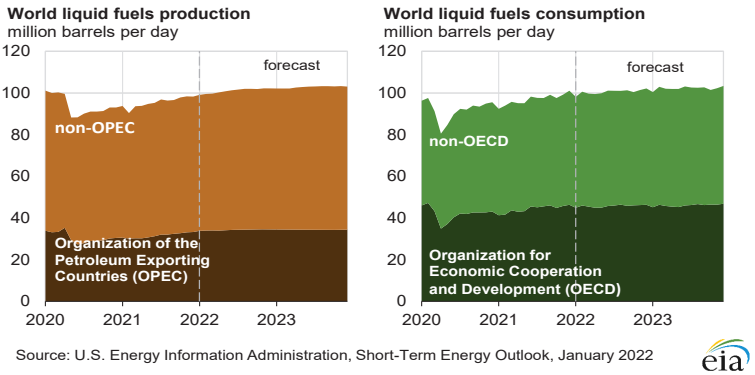
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

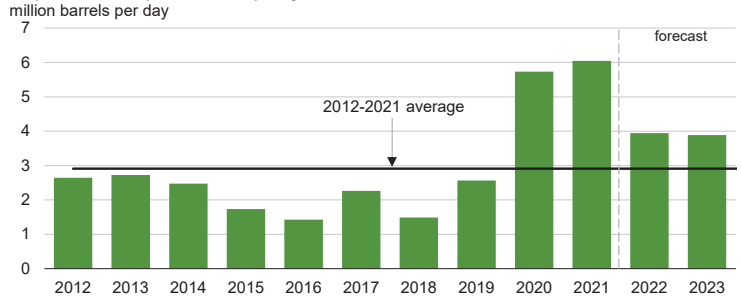


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



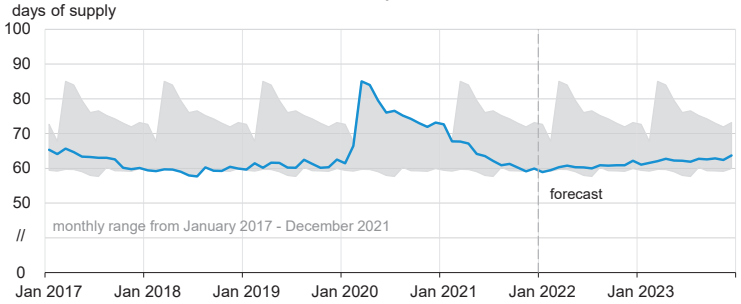
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



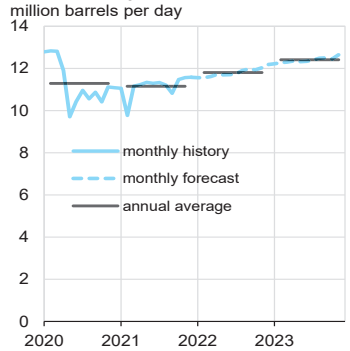
Note: Black line represents 2012-2021 average (2.9 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

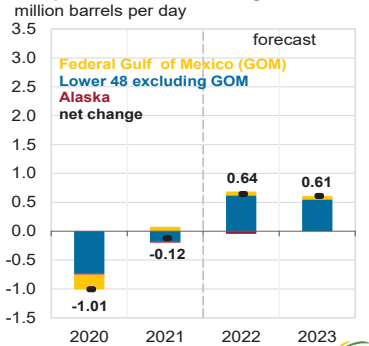


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

U.S. crude oil production
million barrels per day

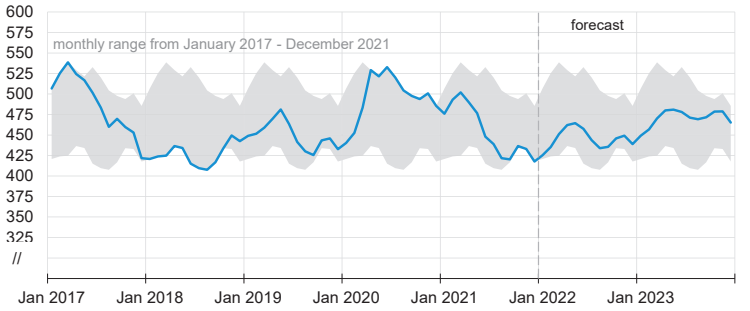


Components of annual change
million barrels per day



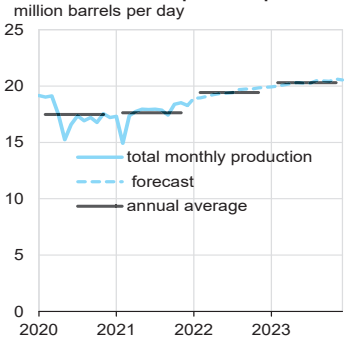
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

U.S. commercial crude oil inventories
million barrels

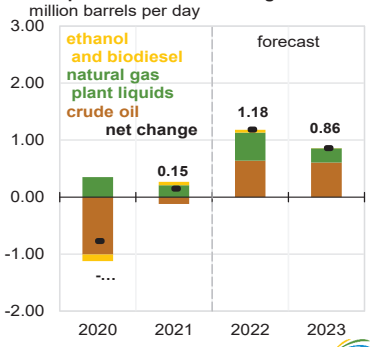


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

U.S. crude oil and liquid fuels production
million barrels per day

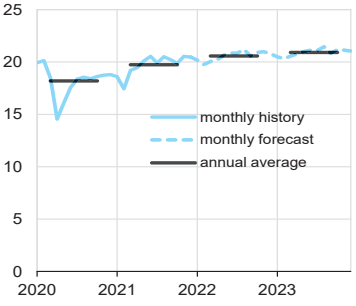


Components of annual change
million barrels per day

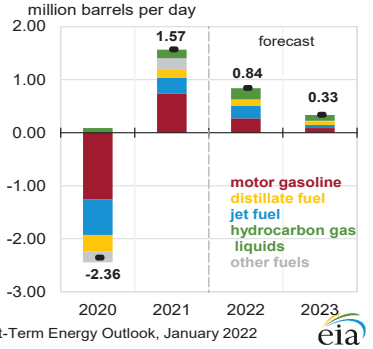


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January

U.S. liquid fuels product supplied (consumption)
million barrels per day

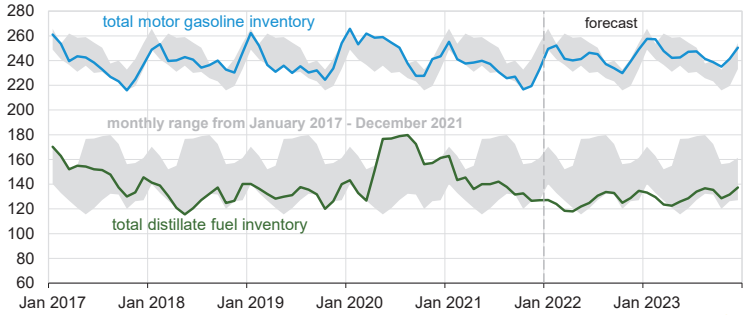


Components of annual change
million barrels per day



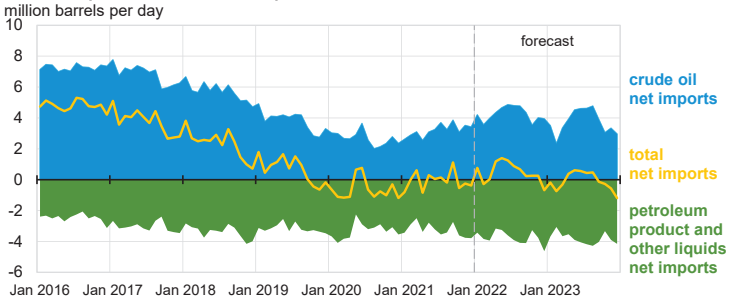
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

U.S. gasoline and distillate inventories
million barrels



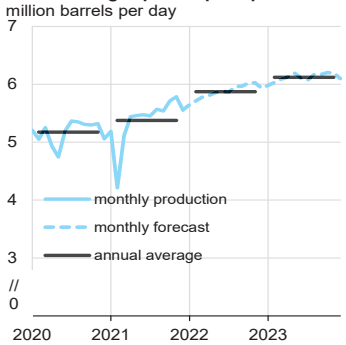
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

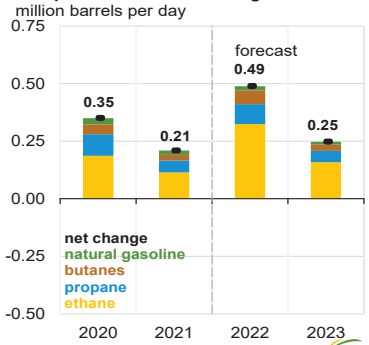


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

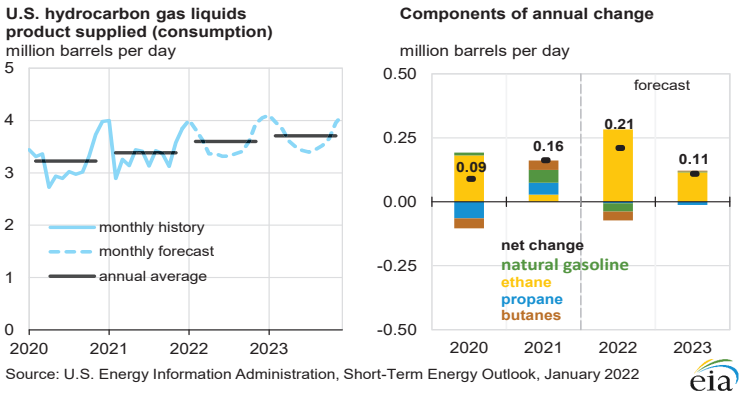
U.S. natural gas plant liquids production
million barrels per day



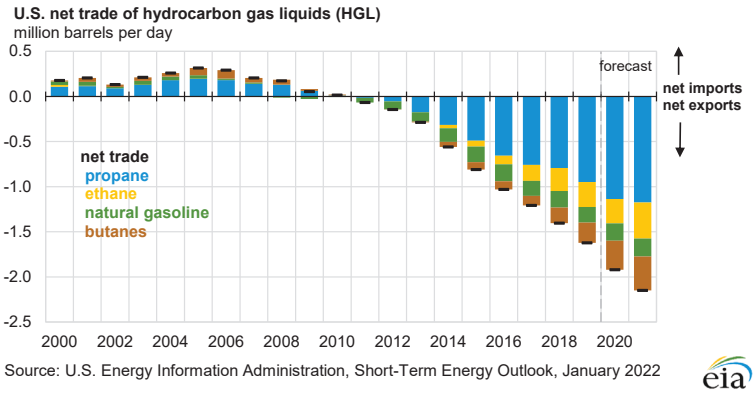
Components of annual change
million barrels per day



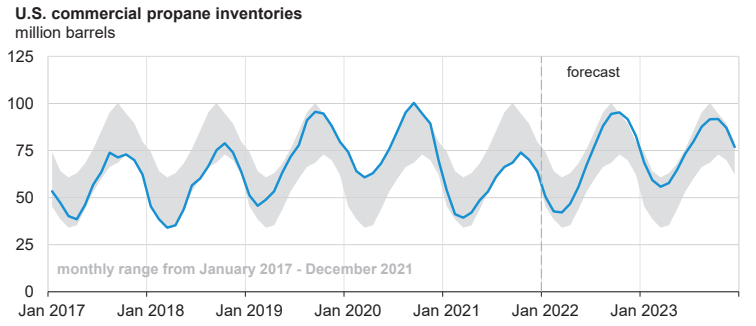
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



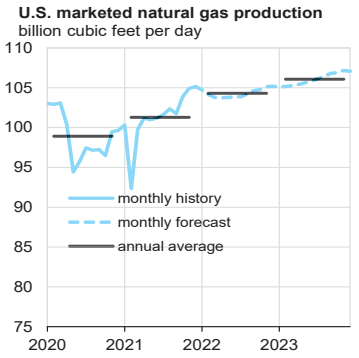
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

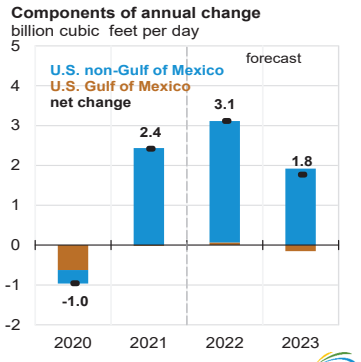


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

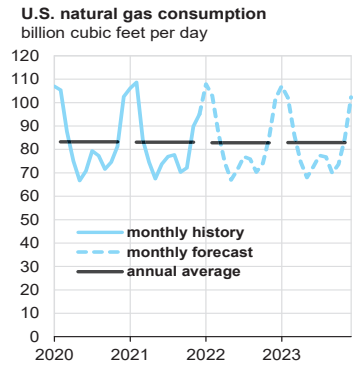


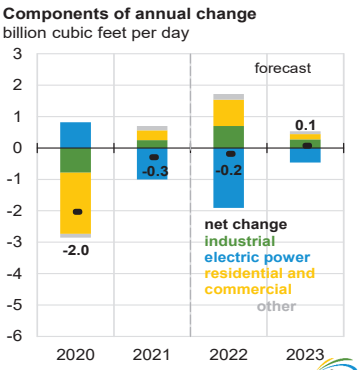
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



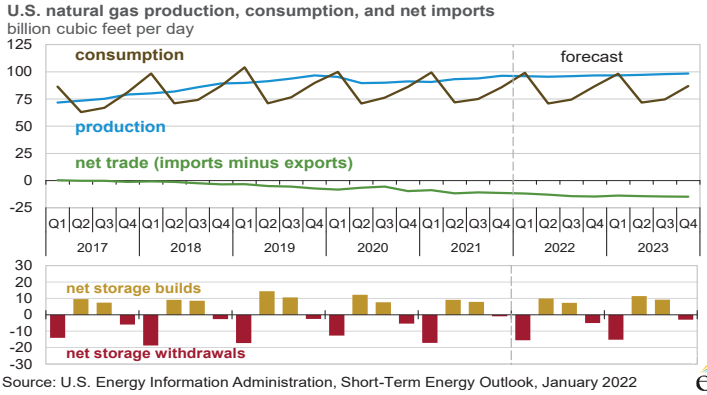


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



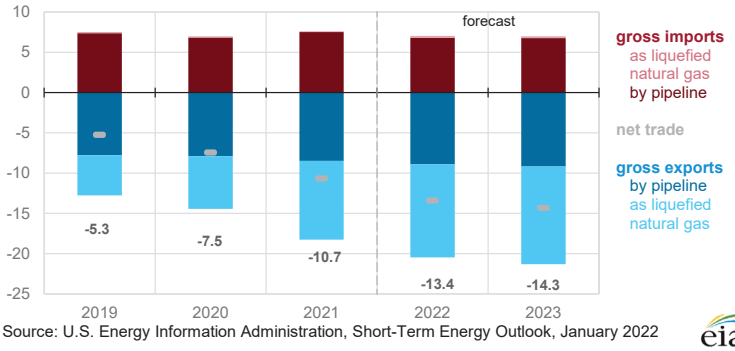


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



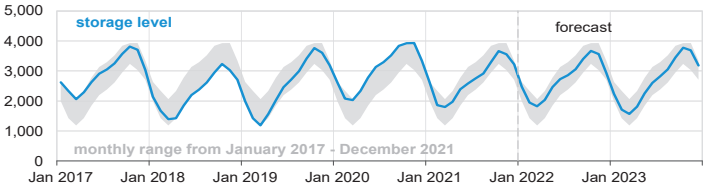
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

U.S. annual natural gas trade
billion cubic feet per day

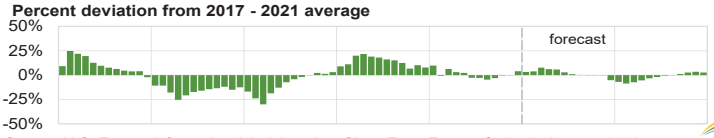


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

U.S. working natural gas in storage
billion cubic feet

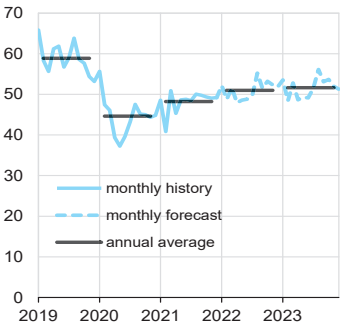


Percent deviation from 2017 - 2021 average

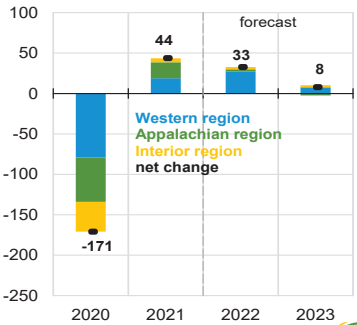


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

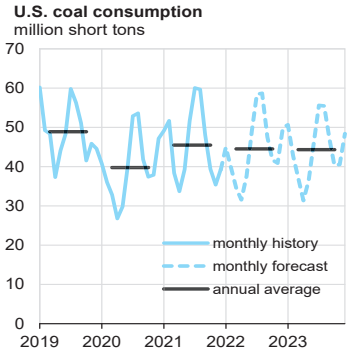
U.S. coal production
million short tons

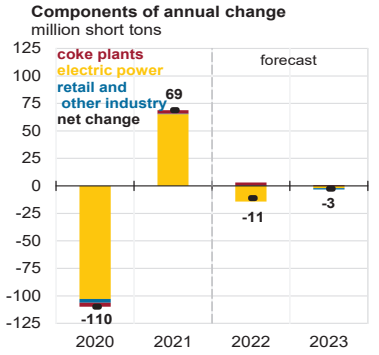


Components of annual change
million short tons

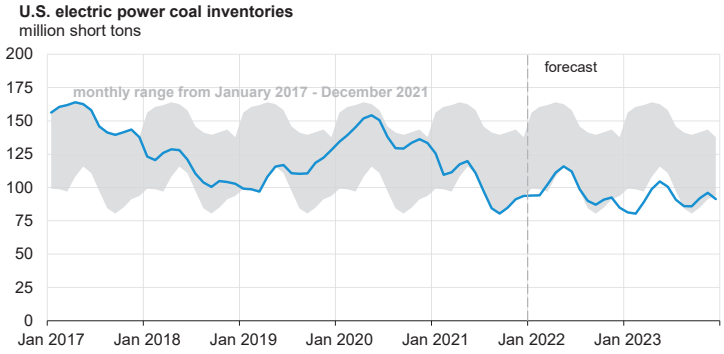


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

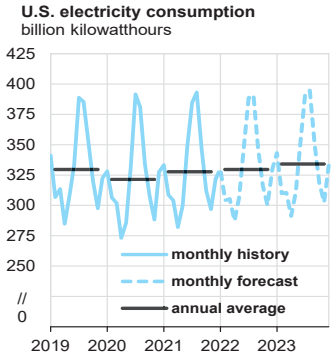


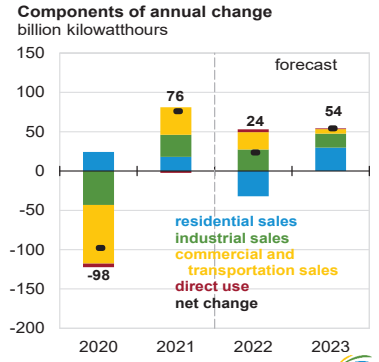


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

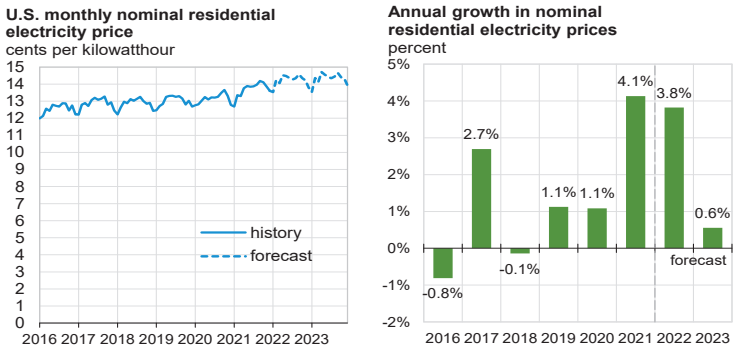


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

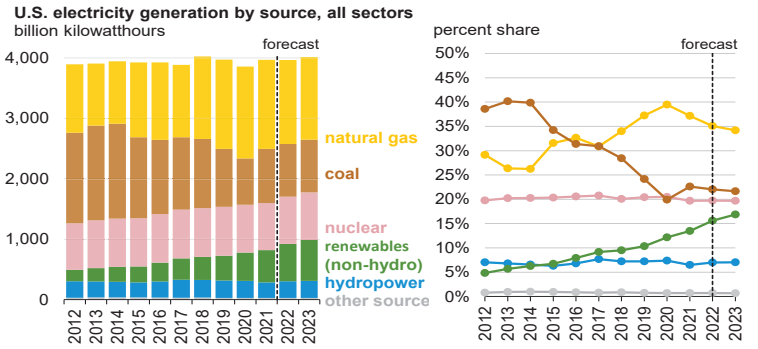




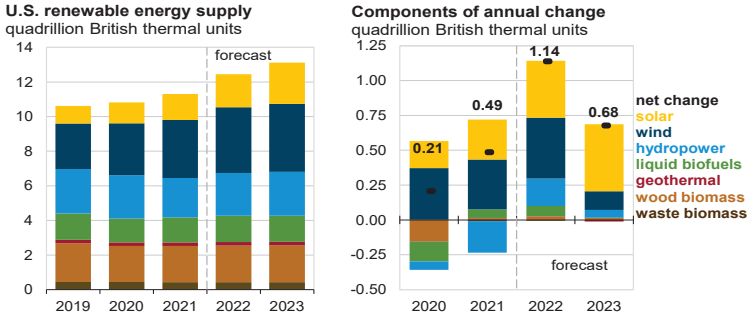
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

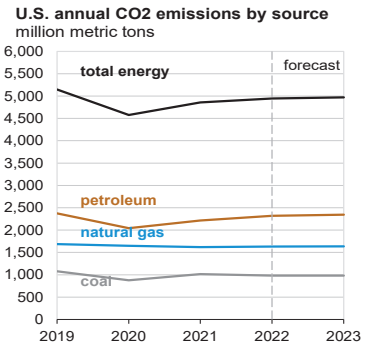


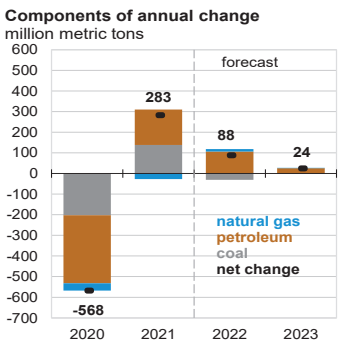
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



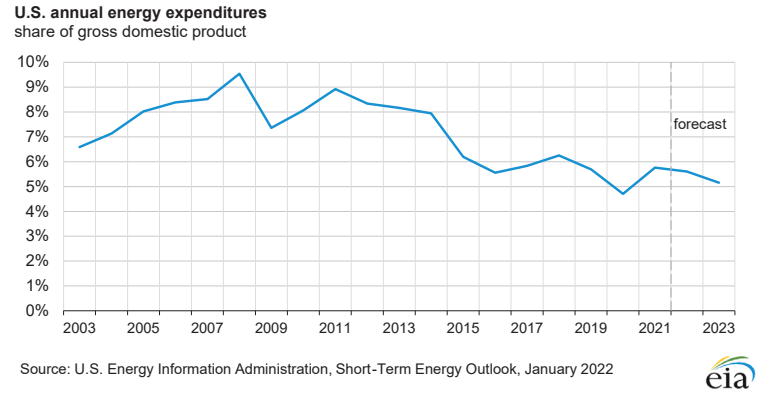
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

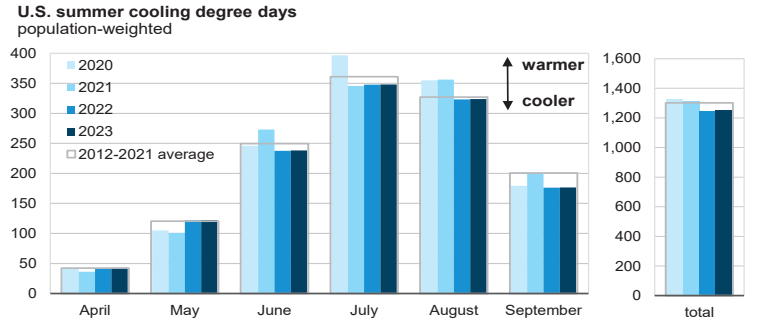




Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

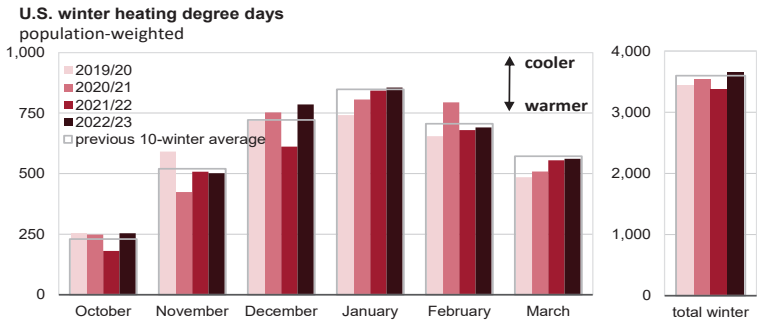


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

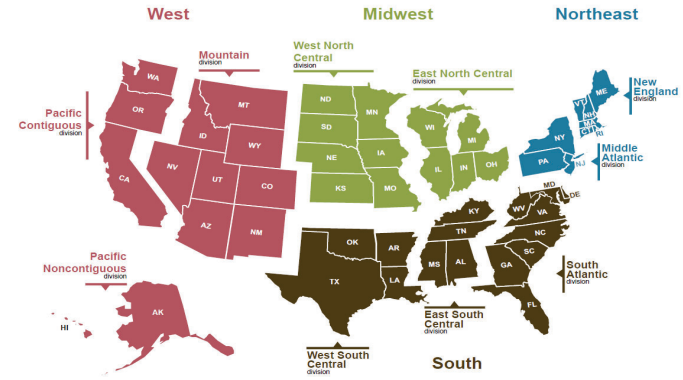


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2022

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.12**	**11.54**	*11.58*	*11.70*	*11.88*	*12.05*	*12.26*	*12.33*	*12.46*	*12.58*	**11.16**	*11.80*	*12.41*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.89**	**96.33**	*95.94*	*95.55*	*95.96*	*96.69*	*96.71*	*97.13*	*97.89*	*98.45*	**93.51**	*96.04*	*97.55*
Coal Production															
(million short tons)	**140**	**143**	**148**	**148**	*152*	*145*	*156*	*157*	*155*	*147*	*161*	*157*	**579**	*612*	*619*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.30**	*20.01*	*20.58*	*20.88*	*20.89*	*20.46*	*20.97*	*21.14*	*21.11*	**19.75**	*20.59*	*20.92*
Natural Gas															
(billion cubic feet per day)	**99.40**	**71.92**	**75.08**	**85.68**	*99.05*	*70.91*	*74.44*	*86.91*	*98.25*	*71.70*	*74.73*	*86.88*	**82.96**	*82.77*	*82.84*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	*119*	*118*	*165*	*132*	*130*	*114*	*158*	*129*	**545**	*534*	*532*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.23**	**10.12**	*10.44*	*10.37*	*12.25*	*10.28*	*10.71*	*10.50*	*12.36*	*10.37*	**10.77**	*10.84*	*10.99*
Renewables (c)															
(quadrillion Btu)	**2.91**	**3.11**	**2.90**	**3.07**	*3.24*	*3.51*	*3.20*	*3.22*	*3.40*	*3.70*	*3.39*	*3.37*	**12.00**	*13.16*	*13.85*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.03**	**23.14**	**24.51**	**23.97**	*25.26*	*23.36*	*24.70*	*25.10*	*25.75*	*23.68*	*24.95*	*25.34*	**96.65**	*98.42*	*99.71*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	*75.29*	*72.15*	*71.01*	*66.98*	*65.00*	*64.00*	*63.00*	*62.00*	**68.21**	*71.32*	*63.50*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	*3.82*	*3.78*	*3.81*	*3.77*	*3.83*	*3.51*	*3.52*	*3.66*	**3.91**	*3.79*	*3.63*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.03**	*2.03*	*2.03*	*1.88*	*1.88*	*1.81*	*1.82*	*1.81*	*1.80*	**1.98**	*1.94*	*1.81*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,469**	**19,803**	*19,983*	*20,182*	*20,378*	*20,524*	*20,649*	*20,769*	*20,896*	*21,030*	**19,424**	*20,266*	*20,836*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	*4.9*	*4.2*	*4.7*	*3.6*	*3.3*	*2.9*	*2.5*	*2.5*	**5.7**	*4.3*	*2.8*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.2**	**120.8**	*121.7*	*122.3*	*122.9*	*123.5*	*124.2*	*124.9*	*125.5*	*126.2*	**118.3**	*122.6*	*125.2*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.4**	*5.1*	*4.1*	*3.1*	*2.2*	*2.0*	*2.1*	*2.1*	*2.2*	**4.0**	*3.6*	*2.1*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,644**	**15,392**	*15,368*	*15,495*	*15,634*	*15,713*	*15,802*	*15,909*	*16,037*	*16,159*	**16,015**	*15,553*	*15,977*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**-0.3**	*-10.7*	*-2.0*	*-0.1*	*2.1*	*2.8*	*2.7*	*2.6*	*2.8*	**2.2**	*-2.9*	*2.7*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**100.0**	**101.1**	*102.5*	*103.6*	*105.1*	*106.4*	*107.3*	*108.0*	*108.5*	*109.1*	**99.3**	*104.4*	*108.2*
Percent change from prior year	**-0.2**	**17.2**	**6.1**	**4.6**	*5.3*	*4.9*	*5.2*	*5.2*	*4.7*	*4.2*	*3.2*	*2.6*	**6.6**	*5.1*	*3.7*
Weather															
U.S. Heating Degree-Days	**2,109**	**472**	**51**	**1,301**	*2,077*	*490*	*77*	*1,542*	*2,107*	*490*	*77*	*1,540*	**3,933**	*4,187*	*4,214*
U.S. Cooling Degree-Days	**49**	**410**	**901**	**124**	*48*	*402*	*847*	*93*	*42*	*403*	*849*	*93*	**1,485**	*1,390*	*1,387*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	*75.29*	*72.15*	*71.01*	*66.98*	*65.00*	*64.00*	*63.00*	*62.00*	**68.21**	*71.32*	*63.50*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	*78.63*	*75.65*	*74.67*	*70.98*	*69.00*	*68.00*	*67.00*	*66.00*	**70.89**	*74.95*	*67.50*
U.S. Imported Average	**55.27**	**64.80**	**68.33**	**74.17**	*72.93*	*69.65*	*68.47*	*64.21*	*62.25*	*61.25*	*60.25*	*59.25*	**66.15**	*68.84*	*60.74*
U.S. Refiner Average Acquisition Cost	**57.12**	**66.11**	**70.27**	**75.81**	*73.92*	*70.66*	*69.45*	*65.22*	*63.25*	*62.25*	*61.25*	*60.25*	**67.67**	*69.75*	*61.72*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**239**	*231*	*228*	*222*	*200*	*197*	*206*	*204*	*188*	**218**	*220*	*199*
Diesel Fuel	**178**	**204**	**219**	**241**	*233*	*227*	*225*	*217*	*207*	*206*	*205*	*204*	**211**	*225*	*206*
Fuel Oil	**162**	**180**	**197**	**222**	*222*	*209*	*203*	*205*	*203*	*192*	*187*	*196*	**197**	*211*	*198*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**223**	*224*	*221*	*221*	*216*	*207*	*204*	*202*	*203*	**194**	*220*	*204*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**195**	*175*	*171*	*166*	*157*	*165*	*162*	*161*	*159*	**185**	*167*	*162*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	*320*	*314*	*304*	*287*	*277*	*289*	*286*	*270*	**302**	*306*	*281*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	*332*	*326*	*317*	*300*	*291*	*303*	*300*	*284*	**311**	*319*	*295*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	*344*	*331*	*331*	*326*	*329*	*329*	*326*	*327*	**329**	*333*	*327*
Heating Oil	**272**	**283**	**297**	**344**	*342*	*317*	*299*	*301*	*301*	*285*	*275*	*285*	**300**	*322*	*291*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	*3.97*	*3.92*	*3.96*	*3.91*	*3.98*	*3.65*	*3.65*	*3.80*	**4.06**	*3.94*	*3.77*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	*3.82*	*3.78*	*3.81*	*3.77*	*3.83*	*3.51*	*3.52*	*3.66*	**3.91**	*3.79*	*3.63*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.10**	**6.75**	*5.67*	*4.98*	*4.89*	*5.10*	*5.42*	*4.69*	*4.53*	*4.90*	**5.46**	*5.18*	*4.90*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.15**	*9.31*	*9.37*	*9.64*	*8.58*	*8.41*	*8.81*	*9.14*	*8.24*	**8.78**	*9.14*	*8.50*
Residential Sector	**9.75**	**13.87**	**20.36**	**14.72**	*12.44*	*14.27*	*18.51*	*11.62*	*10.59*	*13.45*	*18.05*	*11.31*	**12.54**	*12.88*	*11.78*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.03**	*2.03*	*2.03*	*1.88*	*1.88*	*1.81*	*1.82*	*1.81*	*1.80*	**1.98**	*1.94*	*1.81*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.03**	*4.38*	*4.00*	*3.98*	*4.12*	*4.40*	*3.68*	*3.66*	*4.02*	**4.88**	*4.10*	*3.91*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**14.88**	*14.37*	*14.81*	*13.83*	*13.30*	*13.05*	*13.44*	*12.60*	*12.26*	**13.36**	*14.05*	*12.81*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.33**	*18.03*	*17.54*	*17.31*	*16.88*	*16.20*	*15.97*	*15.86*	*15.90*	**15.57**	*17.47*	*15.99*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.63**	**7.13**	*7.11*	*7.03*	*7.59*	*6.99*	*7.09*	*7.00*	*7.54*	*6.96*	**7.20**	*7.19*	*7.16*
Commercial Sector	**10.99**	**11.07**	**11.64**	**11.23**	*11.56*	*11.57*	*11.98*	*11.51*	*11.78*	*11.70*	*12.12*	*11.58*	**11.26**	*11.67*	*11.81*
Residential Sector	**13.10**	**13.84**	**14.00**	**13.85**	*13.93*	*14.45*	*14.38*	*14.10*	*13.98*	*14.55*	*14.47*	*14.19*	**13.70**	*14.22*	*14.30*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.08**	**30.75**	**31.12**	**32.13**	*32.17*	*32.34*	*32.49*	*33.02*	*33.35*	*33.51*	*33.53*	*33.84*	**31.02**	*32.51*	*33.56*
U.S. (50 States)	**17.62**	**19.05**	**18.93**	**19.66**	*19.57*	*19.86*	*20.16*	*20.42*	*20.55*	*20.76*	*20.89*	*21.04*	**18.82**	*20.01*	*20.81*
Canada	**5.62**	**5.37**	**5.55**	**5.78**	*5.81*	*5.79*	*5.81*	*5.84*	*5.86*	*5.83*	*5.85*	*5.88*	**5.58**	*5.81*	*5.85*
Mexico	**1.93**	**1.95**	**1.90**	**1.93**	*1.96*	*1.93*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.91*	*1.85*
Other OECD	**4.91**	**4.38**	**4.74**	**4.76**	*4.82*	*4.76*	*4.62*	*4.91*	*5.04*	*5.06*	*4.96*	*5.13*	**4.70**	*4.78*	*5.05*
Non-OECD	**62.59**	**63.86**	**65.49**	**66.03**	*67.26*	*68.44*	*69.37*	*69.08*	*68.79*	*69.32*	*69.68*	*69.33*	**64.51**	*68.55*	*69.28*
OPEC	**30.36**	**30.76**	**32.19**	**33.05**	*33.97*	*34.15*	*34.49*	*34.52*	*34.54*	*34.40*	*34.39*	*34.38*	**31.60**	*34.28*	*34.42*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.63**	*28.39*	*28.69*	*28.98*	*28.98*	*28.98*	*28.96*	*28.90*	*28.85*	**26.27**	*28.76*	*28.92*
Other Liquids (b)	**5.28**	**5.27**	**5.35**	**5.42**	*5.58*	*5.46*	*5.50*	*5.54*	*5.56*	*5.44*	*5.49*	*5.52*	**5.33**	*5.52*	*5.50*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	*14.36*	*14.54*	*14.74*	*14.90*	*14.97*	*14.90*	*14.94*	*15.05*	**13.70**	*14.64*	*14.96*
China	**4.99**	**5.03**	**5.01**	**4.97**	*4.99*	*5.02*	*5.02*	*5.06*	*5.04*	*5.07*	*5.06*	*5.10*	**5.00**	*5.02*	*5.07*
Other Non-OECD	**13.86**	**14.46**	**14.71**	**13.77**	*13.95*	*14.73*	*15.13*	*14.60*	*14.24*	*14.96*	*15.30*	*14.80*	**14.20**	*14.61*	*14.83*
Total World Production	**92.66**	**94.61**	**96.62**	**98.15**	*99.43*	*100.78*	*101.87*	*102.10*	*102.14*	*102.83*	*103.22*	*103.17*	**95.53**	*101.05*	*102.84*
Non-OPEC Production	**62.30**	**63.85**	**64.43**	**65.10**	*65.47*	*66.64*	*67.38*	*67.57*	*67.60*	*68.44*	*68.83*	*68.79*	**63.93**	*66.77*	*68.42*
Consumption (million barrels per day) (c)															
OECD	**42.25**	**43.94**	**45.61**	**45.66**	*45.46*	*45.23*	*46.10*	*46.22*	*45.76*	*45.59*	*46.39*	*46.58*	**44.38**	*45.76*	*46.08*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.30**	*20.01*	*20.58*	*20.88*	*20.89*	*20.46*	*20.97*	*21.14*	*21.11*	**19.75**	*20.59*	*20.92*
U.S. Territories	**0.15**	**0.14**	**0.14**	**0.14**	*0.16*	*0.14*	*0.15*	*0.15*	*0.14*	*0.13*	*0.13*	*0.14*	**0.14**	*0.15*	*0.14*
Canada	**2.12**	**2.16**	**2.38**	**2.40**	*2.33*	*2.28*	*2.40*	*2.38*	*2.38*	*2.33*	*2.43*	*2.41*	**2.27**	*2.35*	*2.39*
Europe	**11.91**	**12.61**	**13.83**	**13.45**	*13.14*	*13.23*	*13.52*	*13.17*	*13.04*	*13.19*	*13.59*	*13.36*	**12.96**	*13.26*	*13.30*
Japan	**3.73**	**3.08**	**3.18**	**3.33**	*3.69*	*3.01*	*3.13*	*3.45*	*3.60*	*2.99*	*3.09*	*3.41*	**3.33**	*3.32*	*3.27*
Other OECD	**5.89**	**5.91**	**5.86**	**6.05**	*6.14*	*5.99*	*6.03*	*6.18*	*6.14*	*5.98*	*6.00*	*6.15*	**5.93**	*6.09*	*6.07*
Non-OECD	**51.77**	**52.19**	**52.50**	**53.61**	*53.99*	*54.91*	*55.02*	*55.11*	*56.01*	*56.74*	*56.22*	*55.79*	**52.52**	*54.76*	*56.19*
Eurasia	**4.65**	**4.72**	**5.08**	**4.93**	*4.83*	*4.88*	*5.25*	*5.12*	*4.82*	*4.98*	*5.32*	*5.23*	**4.84**	*5.02*	*5.09*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	*0.76*	*0.77*	*0.77*	*0.78*	*0.76*	*0.78*	*0.78*	*0.79*	**0.75**	*0.77*	*0.78*
China	**15.26**	**15.46**	**14.98**	**15.33**	*15.80*	*15.95*	*15.67*	*15.93*	*16.68*	*16.58*	*15.94*	*15.86*	**15.26**	*15.84*	*16.26*
Other Asia	**13.60**	**13.15**	**13.01**	**13.92**	*14.23*	*14.32*	*13.91*	*14.29*	*14.99*	*14.96*	*14.36*	*14.67*	**13.42**	*14.19*	*14.74*
Other Non-OECD	**17.53**	**18.11**	**18.70**	**18.67**	*18.37*	*18.99*	*19.42*	*18.98*	*18.77*	*19.44*	*19.81*	*19.25*	**18.26**	*18.94*	*19.32*
Total World Consumption	**94.03**	**96.13**	**98.10**	**99.27**	*99.45*	*100.15*	*101.12*	*101.33*	*101.77*	*102.32*	*102.60*	*102.37*	**96.90**	*100.52*	*102.27*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.73**	*0.03*	*-0.78*	*-0.11*	*0.37*	*0.09*	*-0.53*	*-0.24*	*0.59*	**0.52**	*-0.12*	*-0.02*
Other OECD	**0.81**	**0.13**	**0.98**	**0.12**	*0.00*	*0.04*	*-0.20*	*-0.36*	*-0.14*	*0.01*	*-0.12*	*-0.44*	**0.51**	*-0.13*	*-0.17*
Other Stock Draws and Balance	**0.09**	**0.87**	**0.14**	**0.26**	*-0.01*	*0.10*	*-0.44*	*-0.78*	*-0.32*	*0.01*	*-0.26*	*-0.96*	**0.34**	*-0.29*	*-0.38*
Total Stock Draw	**1.36**	**1.52**	**1.49**	**1.11**	*0.02*	*-0.63*	*-0.75*	*-0.77*	*-0.37*	*-0.51*	*-0.61*	*-0.80*	**1.37**	*-0.54*	*-0.57*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,198**	*1,214*	*1,281*	*1,291*	*1,265*	*1,265*	*1,321*	*1,340*	*1,296*	**1,198**	*1,265*	*1,296*
OECD Commercial Inventory	**2,911**	**2,868**	**2,748**	**2,694**	*2,710*	*2,773*	*2,802*	*2,809*	*2,821*	*2,876*	*2,907*	*2,903*	**2,694**	*2,809*	*2,903*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.38**	**27.37**	*27.35*	*27.58*	*27.87*	*28.11*	*28.31*	*28.45*	*28.57*	*28.71*	**26.32**	*27.73*	*28.51*
Canada	**5.62**	**5.37**	**5.55**	**5.78**	*5.81*	*5.79*	*5.81*	*5.84*	*5.86*	*5.83*	*5.85*	*5.88*	**5.58**	*5.81*	*5.85*
Mexico	**1.93**	**1.95**	**1.90**	**1.93**	*1.96*	*1.93*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.91*	*1.85*
United States	**17.62**	**19.05**	**18.93**	**19.66**	*19.57*	*19.86*	*20.16*	*20.42*	*20.55*	*20.76*	*20.89*	*21.04*	**18.82**	*20.01*	*20.81*
Central and South America	**5.62**	**6.28**	**6.67**	**5.79**	*5.84*	*6.67*	*7.09*	*6.58*	*6.23*	*6.99*	*7.35*	*6.86*	**6.09**	*6.55*	*6.86*
Argentina	**0.65**	**0.69**	**0.73**	**0.73**	*0.73*	*0.74*	*0.77*	*0.77*	*0.77*	*0.78*	*0.81*	*0.82*	**0.70**	*0.75*	*0.80*
Brazil	**3.22**	**3.89**	**4.22**	**3.41**	*3.36*	*4.20*	*4.52*	*3.89*	*3.49*	*4.28*	*4.57*	*4.02*	**3.69**	*3.99*	*4.09*
Colombia	**0.77**	**0.74**	**0.76**	**0.77**	*0.80*	*0.71*	*0.74*	*0.77*	*0.72*	*0.64*	*0.66*	*0.69*	**0.76**	*0.76*	*0.68*
Ecuador	**0.51**	**0.50**	**0.49**	**0.42**	*0.47*	*0.53*	*0.53*	*0.53*	*0.54*	*0.56*	*0.58*	*0.60*	**0.48**	*0.51*	*0.57*
Other Central and S. America	**0.47**	**0.45**	**0.48**	**0.45**	*0.48*	*0.48*	*0.54*	*0.62*	*0.71*	*0.73*	*0.72*	*0.73*	**0.46**	*0.53*	*0.72*
Europe	**4.32**	**3.84**	**4.13**	**4.19**	*4.25*	*4.18*	*4.04*	*4.33*	*4.46*	*4.48*	*4.39*	*4.57*	**4.12**	*4.20*	*4.48*
Norway	**2.11**	**1.90**	**2.06**	**2.07**	*2.13*	*2.10*	*2.05*	*2.23*	*2.35*	*2.35*	*2.35*	*2.44*	**2.04**	*2.13*	*2.37*
United Kingdom	**1.06**	**0.81**	**0.93**	**0.99**	*0.99*	*0.97*	*0.87*	*0.98*	*1.00*	*1.01*	*0.92*	*0.99*	**0.95**	*0.95*	*0.98*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	*14.36*	*14.54*	*14.74*	*14.90*	*14.97*	*14.90*	*14.94*	*15.05*	**13.70**	*14.64*	*14.96*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	*0.73*	*0.74*	*0.74*	*0.74*	*0.72*	*0.71*	*0.70*	*0.72*	**0.72**	*0.74*	*0.71*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	*2.03*	*2.00*	*1.97*	*2.02*	*2.06*	*1.97*	*1.97*	*2.04*	**1.87**	*2.00*	*2.01*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	*11.25*	*11.45*	*11.67*	*11.79*	*11.81*	*11.86*	*11.90*	*11.93*	**10.78**	*11.54*	*11.87*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.24**	*0.23*	*0.23*	*0.23*	*0.23*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.23*	*0.24*
Other Eurasia	**0.10**	**0.10**	**0.10**	**0.11**	*0.12*	*0.13*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	**0.10**	*0.13*	*0.13*
Middle East	**3.15**	**3.18**	**3.21**	**3.12**	*3.18*	*3.17*	*3.17*	*3.17*	*3.20*	*3.20*	*3.20*	*3.19*	**3.17**	*3.17*	*3.20*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	*1.04*	*1.04*	*1.04*	*1.04*	*1.07*	*1.07*	*1.07*	*1.07*	**0.98**	*1.04*	*1.07*
Qatar	**1.89**	**1.91**	**1.92**	**1.83**	*1.85*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.89**	*1.86*	*1.86*
Asia and Oceania	**9.19**	**9.10**	**9.05**	**9.01**	*9.09*	*9.08*	*9.06*	*9.07*	*9.04*	*9.04*	*9.02*	*9.04*	**9.09**	*9.08*	*9.03*
Australia	**0.47**	**0.42**	**0.49**	**0.47**	*0.48*	*0.48*	*0.48*	*0.47*	*0.47*	*0.46*	*0.45*	*0.45*	**0.46**	*0.48*	*0.46*
China	**4.99**	**5.03**	**5.01**	**4.97**	*4.99*	*5.02*	*5.02*	*5.06*	*5.04*	*5.07*	*5.06*	*5.10*	**5.00**	*5.02*	*5.07*
India	**0.90**	**0.89**	**0.89**	**0.89**	*0.90*	*0.89*	*0.89*	*0.89*	*0.89*	*0.87*	*0.88*	*0.87*	**0.89**	*0.89*	*0.88*
Indonesia	**0.88**	**0.85**	**0.85**	**0.84**	*0.83*	*0.82*	*0.82*	*0.81*	*0.81*	*0.80*	*0.79*	*0.78*	**0.86**	*0.82*	*0.80*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	*0.62*	*0.62*	*0.61*	*0.60*	*0.60*	*0.59*	*0.59*	*0.58*	**0.61**	*0.61*	*0.59*
Vietnam	**0.21**	**0.21**	**0.20**	**0.19**	*0.18*	*0.17*	*0.17*	*0.16*	*0.16*	*0.15*	*0.15*	*0.15*	**0.20**	*0.17*	*0.15*
Africa	**1.48**	**1.47**	**1.40**	**1.39**	*1.41*	*1.41*	*1.41*	*1.41*	*1.38*	*1.38*	*1.37*	*1.36*	**1.44**	*1.41*	*1.37*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	*0.64*	*0.64*	*0.64*	*0.64*	*0.61*	*0.60*	*0.60*	*0.61*	**0.66**	*0.64*	*0.61*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	*0.18*	*0.18*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.18*	*0.19*
Total non-OPEC liquids	**62.30**	**63.85**	**64.43**	**65.10**	*65.47*	*66.64*	*67.38*	*67.57*	*67.60*	*68.44*	*68.83*	*68.79*	**63.93**	*66.77*	*68.42*
OPEC non-crude liquids	**5.28**	**5.27**	**5.35**	**5.42**	*5.58*	*5.46*	*5.50*	*5.54*	*5.56*	*5.44*	*5.49*	*5.52*	**5.33**	*5.52*	*5.50*
Non-OPEC + OPEC non-crude	**67.58**	**69.12**	**69.77**	**70.53**	*71.05*	*72.09*	*72.89*	*73.12*	*73.16*	*73.88*	*74.31*	*74.32*	**69.26**	*72.29*	*73.92*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.71**	-	-	-	-	-	-	-	-	**0.66**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.94**	-	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	-	-	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	-	-	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	-	-	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	-	-	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	-	-	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	-	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	-	-	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	-	-	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	-	-	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	-	-	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	-	-	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.65**	-	-	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.63**	*28.39*	*28.69*	*28.98*	*28.98*	*28.98*	*28.96*	*28.90*	*28.85*	**26.27**	*28.76*	*28.92*
Other Liquids (a)	**5.28**	**5.27**	**5.35**	**5.42**	*5.58*	*5.46*	*5.50*	*5.54*	*5.56*	*5.44*	*5.49*	*5.52*	**5.33**	*5.52*	*5.50*
Total OPEC Production	**30.36**	**30.76**	**32.19**	**33.05**	*33.97*	*34.15*	*34.49*	*34.52*	*34.54*	*34.40*	*34.39*	*34.38*	**31.60**	*34.28*	*34.42*
Crude Oil Production Capacity															
Middle East	**25.71**	**26.00**	**26.00**	**25.98**	*26.22*	*26.42*	*26.42*	*26.42*	*26.52*	*26.52*	*26.52*	*26.52*	**25.92**	*26.37*	*26.52*
Other	**6.42**	**6.36**	**6.37**	**6.42**	*6.39*	*6.35*	*6.31*	*6.30*	*6.31*	*6.31*	*6.28*	*6.25*	**6.39**	*6.34*	*6.29*
OPEC Total	**32.13**	**32.36**	**32.37**	**32.40**	*32.61*	*32.77*	*32.73*	*32.72*	*32.83*	*32.83*	*32.80*	*32.77*	**32.32**	*32.71*	*32.81*
Surplus Crude Oil Production Capacity															
Middle East	**6.16**	**6.02**	**4.71**	**4.03**	*3.90*	*3.83*	*3.55*	*3.55*	*3.65*	*3.65*	*3.65*	*3.65*	**5.22**	*3.71*	*3.65*
Other	**0.89**	**0.85**	**0.82**	**0.75**	*0.32*	*0.24*	*0.20*	*0.19*	*0.20*	*0.23*	*0.25*	*0.27*	**0.83**	*0.24*	*0.23*
OPEC Total	**7.05**	**6.86**	**5.53**	**4.77**	*4.22*	*4.08*	*3.75*	*3.74*	*3.85*	*3.88*	*3.90*	*3.92*	**6.05**	*3.95*	*3.88*
Unplanned OPEC Production Outages	**2.61**	**2.24**	**2.27**	**2.36**	-	-	-	-	-	-	-	-	**2.37**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.20**	**23.83**	**24.16**	**24.45**	*23.99*	*24.52*	*24.93*	*24.93*	*24.47*	*24.95*	*25.22*	*25.19*	**23.67**	*24.59*	*24.96*
Canada	**2.12**	**2.16**	**2.38**	**2.40**	*2.33*	*2.28*	*2.40*	*2.38*	*2.38*	*2.33*	*2.43*	*2.41*	**2.27**	*2.35*	*2.39*
Mexico	**1.62**	**1.63**	**1.56**	**1.74**	*1.64*	*1.65*	*1.64*	*1.65*	*1.62*	*1.64*	*1.64*	*1.65*	**1.64**	*1.65*	*1.64*
United States	**18.45**	**20.03**	**20.21**	**20.30**	*20.01*	*20.58*	*20.88*	*20.89*	*20.46*	*20.97*	*21.14*	*21.11*	**19.75**	*20.59*	*20.92*
Central and South America	**6.00**	**6.14**	**6.36**	**6.47**	*6.29*	*6.37*	*6.49*	*6.50*	*6.35*	*6.49*	*6.59*	*6.53*	**6.24**	*6.41*	*6.49*
Brazil	**2.78**	**2.89**	**3.01**	**3.11**	*2.92*	*2.93*	*3.01*	*3.02*	*2.92*	*2.98*	*3.05*	*3.03*	**2.95**	*2.97*	*3.00*
Europe	**12.65**	**13.36**	**14.57**	**14.20**	*13.90*	*13.99*	*14.30*	*13.95*	*13.80*	*13.97*	*14.37*	*14.14*	**13.70**	*14.03*	*14.07*
Eurasia	**4.65**	**4.72**	**5.08**	**4.93**	*4.83*	*4.88*	*5.25*	*5.12*	*4.82*	*4.98*	*5.32*	*5.23*	**4.84**	*5.02*	*5.09*
Russia	**3.41**	**3.51**	**3.80**	**3.65**	*3.54*	*3.62*	*3.92*	*3.78*	*3.57*	*3.66*	*3.97*	*3.82*	**3.59**	*3.72*	*3.76*
Middle East	**7.81**	**8.22**	**8.74**	**8.40**	*8.29*	*8.77*	*9.18*	*8.52*	*8.46*	*8.98*	*9.34*	*8.66*	**8.29**	*8.69*	*8.86*
Asia and Oceania	**36.37**	**35.48**	**34.93**	**36.35**	*37.68*	*37.08*	*36.53*	*37.68*	*39.26*	*38.33*	*37.22*	*37.92*	**35.78**	*37.24*	*38.17*
China	**15.26**	**15.46**	**14.98**	**15.33**	*15.80*	*15.95*	*15.67*	*15.93*	*16.68*	*16.58*	*15.94*	*15.86*	**15.26**	*15.84*	*16.26*
Japan	**3.73**	**3.08**	**3.18**	**3.33**	*3.69*	*3.01*	*3.13*	*3.45*	*3.60*	*2.99*	*3.09*	*3.41*	**3.33**	*3.32*	*3.27*
India	**4.94**	**4.37**	**4.41**	**4.93**	*5.16*	*5.22*	*4.87*	*5.17*	*5.41*	*5.48*	*5.11*	*5.44*	**4.66**	*5.10*	*5.36*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	*4.47*	*4.52*	*4.45*	*4.64*	*4.61*	*4.63*	*4.54*	*4.71*	**4.37**	*4.52*	*4.62*
Total OECD Liquid Fuels Consumption	**42.25**	**43.94**	**45.61**	**45.66**	*45.46*	*45.23*	*46.10*	*46.22*	*45.76*	*45.59*	*46.39*	*46.58*	**44.38**	*45.76*	*46.08*
Total non-OECD Liquid Fuels Consumption	**51.77**	**52.19**	**52.50**	**53.61**	*53.99*	*54.91*	*55.02*	*55.11*	*56.01*	*56.74*	*56.22*	*55.79*	**52.52**	*54.76*	*56.19*
Total World Liquid Fuels Consumption	**94.03**	**96.13**	**98.10**	**99.27**	*99.45*	*100.15*	*101.12*	*101.33*	*101.77*	*102.32*	*102.60*	*102.37*	**96.90**	*100.52*	*102.27*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.4**	**117.3**	**118.6**	**120.2**	*121.4*	*122.8*	*124.2*	*125.4*	*126.5*	*127.7*	*128.9*	*130.0*	**118.1**	*123.4*	*128.3*
Percent change from prior year	**3.3**	**11.4**	**4.8**	**4.2**	*4.3*	*4.7*	*4.7*	*4.3*	*4.2*	*4.0*	*3.8*	*3.7*	**5.8**	*4.5*	*3.9*
OECD Index, 2015 = 100													**109.2**	*113.5*	*116.3*
Percent change from prior year													**5.2**	*3.9*	*2.5*
Non-OECD Index, 2015 = 100													**123.3**	*129.3*	*135.8*
Percent change from prior year													**6.2**	*4.9*	*5.0*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.8**	**106.3**	**107.7**	**109.9**	*110.4*	*110.2*	*109.8*	*109.3*	*109.0*	*108.7*	*108.4*	*108.1*	**107.7**	*109.9*	*108.6*
Percent change from prior year	**-4.4**	**-8.3**	**-3.4**	**1.4**	*3.4*	*3.6*	*1.9*	*-0.5*	*-1.3*	*-1.3*	*-1.3*	*-1.1*	**-3.7**	*2.1*	*-1.2*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

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Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.12**	**11.54**	*11.58*	*11.70*	*11.88*	*12.05*	*12.26*	*12.33*	*12.46*	*12.58*	**11.16**	*11.80*	*12.41*
Alaska	**0.46**	**0.44**	**0.41**	**0.43**	*0.42*	*0.35*	*0.38*	*0.40*	*0.41*	*0.35*	*0.39*	*0.41*	**0.43**	*0.39*	*0.39*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.81**	*1.80*	*1.78*	*1.78*	*1.78*	*1.89*	*1.88*	*1.81*	*1.80*	**1.72**	*1.79*	*1.84*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.23**	**9.30**	*9.36*	*9.56*	*9.72*	*9.87*	*9.96*	*10.10*	*10.26*	*10.38*	**9.01**	*9.63*	*10.18*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.33**	*3.92*	*4.62*	*4.64*	*3.83*	*3.08*	*4.35*	*4.43*	*3.12*	**3.19**	*4.25*	*3.75*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	*0.21*	*-0.04*	*0.00*	*0.08*	*0.09*	*0.09*	*-0.02*	*0.11*	**0.12**	*0.06*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**0.03**	*-0.37*	*-0.07*	*0.24*	*-0.04*	*-0.35*	*-0.09*	*0.07*	*0.07*	**0.19**	*-0.06*	*-0.07*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.55**	**0.30**	*0.22*	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.48**	*0.21*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.47**	*15.55*	*16.43*	*16.98*	*16.08*	*15.31*	*16.90*	*17.16*	*16.05*	**15.14**	*16.26*	*16.36*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.05**	*1.08*	*1.05*	*1.08*	*1.10*	*1.04*	*1.02*	*1.03*	*1.02*	**0.96**	*1.08*	*1.03*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.68**	*5.71*	*5.85*	*5.93*	*5.99*	*6.03*	*6.14*	*6.14*	*6.17*	**5.38**	*5.87*	*6.12*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.17**	*1.07*	*1.12*	*1.14*	*1.14*	*1.09*	*1.12*	*1.12*	*1.13*	**1.11**	*1.12*	*1.12*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.05**	*0.99*	*1.02*	*1.03*	*1.04*	*1.00*	*1.03*	*1.02*	*1.03*	**0.98**	*1.02*	*1.02*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.22**	*0.13*	*0.14*	*0.14*	*0.14*	*0.13*	*0.14*	*0.14*	*0.14*	**0.21**	*0.14*	*0.14*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.72**	*-3.74*	*-3.34*	*-4.04*	*-3.89*	*-3.48*	*-3.83*	*-4.17*	*-3.80*	**-3.26**	*-3.75*	*-3.82*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	*-2.28*	*-2.30*	*-2.32*	*-2.25*	*-2.43*	*-2.47*	*-2.54*	*-2.41*	**-2.15**	*-2.29*	*-2.46*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.20**	*0.20*	*0.25*	*0.30*	*0.20*	*0.19*	*0.22*	*0.29*	*0.21*	**0.20**	*0.24*	*0.23*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.11**	*-0.05*	*-0.04*	*-0.03*	*-0.03*	*-0.04*	*-0.03*	*-0.01*	*-0.02*	**-0.06**	*-0.04*	*-0.03*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.39**	*0.53*	*0.72*	*0.40*	*0.21*	*0.38*	*0.60*	*0.38*	*0.41*	**0.60**	*0.46*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.81**	*-0.91*	*-0.48*	*-0.54*	*-0.58*	*-0.53*	*-0.49*	*-0.50*	*-0.71*	**-0.70**	*-0.63*	*-0.56*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	*0.05*	*0.03*	*0.00*	*0.06*	*0.00*	*0.03*	*0.05*	*0.11*	**0.05**	*0.04*	*0.05*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.86**	*-0.75*	*-1.05*	*-1.23*	*-0.97*	*-0.65*	*-1.12*	*-1.23*	*-0.93*	**-0.80**	*-1.00*	*-0.98*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.14**	*0.02*	*0.07*	*0.02*	*0.09*	*0.00*	*0.02*	*-0.02*	*0.09*	**0.09**	*0.05*	*0.02*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.49**	*-0.54*	*-0.56*	*-0.63*	*-0.60*	*-0.40*	*-0.59*	*-0.59*	*-0.53*	**-0.49**	*-0.58*	*-0.53*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.44**	*0.19*	*-0.66*	*-0.35*	*0.32*	*0.35*	*-0.53*	*-0.28*	*0.41*	**0.21**	*-0.13*	*-0.01*
Total Supply	**18.43**	**20.03**	**20.21**	**20.30**	*20.01*	*20.58*	*20.88*	*20.89*	*20.46*	*20.97*	*21.14*	*21.11*	**19.75**	*20.59*	*20.92*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.52**	*3.82*	*3.35*	*3.37*	*3.86*	*3.97*	*3.51*	*3.45*	*3.91*	**3.39**	*3.60*	*3.71*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**0.05**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.02**	*0.00*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.94**	*8.49*	*9.30*	*9.39*	*9.04*	*8.67*	*9.38*	*9.44*	*9.09*	**8.79**	*9.06*	*9.15*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	*0.87*	*0.96*	*0.96*	*0.95*	*0.89*	*0.97*	*0.97*	*0.95*	**0.91**	*0.93*	*0.95*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	*1.47*	*1.59*	*1.67*	*1.69*	*1.53*	*1.68*	*1.73*	*1.72*	**1.37**	*1.61*	*1.67*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.01**	*4.15*	*4.03*	*3.98*	*4.12*	*4.21*	*4.09*	*4.05*	*4.17*	**3.95**	*4.07*	*4.13*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.40**	*0.28*	*0.27*	*0.31*	*0.30*	*0.26*	*0.28*	*0.29*	*0.31*	**0.31**	*0.29*	*0.28*
Other Oils (g)	**1.63**	**2.08**	**2.10**	**1.89**	*1.79*	*2.04*	*2.16*	*1.88*	*1.82*	*2.07*	*2.19*	*1.92*	**1.93**	*1.97*	*2.00*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.30**	*20.01*	*20.58*	*20.88*	*20.89*	*20.46*	*20.97*	*21.14*	*21.11*	**19.75**	*20.59*	*20.92*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.39**	*0.18*	*1.28*	*0.60*	*-0.06*	*-0.40*	*0.52*	*0.26*	*-0.68*	**-0.07**	*0.50*	*-0.07*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**417.6**	*451.0*	*457.5*	*435.5*	*438.9*	*470.3*	*478.1*	*471.7*	*465.1*	**417.6**	*438.9*	*465.1*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**196.1**	*154.3*	*205.6*	*251.4*	*211.3*	*171.4*	*218.7*	*255.5*	*211.5*	**196.1**	*211.3*	*211.5*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**82.8**	*93.3*	*91.1*	*90.0*	*83.2*	*93.3*	*91.0*	*89.9*	*82.8*	**82.8**	*83.2*	*82.8*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**26.5**	*28.5*	*27.3*	*27.0*	*27.3*	*29.3*	*28.1*	*27.8*	*28.1*	**26.5**	*27.3*	*28.1*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**233.2**	*241.4*	*246.3*	*233.8*	*249.0*	*247.7*	*247.1*	*238.6*	*250.5*	**233.2**	*249.0*	*250.5*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.1**	*18.1*	*21.6*	*23.5*	*26.8*	*23.4*	*24.4*	*25.4*	*27.9*	**17.1**	*26.8*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**216.1**	*223.3*	*224.8*	*210.4*	*222.1*	*224.3*	*222.7*	*213.2*	*222.6*	**216.1**	*222.1*	*222.6*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.0**	*35.6*	*37.3*	*40.4*	*37.8*	*37.4*	*38.5*	*41.2*	*38.1*	**35.0**	*37.8*	*38.1*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**127.1**	*118.5*	*124.8*	*132.9*	*134.6*	*123.6*	*128.6*	*135.5*	*137.3*	**127.1**	*134.6*	*137.3*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.9**	*28.4*	*30.4*	*29.4*	*30.8*	*30.4*	*31.2*	*29.9*	*31.2*	**25.9**	*30.8*	*31.2*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**53.8**	*62.7*	*60.4*	*51.0*	*52.4*	*61.5*	*59.4*	*50.1*	*51.4*	**53.8**	*52.4*	*51.4*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1197.9**	*1213.8*	*1280.8*	*1291.3*	*1265.1*	*1264.9*	*1320.7*	*1340.1*	*1295.9*	**1197.9**	*1265.1*	*1295.9*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.6**	*574.9*	*578.5*	*578.5*	*570.7*	*562.9*	*555.1*	*557.3*	*546.8*	**593.6**	*570.7*	*546.8*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) For net imports and inventories “Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.28**	*2.32*	*2.44*	*2.49*	*2.56*	*2.59*	*2.64*	*2.58*	*2.63*	**2.13**	*2.45*	*2.61*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	*1.82*	*1.81*	*1.82*	*1.83*	*1.84*	*1.86*	*1.88*	*1.89*	**1.73**	*1.82*	*1.87*
Butanes	**0.85**	**0.92**	**0.93**	**0.97**	*0.97*	*0.97*	*0.98*	*0.98*	*1.00*	*1.00*	*1.01*	*1.01*	**0.92**	*0.98*	*1.00*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.62**	*0.60*	*0.62*	*0.65*	*0.62*	*0.60*	*0.64*	*0.66*	*0.63*	**0.60**	*0.62*	*0.63*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.30**	*0.30*	*0.30*	*0.31*	*0.30*	*0.29*	*0.29*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.28**	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.18**	*-0.08*	*0.26*	*0.19*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.04**	*0.04*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.46**	*-0.43*	*-0.44*	*-0.45*	*-0.46*	*-0.47*	*-0.46*	*-0.46*	*-0.47*	**-0.40**	*-0.45*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.18**	*-1.19*	*-1.20*	*-1.22*	*-1.22*	*-1.29*	*-1.33*	*-1.39*	*-1.34*	**-1.17**	*-1.21*	*-1.34*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.37**	*-0.42*	*-0.46*	*-0.45*	*-0.40*	*-0.46*	*-0.48*	*-0.48*	*-0.41*	**-0.38**	*-0.43*	*-0.46*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	*-0.24*	*-0.19*	*-0.20*	*-0.18*	*-0.22*	*-0.20*	*-0.21*	*-0.19*	**-0.20**	*-0.20*	*-0.21*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.51**	*0.40*	*0.29*	*0.32*	*0.50*	*0.38*	*0.29*	*0.32*	*0.51*	**0.37**	*0.38*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.18**	*0.16*	*0.18*	*0.18*	*0.18*	*0.17*	*0.18*	*0.18*	*0.18*	**0.15**	*0.18*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.81**	*1.98*	*1.99*	*2.05*	*2.09*	*2.14*	*2.14*	*2.14*	*2.16*	**1.75**	*2.03*	*2.14*
Propane	**1.09**	**0.65**	**0.66**	**0.98**	*1.15*	*0.62*	*0.59*	*1.03*	*1.13*	*0.62*	*0.58*	*0.99*	**0.84**	*0.84*	*0.83*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.29**	*0.30*	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.30**	*0.30*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.19**	*0.18*	*0.22*	*0.20*	*0.20*	*0.18*	*0.23*	*0.20*	*0.20*	**0.24**	*0.20*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.24**	*0.21*	*0.22*	*0.23*	*0.24*	*0.22*	*0.22*	*0.24*	*0.25*	**0.26**	*0.23*	*0.23*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**67.5**	*58.5*	*57.9*	*57.0*	*59.6*	*58.0*	*62.4*	*62.0*	*64.1*	**66.3**	*58.2*	*61.6*
Propane	**39.3**	**53.2**	**68.6**	**64.0**	*42.2*	*67.4*	*94.5*	*82.8*	*55.8*	*73.3*	*91.6*	*76.9*	**64.0**	*82.8*	*76.9*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	*1.3*	*1.6*	*1.9*	*1.8*	*1.6*	*1.8*	*2.0*	*1.9*	**1.4**	*1.8*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**43.6**	*33.5*	*57.9*	*75.7*	*46.6*	*36.7*	*61.0*	*78.9*	*49.6*	**43.6**	*46.6*	*49.6*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**22.5**	*19.9*	*21.0*	*21.8*	*21.0*	*18.4*	*19.6*	*20.4*	*19.7*	**22.5**	*21.0*	*19.7*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.47**	*15.55*	*16.43*	*16.98*	*16.08*	*15.31*	*16.90*	*17.16*	*16.05*	**15.14**	*16.26*	*16.36*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.68**	*0.56*	*0.47*	*0.51*	*0.69*	*0.56*	*0.47*	*0.51*	*0.69*	**0.53**	*0.56*	*0.56*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.16**	*1.11*	*1.22*	*1.23*	*1.22*	*1.14*	*1.23*	*1.24*	*1.22*	**1.15**	*1.20*	*1.21*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.23**	*0.08*	*0.28*	*0.31*	*0.27*	*0.08*	*0.28*	*0.31*	*0.27*	**0.17**	*0.24*	*0.24*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.26**	*0.56*	*0.81*	*0.65*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.67**	*0.58*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.80**	*17.87*	*19.20*	*19.69*	*18.56*	*17.56*	*19.60*	*19.81*	*18.76*	**17.66**	*18.83*	*18.94*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.05**	*1.08*	*1.05*	*1.08*	*1.10*	*1.04*	*1.02*	*1.03*	*1.02*	**0.96**	*1.08*	*1.03*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.41**	*0.50*	*0.85*	*0.78*	*0.39*	*0.50*	*0.85*	*0.78*	*0.39*	**0.61**	*0.63*	*0.63*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.61**	*9.50*	*9.89*	*10.02*	*9.82*	*9.25*	*9.95*	*10.01*	*10.00*	**9.50**	*9.81*	*9.81*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.41**	*1.43*	*1.58*	*1.70*	*1.60*	*1.53*	*1.66*	*1.71*	*1.57*	**1.31**	*1.58*	*1.62*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.82**	*4.81*	*5.14*	*5.29*	*5.11*	*4.74*	*5.26*	*5.35*	*5.12*	**4.65**	*5.09*	*5.12*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.23**	*0.28*	*0.23*	*0.28*	*0.23*	*0.26*	*0.26*	*0.29*	*0.23*	**0.21**	*0.25*	*0.26*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.36**	*2.44*	*2.57*	*2.69*	*2.49*	*2.32*	*2.63*	*2.69*	*2.46*	**2.33**	*2.55*	*2.53*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.85**	*18.96*	*20.25*	*20.77*	*19.66*	*18.60*	*20.62*	*20.83*	*19.78*	**18.62**	*19.91*	*19.96*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**15.96**	*15.86*	*16.64*	*17.20*	*16.37*	*15.64*	*17.06*	*17.36*	*16.33*	**15.66**	*16.52*	*16.60*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.12**	*18.13*	*18.13*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.88**	*0.87*	*0.92*	*0.95*	*0.90*	*0.86*	*0.94*	*0.96*	*0.90*	**0.86**	*0.91*	*0.92*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

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Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**239**	*231*	*228*	*222*	*200*	*197*	*206*	*204*	*188*	**218**	*220*	*199*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	*312*	*301*	*298*	*282*	*271*	*280*	*277*	*265*	**294**	*298*	*273*
PADD 2	**247**	**288**	**304**	**315**	*296*	*298*	*287*	*264*	*266*	*278*	*275*	*256*	**290**	*286*	*269*
PADD 3	**228**	**267**	**282**	**298**	*286*	*281*	*270*	*250*	*242*	*252*	*249*	*233*	**271**	*271*	*244*
PADD 4	**247**	**311**	**360**	**351**	*332*	*318*	*311*	*288*	*274*	*292*	*292*	*273*	**319**	*312*	*283*
PADD 5	**312**	**366**	**391**	**410**	*408*	*395*	*374*	*369*	*343*	*360*	*355*	*336*	**372**	*386*	*349*
U.S. Average	**256**	**297**	**316**	**333**	*320*	*314*	*304*	*287*	*277*	*289*	*286*	*270*	**302**	*306*	*281*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	*332*	*326*	*317*	*300*	*291*	*303*	*300*	*284*	**311**	*319*	*295*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**63.3**	*66.1*	*68.3*	*63.1*	*68.8*	*68.2*	*68.9*	*63.4*	*68.7*	**63.3**	*68.8*	*68.7*
PADD 2	**50.7**	**50.6**	**46.9**	**51.0**	*53.6*	*52.3*	*50.1*	*50.5*	*52.5*	*51.3*	*51.0*	*49.9*	**51.0**	*50.5*	*49.9*
PADD 3	**81.9**	**81.6**	**82.9**	**82.0**	*84.7*	*88.8*	*83.7*	*90.0*	*89.3*	*90.0*	*87.5*	*91.0*	**82.0**	*90.0*	*91.0*
PADD 4	**8.6**	**6.2**	**7.6**	**8.0**	*7.9*	*7.9*	*7.5*	*8.1*	*7.9*	*8.0*	*7.6*	*8.4*	**8.0**	*8.1*	*8.4*
PADD 5	**31.4**	**29.0**	**30.6**	**28.9**	*29.2*	*29.2*	*29.4*	*31.5*	*29.7*	*28.9*	*29.1*	*32.5*	**28.9**	*31.5*	*32.5*
U.S. Total	**237.6**	**237.2**	**227.0**	**233.2**	*241.4*	*246.3*	*233.8*	*249.0*	*247.7*	*247.1*	*238.6*	*250.5*	**233.2**	*249.0*	*250.5*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.1**	*18.1*	*21.6*	*23.5*	*26.8*	*23.4*	*24.4*	*25.4*	*27.9*	**17.1**	*26.8*	*27.9*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**216.1**	*223.3*	*224.8*	*210.4*	*222.1*	*224.3*	*222.7*	*213.2*	*222.6*	**216.1**	*222.1*	*222.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.92**	**104.64**	*104.21*	*103.79*	*104.23*	*105.03*	*105.19*	*105.63*	*106.45*	*107.05*	**101.35**	*104.32*	*106.09*
Alaska	**1.02**	**0.95**	**0.90**	**0.94**	*0.90*	*0.75*	*0.70*	*0.85*	*0.90*	*0.75*	*0.71*	*0.86*	**0.95**	*0.80*	*0.80*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.21**	*2.31*	*2.25*	*2.14*	*2.11*	*2.16*	*2.11*	*1.99*	*1.95*	**2.14**	*2.20*	*2.05*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.20**	**101.49**	*101.00*	*100.79*	*101.39*	*102.07*	*102.13*	*102.78*	*103.75*	*104.25*	**98.27**	*101.31*	*103.23*
Total Dry Gas Production	**90.59**	**93.15**	**93.89**	**96.33**	*95.94*	*95.55*	*95.96*	*96.69*	*96.71*	*97.13*	*97.89*	*98.45*	**93.51**	*96.04*	*97.55*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.17**	*0.32*	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.09**	*0.22*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.42**	*11.18*	*11.09*	*11.58*	*12.29*	*12.73*	*11.86*	*11.73*	*12.23*	**9.78**	*11.54*	*12.13*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.33**	*7.77*	*6.43*	*6.39*	*6.72*	*7.76*	*6.46*	*6.33*	*6.51*	**7.51**	*6.82*	*6.76*
Pipeline Gross Exports	**8.31**	**8.67**	**8.50**	**8.44**	*8.81*	*8.39*	*9.24*	*9.20*	*9.12*	*9.02*	*9.33*	*9.24*	**8.48**	*8.91*	*9.18*
Supplemental Gaseous Fuels	**0.18**	**0.15**	**0.15**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.17*	*0.17*
Net Inventory Withdrawals	**17.19**	**-9.12**	**-7.87**	**0.89**	*15.55*	*-9.96*	*-7.33*	*5.06*	*15.22*	*-11.39*	*-9.21*	*2.94*	**0.21**	*0.78*	*-0.67*
Total Supply	**99.19**	**72.52**	**75.34**	**86.03**	*99.75*	*72.88*	*74.55*	*87.35*	*98.33*	*71.66*	*74.30*	*86.80*	**83.21**	*83.57*	*82.72*
Balancing Item (b)	**0.20**	**-0.60**	**-0.26**	**-0.35**	*-0.70*	*-1.97*	*-0.11*	*-0.44*	*-0.08*	*0.04*	*0.44*	*0.09*	**-0.25**	*-0.80*	*0.12*
Total Primary Supply	**99.40**	**71.92**	**75.08**	**85.68**	*99.05*	*70.91*	*74.44*	*86.91*	*98.25*	*71.70*	*74.73*	*86.88*	**82.96**	*82.77*	*82.84*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.49**	**3.62**	**14.79**	*24.81*	*7.81*	*3.78*	*17.13*	*25.08*	*7.91*	*3.87*	*17.17*	**12.84**	*13.34*	*13.46*
Commercial	**14.87**	**6.23**	**4.69**	**9.94**	*14.94*	*6.42*	*4.83*	*10.90*	*15.01*	*6.47*	*4.85*	*10.94*	**8.91**	*9.25*	*9.29*
Industrial	**23.81**	**21.46**	**21.13**	**23.70**	*24.48*	*21.93*	*21.88*	*24.60*	*24.68*	*22.16*	*22.09*	*25.05*	**22.52**	*23.22*	*23.49*
Electric Power (c)	**26.75**	**29.17**	**37.93**	**29.03**	*26.13*	*27.07*	*36.11*	*25.96*	*24.77*	*27.35*	*35.97*	*25.32*	**30.75**	*28.84*	*28.38*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.22**	*5.20*	*5.17*	*5.20*	*5.24*	*5.24*	*5.27*	*5.31*	*5.34*	**5.05**	*5.20*	*5.29*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.86**	*3.33*	*2.35*	*2.47*	*2.91*	*3.31*	*2.38*	*2.48*	*2.91*	**2.75**	*2.76*	*2.77*
Vehicle Use	**0.14**	**0.15**	**0.15**	**0.15**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.15**	*0.16*	*0.16*
Total Consumption	**99.40**	**71.92**	**75.08**	**85.68**	*99.05*	*70.91*	*74.44*	*86.91*	*98.25*	*71.70*	*74.73*	*86.88*	**82.96**	*82.77*	*82.84*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,583**	**3,305**	**3,221**	*1,822*	*2,729*	*3,403*	*2,938*	*1,568*	*2,604*	*3,452*	*3,182*	**3,221**	*2,938*	*3,182*
East Region (d)	**313**	**515**	**804**	**767**	*307*	*555*	*804*	*609*	*237*	*558*	*854*	*755*	**767**	*609*	*755*
Midwest Region (d)	**395**	**630**	**966**	**893**	*376*	*602*	*932*	*813*	*340*	*609*	*955*	*845*	**893**	*813*	*845*
South Central Region (d)	**760**	**991**	**1,051**	**1,143**	*870*	*1,122*	*1,157*	*1,059*	*698*	*995*	*1,103*	*1,094*	**1,143**	*1,059*	*1,094*
Mountain Region (d)	**113**	**175**	**205**	**172**	*93*	*142*	*191*	*176*	*106*	*148*	*210*	*189*	**172**	*176*	*189*
Pacific Region (d)	**197**	**246**	**248**	**219**	*148*	*281*	*291*	*254*	*160*	*267*	*303*	*271*	**219**	*254*	*271*
Alaska	**23**	**27**	**30**	**27**	*27*	*27*	*27*	*27*	*27*	*27*	*27*	*27*	**27**	*27*	*27*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	*3.97*	*3.92*	*3.96*	*3.91*	*3.98*	*3.65*	*3.65*	*3.80*	**4.06**	*3.94*	*3.77*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	*15.99*	*16.02*	*18.44*	*14.23*	*13.81*	*14.73*	*17.64*	*13.78*	**16.10**	*15.63*	*14.20*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**15.82**	*12.81*	*13.92*	*17.99*	*11.81*	*10.86*	*13.04*	*17.49*	*11.43*	**12.72**	*13.04*	*11.82*
E. N. Central	**7.41**	**12.69**	**22.36**	**12.82**	*10.24*	*12.60*	*17.82*	*9.36*	*8.58*	*11.46*	*17.11*	*8.98*	**10.33**	*10.78*	*9.66*
W. N. Central	**7.49**	**11.63**	**20.31**	**13.71**	*10.81*	*12.89*	*18.43*	*10.23*	*8.87*	*11.68*	*17.70*	*9.79*	**10.12**	*11.37*	*10.05*
S. Atlantic	**11.95**	**18.04**	**27.36**	**19.05**	*14.92*	*18.68*	*24.08*	*13.55*	*12.05*	*17.11*	*23.21*	*13.07*	**15.53**	*15.72*	*13.87*
E. S. Central	**9.35**	**14.78**	**22.94**	**16.37**	*12.29*	*16.26*	*23.24*	*14.37*	*12.27*	*17.26*	*23.67*	*14.82*	**12.02**	*14.56*	*14.54*
W. S. Central	**9.23**	**15.85**	**23.76**	**16.56**	*11.41*	*16.04*	*21.67*	*12.40*	*9.40*	*14.93*	*20.89*	*12.03*	**12.95**	*13.56*	*11.90*
Mountain	**7.90**	**10.64**	**15.58**	**11.39**	*10.13*	*11.25*	*14.70*	*9.22*	*8.64*	*10.38*	*14.14*	*8.90*	**9.80**	*10.36*	*9.41*
Pacific	**14.20**	**15.01**	**15.90**	**15.71**	*15.19*	*15.45*	*16.07*	*14.86*	*14.97*	*15.51*	*16.17*	*15.07*	**14.99**	*15.24*	*15.24*
U.S. Average	**9.75**	**13.87**	**20.36**	**14.72**	*12.44*	*14.27*	*18.51*	*11.62*	*10.59*	*13.45*	*18.05*	*11.31*	**12.54**	*12.88*	*11.78*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.73**	*12.24*	*11.71*	*11.16*	*10.80*	*11.12*	*11.16*	*10.75*	*10.47*	**11.41**	*11.58*	*10.89*
Middle Atlantic	**7.92**	**8.00**	**7.98**	**9.58**	*9.46*	*8.86*	*8.17*	*8.49*	*8.76*	*8.42*	*7.79*	*8.17*	**8.43**	*8.89*	*8.41*
E. N. Central	**6.11**	**8.60**	**11.03**	**9.30**	*8.20*	*8.73*	*9.74*	*7.48*	*7.42*	*8.27*	*9.38*	*7.30*	**7.77**	*8.16*	*7.65*
W. N. Central	**6.32**	**7.69**	**9.94**	**9.77**	*8.55*	*8.64*	*9.79*	*7.82*	*7.74*	*8.24*	*9.44*	*7.62*	**7.75**	*8.42*	*7.90*
S. Atlantic	**8.69**	**9.84**	**10.37**	**10.65**	*9.96*	*10.52*	*10.75*	*9.58*	*9.22*	*10.05*	*10.38*	*9.44*	**9.65**	*10.04*	*9.56*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.44**	*10.28*	*10.63*	*10.94*	*9.64*	*9.10*	*10.07*	*10.56*	*9.37*	**9.84**	*10.19*	*9.49*
W. S. Central	**6.91**	**8.57**	**10.12**	**10.74**	*9.11*	*8.91*	*9.15*	*8.20*	*7.52*	*8.13*	*8.59*	*7.86*	**8.61**	*8.82*	*7.87*
Mountain	**6.50**	**7.76**	**9.26**	**8.82**	*8.49*	*8.59*	*9.28*	*7.94*	*7.66*	*7.98*	*8.77*	*7.55*	**7.68**	*8.41*	*7.79*
Pacific	**10.46**	**10.31**	**11.31**	**11.44**	*10.87*	*10.30*	*10.60*	*10.08*	*9.73*	*9.28*	*9.47*	*8.97*	**10.86**	*10.48*	*9.37*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.15**	*9.31*	*9.37*	*9.64*	*8.58*	*8.41*	*8.81*	*9.14*	*8.24*	**8.78**	*9.14*	*8.50*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.68**	*9.98*	*8.89*	*7.83*	*8.72*	*9.07*	*8.43*	*7.46*	*8.55*	**9.01**	*9.04*	*8.52*
Middle Atlantic	**7.66**	**7.36**	**7.90**	**10.06**	*9.40*	*8.44*	*8.14*	*8.45*	*8.84*	*8.30*	*7.89*	*8.13*	**8.38**	*8.84*	*8.45*
E. N. Central	**5.43**	**8.14**	**8.48**	**7.94**	*7.22*	*6.68*	*6.56*	*6.42*	*6.74*	*6.41*	*6.25*	*6.27*	**6.94**	*6.81*	*6.49*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.83**	*6.35*	*5.39*	*5.25*	*5.65*	*5.97*	*5.16*	*4.95*	*5.45*	**5.44**	*5.70*	*5.42*
S. Atlantic	**5.12**	**4.75**	**6.01**	**7.42**	*6.29*	*5.69*	*5.66*	*5.80*	*6.12*	*5.45*	*5.34*	*5.69*	**5.83**	*5.88*	*5.68*
E. S. Central	**4.72**	**4.28**	**5.37**	**7.10**	*5.96*	*5.41*	*5.25*	*5.46*	*5.78*	*5.11*	*4.86*	*5.27*	**5.36**	*5.54*	*5.29*
W. S. Central	**5.75**	**3.20**	**4.36**	**5.56**	*4.06*	*4.05*	*4.14*	*4.05*	*4.15*	*3.83*	*3.83*	*3.93*	**4.72**	*4.08*	*3.93*
Mountain	**4.98**	**5.31**	**6.66**	**7.45**	*7.16*	*6.66*	*6.68*	*6.38*	*6.42*	*6.14*	*6.24*	*6.06*	**6.03**	*6.74*	*6.22*
Pacific	**8.28**	**7.24**	**8.88**	**11.93**	*9.71*	*8.05*	*7.89*	*7.70*	*7.59*	*7.01*	*6.86*	*6.90*	**9.44**	*8.38*	*7.11*
U.S. Average	**5.73**	**4.09**	**5.10**	**6.75**	*5.67*	*4.98*	*4.89*	*5.10*	*5.42*	*4.69*	*4.53*	*4.90*	**5.46**	*5.18*	*4.90*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**147.6**	*152.5*	*145.3*	*156.5*	*157.4*	*154.7*	*147.1*	*160.7*	*156.9*	**578.9**	*611.6*	*619.4*
Appalachia	**40.8**	**39.5**	**36.6**	**41.4**	*42.0*	*40.2*	*38.2*	*40.3*	*42.1*	*40.0*	*38.9*	*37.4*	**158.3**	*160.7*	*158.4*
Interior	**25.0**	**23.3**	**22.7**	**24.9**	*25.0*	*23.2*	*24.9*	*25.4*	*26.7*	*24.0*	*25.4*	*25.1*	**95.8**	*98.6*	*101.2*
Western	**74.5**	**80.0**	**89.0**	**81.3**	*85.4*	*81.9*	*93.4*	*91.6*	*86.0*	*83.1*	*96.5*	*94.4*	**324.8**	*352.3*	*359.9*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.9**	*-1.4*	*-2.3*	*-0.9*	*-5.3*	*-2.1*	*-1.3*	*1.5*	*-1.7*	**-1.7**	*-9.8*	*-3.5*
Imports	**1.1**	**1.5**	**1.1**	**1.5**	*1.0*	*1.0*	*1.1*	*1.1*	*1.3*	*2.0*	*2.6*	*2.4*	**5.2**	*4.3*	*8.3*
Exports	**20.7**	**22.1**	**20.7**	**23.3**	*26.4*	*17.7*	*18.7*	*25.0*	*21.8*	*23.1*	*22.7*	*24.2*	**86.9**	*87.9*	*91.8*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**13.7**	*14.3*	*10.4*	*12.0*	*13.4*	*13.0*	*14.0*	*13.5*	*14.1*	**47.1**	*50.1*	*54.6*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.6**	*12.1*	*7.3*	*6.8*	*11.6*	*8.7*	*9.2*	*9.2*	*10.2*	**39.8**	*37.8*	*37.3*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**123.9**	*125.7*	*126.3*	*138.0*	*128.2*	*132.2*	*124.7*	*142.1*	*133.3*	**495.6**	*518.2*	*532.3*
Secondary Inventory Withdrawals	**22.3**	**0.2**	**29.3**	**-13.0**	*-8.6*	*-9.9*	*24.8*	*2.4*	*-3.3*	*-11.9*	*14.6*	*-5.6*	**38.9**	*8.8*	*-6.2*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	*1.8*	*1.8*	*1.8*	*1.8*	*1.4*	*1.4*	*1.4*	*1.4*	**7.9**	*7.4*	*5.5*
Total Supply	**140.6**	**126.2**	**162.6**	**112.9**	*119.0*	*118.2*	*164.7*	*132.4*	*130.3*	*114.1*	*158.1*	*129.2*	**542.3**	*534.3*	*531.7*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.1**	**4.6**	*5.5*	*4.9*	*4.7*	*5.2*	*5.2*	*5.2*	*5.3*	*5.3*	**17.5**	*20.3*	*21.0*
Electric Power Sector (b)	**127.9**	**113.8**	**157.0**	**102.4**	*106.6*	*106.6*	*153.3*	*120.4*	*118.1*	*102.9*	*146.8*	*117.1*	**501.1**	*486.9*	*484.8*
Retail and Other Industry	**6.8**	**6.3**	**6.7**	**7.0**	*7.0*	*6.7*	*6.6*	*6.9*	*7.0*	*6.0*	*6.1*	*6.8*	**26.8**	*27.1*	*25.9*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.4*	*0.2*	*0.2*	*0.3*	**0.9**	*0.8*	*1.0*
Other Industrial	**6.6**	**6.2**	**6.5**	**6.7**	*6.7*	*6.5*	*6.4*	*6.6*	*6.6*	*5.8*	*5.9*	*6.5*	**26.0**	*26.3*	*24.9*
Total Consumption	**139.2**	**124.6**	**167.8**	**114.0**	*119.0*	*118.2*	*164.7*	*132.4*	*130.3*	*114.1*	*158.1*	*129.2*	**545.5**	*534.3*	*531.7*
Discrepancy (c)	**1.5**	**1.6**	**-5.2**	**-1.1**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-3.2**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.4**	*26.7*	*29.0*	*29.9*	*35.2*	*37.3*	*38.6*	*37.0*	*38.8*	**25.4**	*35.2*	*38.8*
Secondary Inventories	**115.8**	**115.6**	**86.2**	**99.2**	*107.8*	*117.7*	*92.9*	*90.5*	*93.8*	*105.7*	*91.1*	*96.7*	**99.2**	*90.5*	*96.7*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**93.7**	*102.4*	*112.0*	*87.1*	*84.9*	*88.9*	*100.6*	*85.8*	*91.3*	**93.7**	*84.9*	*91.3*
Retail and General Industry	**2.6**	**2.6**	**3.6**	**3.4**	*3.6*	*3.5*	*3.4*	*3.3*	*2.7*	*2.8*	*3.0*	*3.0*	**3.4**	*3.3*	*3.0*
Coke Plants	**1.5**	**1.9**	**2.1**	**2.0**	*1.6*	*2.1*	*2.2*	*2.2*	*2.0*	*2.2*	*2.2*	*2.2*	**2.0**	*2.2*	*2.2*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	*6.30*	*6.30*	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	*0.278*	*0.273*	*0.278*	*0.285*	*0.300*	*0.292*	*0.296*	*0.303*	**0.258**	*0.279*	*0.298*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.03**	*2.03*	*2.03*	*1.88*	*1.88*	*1.81*	*1.82*	*1.81*	*1.80*	**1.98**	*1.94*	*1.81*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**991**	**985**	**1,167**	**975**	*972*	*995*	*1,165*	*986*	*993*	*1,008*	*1,176*	*994*	**4,118**	*4,117*	*4,171*
Electric Power Sector (a)	**954**	**948**	**1,126**	**936**	*934*	*957*	*1,123*	*946*	*954*	*969*	*1,134*	*955*	**3,964**	*3,960*	*4,012*
Industrial Sector (b)	**34**	**33**	**37**	**36**	*35*	*35*	*38*	*36*	*36*	*35*	*38*	*36*	**140**	*144*	*144*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*14*	*14*
Net Imports	**11**	**11**	**11**	**13**	*13*	*13*	*15*	*12*	*12*	*13*	*15*	*11*	**46**	*52*	*51*
Total Supply	**1,002**	**996**	**1,177**	**988**	*985*	*1,008*	*1,180*	*997*	*1,005*	*1,020*	*1,191*	*1,006*	**4,163**	*4,170*	*4,222*
Losses and Unaccounted for (c)	**56**	**66**	**52**	**57**	*45*	*64*	*53*	*51*	*42*	*65*	*54*	*52*	**231**	*214*	*212*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**913**	**898**	**1,089**	**899**	*905*	*910*	*1,090*	*911*	*929*	*922*	*1,100*	*919*	**3,799**	*3,816*	*3,869*
Residential Sector	**379**	**328**	**446**	**330**	*353*	*327*	*437*	*334*	*368*	*331*	*442*	*338*	**1,483**	*1,451*	*1,480*
Commercial Sector	**304**	**321**	**377**	**320**	*312*	*329*	*380*	*323*	*315*	*331*	*381*	*323*	**1,323**	*1,345*	*1,351*
Industrial Sector	**229**	**247**	**264**	**247**	*239*	*252*	*271*	*252*	*244*	*258*	*275*	*256*	**987**	*1,014*	*1,032*
Transportation Sector	**2**	**1**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**33**	**36**	**35**	*34*	*34*	*37*	*35*	*35*	*34*	*37*	*35*	**136**	*140*	*141*
Total Consumption	**946**	**931**	**1,125**	**931**	*940*	*944*	*1,127*	*946*	*963*	*955*	*1,137*	*954*	**3,932**	*3,956*	*4,010*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,231**	**2,385**	*2,529*	*2,340*	*3,130*	*2,393*	*2,607*	*2,346*	*3,132*	*2,395*	**10,741**	*10,392*	*10,480*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**93.7**	*102.4*	*112.0*	*87.1*	*84.9*	*88.9*	*100.6*	*85.8*	*91.3*	**93.7**	*84.9*	*91.3*
Residual Fuel (mmb)	**8.0**	**7.4**	**7.1**	**8.1**	*7.8*	*7.7*	*7.7*	*7.9*	*5.8*	*5.8*	*4.0*	*4.6*	**8.1**	*7.9*	*4.6*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.4**	**15.8**	*15.6*	*15.5*	*15.5*	*15.9*	*15.7*	*15.6*	*15.6*	*15.9*	**15.8**	*15.9*	*15.9*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.03**	*2.03*	*2.03*	*1.88*	*1.88*	*1.81*	*1.82*	*1.81*	*1.80*	**1.98**	*1.94*	*1.81*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.03**	*4.38*	*4.00*	*3.98*	*4.12*	*4.40*	*3.68*	*3.66*	*4.02*	**4.88**	*4.10*	*3.91*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**14.88**	*14.37*	*14.81*	*13.83*	*13.30*	*13.05*	*13.44*	*12.60*	*12.26*	**13.36**	*14.05*	*12.81*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.33**	*18.03*	*17.54*	*17.31*	*16.88*	*16.20*	*15.97*	*15.86*	*15.90*	**15.57**	*17.47*	*15.99*
Retail Prices (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**14.00**	**13.85**	*13.93*	*14.45*	*14.38*	*14.10*	*13.98*	*14.55*	*14.47*	*14.19*	**13.70**	*14.22*	*14.30*
Commercial Sector	**10.99**	**11.07**	**11.64**	**11.23**	*11.56*	*11.57*	*11.98*	*11.51*	*11.78*	*11.70*	*12.12*	*11.58*	**11.26**	*11.67*	*11.81*
Industrial Sector	**7.09**	**6.92**	**7.63**	**7.13**	*7.11*	*7.03*	*7.59*	*6.99*	*7.09*	*7.00*	*7.54*	*6.96*	**7.20**	*7.19*	*7.16*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	*36.30*	*34.33*	*39.86*	*32.83*	*32.50*	*31.59*	*34.73*	*32.24*	**189.54**	*35.83*	*32.76*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	*53.15*	*52.33*	*62.14*	*56.23*	*49.38*	*45.96*	*55.25*	*48.16*	**53.53**	*55.96*	*49.69*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	*64.47*	*59.33*	*61.88*	*49.79*	*58.50*	*56.12*	*56.71*	*47.80*	**51.81**	*58.87*	*54.78*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	*60.59*	*51.87*	*53.61*	*42.00*	*50.39*	*47.77*	*48.62*	*40.62*	**46.14**	*52.02*	*46.85*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	*43.72*	*44.47*	*50.67*	*42.51*	*46.27*	*45.15*	*49.48*	*42.29*	**45.67**	*45.34*	*45.80*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	*41.14*	*43.46*	*47.76*	*39.96*	*43.53*	*43.16*	*47.32*	*39.45*	**46.47**	*43.08*	*43.37*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	*35.20*	*38.42*	*50.33*	*37.62*	*37.81*	*41.45*	*48.43*	*35.90*	**93.88**	*40.39*	*40.90*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	*41.41*	*43.65*	*46.54*	*40.86*	*42.75*	*42.05*	*44.88*	*39.40*	**42.39**	*43.12*	*42.27*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	*40.03*	*41.08*	*42.30*	*39.82*	*40.90*	*39.03*	*39.85*	*39.07*	**37.92**	*40.81*	*39.71*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	*53.67*	*49.51*	*56.55*	*54.06*	*53.22*	*42.24*	*52.39*	*49.66*	**59.53**	*53.45*	*49.38*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	*49.33*	*49.79*	*56.56*	*51.52*	*46.04*	*45.58*	*52.30*	*45.54*	**55.44**	*51.80*	*47.37*

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	*12.2*	*10.3*	*13.2*	*11.0*	*12.3*	*10.3*	*13.1*	*11.0*	**48.7**	*46.7*	*46.8*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**31.0**	*34.2*	*29.8*	*39.3*	*31.3*	*35.2*	*30.0*	*39.5*	*31.5*	**139.2**	*134.6*	*136.2*
E. N. Central	**50.1**	**43.1**	**56.3**	**44.0**	*48.0*	*42.0*	*52.9*	*44.5*	*48.9*	*42.5*	*53.5*	*45.0*	**193.5**	*187.4*	*189.9*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.8**	*29.9*	*24.0*	*31.4*	*26.3*	*31.3*	*24.6*	*31.4*	*26.6*	**109.4**	*111.6*	*113.8*
S. Atlantic	**95.2**	**85.1**	**111.5**	**85.5**	*89.0*	*85.1*	*109.8*	*85.4*	*93.3*	*86.8*	*112.1*	*87.0*	**377.2**	*369.4*	*379.2*
E. S. Central	**33.5**	**25.3**	**35.8**	**26.1**	*30.2*	*25.8*	*36.1*	*26.3*	*32.6*	*26.1*	*36.5*	*26.6*	**120.7**	*118.5*	*121.9*
W. S. Central	**56.8**	**50.0**	**76.1**	**48.0**	*48.4*	*51.9*	*78.7*	*49.1*	*53.4*	*53.2*	*80.5*	*50.1*	**231.0**	*228.1*	*237.2*
Mountain	**23.7**	**26.9**	**35.2**	**22.7**	*22.9*	*25.4*	*34.6*	*23.3*	*23.4*	*25.7*	*35.1*	*23.7*	**108.5**	*106.3*	*107.8*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**35.5**	*37.0*	*31.2*	*39.6*	*35.4*	*36.6*	*31.1*	*39.5*	*35.5*	**149.7**	*143.1*	*142.7*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**378.5**	**328.5**	**445.8**	**329.9**	*353.0*	*326.6*	*436.9*	*334.1*	*368.2*	*331.4*	*442.5*	*338.3*	**1,482.7**	*1,450.6*	*1,480.4*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.6**	*11.9*	*11.8*	*13.5*	*11.8*	*12.1*	*11.8*	*13.4*	*11.7*	**48.5**	*49.0*	*49.0*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.6**	*35.3*	*33.8*	*39.5*	*34.9*	*35.7*	*33.9*	*39.4*	*34.8*	**142.2**	*143.5*	*143.9*
E. N. Central	**41.7**	**42.1**	**48.9**	**41.9**	*42.6*	*42.8*	*48.7*	*42.5*	*42.9*	*42.9*	*48.7*	*42.4*	**174.7**	*176.5*	*176.9*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.3**	*25.0*	*24.3*	*28.2*	*25.1*	*25.5*	*24.6*	*28.2*	*25.0*	**99.6**	*102.6*	*103.2*
S. Atlantic	**70.8**	**77.3**	**89.6**	**73.9**	*72.3*	*79.2*	*90.6*	*74.4*	*72.9*	*79.7*	*90.9*	*74.6*	**311.6**	*316.6*	*318.2*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	*20.8*	*22.1*	*26.4*	*21.0*	*21.2*	*22.3*	*26.4*	*20.9*	**89.0**	*90.3*	*90.8*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.0**	*43.6*	*53.0*	*60.4*	*49.2*	*44.4*	*53.5*	*60.8*	*49.5*	**200.6**	*206.2*	*208.2*
Mountain	**21.9**	**24.8**	**28.8**	**23.3**	*22.6*	*24.8*	*29.0*	*23.7*	*22.8*	*25.0*	*29.2*	*23.8*	**98.8**	*100.1*	*100.9*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**38.9**	*36.4*	*36.2*	*42.7*	*39.3*	*36.6*	*36.2*	*42.5*	*39.0*	**152.5**	*154.6*	*154.3*
AK and HI	**1.3**	**1.3**	**1.3**	**1.3**	*1.3*	*1.3*	*1.4*	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.5*
Total	**304.3**	**321.5**	**377.2**	**319.8**	*311.8*	*329.5*	*380.4*	*323.2*	*315.4*	*331.2*	*380.9*	*323.3*	**1,322.7**	*1,344.8*	*1,350.8*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	*3.8*	*4.0*	*4.2*	*3.9*	*3.8*	*4.0*	*4.1*	*3.9*	**15.8**	*15.9*	*15.8*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.4**	*18.3*	*18.4*	*19.8*	*18.6*	*18.6*	*18.7*	*20.1*	*18.8*	**73.4**	*75.1*	*76.2*
E. N. Central	**44.5**	**46.4**	**48.6**	**45.8**	*46.8*	*47.3*	*49.9*	*47.0*	*47.9*	*48.3*	*50.6*	*47.5*	**185.3**	*191.0*	*194.4*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.7**	*24.5*	*25.3*	*27.1*	*25.4*	*25.4*	*26.2*	*27.9*	*26.1*	**97.9**	*102.4*	*105.5*
S. Atlantic	**33.4**	**35.9**	**38.3**	**35.9**	*34.8*	*36.8*	*39.2*	*36.6*	*35.6*	*37.6*	*39.8*	*37.1*	**143.5**	*147.4*	*150.0*
E. S. Central	**23.7**	**24.9**	**26.1**	**24.8**	*24.6*	*25.2*	*26.4*	*25.0*	*24.8*	*25.4*	*26.5*	*25.0*	**99.5**	*101.3*	*101.7*
W. S. Central	**44.1**	**49.7**	**54.3**	**52.2**	*47.5*	*52.1*	*57.1*	*54.7*	*49.6*	*54.4*	*59.5*	*56.8*	**200.3**	*211.4*	*220.4*
Mountain	**19.2**	**21.6**	**23.2**	**20.1**	*19.4*	*21.7*	*23.6*	*20.5*	*19.7*	*22.1*	*23.9*	*20.7*	**84.0**	*85.1*	*86.4*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.5**	*17.9*	*20.4*	*22.3*	*19.4*	*17.2*	*19.6*	*21.4*	*18.7*	**82.7**	*80.1*	*76.9*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	*1.1*	*1.1*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.6*	*4.6*
Total	**228.5**	**246.7**	**264.4**	**247.4**	*238.7*	*252.4*	*270.9*	*252.3*	*243.6*	*257.5*	*275.0*	*255.8*	**987.1**	*1,014.3*	*1,032.0*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.7**	*28.1*	*26.2*	*31.0*	*26.8*	*28.3*	*26.2*	*30.8*	*26.7*	**113.5**	*112.1*	*112.1*
Middle Atlantic	**89.1**	**82.2**	**101.8**	**84.8**	*88.6*	*82.8*	*99.4*	*85.6*	*90.3*	*83.4*	*99.9*	*85.9*	**357.9**	*356.4*	*359.5*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.9**	*137.6*	*132.2*	*151.6*	*134.1*	*139.8*	*133.8*	*152.9*	*135.1*	**554.0**	*555.5*	*561.7*
W. N. Central	**77.0**	**71.6**	**84.6**	**73.7**	*79.4*	*73.7*	*86.8*	*76.8*	*82.1*	*75.3*	*87.5*	*77.7*	**306.9**	*316.7*	*322.7*
S. Atlantic	**199.7**	**198.6**	**239.6**	**195.5**	*196.5*	*201.4*	*239.9*	*196.6*	*202.1*	*204.4*	*243.1*	*198.9*	**833.4**	*834.4*	*848.5*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.8**	*75.5*	*73.2*	*89.0*	*72.3*	*78.6*	*73.9*	*89.4*	*72.5*	**309.2**	*310.0*	*314.4*
W. S. Central	**143.4**	**150.2**	**189.2**	**149.3**	*139.6*	*157.1*	*196.3*	*153.0*	*147.5*	*161.2*	*200.8*	*156.5*	**632.1**	*645.9*	*666.0*
Mountain	**64.9**	**73.3**	**87.3**	**66.1**	*65.0*	*72.0*	*87.2*	*67.6*	*66.0*	*72.8*	*88.2*	*68.3*	**291.5**	*291.7*	*295.2*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	*91.5*	*87.9*	*104.8*	*94.3*	*90.6*	*87.1*	*103.6*	*93.3*	**385.5**	*378.5*	*374.6*
AK and HI	**3.7**	**3.6**	**3.7**	**3.8**	*3.6*	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.8**	*14.9*	*15.0*
Total	**913.0**	**898.2**	**1,089.0**	**898.7**	*905.3*	*910.0*	*1,089.7*	*911.1*	*928.9*	*921.6*	*1,100.0*	*918.9*	**3,798.9**	*3,816.1*	*3,869.4*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.36**	**21.45**	**22.10**	*23.66*	*24.15*	*24.43*	*24.95*	*26.17*	*26.18*	*25.94*	*26.10*	**21.56**	*24.29*	*26.09*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.93**	*16.72*	*17.51*	*17.69*	*17.21*	*16.75*	*17.40*	*17.65*	*17.27*	**16.50**	*17.29*	*17.27*
E. N. Central	**13.39**	**14.50**	**14.15**	**14.31**	*14.05*	*15.18*	*14.78*	*14.67*	*14.24*	*15.31*	*14.92*	*14.81*	**14.07**	*14.66*	*14.81*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.78**	*10.93*	*12.31*	*12.34*	*11.05*	*10.64*	*12.29*	*12.86*	*11.33*	**12.18**	*11.65*	*11.77*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.43**	*12.57*	*13.12*	*13.14*	*12.76*	*12.49*	*12.96*	*12.94*	*12.64*	**12.23**	*12.91*	*12.76*
E. S. Central	**11.20**	**12.24**	**12.00**	**12.04**	*11.91*	*12.60*	*12.20*	*12.14*	*11.80*	*12.64*	*12.29*	*12.24*	**11.84**	*12.20*	*12.22*
W. S. Central	**11.85**	**11.70**	**11.82**	**12.31**	*13.12*	*12.03*	*11.82*	*12.10*	*12.74*	*11.92*	*11.77*	*12.14*	**11.90**	*12.20*	*12.10*
Mountain	**11.53**	**12.09**	**12.33**	**12.24**	*12.20*	*12.71*	*12.79*	*12.55*	*12.40*	*12.81*	*12.87*	*12.62*	**12.08**	*12.59*	*12.70*
Pacific	**16.76**	**18.15**	**19.43**	**16.81**	*16.90*	*18.94*	*20.27*	*17.52*	*17.73*	*20.08*	*20.99*	*17.83*	**17.84**	*18.43*	*19.17*
U.S. Average	**13.10**	**13.84**	**14.00**	**13.85**	*13.93*	*14.45*	*14.38*	*14.10*	*13.98*	*14.55*	*14.47*	*14.19*	**13.70**	*14.22*	*14.30*
Commercial Sector															
New England	**16.32**	**15.96**	**16.80**	**16.79**	*17.67*	*17.34*	*18.19*	*17.95*	*18.59*	*17.97*	*18.66*	*18.24*	**16.48**	*17.80*	*18.37*
Middle Atlantic	**12.53**	**13.24**	**14.79**	**13.43**	*13.33*	*13.95*	*15.15*	*13.60*	*13.31*	*13.75*	*15.02*	*13.38*	**13.54**	*14.04*	*13.90*
E. N. Central	**10.40**	**10.70**	**10.69**	**10.98**	*11.05*	*11.26*	*11.04*	*11.09*	*11.05*	*11.23*	*11.10*	*11.21*	**10.69**	*11.11*	*11.14*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.55**	*9.08*	*9.59*	*9.73*	*8.75*	*8.79*	*9.62*	*10.21*	*9.04*	**9.95**	*9.30*	*9.44*
S. Atlantic	**9.29**	**9.19**	**9.53**	**9.83**	*10.00*	*9.72*	*9.87*	*9.98*	*9.97*	*9.66*	*9.86*	*9.93*	**9.46**	*9.89*	*9.85*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.35**	*11.54*	*11.61*	*11.54*	*11.54*	*11.64*	*11.70*	*11.68*	*11.70*	**11.21**	*11.56*	*11.68*
W. S. Central	**10.39**	**8.89**	**8.55**	**8.08**	*10.15*	*8.87*	*8.60*	*8.29*	*10.62*	*9.13*	*8.85*	*8.47*	**8.91**	*8.92*	*9.21*
Mountain	**9.11**	**9.76**	**10.20**	**9.50**	*9.38*	*10.05*	*10.42*	*9.62*	*9.47*	*10.06*	*10.40*	*9.62*	**9.68**	*9.90*	*9.92*
Pacific	**14.52**	**15.99**	**18.09**	**16.11**	*15.75*	*17.62*	*19.69*	*17.47*	*17.01*	*18.60*	*20.25*	*17.74*	**16.27**	*17.72*	*18.46*
U.S. Average	**10.99**	**11.07**	**11.64**	**11.23**	*11.56*	*11.57*	*11.98*	*11.51*	*11.78*	*11.70*	*12.12*	*11.58*	**11.26**	*11.67*	*11.81*
Industrial Sector															
New England	**13.48**	**12.97**	**13.68**	**13.77**	*14.31*	*13.56*	*14.20*	*14.17*	*14.61*	*13.75*	*14.32*	*14.28*	**13.48**	*14.06*	*14.24*
Middle Atlantic	**6.52**	**6.59**	**7.26**	**6.89**	*6.54*	*6.64*	*7.09*	*6.52*	*6.39*	*6.47*	*6.90*	*6.36*	**6.82**	*6.70*	*6.54*
E. N. Central	**6.97**	**6.97**	**7.40**	**7.45**	*7.13*	*7.14*	*7.44*	*7.33*	*7.20*	*7.19*	*7.48*	*7.37*	**7.20**	*7.26*	*7.31*
W. N. Central	**6.97**	**7.30**	**8.00**	**6.86**	*6.97*	*7.46*	*8.10*	*6.88*	*7.08*	*7.57*	*8.21*	*6.98*	**7.30**	*7.37*	*7.48*
S. Atlantic	**6.24**	**6.31**	**7.05**	**6.65**	*6.42*	*6.45*	*7.06*	*6.53*	*6.44*	*6.43*	*7.02*	*6.52*	**6.58**	*6.63*	*6.61*
E. S. Central	**5.75**	**5.86**	**6.28**	**6.03**	*5.85*	*5.97*	*6.29*	*5.94*	*5.85*	*5.94*	*6.26*	*5.91*	**5.99**	*6.02*	*5.99*
W. S. Central	**7.23**	**5.46**	**6.00**	**5.76**	*6.64*	*5.38*	*5.75*	*5.44*	*6.40*	*5.19*	*5.53*	*5.27*	**6.07**	*5.78*	*5.57*
Mountain	**6.27**	**6.63**	**7.39**	**6.42**	*6.48*	*6.75*	*7.40*	*6.46*	*6.51*	*6.78*	*7.43*	*6.47*	**6.71**	*6.80*	*6.82*
Pacific	**9.68**	**10.71**	**12.62**	**10.99**	*10.07*	*11.11*	*12.90*	*11.29*	*10.35*	*11.41*	*13.26*	*11.59*	**11.09**	*11.42*	*11.73*
U.S. Average	**7.09**	**6.92**	**7.63**	**7.12**	*7.11*	*7.03*	*7.59*	*6.99*	*7.09*	*7.00*	*7.54*	*6.96*	**7.20**	*7.19*	*7.16*
All Sectors (a)															
New England	**18.21**	**17.68**	**18.41**	**18.50**	*19.78*	*19.41*	*20.27*	*20.23*	*21.31*	*20.52*	*21.15*	*20.87*	**18.21**	*19.94*	*20.98*
Middle Atlantic	**12.58**	**12.98**	**14.21**	**13.27**	*13.23*	*13.59*	*14.54*	*13.38*	*13.22*	*13.42*	*14.42*	*13.27*	**13.30**	*13.72*	*13.61*
E. N. Central	**10.38**	**10.62**	**10.91**	**10.86**	*10.76*	*11.03*	*11.16*	*10.95*	*10.84*	*11.06*	*11.23*	*11.06*	**10.70**	*10.98*	*11.05*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.40**	*9.12*	*9.75*	*10.16*	*8.92*	*8.97*	*9.78*	*10.52*	*9.13*	**9.90**	*9.50*	*9.62*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.38**	*10.53*	*10.56*	*10.91*	*10.54*	*10.51*	*10.46*	*10.82*	*10.48*	**10.22**	*10.65*	*10.58*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.77**	*9.84*	*10.02*	*10.25*	*9.82*	*9.88*	*10.05*	*10.32*	*9.90*	**9.77**	*9.99*	*10.05*
W. S. Central	**10.00**	**8.69**	**9.13**	**8.63**	*9.98*	*8.75*	*9.06*	*8.49*	*9.97*	*8.72*	*9.03*	*8.48*	**9.10**	*9.05*	*9.04*
Mountain	**9.16**	**9.69**	**10.31**	**9.51**	*9.51*	*9.99*	*10.54*	*9.67*	*9.62*	*10.03*	*10.58*	*9.71*	**9.72**	*9.98*	*10.03*
Pacific	**14.51**	**15.52**	**17.45**	**15.26**	*15.09*	*16.56*	*18.45*	*16.20*	*16.02*	*17.49*	*19.07*	*16.53*	**15.76**	*16.64*	*17.33*
U.S. Average	**10.89**	**10.94**	**11.63**	**11.06**	*11.31*	*11.34*	*11.85*	*11.21*	*11.42*	*11.41*	*11.92*	*11.26*	**11.15**	*11.45*	*11.52*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**320.7**	**345.6**	**453.6**	**353.0**	*314.3*	*322.5*	*433.6*	*318.4*	*299.5*	*327.1*	*433.2*	*311.2*	**1,472.9**	*1,388.7*	*1,371.0*
Coal	**230.0**	**203.8**	**280.9**	**182.2**	*192.3*	*192.7*	*273.0*	*214.8*	*212.2*	*185.2*	*262.0*	*209.7*	**896.9**	*872.9*	*869.1*
Nuclear	**198.4**	**186.6**	**202.8**	**192.0**	*193.8*	*190.8*	*204.4*	*192.8*	*195.3*	*188.9*	*207.7*	*198.0*	**779.8**	*781.8*	*789.9*
Renewable Energy Sources:	**197.9**	**207.3**	**183.2**	**203.1**	*226.9*	*245.5*	*206.8*	*214.7*	*240.6*	*263.1*	*225.9*	*229.8*	**791.4**	*893.8*	*959.4*
Conventional Hydropower	**68.7**	**65.8**	**60.8**	**62.0**	*71.9*	*80.7*	*65.3*	*58.8*	*72.4*	*82.6*	*67.2*	*60.8*	**257.3**	*276.7*	*282.9*
Wind	**96.9**	**96.1**	**76.8**	**107.5**	*116.6*	*109.0*	*85.3*	*115.4*	*121.5*	*112.5*	*88.2*	*119.0*	**377.2**	*426.3*	*441.3*
Solar (a)	**21.2**	**34.7**	**34.5**	**23.0**	*28.0*	*45.6*	*45.2*	*29.9*	*36.4*	*58.3*	*59.4*	*39.9*	**113.4**	*148.6*	*193.9*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	*6.6*	*6.3*	*6.9*	*6.5*	*6.8*	*6.4*	*7.0*	*6.5*	**27.8**	*26.3*	*26.6*
Geothermal	**3.8**	**3.9**	**4.0**	**3.9**	*3.7*	*4.0*	*4.1*	*4.1*	*3.5*	*3.4*	*4.1*	*3.7*	**15.7**	*15.9*	*14.7*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.1**	*-0.9*	*-1.0*	*-1.6*	*-1.0*	*-0.8*	*-0.9*	*-1.5*	*-0.9*	**-5.0**	*-4.5*	*-4.1*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.3**	*4.5*	*3.7*	*4.4*	*3.9*	*4.5*	*3.6*	*4.4*	*4.0*	**17.7**	*16.5*	*16.5*
Other Gases	**0.7**	**0.8**	**0.9**	**1.0**	*0.9*	*0.8*	*0.9*	*0.9*	*0.9*	*0.7*	*0.9*	*0.9*	**3.4**	*3.5*	*3.4*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.9**	*1.8*	*1.8*	*1.8*	*1.9*	*1.8*	*1.8*	*1.8*	*1.9*	**7.3**	*7.2*	*7.3*
Total Generation	**953.6**	**948.4**	**1,126.2**	**936.3**	*933.6*	*956.7*	*1,123.2*	*946.3*	*954.0*	*969.5*	*1,134.2*	*954.6*	**3,964.4**	*3,959.9*	*4,012.3*
New England (ISO-NE)															
Natural Gas	**12.1**	**11.0**	**15.7**	**11.9**	*12.2*	*12.7*	*15.5*	*9.8*	*13.4*	*13.1*	*15.6*	*10.9*	**50.7**	*50.3*	*53.0*
Coal	**0.5**	**0.0**	**0.0**	**0.6**	*0.4*	*0.3*	*0.0*	*0.4*	*0.3*	*0.2*	*0.0*	*0.5*	**1.2**	*1.2*	*1.0*
Nuclear	**7.1**	**7.1**	**7.3**	**5.7**	*7.0*	*6.2*	*7.2*	*7.2*	*7.1*	*5.6*	*7.2*	*6.2*	**27.2**	*27.7*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.8**	*2.0*	*2.2*	*1.2*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.5**	*7.2*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.7**	*3.0*	*3.1*	*2.8*	*2.7*	*3.0*	*3.1*	*2.8*	*2.8*	**11.1**	*11.6*	*11.8*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	**1.5**	*1.4*	*1.4*
Total generation	**24.6**	**22.9**	**27.6**	**23.1**	*25.0*	*24.8*	*27.1*	*22.4*	*26.2*	*24.7*	*27.1*	*22.5*	**98.1**	*99.3*	*100.6*
Net energy for load (f)	**29.4**	**26.9**	**32.4**	**28.0**	*29.1*	*27.5*	*32.3*	*28.5*	*29.7*	*27.7*	*32.5*	*28.7*	**116.8**	*117.5*	*118.5*
New York (NYISO)															
Natural Gas	**12.8**	**14.1**	**19.7**	**15.0**	*15.0*	*14.4*	*21.3*	*16.1*	*14.3*	*14.7*	*20.5*	*15.2*	**61.7**	*66.8*	*64.7*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**6.9**	*6.3*	*6.8*	*6.5*	*6.7*	*6.5*	*6.3*	*6.9*	*6.9*	**31.1**	*26.3*	*26.5*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.3**	*7.0*	*6.9*	*6.9*	*7.0*	*7.3*	*7.3*	*7.3*	*7.5*	**28.0**	*27.8*	*29.5*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**2.1**	*2.0*	*2.0*	*1.7*	*2.2*	*2.2*	*2.5*	*2.1*	*2.8*	**7.3**	*7.9*	*9.6*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	*0.4*	*0.1*	*0.2*	*0.2*	*0.4*	*0.2*	*0.3*	*0.2*	**1.3**	*1.0*	*1.0*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	*30.7*	*30.2*	*36.6*	*32.3*	*30.7*	*31.0*	*37.1*	*32.5*	**129.3**	*129.8*	*131.2*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**36.4**	*36.3*	*35.9*	*43.1*	*36.7*	*37.1*	*36.3*	*43.5*	*37.0*	**150.5**	*152.0*	*154.0*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.7**	**88.8**	**76.5**	*76.4*	*70.1*	*87.2*	*71.4*	*73.3*	*74.1*	*90.9*	*70.2*	**308.9**	*305.1*	*308.4*
Coal	**50.5**	**39.9**	**55.4**	**30.5**	*38.3*	*37.0*	*50.5*	*40.1*	*43.7*	*35.9*	*51.9*	*41.0*	**176.3**	*166.0*	*172.5*
Nuclear	**68.3**	**64.6**	**70.5**	**67.9**	*68.1*	*67.9*	*72.2*	*66.7*	*67.8*	*67.1*	*71.8*	*69.3*	**271.3**	*274.8*	*276.0*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.3**	*2.7*	*2.6*	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.4**	*9.0*	*9.0*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.8**	*12.0*	*12.1*	*10.1*	*12.6*	*13.5*	*13.7*	*11.7*	*14.0*	**42.7**	*46.8*	*52.9*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.7**	*0.8*	*0.6*	*0.4*	*0.6*	*0.8*	*0.6*	*0.4*	*0.7*	**2.5**	*2.4*	*2.4*
Total generation	**206.0**	**188.8**	**226.6**	**189.7**	*198.2*	*190.4*	*222.1*	*193.5*	*201.6*	*194.0*	*228.4*	*197.2*	**811.0**	*804.2*	*821.3*
Net energy for load (f)	**194.5**	**177.5**	**215.3**	**182.5**	*192.1*	*178.6*	*209.2*	*184.6*	*195.9*	*181.2*	*211.6*	*186.4*	**769.8**	*764.5*	*775.1*
Southeast (SERC)															
Natural Gas	**58.0**	**57.2**	**73.1**	**63.7**	*55.8*	*55.8*	*69.1*	*56.6*	*56.7*	*58.5*	*69.9*	*56.0*	**252.0**	*237.3*	*241.0*
Coal	**36.3**	**33.7**	**44.3**	**24.5**	*31.6*	*36.1*	*51.0*	*35.6*	*36.9*	*35.2*	*49.5*	*36.4*	**138.8**	*154.3*	*158.0*
Nuclear	**53.8**	**52.2**	**54.1**	**52.2**	*51.6*	*52.5*	*56.8*	*54.8*	*54.3*	*54.9*	*60.2*	*58.0*	**212.4**	*215.7*	*227.4*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.4**	*11.8*	*8.5*	*7.4*	*8.2*	*11.0*	*8.3*	*7.4*	*8.5*	**44.3**	*35.9*	*35.2*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	*4.3*	*6.8*	*6.5*	*4.7*	*5.0*	*7.9*	*7.4*	*5.1*	**19.1**	*22.2*	*25.5*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.1**	*0.0*	*-0.2*	*-0.5*	*-0.1*	*0.0*	*-0.2*	*-0.4*	*-0.1*	**-0.8**	*-0.8*	*-0.7*
Total generation	**163.7**	**159.0**	**187.3**	**155.9**	*155.1*	*159.4*	*190.3*	*159.9*	*163.8*	*164.6*	*194.0*	*163.9*	**665.8**	*664.7*	*686.3*
Net energy for load (f)	**164.2**	**162.3**	**186.3**	**151.8**	*157.4*	*160.5*	*190.0*	*158.8*	*164.9*	*164.9*	*193.9*	*161.5*	**664.6**	*666.7*	*685.2*
Florida (FRCC)															
Natural Gas	**34.7**	**43.8**	**52.5**	**42.2**	*33.3*	*46.6*	*51.6*	*43.7*	*35.2*	*47.7*	*52.2*	*43.9*	**173.2**	*175.1*	*179.0*
Coal	**4.7**	**5.3**	**5.6**	**2.9**	*2.6*	*3.1*	*4.2*	*3.3*	*2.6*	*3.0*	*4.2*	*3.3*	**18.4**	*13.1*	*13.1*
Nuclear	**7.8**	**7.2**	**7.2**	**7.3**	*7.9*	*7.3*	*8.0*	*7.2*	*7.1*	*7.0*	*8.0*	*7.4*	**29.5**	*30.4*	*29.5*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.7**	*3.1*	*3.6*	*3.5*	*3.0*	*3.3*	*3.8*	*3.6*	*3.0*	**11.1**	*13.3*	*13.7*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.7**	*0.8*	*0.8*	*0.8*	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**2.8**	*3.1*	*3.1*
Total generation	**50.4**	**60.2**	**68.9**	**55.8**	*47.7*	*61.5*	*68.2*	*57.8*	*49.1*	*62.3*	*68.9*	*58.3*	**235.3**	*235.1*	*238.6*
Net energy for load (f)	**50.8**	**55.0**	**71.1**	**52.2**	*47.6*	*58.9*	*67.8*	*52.6*	*48.5*	*59.5*	*68.4*	*53.0*	**229.1**	*226.9*	*229.5*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.5**	**41.0**	**50.1**	**45.1**	*38.5*	*37.9*	*48.8*	*33.5*	*36.5*	*44.0*	*56.3*	*35.5*	**171.7**	*158.7*	*172.2*
Coal	**69.7**	**60.1**	**83.2**	**55.7**	*64.2*	*62.8*	*81.0*	*64.5*	*68.5*	*57.5*	*72.1*	*61.8*	**268.7**	*272.4*	*259.8*
Nuclear	**23.6**	**22.6**	**25.2**	**24.5**	*22.5*	*22.1*	*23.5*	*22.8*	*22.1*	*21.2*	*22.5*	*21.0*	**95.8**	*90.9*	*86.8*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.2**	*2.4*	*2.8*	*2.3*	*2.1*	*2.5*	*2.9*	*2.4*	*2.2*	**10.2**	*9.6*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**26.5**	*26.4*	*25.0*	*20.1*	*27.5*	*27.3*	*26.0*	*21.2*	*28.3*	**92.2**	*99.0*	*102.8*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.6**	*1.7*	*1.4*	*1.6*	*1.2*	*1.6*	*1.4*	*1.5*	*1.3*	**6.3**	*5.8*	*5.8*
Total generation	**157.5**	**150.9**	**181.2**	**155.5**	*155.6*	*152.0*	*177.3*	*151.6*	*158.4*	*153.0*	*176.0*	*150.1*	**645.0**	*636.5*	*637.6*
Net energy for load (f)	**159.1**	**154.0**	**180.7**	**156.3**	*154.4*	*157.4*	*180.8*	*158.3*	*159.1*	*160.4*	*183.5*	*160.4*	**650.0**	*650.9*	*663.3*
Central (Southwest Power Pool)															
Natural Gas	**12.7**	**14.3**	**18.7**	**11.1**	*10.7*	*13.5*	*20.7*	*9.6*	*10.1*	*13.8*	*21.2*	*9.7*	**56.8**	*54.5*	*54.8*
Coal	**21.8**	**19.8**	**31.3**	**18.8**	*19.7*	*16.6*	*29.1*	*21.4*	*22.2*	*16.6*	*27.9*	*19.7*	**91.7**	*86.9*	*86.4*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	*4.3*	*4.3*	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.2*	*17.4*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.1**	*3.4*	*4.1*	*3.7*	*3.0*	*3.9*	*4.7*	*4.3*	*3.5*	**14.8**	*14.3*	*16.4*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**27.2**	*30.2*	*26.9*	*23.4*	*29.7*	*31.4*	*28.0*	*24.6*	*30.7*	**94.5**	*110.1*	*114.7*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.7**	*0.7*	*0.7*
Total generation	**66.0**	**64.7**	**78.4**	**64.7**	*68.4*	*65.6*	*81.2*	*66.5*	*72.1*	*67.6*	*82.5*	*68.2*	**273.9**	*281.7*	*290.4*
Net energy for load (f)	**65.2**	**66.6**	**77.2**	**61.6**	*63.8*	*65.1*	*79.4*	*64.5*	*66.8*	*67.1*	*80.6*	*65.7*	**270.7**	*272.8*	*280.2*
Texas (ERCOT)															
Natural Gas	**33.2**	**39.6**	**57.2**	**35.0**	*27.1*	*30.7*	*46.5*	*23.2*	*18.5*	*23.8*	*40.4*	*21.9*	**165.0**	*127.5*	*104.5*
Coal	**16.3**	**18.5**	**22.7**	**15.9**	*10.8*	*17.4*	*23.6*	*18.7*	*15.0*	*19.3*	*23.6*	*17.8*	**73.4**	*70.5*	*75.7*
Nuclear	**10.5**	**9.8**	**11.0**	**9.0**	*10.7*	*10.0*	*10.6*	*10.9*	*10.7*	*9.0*	*11.0*	*10.1*	**40.2**	*42.2*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.7**	**29.5**	*35.1*	*38.2*	*30.8*	*34.1*	*39.2*	*43.5*	*36.2*	*36.7*	**106.2**	*138.3*	*155.5*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.4**	*1.5*	*1.4*
Total generation	**85.6**	**96.2**	**115.2**	**89.9**	*84.2*	*96.9*	*112.1*	*87.5*	*83.8*	*96.1*	*111.7*	*87.0*	**386.9**	*380.6*	*378.6*
Net energy for load (f)	**85.6**	**96.2**	**115.2**	**89.9**	*84.2*	*96.9*	*112.1*	*87.5*	*83.8*	*96.1*	*111.7*	*87.0*	**386.9**	*380.6*	*378.6*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**22.4**	*21.8*	*15.5*	*28.7*	*22.6*	*20.2*	*15.2*	*27.0*	*19.5*	**91.7**	*88.6*	*82.0*
Coal	**22.5**	**19.1**	**26.6**	**23.9**	*18.7*	*13.0*	*23.4*	*22.8*	*18.0*	*12.1*	*22.4*	*21.5*	**92.1**	*77.8*	*73.9*
Nuclear	**2.5**	**1.2**	**2.5**	**2.4**	*2.3*	*2.4*	*2.4*	*2.4*	*2.3*	*1.2*	*2.4*	*2.4*	**8.5**	*9.5*	*8.3*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**27.9**	*34.9*	*41.7*	*31.2*	*27.8*	*34.5*	*41.3*	*30.8*	*27.9*	**118.5**	*135.6*	*134.4*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**15.8**	*17.3*	*18.1*	*16.6*	*17.4*	*19.1*	*19.3*	*17.7*	*19.5*	**64.0**	*69.4*	*75.6*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.1**	*0.2*	*0.2*	*0.3*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	**0.7**	*0.7*	*0.7*
Total generation	**95.8**	**88.7**	**98.5**	**92.6**	*95.2*	*90.9*	*102.4*	*93.1*	*94.2*	*89.2*	*100.6*	*90.9*	**375.5**	*381.6*	*374.9*
Net energy for load (f)	**89.5**	**84.6**	**97.6**	**90.8**	*89.3*	*85.6*	*96.3*	*89.5*	*88.7*	*85.7*	*96.3*	*89.4*	**362.5**	*360.7*	*360.2*
Southwest															
Natural Gas	**10.9**	**15.7**	**20.1**	**12.3**	*8.8*	*11.1*	*16.3*	*11.7*	*7.7*	*10.3*	*14.3*	*10.3*	**58.9**	*47.8*	*42.6*
Coal	**5.5**	**5.6**	**8.3**	**6.8**	*3.9*	*4.5*	*7.5*	*5.2*	*2.9*	*3.6*	*7.5*	*5.0*	**26.2**	*21.1*	*18.9*
Nuclear	**8.5**	**7.1**	**8.6**	**7.6**	*8.4*	*7.5*	*8.6*	*7.5*	*8.4*	*7.5*	*8.6*	*7.6*	**31.7**	*32.0*	*32.1*
Conventional hydropower	**2.5**	**3.2**	**3.2**	**2.1**	*2.6*	*3.8*	*3.7*	*2.5*	*2.8*	*4.0*	*3.8*	*2.6*	**11.0**	*12.6*	*13.2*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**4.6**	*5.2*	*5.7*	*4.6*	*6.2*	*5.7*	*6.4*	*5.3*	*7.0*	**14.8**	*21.6*	*24.3*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.1**	*0.2*	*0.1*
Total generation	**30.4**	**35.7**	**43.4**	**33.4**	*28.9*	*32.7*	*40.8*	*33.1*	*27.6*	*31.8*	*39.6*	*32.3*	**142.9**	*135.4*	*131.3*
Net energy for load (f)	**19.7**	**25.9**	**32.1**	**21.1**	*19.6*	*25.1*	*32.6*	*21.2*	*19.6*	*25.1*	*32.6*	*21.1*	**98.8**	*98.6*	*98.4*
California															
Natural Gas	**16.5**	**17.5**	**28.8**	**19.7**	*13.9*	*13.4*	*27.2*	*19.5*	*13.1*	*11.3*	*24.2*	*17.4*	**82.5**	*74.0*	*66.0*
Coal	**1.8**	**1.4**	**3.0**	**2.1**	*1.8*	*1.4*	*2.3*	*2.3*	*1.9*	*1.4*	*2.4*	*2.3*	**8.3**	*7.9*	*8.0*
Nuclear	**2.9**	**4.2**	**5.0**	**4.4**	*4.7*	*3.9*	*4.5*	*4.0*	*4.7*	*4.7*	*4.8*	*4.8*	**16.5**	*17.0*	*18.9*
Conventional hydropower	**2.0**	**3.2**	**3.7**	**3.4**	*4.5*	*7.4*	*6.7*	*3.7*	*5.1*	*8.5*	*7.7*	*4.3*	**12.3**	*22.3*	*25.6*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**13.8**	*16.0*	*22.8*	*20.9*	*15.3*	*17.9*	*25.7*	*25.5*	*18.7*	**69.6**	*75.1*	*87.9*
Other energy sources (e)	**0.0**	**-0.1**	**0.0**	**0.1**	*0.1*	*0.0*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.2*	**0.0**	*0.2*	*0.6*
Total generation	**38.7**	**47.4**	**59.6**	**43.5**	*41.0*	*49.0*	*61.6*	*44.9*	*42.8*	*51.7*	*64.6*	*47.7*	**189.2**	*196.5*	*206.9*
Net energy for load (f)	**56.2**	**63.6**	**77.7**	**61.1**	*56.1*	*61.8*	*75.9*	*60.4*	*56.4*	*61.9*	*75.9*	*60.3*	**258.6**	*254.2*	*254.5*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.034**	*0.033*	*0.035*	*0.036*	*0.036*	*0.031*	*0.030*	*0.036*	*0.032*	**0.138**	*0.140*	*0.129*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.554**	*0.640*	*0.719*	*0.581*	*0.524*	*0.645*	*0.735*	*0.599*	*0.541*	**2.267**	*2.464*	*2.520*
Solar (b)	**0.189**	**0.309**	**0.307**	**0.205**	*0.249*	*0.406*	*0.402*	*0.266*	*0.324*	*0.519*	*0.529*	*0.355*	**1.010**	*1.323*	*1.727*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	*0.059*	*0.058*	*0.059*	*0.058*	*0.059*	*0.058*	*0.058*	*0.058*	**0.236**	*0.233*	*0.234*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.045**	*0.044*	*0.040*	*0.049*	*0.042*	*0.046*	*0.041*	*0.050*	*0.043*	**0.196**	*0.175*	*0.179*
Wind	**0.863**	**0.856**	**0.684**	**0.957**	*1.039*	*0.970*	*0.760*	*1.027*	*1.082*	*1.002*	*0.785*	*1.060*	**3.359**	*3.796*	*3.929*
Subtotal	**1.800**	**1.881**	**1.672**	**1.853**	*2.064*	*2.227*	*1.886*	*1.954*	*2.187*	*2.385*	*2.057*	*2.089*	**7.205**	*8.131*	*8.718*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.169**	**0.188**	**0.185**	**0.194**	*0.187*	*0.195*	*0.199*	*0.200*	*0.189*	*0.196*	*0.197*	*0.199*	**0.737**	*0.782*	*0.782*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	*0.008*	*0.011*	*0.011*	*0.008*	*0.009*	*0.012*	*0.013*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.041**	*0.040*	*0.039*	*0.039*	*0.040*	*0.040*	*0.039*	*0.039*	*0.040*	**0.159**	*0.158*	*0.158*
Wood Biomass	**0.334**	**0.340**	**0.344**	**0.347**	*0.344*	*0.344*	*0.357*	*0.360*	*0.350*	*0.347*	*0.359*	*0.361*	**1.365**	*1.405*	*1.417*
Subtotal	**0.552**	**0.575**	**0.575**	**0.590**	*0.578*	*0.587*	*0.603*	*0.608*	*0.586*	*0.591*	*0.603*	*0.608*	**2.292**	*2.376*	*2.388*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	*0.032*	*0.047*	*0.047*	*0.032*	*0.037*	*0.053*	*0.053*	*0.037*	**0.141**	*0.158*	*0.180*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	*0.009*	*0.008*	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.035**	*0.035*	*0.035*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	*0.020*	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.082**	*0.082*	*0.082*
Subtotal	**0.069**	**0.083**	**0.085**	**0.071**	*0.074*	*0.088*	*0.090*	*0.075*	*0.078*	*0.095*	*0.096*	*0.079*	**0.308**	*0.327*	*0.349*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.065**	**0.099**	**0.097**	**0.067**	*0.075*	*0.116*	*0.117*	*0.080*	*0.087*	*0.132*	*0.131*	*0.090*	**0.328**	*0.387*	*0.439*
Wood Biomass	**0.112**	**0.113**	**0.115**	**0.115**	*0.112*	*0.113*	*0.115*	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.455**	*0.455*	*0.455*
Subtotal	**0.187**	**0.222**	**0.222**	**0.192**	*0.196*	*0.239*	*0.241*	*0.205*	*0.209*	*0.255*	*0.256*	*0.215*	**0.822**	*0.881*	*0.934*
Transportation Sector															
Biomass-based Diesel (f)	**0.056**	**0.070**	**0.062**	**0.077**	*0.070*	*0.076*	*0.081*	*0.086*	*0.072*	*0.077*	*0.082*	*0.084*	**0.266**	*0.313*	*0.315*
Ethanol (f)	**0.244**	**0.283**	**0.287**	**0.284**	*0.260*	*0.291*	*0.294*	*0.290*	*0.267*	*0.294*	*0.296*	*0.293*	**1.098**	*1.136*	*1.150*
Subtotal	**0.300**	**0.353**	**0.349**	**0.358**	*0.330*	*0.367*	*0.376*	*0.377*	*0.339*	*0.371*	*0.378*	*0.377*	**1.360**	*1.449*	*1.465*
All Sectors Total															
Biomass-based Diesel (f)	**0.056**	**0.070**	**0.062**	**0.077**	*0.070*	*0.076*	*0.081*	*0.086*	*0.072*	*0.077*	*0.082*	*0.084*	**0.266**	*0.313*	*0.315*
Biofuel Losses and Co-products (d)	**0.169**	**0.188**	**0.185**	**0.194**	*0.187*	*0.195*	*0.199*	*0.200*	*0.189*	*0.196*	*0.197*	*0.199*	**0.737**	*0.782*	*0.782*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.304**	*0.270*	*0.302*	*0.306*	*0.301*	*0.277*	*0.305*	*0.308*	*0.304*	**1.149**	*1.179*	*1.194*
Geothermal	**0.050**	**0.052**	**0.052**	**0.051**	*0.050*	*0.052*	*0.053*	*0.053*	*0.048*	*0.047*	*0.053*	*0.049*	**0.205**	*0.207*	*0.197*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.556**	*0.643*	*0.722*	*0.584*	*0.526*	*0.647*	*0.738*	*0.601*	*0.544*	**2.277**	*2.474*	*2.530*
Solar (b)(e)	**0.286**	**0.455**	**0.451**	**0.306**	*0.364*	*0.580*	*0.577*	*0.387*	*0.456*	*0.716*	*0.726*	*0.490*	**1.498**	*1.907*	*2.389*
Waste Biomass (c)	**0.110**	**0.107**	**0.105**	**0.109**	*0.107*	*0.105*	*0.106*	*0.107*	*0.108*	*0.106*	*0.106*	*0.107*	**0.431**	*0.426*	*0.427*
Wood Biomass	**0.517**	**0.519**	**0.534**	**0.524**	*0.520*	*0.518*	*0.542*	*0.538*	*0.528*	*0.522*	*0.544*	*0.539*	**2.094**	*2.117*	*2.133*
Wind	**0.863**	**0.856**	**0.684**	**0.957**	*1.039*	*0.970*	*0.760*	*1.027*	*1.082*	*1.002*	*0.785*	*1.060*	**3.359**	*3.796*	*3.929*
Total Consumption	**2.908**	**3.114**	**2.902**	**3.073**	*3.242*	*3.508*	*3.196*	*3.218*	*3.399*	*3.696*	*3.390*	*3.368*	**11.997**	*13.164*	*13.853*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW)

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,285**	**6,141**	**6,141**	**6,150**	*6,155*	*6,190*	*6,190*	*6,190*	*6,190*	*6,209*	*6,209*	*6,209*	**6,150**	*6,190*	*6,209*
Waste	**3,781**	**3,779**	**3,779**	**3,788**	*3,793*	*3,829*	*3,829*	*3,829*	*3,829*	*3,848*	*3,848*	*3,848*	**3,788**	*3,829*	*3,848*
Wood	**2,505**	**2,362**	**2,362**	**2,362**	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	**2,362**	*2,362*	*2,362*
Conventional Hydroelectric	**78,673**	**78,745**	**78,747**	**78,766**	*78,769*	*78,792*	*78,838*	*78,841*	*78,836*	*78,846*	*78,868*	*78,918*	**78,766**	*78,841*	*78,918*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	*2,500*	*2,500*	*2,500*	*2,525*	*2,525*	*2,525*	*2,525*	*2,525*	**2,483**	*2,525*	*2,525*
Large-Scale Solar (b)	**50,294**	**52,271**	**55,293**	**62,832**	*66,118*	*70,348*	*73,236*	*84,217*	*86,620*	*95,000*	*97,411*	*108,759*	**62,832**	*84,217*	*108,759*
Wind	**120,930**	**124,472**	**126,426**	**134,917**	*137,461*	*138,602*	*138,602*	*142,258*	*142,408*	*142,919*	*142,919*	*145,945*	**134,917**	*142,258*	*145,945*
Other Sectors (c)															
Biomass	**6,280**	**6,284**	**6,289**	**6,289**	*6,289*	*6,289*	*6,281*	*6,281*	*6,281*	*6,293*	*6,293*	*6,293*	**6,289**	*6,281*	*6,293*
Waste	**775**	**778**	**778**	**778**	*778*	*778*	*778*	*778*	*778*	*778*	*778*	*778*	**778**	*778*	*778*
Wood	**5,505**	**5,505**	**5,510**	**5,510**	*5,510*	*5,510*	*5,503*	*5,503*	*5,503*	*5,515*	*5,515*	*5,515*	**5,510**	*5,503*	*5,515*
Conventional Hydroelectric	**279**	**279**	**277**	**277**	*279*	*279*	*279*	*279*	*279*	*279*	*279*	*279*	**277**	*279*	*279*
Large-Scale Solar (b)	**474**	**474**	**489**	**524**	*524*	*530*	*532*	*541*	*541*	*541*	*541*	*541*	**524**	*541*	*541*
Small-Scale Solar (d)	**28,760**	**30,243**	**31,438**	**32,809**	*33,989*	*35,183*	*36,427*	*37,643*	*38,803*	*40,001*	*41,234*	*42,506*	**32,809**	*37,643*	*42,506*
Residential Sector	**17,959**	**19,039**	**19,974**	**21,016**	*21,911*	*22,776*	*23,606*	*24,394*	*25,133*	*25,895*	*26,680*	*27,488*	**21,016**	*24,394*	*27,488*
Commercial Sector	**8,720**	**9,074**	**9,294**	**9,575**	*9,808*	*10,083*	*10,437*	*10,805*	*11,166*	*11,540*	*11,927*	*12,328*	**9,575**	*10,805*	*12,328*
Industrial Sector	**2,080**	**2,130**	**2,170**	**2,218**	*2,270*	*2,324*	*2,384*	*2,444*	*2,504*	*2,565*	*2,627*	*2,690*	**2,218**	*2,444*	*2,690*
Wind	**346**	**346**	**346**	**346**	*346*	*346*	*346*	*346*	*346*	*346*	*346*	*346*	**346**	*346*	*346*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	*6.6*	*6.3*	*6.9*	*6.5*	*6.8*	*6.4*	*7.0*	*6.5*	**27.8**	*26.3*	*26.6*
Waste	**4.0**	**3.9**	**3.9**	**3.9**	*3.9*	*3.8*	*3.9*	*3.8*	*3.9*	*3.9*	*3.9*	*3.8*	**15.6**	*15.4*	*15.5*
Wood	**3.2**	**2.8**	**3.4**	**2.8**	*2.8*	*2.5*	*3.0*	*2.6*	*2.9*	*2.5*	*3.1*	*2.7*	**12.2**	*10.9*	*11.2*
Conventional Hydroelectric	**68.7**	**65.8**	**60.8**	**62.0**	*71.9*	*80.7*	*65.3*	*58.8*	*72.4*	*82.6*	*67.2*	*60.8*	**257.3**	*276.7*	*282.9*
Geothermal	**3.8**	**3.9**	**4.0**	**3.9**	*3.7*	*4.0*	*4.1*	*4.1*	*3.5*	*3.4*	*4.1*	*3.7*	**15.7**	*15.9*	*14.7*
Large-Scale Solar (b)	**21.2**	**34.7**	**34.5**	**23.0**	*28.0*	*45.6*	*45.2*	*29.9*	*36.4*	*58.3*	*59.4*	*39.9*	**113.4**	*148.6*	*193.9*
Wind	**96.9**	**96.1**	**76.8**	**107.5**	*116.6*	*109.0*	*85.3*	*115.4*	*121.5*	*112.5*	*88.2*	*119.0*	**377.2**	*426.3*	*441.3*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	*6.9*	*6.8*	*7.1*	*6.8*	*6.9*	*6.8*	*7.1*	*6.8*	**27.6**	*27.6*	*27.6*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	*6.2*	*6.1*	*6.4*	*6.1*	*6.2*	*6.1*	*6.4*	*6.1*	**24.9**	*24.9*	*24.9*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.1**	*1.1*	*1.1*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**9.7**	**14.7**	**14.5**	**9.8**	*11.2*	*17.1*	*17.2*	*11.8*	*13.2*	*19.6*	*19.6*	*13.4*	**48.7**	*57.2*	*65.8*
Residential Sector	**5.9**	**9.1**	**8.9**	**5.9**	*6.9*	*10.8*	*10.9*	*7.4*	*8.2*	*12.5*	*12.4*	*8.5*	**29.8**	*35.9*	*41.7*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.1**	*3.5*	*5.0*	*5.0*	*3.5*	*4.0*	*5.8*	*5.8*	*4.0*	**15.1**	*17.0*	*19.4*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	*0.9*	*1.2*	*1.3*	*0.9*	*0.9*	*1.4*	*1.4*	*1.0*	**3.8**	*4.2*	*4.7*
Wind	**0.3**	**0.3**	**0.2**	**0.3**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**1.1**	*0.9*	*0.8*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,469**	**19,803**	*19,983*	*20,182*	*20,378*	*20,524*	*20,649*	*20,769*	*20,896*	*21,030*	**19,424**	*20,266*	*20,836*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,724**	**13,932**	*14,052*	*14,136*	*14,220*	*14,293*	*14,369*	*14,450*	*14,542*	*14,644*	**13,651**	*14,175*	*14,501*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,583**	**3,602**	*3,653*	*3,694*	*3,730*	*3,753*	*3,776*	*3,800*	*3,828*	*3,859*	**3,585**	*3,707*	*3,816*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-65**	**30**	*55*	*122*	*168*	*189*	*191*	*184*	*177*	*167*	**-76**	*134*	*180*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,381**	**3,364**	*3,389*	*3,405*	*3,426*	*3,442*	*3,453*	*3,462*	*3,471*	*3,481*	**3,377**	*3,416*	*3,467*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,286**	**2,352**	*2,359*	*2,403*	*2,459*	*2,515*	*2,566*	*2,611*	*2,651*	*2,688*	**2,301**	*2,434*	*2,629*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,599**	**3,633**	*3,685*	*3,728*	*3,768*	*3,808*	*3,846*	*3,879*	*3,914*	*3,954*	**3,567**	*3,747*	*3,898*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,644**	**15,392**	*15,368*	*15,495*	*15,634*	*15,713*	*15,802*	*15,909*	*16,037*	*16,159*	**16,015**	*15,553*	*15,977*
Non-Farm Employment															
(millions)	**143.4**	**145.1**	**147.4**	**148.7**	*150.2*	*151.4*	*152.4*	*153.1*	*153.6*	*154.0*	*154.4*	*154.7*	**146.1**	*151.8*	*154.2*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.3**	*3.9*	*3.7*	*3.5*	*3.3*	*3.3*	*3.4*	*3.4*	*3.5*	**5.4**	*3.6*	*3.4*
Housing Starts															
(millions - SAAR)	**1.60**	**1.59**	**1.56**	**1.53**	*1.53*	*1.48*	*1.44*	*1.40*	*1.37*	*1.36*	*1.34*	*1.35*	**1.57**	*1.46*	*1.35*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.8**	**102.0**	*103.4*	*104.3*	*105.4*	*106.2*	*107.0*	*107.5*	*108.0*	*108.5*	**100.3**	*104.8*	*107.7*
Manufacturing	**97.3**	**98.7**	**100.0**	**101.1**	*102.5*	*103.6*	*105.1*	*106.4*	*107.3*	*108.0*	*108.5*	*109.1*	**99.3**	*104.4*	*108.2*
Food	**101.2**	**100.4**	**99.0**	**100.1**	*100.2*	*100.3*	*100.4*	*100.7*	*101.0*	*101.5*	*102.1*	*102.7*	**100.2**	*100.4*	*101.9*
Paper	**93.9**	**95.0**	**95.1**	**95.4**	*95.9*	*96.0*	*96.3*	*96.7*	*97.1*	*97.3*	*97.2*	*97.2*	**94.9**	*96.2*	*97.2*
Petroleum and Coal Products	**90.5**	**95.9**	**94.3**	**98.0**	*98.8*	*99.2*	*99.7*	*100.1*	*100.3*	*100.4*	*100.4*	*100.6*	**94.7**	*99.5*	*100.4*
Chemicals	**91.8**	**99.3**	**99.5**	**100.4**	*101.4*	*101.9*	*102.7*	*103.3*	*104.0*	*104.6*	*104.9*	*105.4*	**97.7**	*102.3*	*104.7*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.5**	**96.7**	*97.3*	*97.4*	*97.8*	*98.7*	*99.4*	*100.2*	*101.0*	*101.9*	**96.5**	*97.8*	*100.6*
Primary Metals	**92.4**	**96.7**	**98.2**	**98.5**	*99.3*	*99.3*	*100.7*	*101.5*	*102.2*	*102.6*	*102.3*	*102.6*	**96.4**	*100.2*	*102.4*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.3**	**97.3**	*98.1*	*98.1*	*99.0*	*99.6*	*100.2*	*100.6*	*100.6*	*101.0*	**95.5**	*98.7*	*100.6*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.8**	**103.9**	*104.9*	*105.3*	*106.2*	*106.9*	*107.4*	*107.8*	*108.1*	*108.6*	**102.6**	*105.8*	*108.0*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.8**	**98.9**	*100.0*	*100.5*	*101.7*	*102.5*	*103.2*	*103.6*	*103.8*	*104.2*	**97.1**	*101.2*	*103.7*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.9**	**97.2**	*98.1*	*98.4*	*99.4*	*100.1*	*100.7*	*101.1*	*101.2*	*101.5*	**95.2**	*99.0*	*101.1*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.63**	**2.69**	**2.73**	**2.78**	*2.78*	*2.80*	*2.81*	*2.82*	*2.84*	*2.85*	*2.87*	*2.88*	**2.71**	*2.80*	*2.86*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.11**	**2.24**	**2.33**	**2.36**	*2.35*	*2.34*	*2.35*	*2.34*	*2.34*	*2.36*	*2.36*	*2.35*	**2.26**	*2.34*	*2.35*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.54**	*2.34*	*2.30*	*2.25*	*2.12*	*2.08*	*2.12*	*2.10*	*2.02*	**2.36**	*2.25*	*2.08*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.2**	**120.8**	*121.7*	*122.3*	*122.9*	*123.5*	*124.2*	*124.9*	*125.5*	*126.2*	**118.3**	*122.6*	*125.2*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,682**	**8,939**	**9,030**	**8,778**	*8,172*	*9,284*	*9,385*	*9,041*	*8,460*	*9,459*	*9,538*	*9,208*	**8,612**	*8,974*	*9,169*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**596**	**658**	**678**	*664*	*707*	*729*	*720*	*680*	*706*	*731*	*724*	**618**	*705*	*710*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**374**	*402*	*450*	*449*	*408*	*411*	*455*	*461*	*438*	**333**	*427*	*442*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**207.1**	*212.0*	*240.8*	*242.5*	*251.3*	*226.2*	*264.4*	*270.1*	*282.0*	**216.8**	*236.6*	*260.7*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	*0.278*	*0.273*	*0.278*	*0.285*	*0.300*	*0.292*	*0.296*	*0.303*	**0.258**	*0.279*	*0.298*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**569**	**569**	*561*	*579*	*592*	*588*	*570*	*586*	*597*	*593*	**2,214**	*2,320*	*2,346*
Natural Gas	**485**	**353**	**373**	**410**	*483*	*348*	*369*	*432*	*479*	*352*	*371*	*432*	**1,620**	*1,633*	*1,634*
Coal	**255**	**228**	**306**	**225**	*220*	*218*	*301*	*244*	*241*	*211*	*290*	*238*	**1,013**	*982*	*980*
Total Energy (c)	**1,260**	**1,143**	**1,251**	**1,206**	*1,266*	*1,148*	*1,265*	*1,267*	*1,292*	*1,152*	*1,260*	*1,266*	**4,859**	*4,946*	*4,971*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**976**	**993**	**999**	**1,016**	*1,025*	*1,035*	*1,046*	*1,053*	*1,059*	*1,064*	*1,070*	*1,076*	**996**	*1,040*	*1,067*
Middle Atlantic	**2,740**	**2,788**	**2,795**	**2,832**	*2,859*	*2,891*	*2,923*	*2,944*	*2,963*	*2,979*	*2,998*	*3,017*	**2,789**	*2,904*	*2,989*
E. N. Central	**2,482**	**2,521**	**2,529**	**2,569**	*2,590*	*2,613*	*2,635*	*2,653*	*2,667*	*2,680*	*2,694*	*2,709*	**2,525**	*2,623*	*2,688*
W. N. Central	**1,201**	**1,220**	**1,223**	**1,242**	*1,252*	*1,262*	*1,273*	*1,280*	*1,286*	*1,292*	*1,299*	*1,306*	**1,221**	*1,267*	*1,295*
S. Atlantic	**3,381**	**3,433**	**3,449**	**3,509**	*3,539*	*3,573*	*3,606*	*3,629*	*3,650*	*3,670*	*3,691*	*3,714*	**3,443**	*3,587*	*3,681*
E. S. Central	**834**	**845**	**850**	**864**	*870*	*877*	*883*	*888*	*891*	*895*	*899*	*903*	**848**	*879*	*897*
W. S. Central	**2,332**	**2,365**	**2,379**	**2,427**	*2,454*	*2,481*	*2,511*	*2,532*	*2,553*	*2,573*	*2,592*	*2,611*	**2,376**	*2,495*	*2,582*
Mountain	**1,264**	**1,284**	**1,296**	**1,320**	*1,333*	*1,346*	*1,360*	*1,371*	*1,381*	*1,392*	*1,403*	*1,415*	**1,291**	*1,352*	*1,398*
Pacific	**3,675**	**3,746**	**3,776**	**3,848**	*3,884*	*3,923*	*3,960*	*3,990*	*4,015*	*4,039*	*4,064*	*4,091*	**3,761**	*3,939*	*4,052*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.1**	**96.4**	**92.6**	**93.8**	*94.9*	*95.9*	*97.2*	*98.3*	*99.1*	*99.7*	*100.1*	*100.5*	**94.5**	*96.6*	*99.9*
Middle Atlantic	**93.0**	**94.3**	**90.9**	**92.0**	*93.4*	*94.5*	*95.9*	*96.9*	*97.7*	*98.2*	*98.5*	*98.9*	**92.6**	*95.1*	*98.3*
E. N. Central	**95.0**	**95.8**	**98.9**	**100.3**	*101.8*	*103.1*	*104.8*	*106.4*	*107.4*	*108.2*	*108.8*	*109.5*	**97.5**	*104.0*	*108.5*
W. N. Central	**98.0**	**99.3**	**100.4**	**101.1**	*102.5*	*103.4*	*104.9*	*106.0*	*106.8*	*107.4*	*107.9*	*108.5*	**99.7**	*104.2*	*107.7*
S. Atlantic	**98.9**	**100.3**	**104.9**	**106.2**	*107.5*	*108.7*	*110.3*	*111.4*	*112.3*	*113.0*	*113.5*	*114.1*	**102.6**	*109.5*	*113.2*
E. S. Central	**97.8**	**98.9**	**105.3**	**106.5**	*107.6*	*108.4*	*109.8*	*111.1*	*111.8*	*112.4*	*112.9*	*113.6*	**102.1**	*109.2*	*112.7*
W. S. Central	**98.8**	**100.4**	**95.0**	**96.1**	*97.7*	*98.9*	*100.4*	*101.6*	*102.5*	*103.2*	*103.8*	*104.4*	**97.6**	*99.6*	*103.5*
Mountain	**105.2**	**107.5**	**114.0**	**115.1**	*116.5*	*117.6*	*119.2*	*120.6*	*121.6*	*122.4*	*123.0*	*123.8*	**110.5**	*118.5*	*122.7*
Pacific	**93.5**	**94.7**	**95.3**	**96.5**	*98.0*	*99.5*	*101.1*	*102.5*	*103.8*	*104.3*	*104.8*	*105.4*	**95.0**	*100.3*	*104.6*
Real Personal Income (Billion $2012)															
New England	**983**	**926**	**920**	**908**	*911*	*920*	*929*	*934*	*940*	*945*	*953*	*959*	**934**	*923*	*949*
Middle Atlantic	**2,553**	**2,392**	**2,369**	**2,333**	*2,332*	*2,355*	*2,378*	*2,390*	*2,405*	*2,419*	*2,437*	*2,454*	**2,412**	*2,364*	*2,429*
E. N. Central	**2,837**	**2,620**	**2,589**	**2,556**	*2,556*	*2,577*	*2,598*	*2,612*	*2,626*	*2,643*	*2,663*	*2,681*	**2,651**	*2,586*	*2,653*
W. N. Central	**1,316**	**1,227**	**1,216**	**1,202**	*1,201*	*1,209*	*1,220*	*1,226*	*1,233*	*1,241*	*1,250*	*1,259*	**1,240**	*1,214*	*1,246*
S. Atlantic	**3,744**	**3,473**	**3,471**	**3,432**	*3,433*	*3,462*	*3,495*	*3,514*	*3,539*	*3,564*	*3,594*	*3,623*	**3,530**	*3,476*	*3,580*
E. S. Central	**1,060**	**965**	**962**	**951**	*950*	*956*	*964*	*968*	*973*	*979*	*986*	*993*	**985**	*959*	*983*
W. S. Central	**2,343**	**2,174**	**2,159**	**2,149**	*2,157*	*2,179*	*2,204*	*2,219*	*2,238*	*2,257*	*2,277*	*2,298*	**2,206**	*2,190*	*2,267*
Mountain	**1,389**	**1,283**	**1,278**	**1,264**	*1,266*	*1,278*	*1,291*	*1,299*	*1,308*	*1,320*	*1,333*	*1,345*	**1,303**	*1,284*	*1,327*
Pacific	**3,142**	**2,968**	**2,946**	**2,899**	*2,898*	*2,923*	*2,950*	*2,966*	*2,983*	*3,005*	*3,029*	*3,054*	**2,989**	*2,934*	*3,018*
Households (Thousands)															
New England	**6,053**	**6,056**	**6,049**	**6,058**	*6,071*	*6,085*	*6,099*	*6,111*	*6,123*	*6,134*	*6,145*	*6,156*	**6,058**	*6,111*	*6,156*
Middle Atlantic	**16,467**	**16,478**	**16,476**	**16,512**	*16,556*	*16,600*	*16,638*	*16,675*	*16,708*	*16,737*	*16,766*	*16,793*	**16,512**	*16,675*	*16,793*
E. N. Central	**19,074**	**19,088**	**19,089**	**19,136**	*19,189*	*19,231*	*19,268*	*19,306*	*19,341*	*19,374*	*19,408*	*19,440*	**19,136**	*19,306*	*19,440*
W. N. Central	**8,714**	**8,726**	**8,730**	**8,756**	*8,785*	*8,816*	*8,844*	*8,868*	*8,890*	*8,912*	*8,934*	*8,955*	**8,756**	*8,868*	*8,955*
S. Atlantic	**26,237**	**26,300**	**26,338**	**26,447**	*26,567*	*26,689*	*26,802*	*26,907*	*27,008*	*27,103*	*27,198*	*27,294*	**26,447**	*26,907*	*27,294*
E. S. Central	**7,803**	**7,815**	**7,822**	**7,848**	*7,876*	*7,905*	*7,933*	*7,956*	*7,978*	*7,999*	*8,020*	*8,041*	**7,848**	*7,956*	*8,041*
W. S. Central	**15,304**	**15,342**	**15,373**	**15,441**	*15,516*	*15,592*	*15,664*	*15,727*	*15,789*	*15,848*	*15,909*	*15,969*	**15,441**	*15,727*	*15,969*
Mountain	**9,590**	**9,628**	**9,659**	**9,714**	*9,771*	*9,825*	*9,877*	*9,923*	*9,967*	*10,012*	*10,054*	*10,096*	**9,714**	*9,923*	*10,096*
Pacific	**19,056**	**19,065**	**19,065**	**19,114**	*19,178*	*19,238*	*19,293*	*19,333*	*19,369*	*19,406*	*19,443*	*19,482*	**19,114**	*19,333*	*19,482*
Total Non-farm Employment (Millions)															
New England	**7.0**	**7.1**	**7.2**	**7.3**	*7.3*	*7.4*	*7.4*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.1**	*7.4*	*7.5*
Middle Atlantic	**18.3**	**18.5**	**18.8**	**18.9**	*19.1*	*19.3*	*19.5*	*19.6*	*19.7*	*19.7*	*19.8*	*19.8*	**18.6**	*19.4*	*19.8*
E. N. Central	**20.9**	**21.1**	**21.4**	**21.5**	*21.8*	*21.9*	*22.1*	*22.2*	*22.2*	*22.3*	*22.3*	*22.3*	**21.2**	*22.0*	*22.3*
W. N. Central	**10.3**	**10.4**	**10.5**	**10.6**	*10.7*	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	*10.9*	*10.9*	**10.5**	*10.8*	*10.9*
S. Atlantic	**27.9**	**28.1**	**28.7**	**28.9**	*29.2*	*29.4*	*29.6*	*29.7*	*29.8*	*29.9*	*30.0*	*30.1*	**28.4**	*29.5*	*29.9*
E. S. Central	**8.0**	**8.1**	**8.2**	**8.2**	*8.3*	*8.3*	*8.4*	*8.4*	*8.4*	*8.4*	*8.4*	*8.5*	**8.1**	*8.3*	*8.4*
W. S. Central	**17.1**	**17.3**	**17.6**	**17.8**	*17.9*	*18.1*	*18.2*	*18.3*	*18.4*	*18.4*	*18.5*	*18.5*	**17.5**	*18.1*	*18.4*
Mountain	**10.7**	**10.9**	**11.1**	**11.2**	*11.3*	*11.4*	*11.4*	*11.5*	*11.5*	*11.6*	*11.6*	*11.7*	**11.0**	*11.4*	*11.6*
Pacific	**21.9**	**22.4**	**22.9**	**23.2**	*23.4*	*23.7*	*23.8*	*24.0*	*24.1*	*24.1*	*24.2*	*24.2*	**22.6**	*23.7*	*24.1*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,018**	**783**	**85**	**1,927**	*3,030*	*862*	*136*	*2,150*	*3,109*	*863*	*136*	*2,150*	**5,814**	*6,178*	*6,258*
Middle Atlantic	**2,818**	**666**	**56**	**1,699**	*2,811*	*691*	*88*	*1,972*	*2,858*	*690*	*88*	*1,972*	**5,239**	*5,561*	*5,609*
E. N. Central	**3,086**	**708**	**70**	**1,873**	*3,104*	*734*	*135*	*2,260*	*3,094*	*734*	*135*	*2,260*	**5,737**	*6,233*	*6,223*
W. N. Central	**3,229**	**720**	**88**	**2,043**	*3,229*	*706*	*168*	*2,478*	*3,245*	*706*	*168*	*2,479*	**6,080**	*6,581*	*6,599*
South Atlantic	**1,346**	**211**	**11**	**793**	*1,351*	*191*	*13*	*951*	*1,388*	*191*	*13*	*949*	**2,361**	*2,507*	*2,541*
E. S. Central	**1,788**	**311**	**19**	**1,036**	*1,729*	*244*	*22*	*1,314*	*1,800*	*244*	*22*	*1,315*	**3,154**	*3,309*	*3,381*
W. S. Central	**1,299**	**122**	**1**	**504**	*1,073*	*75*	*5*	*833*	*1,212*	*75*	*5*	*832*	**1,926**	*1,985*	*2,124*
Mountain	**2,306**	**662**	**109**	**1,657**	*2,252*	*692*	*145*	*1,881*	*2,263*	*691*	*144*	*1,880*	**4,733**	*4,969*	*4,979*
Pacific	**1,567**	**486**	**77**	**1,180**	*1,585*	*615*	*89*	*1,231*	*1,540*	*615*	*89*	*1,232*	**3,311**	*3,520*	*3,476*
U.S. Average	**2,109**	**472**	**51**	**1,301**	*2,077*	*490*	*77*	*1,542*	*2,107*	*490*	*77*	*1,540*	**3,933**	*4,187*	*4,214*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**856**	**107**	**2,100**	*3,101*	*853*	*108*	*2,104*	*3,141*	*867*	*108*	*2,111*	**6,196**	*6,166*	*6,228*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	*2,887*	*684*	*71*	*1,905*	*2,932*	*694*	*72*	*1,909*	**5,572**	*5,548*	*5,606*
E. N. Central	**3,157**	**731**	**105**	**2,170**	*3,133*	*728*	*97*	*2,160*	*3,198*	*740*	*97*	*2,171*	**6,162**	*6,118*	*6,206*
W. N. Central	**3,248**	**728**	**133**	**2,368**	*3,220*	*726*	*125*	*2,358*	*3,292*	*746*	*127*	*2,371*	**6,478**	*6,429*	*6,535*
South Atlantic	**1,395**	**181**	**11**	**916**	*1,380*	*187*	*11*	*905*	*1,402*	*190*	*11*	*901*	**2,503**	*2,483*	*2,503*
E. S. Central	**1,771**	**231**	**16**	**1,248**	*1,763*	*243*	*15*	*1,227*	*1,800*	*250*	*14*	*1,227*	**3,267**	*3,248*	*3,291*
W. S. Central	**1,140**	**86**	**3**	**786**	*1,145*	*93*	*3*	*755*	*1,162*	*97*	*3*	*767*	**2,015**	*1,996*	*2,030*
Mountain	**2,188**	**704**	**135**	**1,850**	*2,181*	*685*	*132*	*1,820*	*2,196*	*696*	*135*	*1,830*	**4,877**	*4,818*	*4,857*
Pacific	**1,462**	**553**	**81**	**1,148**	*1,455*	*523*	*79*	*1,135*	*1,459*	*524*	*79*	*1,141*	**3,243**	*3,192*	*3,202*
U.S. Average	**2,113**	**483**	**65**	**1,488**	*2,096*	*479*	*62*	*1,472*	*2,126*	*486*	*63*	*1,476*	**4,148**	*4,110*	*4,151*
Cooling Degree Days															
New England	**0**	**142**	**452**	**6**	*0*	*79*	*403*	*2*	*0*	*79*	*403*	*2*	**600**	*484*	*484*
Middle Atlantic	**0**	**184**	**635**	**23**	*0*	*148*	*530*	*5*	*0*	*148*	*531*	*5*	**843**	*683*	*683*
E. N. Central	**2**	**250**	**626**	**29**	*0*	*211*	*518*	*6*	*0*	*211*	*517*	*6*	**907**	*735*	*735*
W. N. Central	**8**	**311**	**746**	**22**	*3*	*260*	*651*	*9*	*3*	*260*	*651*	*9*	**1,087**	*923*	*923*
South Atlantic	**152**	**617**	**1,172**	**274**	*134*	*652*	*1,160*	*237*	*122*	*653*	*1,161*	*238*	**2,215**	*2,183*	*2,174*
E. S. Central	**41**	**438**	**1,018**	**113**	*32*	*509*	*1,031*	*62*	*28*	*509*	*1,031*	*62*	**1,610**	*1,635*	*1,630*
W. S. Central	**89**	**768**	**1,471**	**320**	*106*	*903*	*1,495*	*192*	*81*	*903*	*1,495*	*193*	**2,648**	*2,695*	*2,672*
Mountain	**10**	**530**	**964**	**69**	*16*	*427*	*934*	*75*	*17*	*427*	*934*	*75*	**1,573**	*1,452*	*1,454*
Pacific	**24**	**247**	**696**	**57**	*27*	*168*	*593*	*60*	*27*	*167*	*592*	*60*	**1,024**	*848*	*847*
U.S. Average	**49**	**410**	**901**	**124**	*48*	*402*	*847*	*93*	*42*	*403*	*849*	*93*	**1,485**	*1,390*	*1,387*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**473**	**1**	*0*	*87*	*471*	*2*	*0*	*87*	*463*	*2*	**555**	*559*	*551*
Middle Atlantic	**0**	**163**	**610**	**6**	*0*	*162*	*609*	*8*	*0*	*159*	*599*	*8*	**779**	*780*	*767*
E. N. Central	**3**	**234**	**572**	**7**	*3*	*237*	*571*	*9*	*1*	*229*	*557*	*10*	**816**	*821*	*797*
W. N. Central	**7**	**294**	**686**	**10**	*7*	*299*	*681*	*11*	*4*	*287*	*666*	*12*	**997**	*999*	*969*
South Atlantic	**143**	**679**	**1,194**	**260**	*147*	*668*	*1,189*	*268*	*142*	*670*	*1,189*	*273*	**2,276**	*2,271*	*2,273*
E. S. Central	**42**	**532**	**1,065**	**74**	*44*	*518*	*1,057*	*82*	*36*	*512*	*1,056*	*85*	**1,713**	*1,702*	*1,689*
W. S. Central	**114**	**880**	**1,568**	**210**	*113*	*853*	*1,536*	*224*	*106*	*841*	*1,531*	*225*	**2,772**	*2,726*	*2,704*
Mountain	**24**	**442**	**948**	**85**	*23*	*459*	*945*	*84*	*23*	*452*	*942*	*83*	**1,499**	*1,511*	*1,500*
Pacific	**31**	**193**	**647**	**86**	*31*	*207*	*663*	*85*	*31*	*208*	*657*	*83*	**957**	*986*	*979*
U.S. Average	**52**	**413**	**892**	**104**	*53*	*412*	*889*	*108*	*50*	*409*	*883*	*110*	**1,461**	*1,462*	*1,452*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).



Independent Statistics & Analysis
U.S. Energy Information Administration

February 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The February *Short-Term Energy Outlook* (STEO) assumes U.S. GDP grew by 5.7% in 2021 and will grow by 4.2% in 2022 and by 2.8% in 2023. We use the IHS Markit macroeconomic model to generate our U.S. economic assumptions. Global macroeconomic assumptions in this forecast are from Oxford Economics and include global GDP growth of 4.4% in 2022 and 4.0% in 2023, compared with growth of 5.8% in 2021. A wide range of potential macroeconomic outcomes could significantly affect energy markets during the forecast period. In addition, the evolving effects of consumer behavior on energy demand because of the pandemic present a wide range of potential outcomes for energy consumption. Supply uncertainty in the forecast results from the potential for disruptions, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- Brent crude oil spot prices averaged $87 per barrel (b) in January, a $12/b increase from December 2021. Crude oil prices have risen steadily since mid-2020 as result of consistent draws on global oil inventories, which averaged 1.8 million barrels per day (b/d) from the third quarter of 2020 (3Q20) through the end of 2021. We estimate that global oil inventories fell further in January—compared with our expectation of an increase in last month's STEO—and that commercial inventories in the OECD ended the month at 2.68 billion barrels, which is the lowest level since mid-2014. Oil prices have also risen as result of heightened market concerns about the possibility of oil supply disruptions, notably related to tensions regarding Ukraine, paired with receding market concerns that the Omicron variant of COVID-19 will have widespread effects on oil consumption.

- We expect Brent prices will average $90/b in February as continuing draws in global oil inventories in our forecast keep crude oil prices near current levels in the coming months. However, we expect downward price pressures will emerge in the middle of the year as growth in oil production from OPEC+, the United States, and other non-OPEC countries outpaces slowing growth in global oil consumption. This dynamic leads to rising global oil inventories from 2Q22 through the end of 2023, and we forecast the Brent spot price will fall to an average of $87/b in 2Q22 and $75/b in 4Q22. We expect the Brent price will average $68/b for all of 2023. However, low inventory levels create an environment for potentially heightened crude oil price volatility and potential risk for

prices to rise significantly if supply growth does not keep pace with demand growth. Global supply chain disruptions have also likely exacerbated inflationary price effects across all sectors in recent months. How central banks respond to inflation may affect economic growth and oil prices during the forecast period.

- We estimate that 99.0 million b/d of petroleum and liquid fuels was consumed globally in January 2022, an increase of 6.6 million b/d from January 2021. We forecast that global consumption of petroleum and liquid fuels will average 100.6 million b/d for all of 2022, which is up 3.5 million b/d from 2021 and more than the 2019 average of 100.3 million b/d. We forecast that global consumption of petroleum and liquid fuels will increase by 1.9 million b/d in 2023.

- U.S. regular gasoline retail prices averaged $3.31 per gallon (gal) in January, unchanged from December 2021 and up 98 cents/gal from January 2021. Retail diesel prices averaged $3.72/gal in January, up 8 cents/gal from December and up $1.04/gal from last January. Product prices have risen compared with year-ago levels because of rising crude oil prices and high refining margins. We expect diesel prices will average $3.49/gal from 2Q22 through 4Q22. The forecast decline in prices reflects our expectation of falling crude oil prices, particularly in the second half of 2022 (2H22), as well as lower refining margins as refineries increase throughputs in the coming months.

- U.S. crude oil production reached almost 11.8 million b/d in November 2021 (the most recent monthly historical data point), the most in any month since April 2020. We forecast that production will rise to an average of 12.0 million b/d in 2022 and 12.6 million b/d in 2023, which would be record-high production on an annual-average basis. The previous annual average record of 12.3 million b/d was set in 2019.

Natural Gas

- In January, the natural gas spot price at Henry Hub averaged $4.38 per million British thermal units (MMBtu), up from the December average of $3.76/MMBtu. Higher prices in January were a result of colder-than-normal weather in parts of the country, particularly the Northeast and the Midwest where demand increased for natural gas used for space heating and for power generation. STEO uses weather forecasts from the National Oceanic and Atmospheric Administration (NOAA), and NOAA published the forecast we used in this STEO in late January. Temperatures have continued to be cold in parts of the country in early February, which we expect will contribute to Henry Hub prices averaging $4.70/MMBtu for the month. The winter weather forecasts are highly variable and create a significant amount of uncertainty in our price forecast. In addition, global demand for U.S. liquefied natural gas (LNG) has remained high, limiting some of the downward pressure on natural gas prices. We expect natural gas prices could remain volatile over the coming months, and the way that temperatures affect natural gas demand in February and March will be a key driver of how inventories end the

withdrawal season, which will be important for natural gas price formation in the coming months.

- We estimate that U.S. LNG exports averaged 11.2 billion cubic feet per day (Bcf/d) in January 2022, up from 10.4 Bcf/d in 4Q21, supported by large price differences between the Henry Hub price in the United States and spot prices in Europe and Asia. In particular, inventories in Europe remain much lower than their five-year averages and are contributing to strong demand for LNG imports. We expect high levels of U.S. LNG exports to continue into 2022, averaging 11.3 Bcf/d for the year, a 16% increase from 2021. The forecast reflects our assumptions that global natural gas demand remains strong and that expected additional U.S. LNG export capacity comes online.

- Colder-than-normal temperatures in January resulted in U.S. natural gas inventories falling below the five-year average to end the month at 2.3 trillion cubic feet (Tcf). We expect natural gas inventories to fall by about 730 Bcf for the rest of the withdrawal season, ending March just below 1.6 Tcf, which would be 8% less than the 2017–21 average for that time of year.

- We expect U.S. consumption of natural gas will average 105.2 billion cubic feet per day (Bcf/d) in February, down 3% from February 2021. Consumption in our forecast declines the most in the residential and commercial sectors, where consumption will average a combined 43.8 Bcf/d, down 10% from last February. We forecast electric power section consumption will be 27.8 Bcf/d in February, down 1% from last February. The changes are partly offset by industrial sector consumption, which grows by 4% from February 2021 in the forecast to average 24.8 Bcf/d for the month.

- We estimate dry U.S. natural gas production averaged 95.5 Bcf/d in the United States in January, down 2.1 Bcf/d from December 2021. Production in January was lower due, in some part, to freezing temperatures in certain production regions. We forecast natural gas production to average 95.6 Bcf/d in February and 96.1 Bcf/d for all of 2022, driven by natural gas and crude oil price levels that we expect will be sufficient to support enough drilling to sustain production growth. We expect production to rise to an average of 98.0 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- We forecast that the share of U.S. electric power sector generation produced by natural gas will average 35% in 2022 and 2023, down from 37% in 2021. The estimated cost of natural gas delivered to power generators averaged $4.97/MMBtu in 2021, and we expect it to fall to $4.16/MMBtu in 2022 and $3.86/MMBtu in 2023. Despite the forecast decline in fuel costs, the share of electricity generation from natural gas declines in the forecast because of growth in renewable generation. We expect the renewable generation share to increase from 20% in 2021 to 22% in 2022 and 24% in

2023. Increasing renewable generation contributes to our forecast that the share of generation from coal will decline from 23% in 2021 to an average of 22% over the next two years. Forecast generation from nuclear remains relatively constant through the forecast at an average generation share of 20%.

- We expect U.S. coal production to increase by almost 28 million short tons (MMst) (5%) in 2022 to 606 MMst and then rise by 18 MMst (3%) in 2023. Producers in the Powder River Basin have increased employment at mines in recent months to boost production to meet domestic demand, but we expect tight supply conditions to remain through the remainder of the year. We expect U.S. coal consumption to decrease by 2 MMst in 2022 as a 5 MMst (1%) decline in consumption from the electric power sector is somewhat offset by a 2 MMst (14%) increase in consumption for coke plants. Exports are expected to increase by 3 MMst (4%) in 2022 because international prices continue to be high for U.S. coal.

- Planned additions to U.S. wind and solar capacity in 2022 and 2023 increase electricity generation from those sources in our forecast. We estimate that the U.S. electric power sector added 16.3 gigawatts (GW) of new wind capacity in 2021. We expect 7.6 GW of new wind capacity will come online in 2022 and 4.3 GW in 2023. Utility-scale solar capacity rose by an estimated 13.9 GW in 2021. Our forecast for added utility-scale solar capacity is 21.8 GW for 2022 and 24.1 GW for 2023. We expect solar additions to account for nearly half of new electric generating capacity in 2022. In addition, in 2021, small-scale solar capacity (from systems less than 1 megawatt) increased by 5.1 GW to 32.7 GW. We project that small-scale solar will grow by 4.4 GW per year in both 2022 and 2023.

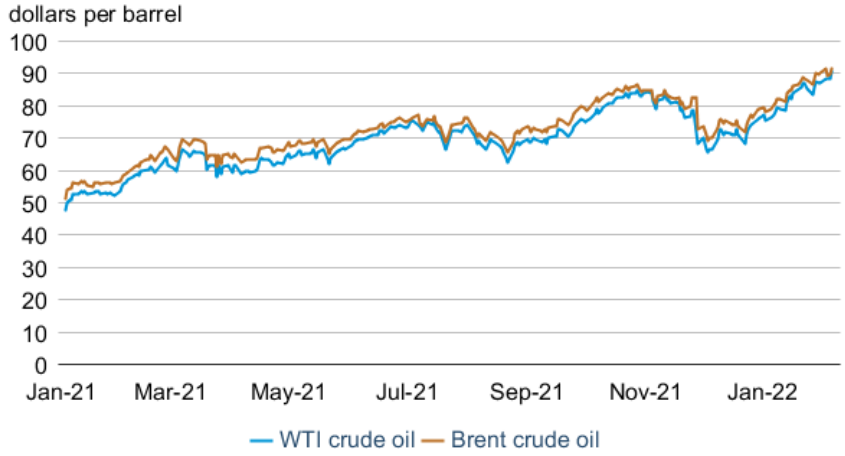
- U.S. energy-related carbon dioxide (CO_2) emissions increased by more than 6% in 2021 as economic activity increased and contributed to rising energy use. We expect a 2% increase in energy-related CO_2 emissions in 2022, primarily from growing transportation-related petroleum consumption. Forecast energy-related CO_2 emissions remain almost unchanged in 2023. We expect petroleum emissions to increase by 4% in 2022, and this growth rate slows to less than 1% in 2023. Natural gas emissions increase by 2% in 2022 and then decrease slightly in our forecast for 2023. We forecast that coal-related CO_2 emissions will decline by 1% in 2022 and by 2% in 2023.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $91.11 per barrel (b) on February 3, 2022, an increase of $12.13/b from the January 3, 2022, price of $78.98/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $14.19/b during the same period, settling at $90.27/b on February 3 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: Graph by EIA, based on CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

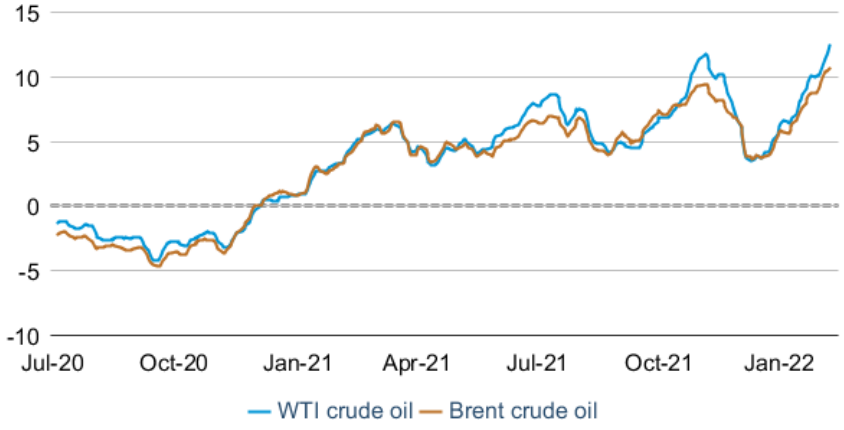
Brent crude oil prices increased throughout January as persistent global oil inventory draws and geopolitical tensions contributed to market concerns about disruptions to oil production. On several days in late-January and early February the nominal (not adjusted for inflation) front-month Brent price reached more than $90/b for the first time since October 2014. Global oil consumption has exceeded global oil supply since mid-2020, leading to six consecutive quarters of global oil inventory draws. We estimate global oil inventories declined again in January, contributing to commercially held inventories in OECD countries reaching the lowest levels since mid-2014. A major contributing factor to the low global oil inventories is some OPEC+ countries producing less than their targeted amounts due to operational difficulties ramping up production. During 4Q21, we estimate that the 10 OPEC countries subject to production targets produced less than those targets by a combined average of more than 0.6 million barrels per day (b/d).

More recently, geopolitical conflicts have also put upward pressure on oil prices. Prices can be more sensitive to concerns about supply disruptions during periods of low inventories. Tensions related to Ukraine have increased market concerns about the possibility of oil supply disruptions. In the Middle East, several missile attacks on Abu Dhabi—one of which hit a fuel

storage facility— has added to uncertainties for future oil supply, which may also be affected by political unrest in Libya and Kazakhstan. Libya's oil production has increased following blockades that shut in crude oil production in late December and early January, and production in Kazakhstan has increased following disruptions that occurred during protests from January 2–January 11 related to higher liquefied petroleum gas prices. Concerns about low oil inventories and potential supply disruptions have outweighed downward price pressure from China's announcement that it will release crude oil from its national strategic stockpiles.

Although the front-month Brent crude oil price reached more than $90/b at times in late-January, longer-dated contracts did not increase as much. This wide backwardation (when near-month prices are higher than longer-dated ones) suggests market participants are paying higher prices to secure oil from available inventories amid the large imbalance between supply and demand. The five-day moving average of the spread between prices for the 1st month futures contract and the 13th month contract for Brent widened to $10.46/b on February 3, from $5.62/b on January 3, and the spread between the 1st month futures contract and 13th month contract for WTI was even higher at $11.88/b on February 3, an increase from $6.45/b on January 3 **(Figure 2)**.

Figure 2. Crude oil front-month to 13th month futures price spread
dollars per barrel, five-day moving average

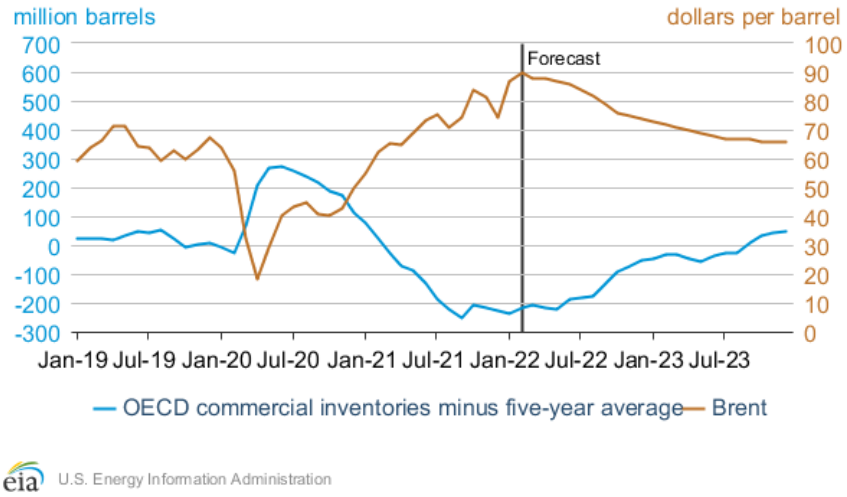


Source: Graph by EIA, based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg
Note: WTI=West Texas Intermediate

We forecast global inventory draws in February, with an average Brent spot price of $90/b. However, we expect oil inventories will begin rebuilding in March and continue throughout the forecast, which will result in lower crude oil prices. We forecast the Brent crude oil price to decrease to an average of $87/b in 2Q22 and $75/by 4Q22. We expect the Brent spot price to average $68/b in 2023. We estimate that OECD commercial inventories in January 2022 were 270 million barrels (9%) below their five-year (2017–2021) January average and that absolute inventory levels were at their lowest level since 2014 **(Figure 3)**. We forecast OECD commercial inventories will increase to their five-year average by mid-2023. Although we expect inventories to rise, the low inventory levels in recent months will likely limit downward price pressure for

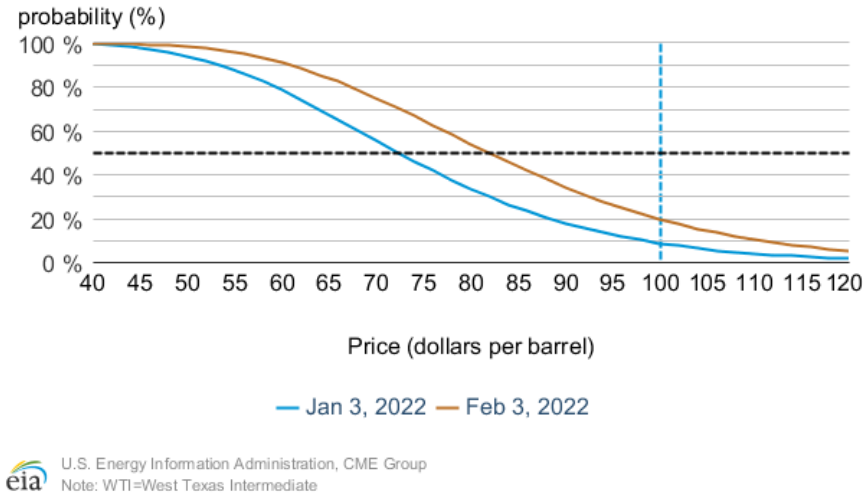
much of the first half of 2022 (1H22). In addition, until inventories move closer to five-year average levels, the potential for a supply disruption to significantly affect price levels and volatility is greater. Inventory growth in the forecast is driven by rising global oil production, largely from OPEC+ and the United States, along with slowing growth in global oil consumption. Our expectation of falling oil prices, particularly beyond 1H22, is contingent on our forecast of oil production and inventory growth. However, oil production might not meet our expectations because of possible changes in production targets from OPEC+, continuing technical issues among some producers, and changes in the investment decisions of U.S. tight oil operators, among other possible reasons.

Figure 3. OECD commercial liquid inventories minus five-year average and Brent price



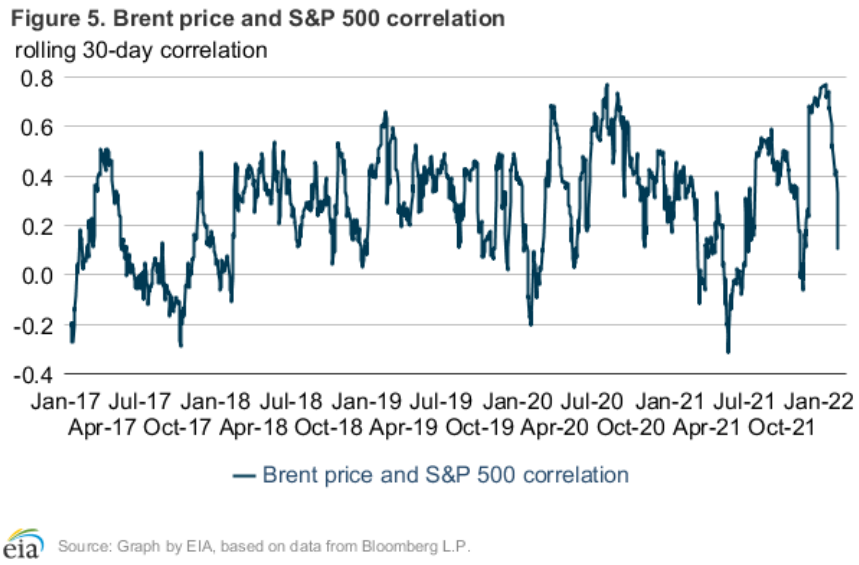
Market-derived probabilities: Crude oil prices continue to be subject to high levels of uncertainty due to COVID-19-related end-user behavior, geopolitical factors, and other disruptions to global oil supply and demand. Market-derived price probabilities that are based on futures and options prices reflect this price uncertainty. As of February 3, the probability of the June 2022 WTI contract expiring at more than $90/b was 34% **(Figure 4)**. Furthermore, market participants increased trading in call options with strike prices of $100/b throughout much of January. A *call option* is a financial instrument that gives the owner the right, but not the obligation, to purchase WTI futures at a certain price by an expiration date. Call options increase in value when the WTI futures price increases. The market-derived probability of $100/b WTI for the June contract increased from 8% on January 3 to 19% on February 3. Open interest for June WTI call options with a strike price of $100/b increased from 18,079 contracts on January 3 to 23,911 contracts on February 3. Trading volume increased from an average of 862 contracts per day in the first half of the month (January 3–January 14) to an average of 1,544 contracts per day in the second half of the month (January 17–January 31). Although the market-derived price probability of $100/b WTI crude oil has increased, the probability of it expiring at less than $70/b is slightly higher, at 25%. These large differences in market-derived probabilities reflect the significant uncertainty and high volatility in the oil market.

Figure 4. Probability of June 2022 WTI futures contracts expiring above different price levels



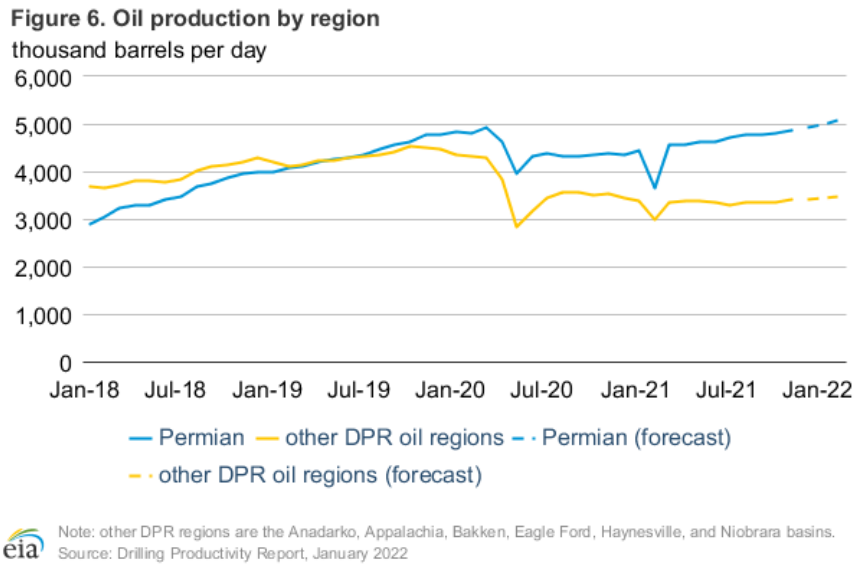
U.S. Energy Information Administration, CME Group
Note: WTI=West Texas Intermediate

Brent Price and S&P 500 correlation: Typically, the correlation between equity prices and crude oil prices are highest when demand-side factors, such as global economic growth, are driving crude oil prices. In recent weeks, the correlation between daily price changes in the S&P 500, an equity index of widely traded U.S. public companies, and Brent crude oil has decreased from a multiyear high reached on January 4. Since January 2017, the rolling 30-day correlation between the S&P 500 and Brent crude oil has been higher than 0.75 on two occasions **(Figure 5)**. The first occasion was in July 2020, when both the S&P 500 and the Brent crude oil price were increasing from their low points following the onset of the COVID-19 pandemic. The second occasion was in December 2021 and early January 2022, when equities, oil, and many other commodities were beginning to return to normal levels following a demand shock that began on November 26 when the World Health Organization designated the SARS-CoV-2 Omicron variant as a concern.



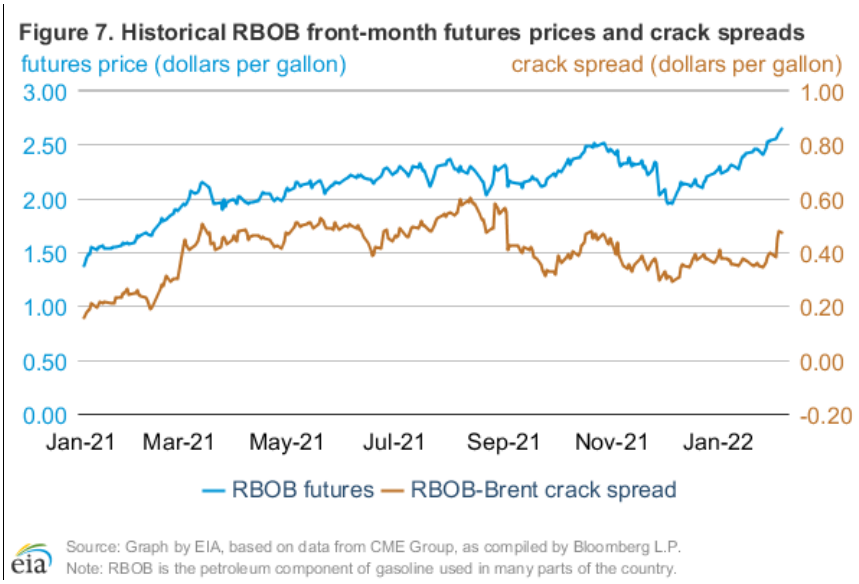
The correlation between the S&P 500 and Brent crude oil has been steeply decreasing since mid-January as concerns about the Omicron variant have lessened and factors more specific to the oil market have caused trends in crude oil prices to deviate from those of the S&P 500. Although the stock market and S&P 500 have been generally decreasing in reaction to changing expectations that the Federal Reserve may increase interest rates in 2022 more than previously expected, low oil inventories and the possibility that geopolitical issues could affect crude oil supply have been driving crude oil prices higher. As of February 3, the rolling 30-day correlation between the two was 0.11, the lowest it has been since the November 26 Omicron announcement.

U.S. production by region: After averaging 7.7 million b/d in the first half of 2021, according to our *Drilling Productivity Report*, U.S. crude oil production in all major shale regions increased to 8.2 million b/d in the second half of the year, largely because of rising production in the Permian Basin. Increases in well completions and rig counts in the Permian Basin have led to record production in that area, with forecasted oil production in the Permian Basin exceeding 5.0 million b/d for February 2022 **(Figure 6)**. The region's favorable geology combined with technological and operational improvements have supported the record production levels. In contrast to the record production in the Permian Basin, we expect production in other shale basins to average almost 3.5 million b/d in February, which is nearly 1.1 million b/d less than the record for production in these regions set in October 2019. The lack of growth and recovery in these other regions reflects more investments flowing to the Permian Basin than to other basins. According to Baker Hughes rig counts, from January 29, 2021, to January 28, 2022, the number of oil-directed rigs in the Permian Basin increased from 192 to 293. In the entire United States, the oil-directed rig count had increased by 200 during that period, meaning rig count growth in the Permian Basin accounts for more than half of the U.S. total.



Petroleum products

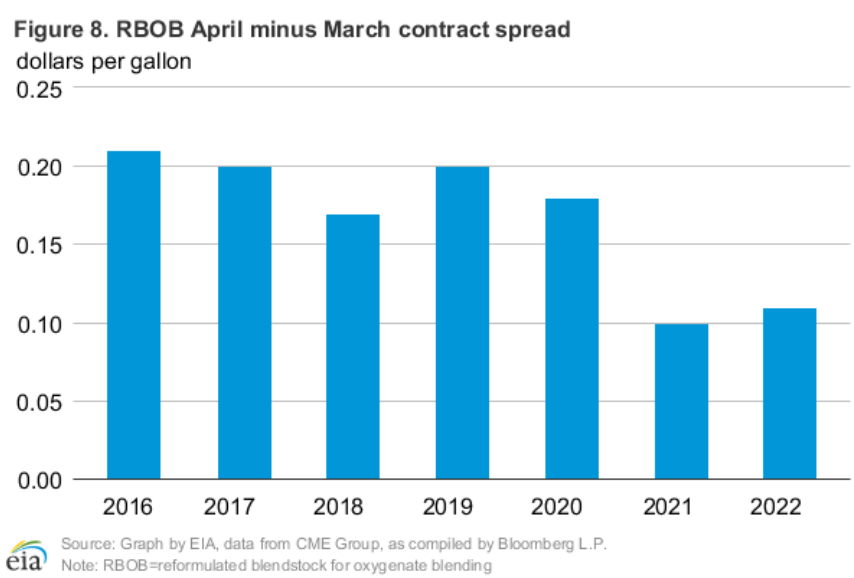
Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.64 per gallon (gal) on February 3, up 39 cents/gal from January 3 **(Figure 7)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at 47 cents/gal on February 3, up 10 cents/gal from the start of January. The average RBOB–Brent crack spread in January was 37 cents/gal, 1 cent/gal higher than the average spread in December.



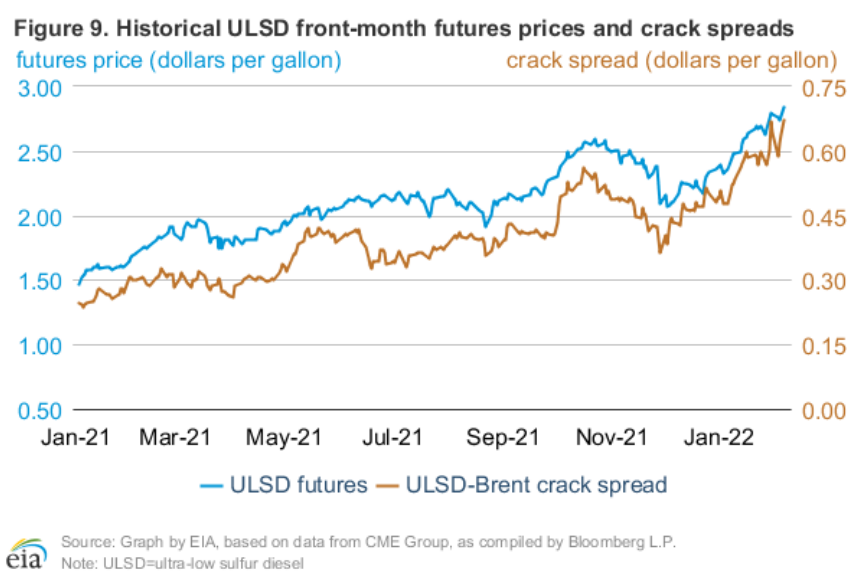
The RBOB–Brent crack spread remains wider than the five-year average for this time of year, continuing a trend of above-average crack spreads since January 2021. Since August, every

month was a record crack spread for that month in data going back to 2008. January's crack spread is more than double the five-year average. Rising crude oil prices and relatively low gasoline production contributed to higher front-month RBOB prices. Rapidly increasing crude oil prices typically reduce product crack spreads, but lower-than-average inventories are supporting these higher crack spreads.

March to April RBOB contract spread: The RBOB futures contract for April delivery is the first contract during the year that trades summer-grade gasoline, which is more expensive to produce and typically trades at higher prices than winter-grade gasoline. As a result, April contracts trade at a premium to March contracts. The 2016–2020 average spread during January trading between RBOB contracts for April delivery and RBOB contracts for March delivery was 19 cents/gal (**Figure 8**). This year the spread was 11 cents/gal, similar to the spread last year and only 1 cent/gal higher than the lowest spread recorded, which occurred in 2010. The relatively low spread could indicate new streamlining rules for testing summer-grade gasoline that the U.S. Environmental Protection Agency rolled out last year to make it easier to transition from winter to summer specifications has led to lower RBOB prices for summer-grade gasoline.



Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.84/gal on February 3, a 48 cents/gal increase from January 3 **(Figure 9)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 19 cents/gal during the same period and settled at 67 cents/gal on February 3.



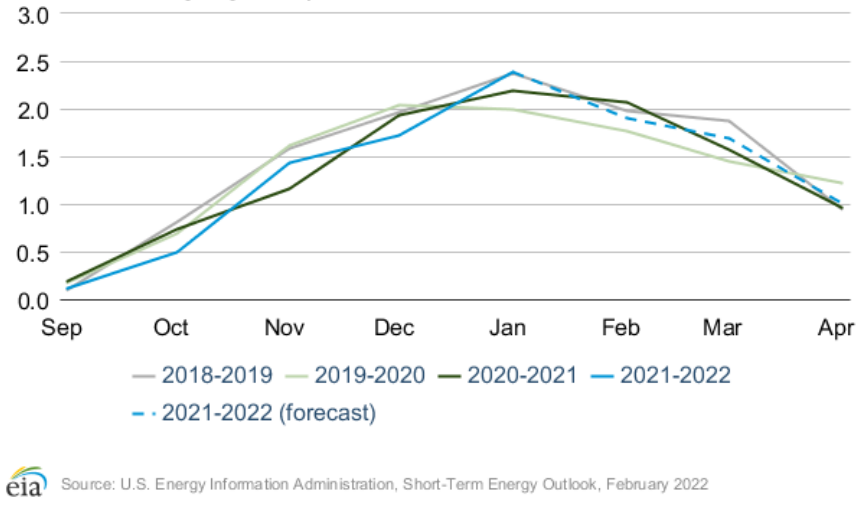
The ULSD–Brent crack spread in January averaged 57 cents/gal, up 10 cents/gal from December 2021 and up 31 cents/gal from January 2021. Rising crude oil prices throughout January contributed to the increase in outright ULSD prices, while seasonal demand for heating oil in the U.S. Northeast and mid-Atlantic regions related to cold temperatures contributed to more demand for distillate fuel oil. Lower ULSD inventories and the increasing ULSD crack spread may result from less refinery production and potential reductions in distillate yields to increase jet fuel production compared with December.

We estimate U.S. distillate consumption in January was 4.4 million b/d in January, an increase of 0.3 million b/d from December 2021, and 0.4 million b/d more than January 2021. Although more than last year, distillate consumption is at a similar level to January 2019 and is less than January 2018. We expect distillate consumption to decrease in the coming months as the weather becomes milder. Distillate inventories ended January at 123 million barrels, 19% below the five-year average. We expect continued draws on distillate inventories until June as low refinery production during turnaround season constrains production while demand for road diesel persists. Low distillate inventories, combined with high crude oil prices will contribute to higher ULSD prices, and we expect wholesale ULSD prices to remain above $2/gal through the rest of 2022 and 2023.

The increase in U.S. distillate consumption in January was driven by colder weather. We measure the effects of winter weather on energy markets by analyzing heating degree days (HDDs). The more HDDs, the colder the weather. In New England (PADD 1A) and the mid-Atlantic (PADD 1B), heating oil remains a substantial source in the energy mix in the residential home-heating sector, unlike much of the United States where home heating is primarily provided by natural gas or electricity. December 2021 temperatures in New England and the mid-Atlantic were relatively mild compared with previous seasons, and HDDs totaled 1,722 for the month, which was fewer than the past three winters and 186 HDDs fewer than the 10-year

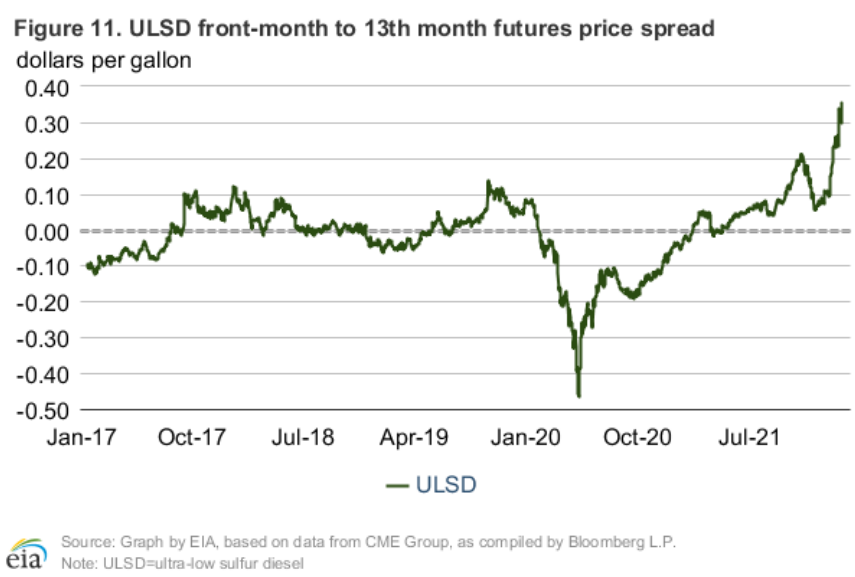
average **(Figure 10)**. January weather was cold, and HDDs increased to 2,485 HDDs, 204 HDDs more than the 10-year average. We forecast warmer weather in the coming months will lead to fewer HDDs and, as a result, less home heating oil consumption in the Northeast and mid-Atlantic.

Figure 10. U.S. Northeast (PADD 1A+1B) Heating Degree Days



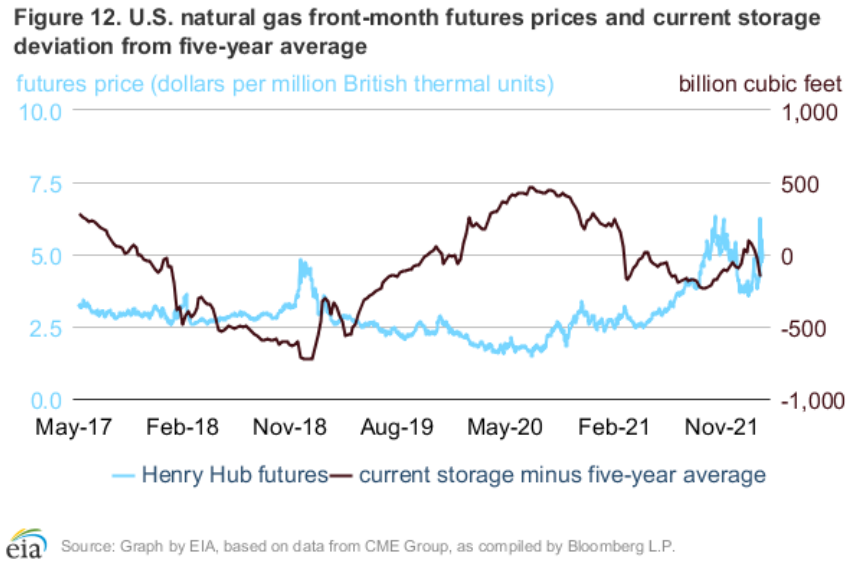
eia Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

ULSD front 13th month spread: The spread between the front-month and the 13th month price for ULSD futures is a measure of the value of ULSD delivered in the near term compared with ULSD for delivery one year in the future. A large price spread typically indicates a market in which demand exceeds supply, leading to draws on inventories. The spread climbed rapidly in January, reaching its widest level since 2014, at 35 cents/gal as of February 3 **(Figure 11)**. The wide spread is related to distillate inventories that were 19% below the five-year (2017–2021) average for the week ending January 28, according to our *Weekly Petroleum Status Report*. The wide spread between the front-month and the 13th month contracts for crude oil is a contributing factor to the wide ULSD spread for the same contracts. Typically, the spread for ULSD is narrower than the spread for crude oil, however in January 2022, the spread for ULSD exceeded Brent crude oil by an average of 4 cents. The substantial role of seasonally related weather demand is an important element of the current high prices, and we expect that U.S. distillate consumption will decline in the coming months while refinery production of distillate will increase.



Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $4.89 per million British thermal units (MMBtu) on February 3, 2022, which was up $1.07/MMBtu from January 3, 2022 **(Figure 12)**. The average closing price for front-month natural gas futures contracts in January was $4.26/MMBtu, the highest January monthly average in real terms since January 2014.

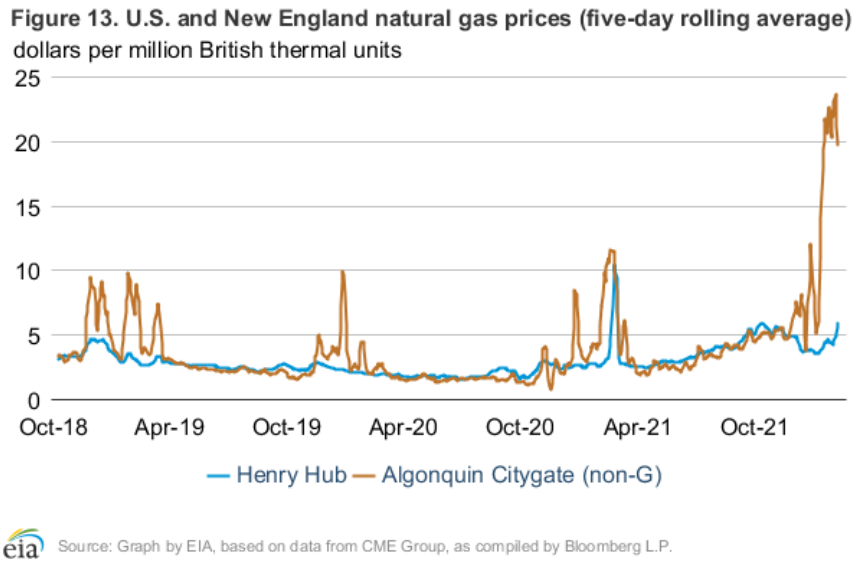


The average price for front-month natural gas futures contracts in January was 40 cents higher than the December average closing price of $3.86/MMBtu. January was colder than December, which resulted in greater use of natural gas for space heating in the residential and commercial sectors. December 2021 was much warmer than normal, and natural gas withdrawals from

storage were below the five-year average (2016−2020), which contributed to lower natural gas prices throughout the month. In January, colder-than-normal temperatures resulted in storage withdrawals that exceeded the five-year average (2017−2021) by 219 Bcf in order to meet the demand for both space heating and electric power burn. We forecast that combined demand in the residential and commercial sectors in January averaged 48.4 Bcf/d, which is 14.5 Bcf/d more than December 2021 and 3.0 Bcf/d more than the January five-year average.

Record U.S. liquefied natural gas (LNG) exports, increased power demand, and a decline in January natural gas production all contributed to above-average storage withdraws in January, putting upward pressure on prices. In January, U.S. LNG exporters continued to operate at maximum capacity, resulting in exports above 11 Bcf/d for the second consecutive month. We estimate LNG exports averaged 11.2 Bcf/d in January as the new Train 6 at Sabine Pass LNG continues to ramp up production. Continued strong demand for LNG imports in Europe and Asia supports facilities operating at maximum capacity. In addition to more LNG exports, we estimate that demand for natural gas used to generate electric power averaged 31.0 Bcf/d in January, 2.9 Bcf/d more than last year. Lastly, we estimate that U.S. dry natural gas production declined in January, averaging 95.5 Bcf, 2.1 Bcf/d less than December. Cold temperatures and freeze-offs in certain producing areas likely contributed to the decline in production.

The cold weather particularly affected New England, where well-below-normal temperatures led to increased natural gas consumption in the region. In addition, natural gas pipeline supply into New England is constrained, particularly during peak demand periods in the winter. Due to strong demand for natural gas this winter, the spot price at the Algonquin Citygate—a benchmark hub for the natural gas price in New England—exceeded $20/MMBtu on several days **(Figure 13)** and averaged $20.55/MMBtu in January—the highest monthly average price since February 2014. In the past three winters, the monthly average spot price at Algonquin Citygate traded between $3/MMBtu and $6/MMBtu, and the daily price never exceeded $14/MMBtu for any of the three winters. In contrast to the high prices this winter in the Northeast, the daily spot price at Henry Hub averaged $4.38/MMBtu in January.



Notable forecast changes

- We forecast the Brent crude oil spot price will average $83/b in 2022, which is $8/b more than we forecast in the January STEO. The higher price forecast partly reflects a reduction in our forecast of OECD inventories in 1H22. Although we continue to expect crude oil prices to decline beginning in March, crude oil price increases over the past month mean that declines will begin from a higher price level, which also contributes to higher crude oil price levels in our forecast throughout 2022. The increase in crude oil prices in the forecast also results in higher prices for gasoline and diesel fuel in 2022 compared with last month's forecast. It also results in more U.S crude oil production compared with last month's forecast.

- Based on data from the Federal Highway Administration, we updated and released historical data for vehicle miles traveled in the STEO. The latest data reflect more vehicle miles traveled in 2021 than previously reported, which increased our estimates of vehicle efficiency. As a result, we increased our forecasts for vehicle miles traveled and vehicle efficiency. The revisions to vehicle efficiency, however, were more significant and drove our forecast gasoline consumption down in both 2022 and 2023. In 2022, we now forecast that gasoline consumption in the United States will average 8.9 million b/d, down from 9.1 million b/d in the January STEO. In our February STEO, we forecast that gasoline consumption in 2023 will average 9.0 million b/d, down from a forecast of 9.1 million b/d in the January STEO.

- Beginning with this STEO, we will provide new forecasts for biodiesel, renewable diesel, and other biofuels, which includes fuels such as renewable jet fuel and renewable naphtha. In our custom table builder, we will provide production, consumption, and net imports for each of these fuels. The changes reflect the inclusion of these series in Table

10.4 of the *Monthly Energy Review* (MER) beginning in mid-2021. Related to this change, we have added a line for consumption (product supplied) of other hydrocarbons and oxygenates in Table 4a of STEO. *Product supplied of other hydrocarbons and oxygenates* is a category that includes biodiesel, renewable diesel, and other biofuels, which in the *Petroleum Supply Monthly* (PSM) are collectively called *renewable fuels excluding fuel ethanol*. In the PSM, product supplied of renewable fuels excluding fuel ethanol plus refinery and blender net inputs of renewable fuels excluding fuel ethanol is equal to the consumption of biodiesel, renewable diesel, and other biofuels as reported in MER.

- For more information, see the detailed table of forecast changes.

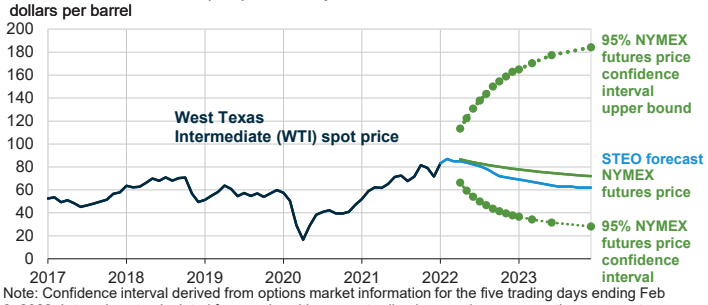
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Short-Term Energy Outlook
Chart Gallery

February 8, 2022

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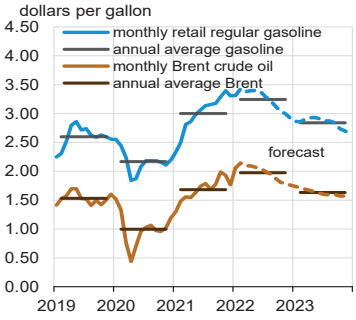
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



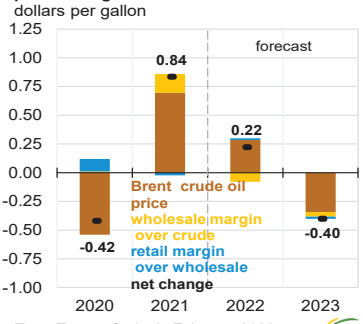
Note: Confidence interval derived from options market information for the five trading days ending Feb 3, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

U.S. gasoline and crude oil prices
dollars per gallon

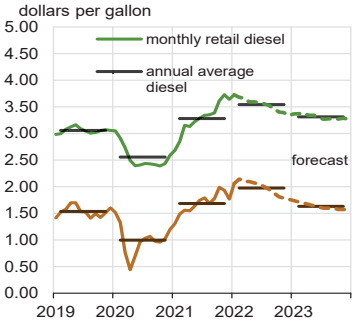


Components of annual gasoline price changes
dollars per gallon

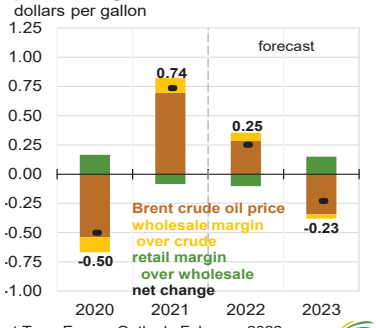


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022, and Refinitiv an LSEG Business

U.S. diesel and crude oil prices

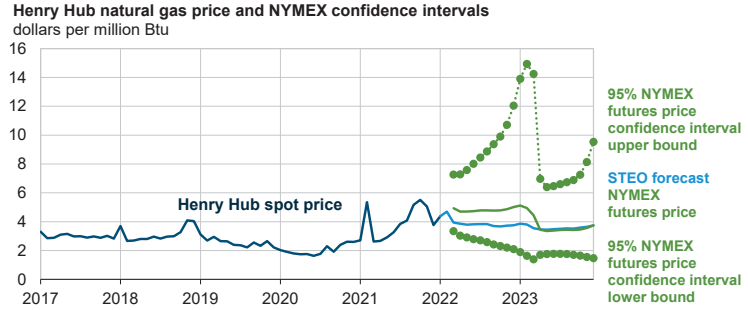


Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022, and Refinitiv an LSEG Business

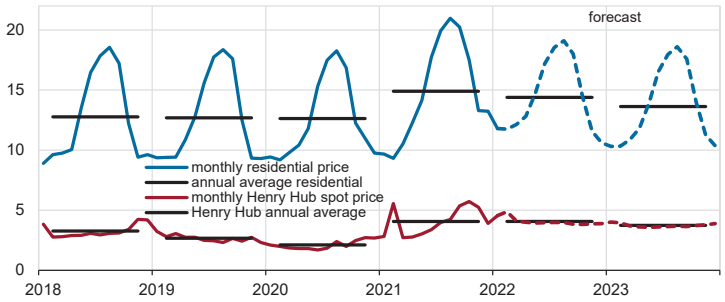
Henry Hub natural gas price and NYMEX confidence intervals



Note: Confidence interval derived from options market information for the five trading days ending Feb 3, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

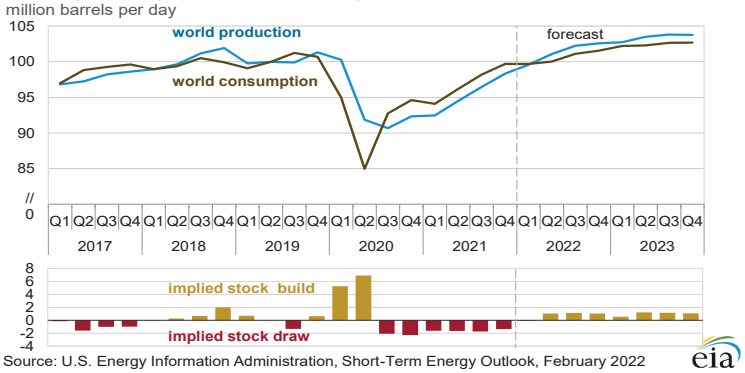
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022, CME Group, and Refinitiv an LSEG Business

U.S. natural gas prices



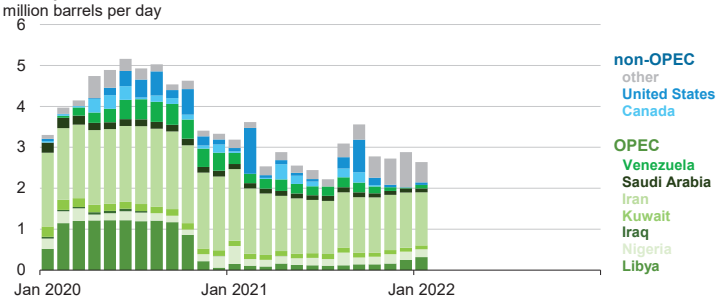
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022, and Refinitiv an LSEG Business

World liquid fuels production and consumption balance
million barrels per day



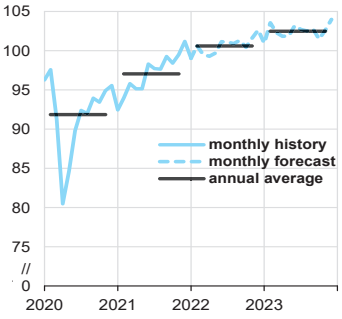
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day

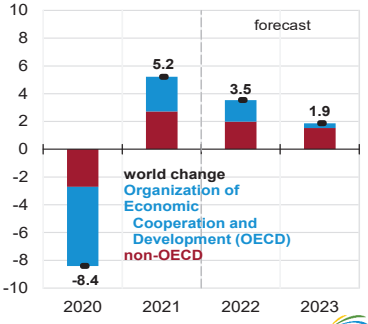


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

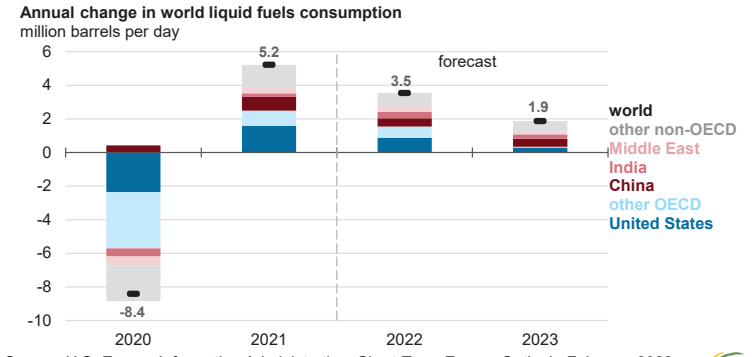
World liquid fuels consumption
million barrels per day



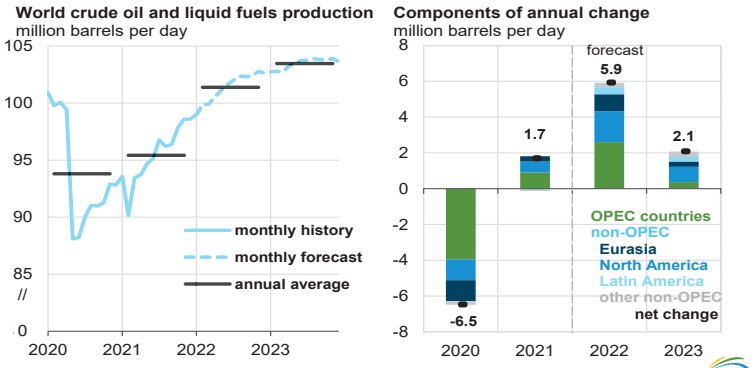
Components of annual change
million barrels per day



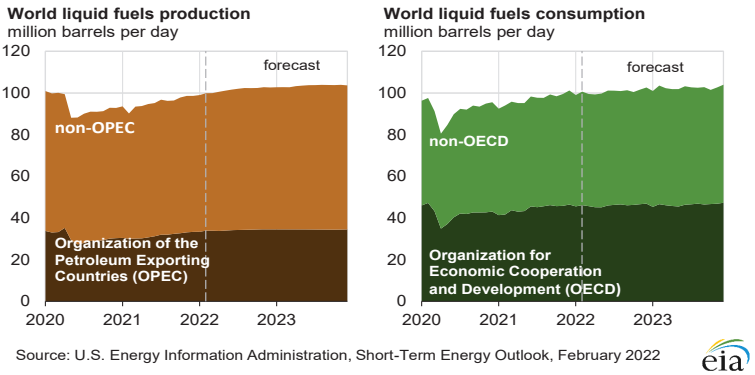
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

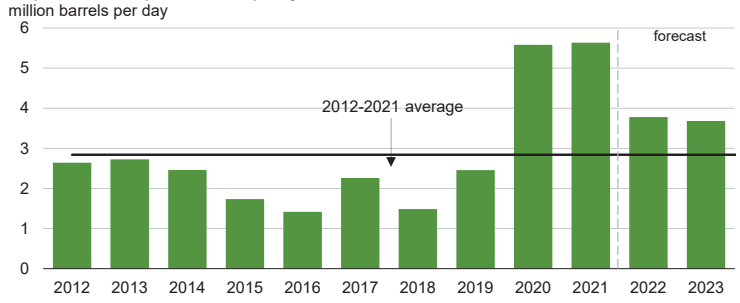


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022



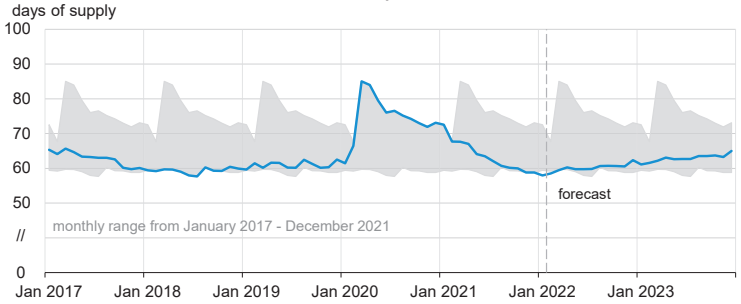
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



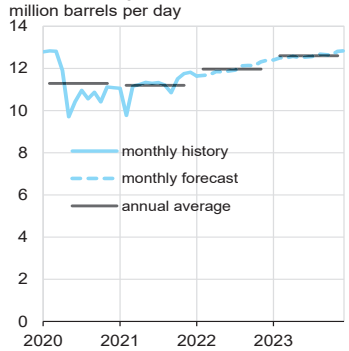
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

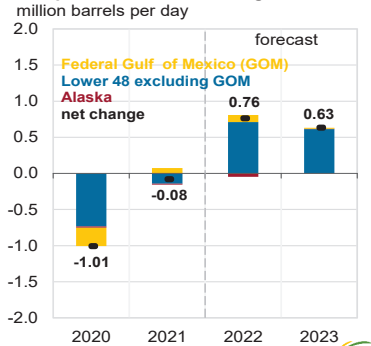


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. crude oil production
million barrels per day

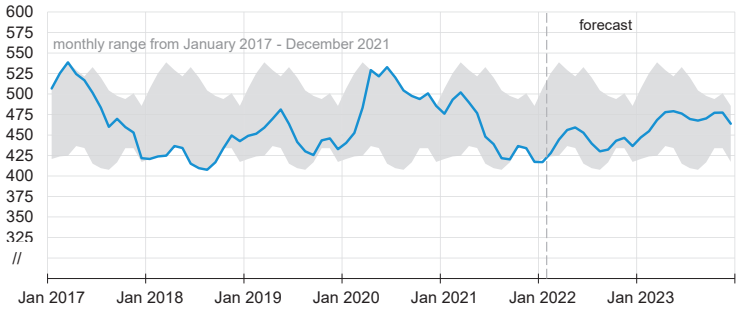


Components of annual change
million barrels per day



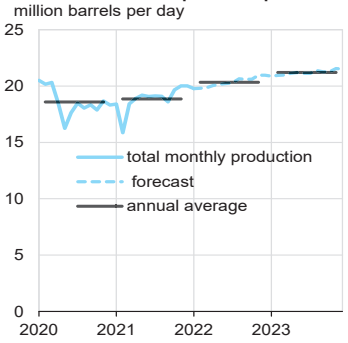
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. commercial crude oil inventories
million barrels

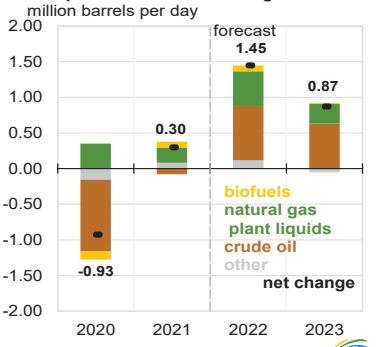


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. crude oil and liquid fuels production
million barrels per day

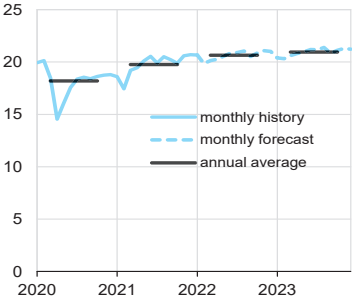


Components of annual change
million barrels per day

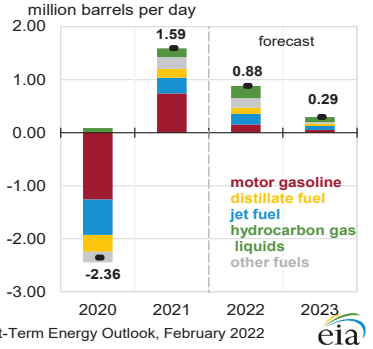


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February

U.S. liquid fuels product supplied (consumption)
million barrels per day

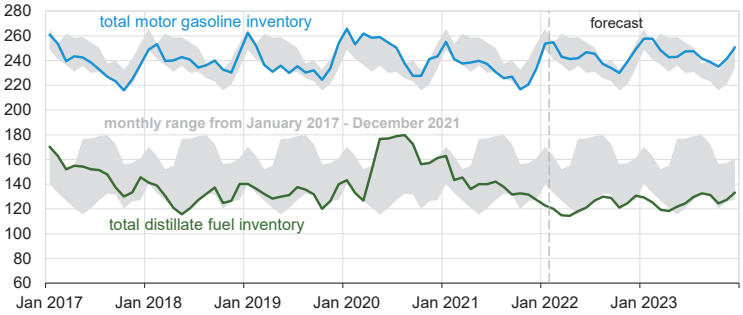


Components of annual change
million barrels per day



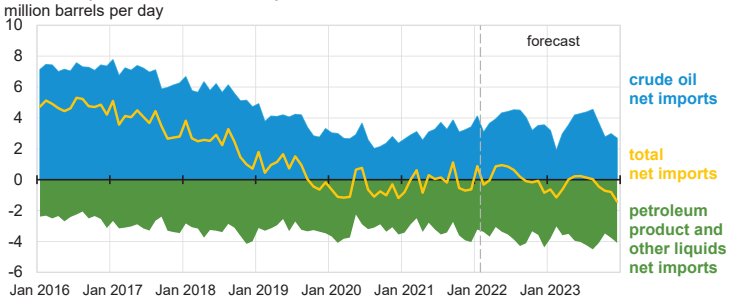
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. gasoline and distillate inventories
million barrels



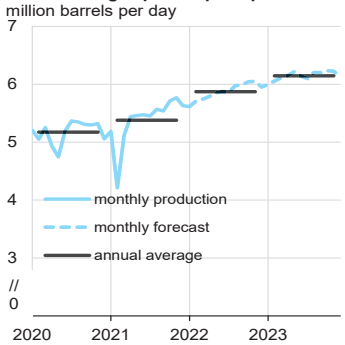
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

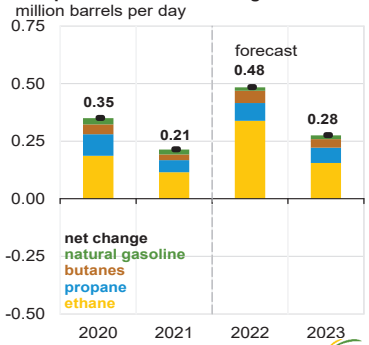


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

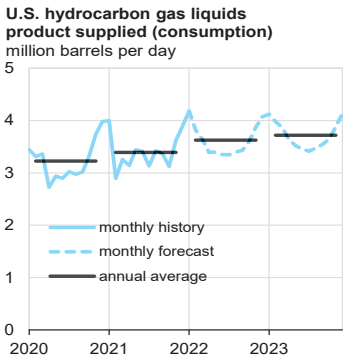
U.S. natural gas plant liquids production
million barrels per day

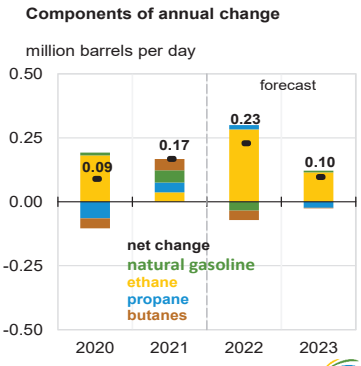


Components of annual change
million barrels per day

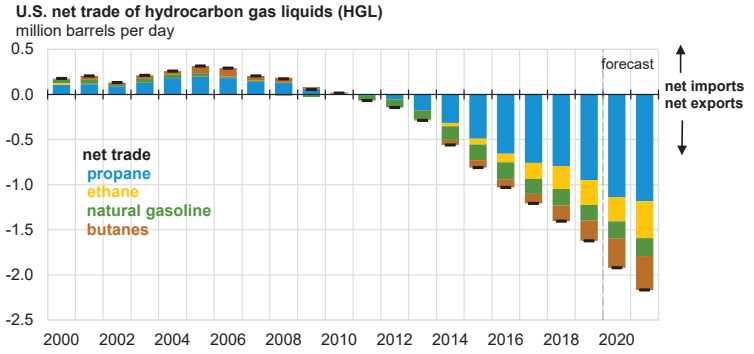


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

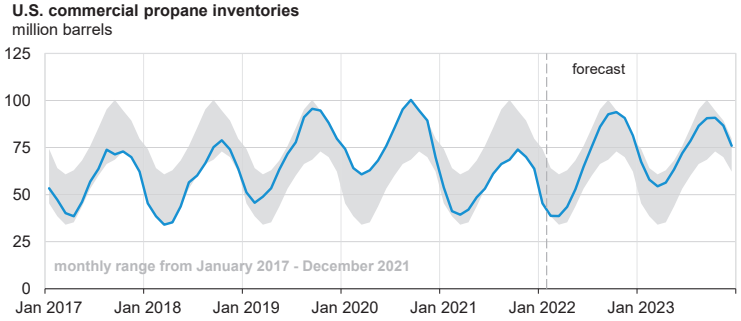




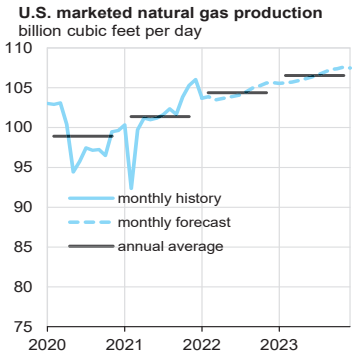
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

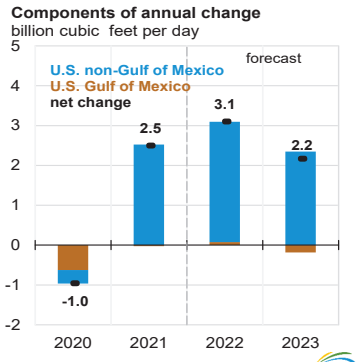


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

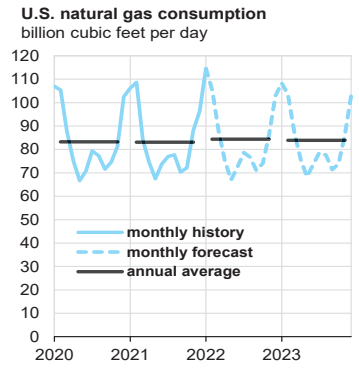


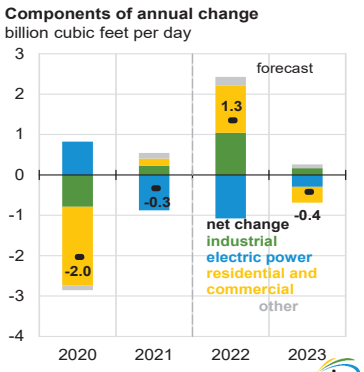
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022



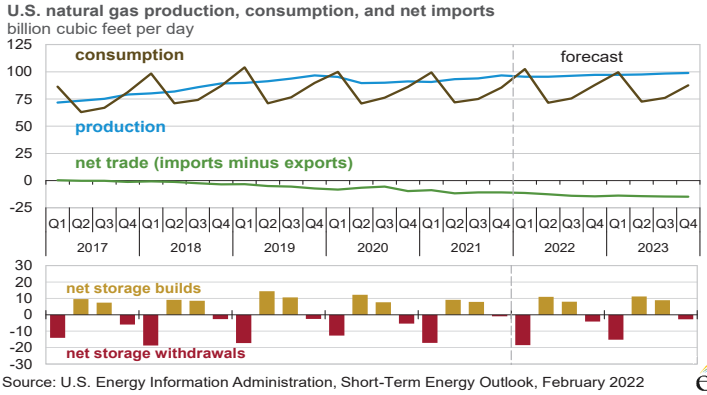


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022



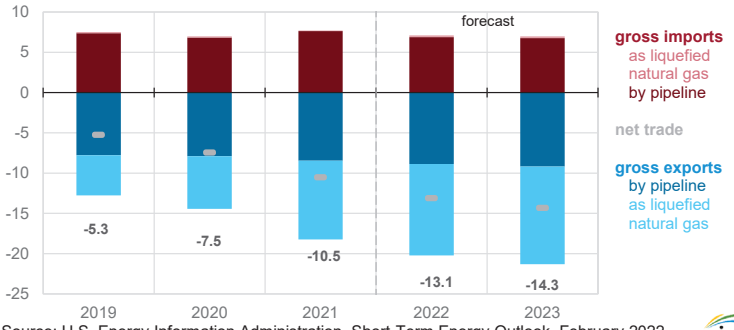


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022



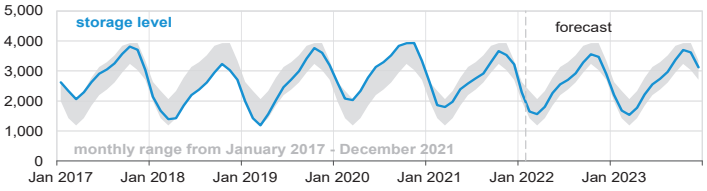
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. annual natural gas trade
billion cubic feet per day

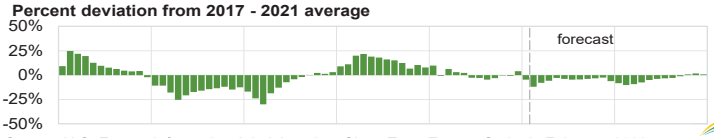


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. working natural gas in storage
billion cubic feet

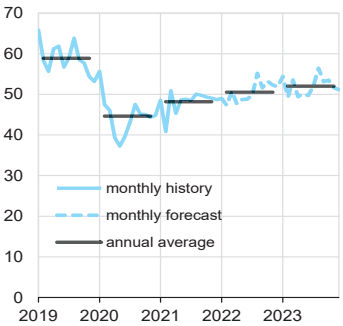


Percent deviation from 2017 - 2021 average

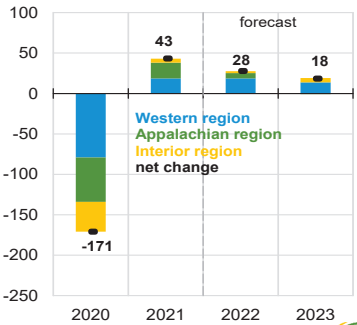


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

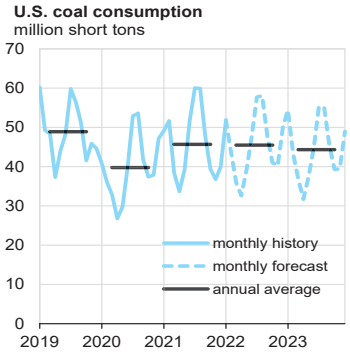
U.S. coal production
million short tons

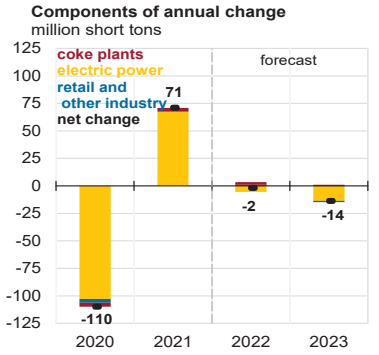


Components of annual change
million short tons

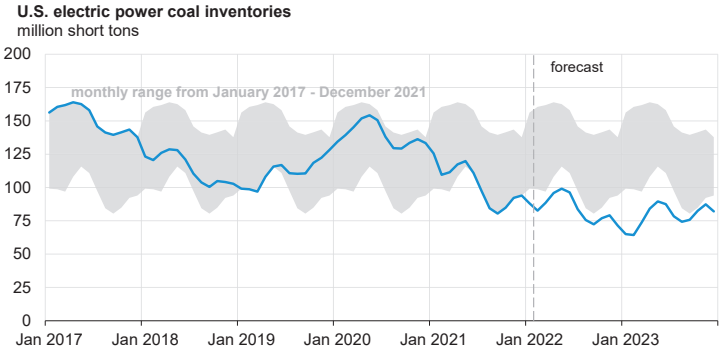


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

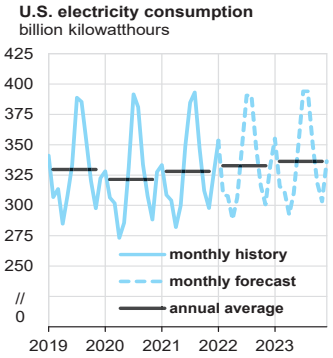


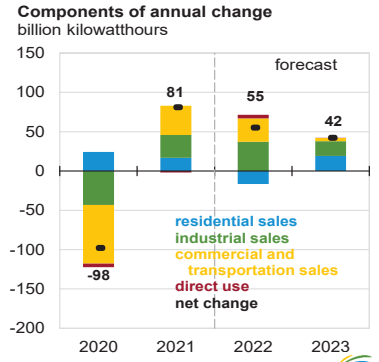


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

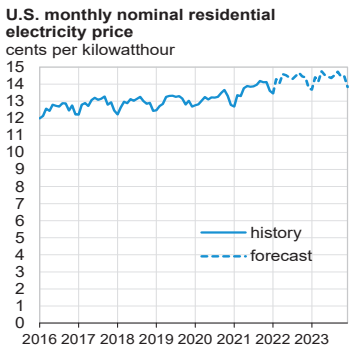


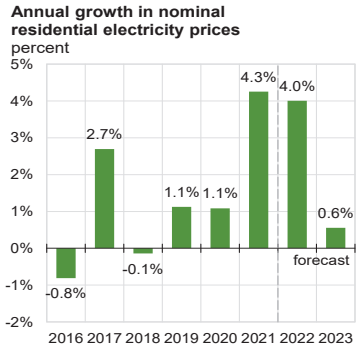
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022



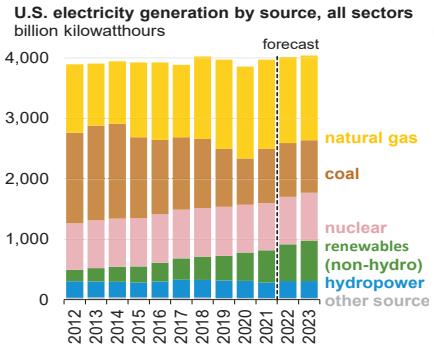


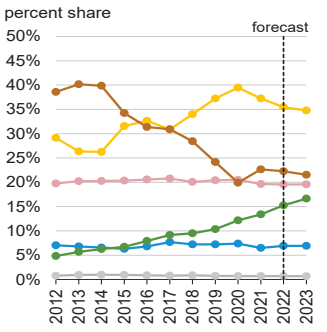
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022



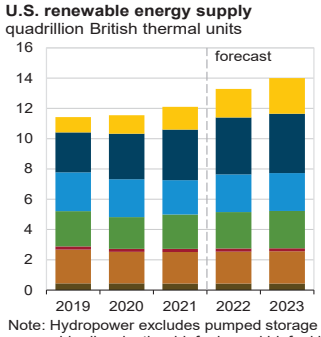


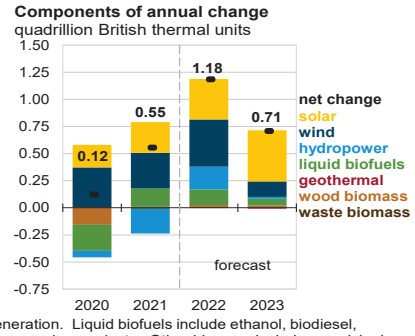
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022





Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

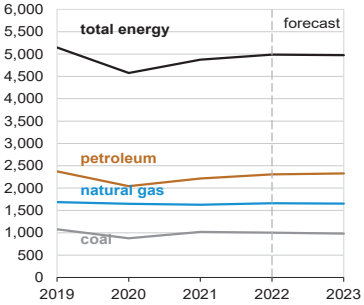




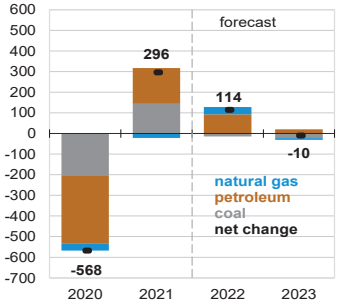
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. annual CO2 emissions by source
million metric tons

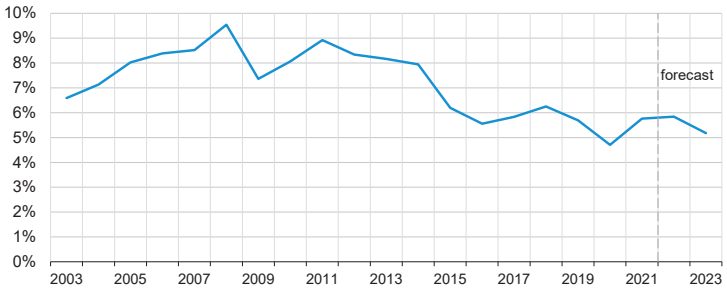


Components of annual change
million metric tons



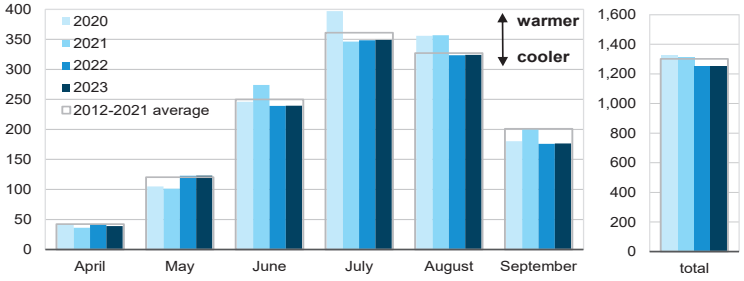
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

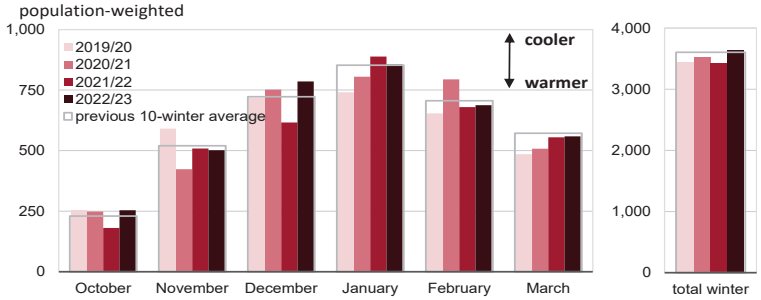
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

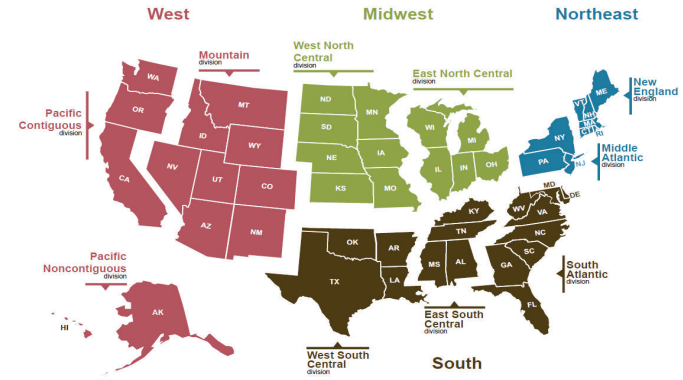
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.13**	**11.69**	*11.67*	*11.86*	*12.06*	*12.27*	*12.46*	*12.54*	*12.63*	*12.75*	**11.20**	*11.97*	*12.60*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.69**	*95.43*	*95.54*	*96.26*	*97.12*	*97.11*	*97.57*	*98.34*	*98.84*	**93.59**	*96.09*	*97.97*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	*147*	*145*	*156*	*157*	*157*	*149*	*161*	*156*	**578**	*606*	*624*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.78**	*20.66*	*20.95*
Natural Gas															
(billion cubic feet per day)	**99.40**	**71.92**	**75.08**	**85.54**	*102.47*	*71.56*	*75.50*	*87.83*	*99.56*	*72.51*	*75.97*	*87.59*	**82.92**	*84.27*	*83.85*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**116**	*131*	*120*	*164*	*131*	*134*	*114*	*156*	*128*	**548**	*546*	*532*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.23**	**10.17**	*10.78*	*10.36*	*12.28*	*10.32*	*10.92*	*10.49*	*12.38*	*10.42*	**10.79**	*10.94*	*11.05*
Renewables (c)															
(quadrillion Btu)	**2.93**	**3.14**	**2.93**	**3.10**	*3.31*	*3.52*	*3.20*	*3.23*	*3.44*	*3.71*	*3.40*	*3.40*	**12.09**	*13.25*	*13.95*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.03**	**23.14**	**24.52**	**24.56**	*26.21*	*23.66*	*25.01*	*25.43*	*26.22*	*23.99*	*25.26*	*25.64*	**97.24**	*100.32*	*101.11*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	*85.04*	*83.63*	*77.98*	*70.98*	*67.97*	*64.95*	*63.00*	*62.00*	**68.21**	*79.35*	*64.48*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	*4.34*	*3.82*	*3.79*	*3.71*	*3.74*	*3.46*	*3.52*	*3.66*	**3.91**	*3.92*	*3.60*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.04**	*2.05*	*2.06*	*1.91*	*1.91*	*1.85*	*1.85*	*1.84*	*1.82*	**1.98**	*1.98*	*1.84*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,799**	*19,973*	*20,144*	*20,339*	*20,477*	*20,605*	*20,726*	*20,855*	*20,989*	**19,425**	*20,233*	*20,794*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	*4.8*	*4.0*	*4.4*	*3.4*	*3.2*	*2.9*	*2.5*	*2.5*	**5.7**	*4.2*	*2.8*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**120.8**	*121.9*	*122.6*	*123.2*	*123.7*	*124.4*	*125.1*	*125.7*	*126.4*	**118.4**	*122.9*	*125.4*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.4**	*5.3*	*4.3*	*3.3*	*2.4*	*2.0*	*2.0*	*2.1*	*2.2*	**4.1**	*3.8*	*2.1*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,633**	**15,365**	*15,285*	*15,397*	*15,538*	*15,617*	*15,717*	*15,834*	*15,968*	*16,097*	**16,006**	*15,459*	*15,904*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**-0.5**	*-11.2*	*-2.6*	*-0.6*	*1.6*	*2.8*	*2.8*	*2.8*	*3.1*	**2.1**	*-3.4*	*2.9*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**99.7**	**100.9**	*102.5*	*103.4*	*104.9*	*105.9*	*106.9*	*107.5*	*108.1*	*108.7*	**99.2**	*104.2*	*107.8*
Percent change from prior year	**-0.2**	**17.2**	**5.9**	**4.4**	*5.3*	*4.8*	*5.2*	*5.0*	*4.3*	*4.0*	*3.0*	*2.6*	**6.5**	*5.0*	*3.5*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,306**	*2,122*	*487*	*77*	*1,541*	*2,102*	*487*	*77*	*1,539*	**3,935**	*4,228*	*4,205*
U.S. Cooling Degree-Days	**49**	**412**	**903**	**128**	*44*	*404*	*848*	*93*	*43*	*401*	*850*	*93*	**1,492**	*1,389*	*1,387*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	*85.04*	*83.63*	*77.98*	*70.98*	*67.97*	*64.95*	*63.00*	*62.00*	**68.21**	*79.35*	*64.48*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	*88.13*	*86.97*	*81.64*	*74.98*	*71.97*	*68.95*	*67.00*	*66.00*	**70.89**	*82.87*	*68.48*
U.S. Imported Average	**55.27**	**64.80**	**68.38**	**72.64**	*82.43*	*81.12*	*75.57*	*68.21*	*65.28*	*62.19*	*60.25*	*59.25*	**65.72**	*77.02*	*61.59*
U.S. Refiner Average Acquisition Cost	**57.12**	**66.11**	**70.30**	**75.80**	*83.57*	*82.13*	*76.50*	*69.22*	*66.26*	*63.23*	*61.25*	*60.25*	**67.68**	*77.76*	*62.66*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**242**	*255*	*254*	*239*	*210*	*205*	*209*	*204*	*188*	**219**	*240*	*201*
Diesel Fuel	**178**	**204**	**219**	**241**	*262*	*255*	*243*	*228*	*215*	*209*	*206*	*205*	**211**	*247*	*209*
Fuel Oil	**162**	**180**	**197**	**216**	*249*	*237*	*221*	*216*	*211*	*196*	*188*	*196*	**190**	*232*	*204*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**224**	*257*	*249*	*239*	*226*	*215*	*207*	*203*	*203*	**195**	*242*	*207*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**203**	*193*	*198*	*185*	*167*	*173*	*166*	*162*	*159*	**188**	*186*	*165*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	*337*	*339*	*322*	*299*	*287*	*292*	*286*	*270*	**302**	*324*	*284*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	*348*	*351*	*335*	*312*	*301*	*306*	*300*	*284*	**311**	*336*	*298*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	*369*	*359*	*352*	*338*	*337*	*333*	*327*	*327*	**329**	*354*	*331*
Heating Oil	**272**	**283**	**297**	**346**	*368*	*344*	*318*	*314*	*312*	*292*	*278*	*286*	**300**	*345*	*299*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	*4.51*	*3.97*	*3.93*	*3.86*	*3.88*	*3.60*	*3.66*	*3.80*	**4.06**	*4.07*	*3.74*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	*4.34*	*3.82*	*3.79*	*3.71*	*3.74*	*3.46*	*3.52*	*3.66*	**3.91**	*3.92*	*3.60*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.10**	**6.80**	*5.91*	*5.05*	*4.88*	*5.09*	*5.34*	*4.63*	*4.53*	*4.92*	**5.48**	*5.25*	*4.87*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.23**	*9.52*	*9.66*	*9.76*	*8.61*	*8.39*	*8.76*	*9.11*	*8.23*	**8.80**	*9.31*	*8.48*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.87**	*11.87*	*14.21*	*18.52*	*11.50*	*10.47*	*13.34*	*18.02*	*11.22*	**12.29**	*12.56*	*11.67*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.04**	*2.05*	*2.06*	*1.91*	*1.91*	*1.85*	*1.85*	*1.84*	*1.82*	**1.98**	*1.98*	*1.84*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.39**	*4.73*	*4.03*	*3.94*	*4.04*	*4.29*	*3.63*	*3.64*	*3.98*	**4.97**	*4.16*	*3.86*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**15.92**	*15.27*	*16.51*	*15.35*	*14.14*	*13.72*	*13.78*	*12.66*	*12.27*	**13.62**	*15.28*	*13.09*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.00**	*19.82*	*19.56*	*18.72*	*17.66*	*16.83*	*16.23*	*15.92*	*15.93*	**15.50**	*19.05*	*16.28*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.63**	**7.30**	*7.20*	*7.03*	*7.59*	*7.15*	*7.15*	*6.99*	*7.53*	*7.12*	**7.25**	*7.25*	*7.20*
Commercial Sector	**10.99**	**11.07**	**11.64**	**11.28**	*11.58*	*11.59*	*11.99*	*11.53*	*11.77*	*11.66*	*12.05*	*11.56*	**11.27**	*11.69*	*11.77*
Residential Sector	**13.10**	**13.84**	**14.00**	**13.92**	*13.91*	*14.49*	*14.47*	*14.18*	*14.06*	*14.56*	*14.53*	*14.21*	**13.72**	*14.26*	*14.34*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.07**	**30.75**	**31.07**	**32.32**	*32.44*	*32.66*	*32.87*	*33.47*	*33.79*	*33.95*	*33.93*	*34.26*	**31.06**	*32.86*	*33.98*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.89**	*19.81*	*20.15*	*20.51*	*20.84*	*20.93*	*21.16*	*21.26*	*21.44*	**18.88**	*20.33*	*21.20*
Canada	**5.62**	**5.37**	**5.49**	**5.77**	*5.87*	*5.83*	*5.85*	*5.87*	*5.91*	*5.88*	*5.89*	*5.90*	**5.56**	*5.85*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	*1.96*	*1.93*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.91*	*1.85*
Other OECD	**4.91**	**4.38**	**4.74**	**4.73**	*4.80*	*4.75*	*4.61*	*4.90*	*5.04*	*5.05*	*4.95*	*5.13*	**4.69**	*4.77*	*5.04*
Non-OECD	**62.41**	**63.78**	**65.39**	**66.02**	*67.15*	*68.43*	*69.37*	*69.13*	*68.97*	*69.57*	*69.90*	*69.51*	**64.41**	*68.53*	*69.49*
OPEC	**30.24**	**30.75**	**32.15**	**33.07**	*33.75*	*33.96*	*34.40*	*34.53*	*34.65*	*34.51*	*34.50*	*34.49*	**31.56**	*34.16*	*34.53*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.66**	*28.17*	*28.51*	*28.89*	*28.99*	*29.09*	*29.07*	*29.01*	*28.96*	**26.28**	*28.64*	*29.03*
Other Liquids (b)	**5.16**	**5.26**	**5.31**	**5.41**	*5.58*	*5.46*	*5.50*	*5.54*	*5.56*	*5.44*	*5.49*	*5.52*	**5.29**	*5.52*	*5.50*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	*14.43*	*14.60*	*14.75*	*14.91*	*14.98*	*14.91*	*14.95*	*15.06*	**13.70**	*14.67*	*14.97*
China	**4.99**	**5.03**	**5.01**	**4.94**	*5.01*	*5.04*	*5.04*	*5.08*	*5.06*	*5.09*	*5.08*	*5.13*	**4.99**	*5.04*	*5.09*
Other Non-OECD	**13.79**	**14.39**	**14.65**	**13.78**	*13.96*	*14.82*	*15.18*	*14.61*	*14.28*	*15.07*	*15.37*	*14.83*	**14.15**	*14.65*	*14.89*
Total World Production	**92.47**	**94.53**	**96.46**	**98.33**	*99.59*	*101.09*	*102.24*	*102.60*	*102.76*	*103.51*	*103.83*	*103.77*	**95.47**	*101.39*	*103.47*
Non-OPEC Production	**62.23**	**63.78**	**64.31**	**65.26**	*65.84*	*67.13*	*67.84*	*68.06*	*68.11*	*69.01*	*69.33*	*69.28*	**63.91**	*67.23*	*68.94*
Consumption (million barrels per day) (c)															
OECD	**42.30**	**43.98**	**45.68**	**46.01**	*45.82*	*45.45*	*46.33*	*46.62*	*46.03*	*45.90*	*46.67*	*46.97*	**44.51**	*46.06*	*46.40*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.78**	*20.66*	*20.95*
U.S. Territories	**0.20**	**0.18**	**0.18**	**0.19**	*0.20*	*0.18*	*0.19*	*0.20*	*0.19*	*0.17*	*0.17*	*0.18*	**0.19**	*0.19*	*0.18*
Canada	**2.12**	**2.16**	**2.41**	**2.37**	*2.31*	*2.29*	*2.41*	*2.38*	*2.38*	*2.33*	*2.43*	*2.41*	**2.27**	*2.35*	*2.39*
Europe	**11.91**	**12.62**	**13.83**	**13.55**	*13.20*	*13.34*	*13.68*	*13.34*	*13.19*	*13.35*	*13.75*	*13.52*	**12.98**	*13.39*	*13.45*
Japan	**3.73**	**3.08**	**3.18**	**3.47**	*3.73*	*3.08*	*3.19*	*3.52*	*3.65*	*3.05*	*3.15*	*3.47*	**3.37**	*3.38*	*3.33*
Other OECD	**5.89**	**5.91**	**5.87**	**6.05**	*6.14*	*6.00*	*6.04*	*6.20*	*6.17*	*6.01*	*6.04*	*6.18*	**5.93**	*6.09*	*6.10*
Non-OECD	**51.79**	**52.21**	**52.52**	**53.69**	*53.88*	*54.60*	*54.77*	*54.94*	*56.19*	*56.40*	*56.00*	*55.73*	**52.56**	*54.55*	*56.08*
Eurasia	**4.65**	**4.72**	**5.08**	**4.94**	*4.84*	*4.90*	*5.26*	*5.13*	*4.83*	*5.00*	*5.33*	*5.24*	**4.85**	*5.03*	*5.10*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	*0.76*	*0.76*	*0.77*	*0.78*	*0.76*	*0.78*	*0.78*	*0.79*	**0.74**	*0.77*	*0.78*
China	**15.26**	**15.46**	**14.98**	**15.32**	*15.52*	*15.92*	*15.65*	*15.89*	*16.65*	*16.54*	*15.91*	*15.83*	**15.25**	*15.74*	*16.23*
Other Asia	**13.60**	**13.15**	**13.01**	**13.89**	*14.08*	*14.22*	*13.83*	*14.21*	*14.89*	*14.87*	*14.27*	*14.58*	**13.41**	*14.08*	*14.65*
Other Non-OECD	**17.55**	**18.12**	**18.71**	**18.79**	*18.68*	*18.80*	*19.26*	*18.94*	*19.06*	*19.22*	*19.70*	*19.30*	**18.30**	*18.92*	*19.32*
Total World Consumption	**94.09**	**96.19**	**98.20**	**99.70**	*99.70*	*100.04*	*101.10*	*101.56*	*102.23*	*102.30*	*102.67*	*102.70*	**97.07**	*100.61*	*102.48*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.84**	*0.25*	*-0.69*	*-0.15*	*0.35*	*0.08*	*-0.54*	*-0.26*	*0.59*	**0.55**	*-0.06*	*-0.03*
Other OECD	**0.81**	**0.13**	**0.96**	**0.15**	*-0.04*	*-0.11*	*-0.31*	*-0.44*	*-0.19*	*-0.21*	*-0.28*	*-0.52*	**0.51**	*-0.23*	*-0.30*
Other Stock Draws and Balance	**0.35**	**1.02**	**0.40**	**0.38**	*-0.10*	*-0.25*	*-0.67*	*-0.95*	*-0.43*	*-0.47*	*-0.62*	*-1.13*	**0.54**	*-0.49*	*-0.66*
Total Stock Draw	**1.62**	**1.66**	**1.74**	**1.37**	*0.11*	*-1.05*	*-1.13*	*-1.04*	*-0.53*	*-1.21*	*-1.16*	*-1.07*	**1.60**	*-0.78*	*-1.00*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,188**	*1,190*	*1,261*	*1,275*	*1,250*	*1,251*	*1,307*	*1,327*	*1,284*	**1,188**	*1,250*	*1,284*
OECD Commercial Inventory	**2,911**	**2,868**	**2,749**	**2,682**	*2,688*	*2,769*	*2,812*	*2,828*	*2,845*	*2,921*	*2,967*	*2,972*	**2,682**	*2,828*	*2,972*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.33**	**27.58**	*27.64*	*27.91*	*28.25*	*28.56*	*28.75*	*28.90*	*28.98*	*29.14*	**26.37**	*28.09*	*28.94*
Canada	**5.62**	**5.37**	**5.49**	**5.77**	*5.87*	*5.83*	*5.85*	*5.87*	*5.91*	*5.88*	*5.89*	*5.90*	**5.56**	*5.85*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	*1.96*	*1.93*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.91*	*1.85*
United States	**17.62**	**19.05**	**18.94**	**19.89**	*19.81*	*20.15*	*20.51*	*20.84*	*20.93*	*21.16*	*21.26*	*21.44*	**18.88**	*20.33*	*21.20*
Central and South America	**5.64**	**6.29**	**6.70**	**5.79**	*5.84*	*6.71*	*7.10*	*6.55*	*6.21*	*7.03*	*7.35*	*6.83*	**6.10**	*6.55*	*6.86*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	*0.73*	*0.74*	*0.77*	*0.78*	*0.77*	*0.78*	*0.81*	*0.83*	**0.70**	*0.76*	*0.80*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	*3.36*	*4.20*	*4.52*	*3.89*	*3.49*	*4.28*	*4.57*	*4.02*	**3.69**	*3.99*	*4.10*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	*0.76*	*0.75*	*0.74*	*0.73*	*0.68*	*0.67*	*0.66*	*0.65*	**0.77**	*0.74*	*0.66*
Ecuador	**0.51**	**0.50**	**0.49**	**0.40**	*0.49*	*0.53*	*0.53*	*0.53*	*0.54*	*0.56*	*0.58*	*0.60*	**0.47**	*0.52*	*0.57*
Other Central and S. America	**0.49**	**0.46**	**0.49**	**0.46**	*0.50*	*0.50*	*0.55*	*0.62*	*0.72*	*0.73*	*0.73*	*0.73*	**0.47**	*0.54*	*0.73*
Europe	**4.32**	**3.84**	**4.13**	**4.15**	*4.21*	*4.15*	*4.01*	*4.30*	*4.44*	*4.45*	*4.36*	*4.54*	**4.11**	*4.17*	*4.45*
Norway	**2.11**	**1.90**	**2.06**	**2.06**	*2.11*	*2.08*	*2.04*	*2.21*	*2.33*	*2.33*	*2.33*	*2.43*	**2.03**	*2.11*	*2.36*
United Kingdom	**1.06**	**0.81**	**0.93**	**0.95**	*0.97*	*0.95*	*0.85*	*0.96*	*0.99*	*1.00*	*0.91*	*0.98*	**0.94**	*0.93*	*0.97*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	*14.43*	*14.60*	*14.75*	*14.91*	*14.98*	*14.91*	*14.95*	*15.06*	**13.70**	*14.67*	*14.97*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	*0.74*	*0.74*	*0.74*	*0.73*	*0.72*	*0.71*	*0.70*	*0.72*	**0.72**	*0.74*	*0.71*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	*2.03*	*2.01*	*1.98*	*2.03*	*2.07*	*1.98*	*1.98*	*2.05*	**1.87**	*2.01*	*2.02*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	*11.32*	*11.49*	*11.68*	*11.79*	*11.81*	*11.86*	*11.90*	*11.93*	**10.78**	*11.57*	*11.87*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.24**	*0.23*	*0.23*	*0.23*	*0.23*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.23*	*0.24*
Other Eurasia	**0.10**	**0.10**	**0.10**	**0.11**	*0.12*	*0.13*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	**0.10**	*0.13*	*0.13*
Middle East	**3.07**	**3.09**	**3.13**	**3.12**	*3.17*	*3.17*	*3.17*	*3.17*	*3.20*	*3.20*	*3.20*	*3.19*	**3.10**	*3.17*	*3.20*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	*1.04*	*1.04*	*1.04*	*1.04*	*1.07*	*1.07*	*1.07*	*1.07*	**0.98**	*1.04*	*1.07*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	*1.85*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.99**	*9.14*	*9.15*	*9.13*	*9.15*	*9.11*	*9.11*	*9.09*	*9.11*	**9.08**	*9.15*	*9.11*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	*0.49*	*0.50*	*0.50*	*0.50*	*0.49*	*0.48*	*0.47*	*0.47*	**0.46**	*0.50*	*0.48*
China	**4.99**	**5.03**	**5.01**	**4.94**	*5.01*	*5.04*	*5.04*	*5.08*	*5.06*	*5.09*	*5.08*	*5.13*	**4.99**	*5.04*	*5.09*
India	**0.90**	**0.89**	**0.89**	**0.89**	*0.90*	*0.89*	*0.89*	*0.89*	*0.89*	*0.87*	*0.87*	*0.87*	**0.89**	*0.89*	*0.88*
Indonesia	**0.88**	**0.85**	**0.85**	**0.84**	*0.84*	*0.83*	*0.83*	*0.82*	*0.81*	*0.81*	*0.80*	*0.79*	**0.86**	*0.83*	*0.80*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	*0.62*	*0.62*	*0.61*	*0.60*	*0.60*	*0.59*	*0.59*	*0.58*	**0.61**	*0.61*	*0.59*
Vietnam	**0.21**	**0.21**	**0.20**	**0.20**	*0.20*	*0.20*	*0.19*	*0.18*	*0.18*	*0.18*	*0.17*	*0.17*	**0.20**	*0.19*	*0.18*
Africa	**1.48**	**1.47**	**1.40**	**1.40**	*1.41*	*1.42*	*1.42*	*1.42*	*1.42*	*1.42*	*1.40*	*1.40*	**1.44**	*1.42*	*1.41*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	*0.65*	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	*0.64*	*0.64*	**0.66**	*0.65*	*0.64*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	*0.17*	*0.18*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.18*	*0.19*
Total non-OPEC liquids	**62.23**	**63.78**	**64.31**	**65.26**	*65.84*	*67.13*	*67.84*	*68.06*	*68.11*	*69.01*	*69.33*	*69.28*	**63.91**	*67.23*	*68.94*
OPEC non-crude liquids	**5.16**	**5.26**	**5.31**	**5.41**	*5.58*	*5.46*	*5.50*	*5.54*	*5.56*	*5.44*	*5.49*	*5.52*	**5.29**	*5.52*	*5.50*
Non-OPEC + OPEC non-crude	**67.40**	**69.03**	**69.62**	**70.68**	*71.42*	*72.58*	*73.35*	*73.61*	*73.67*	*74.45*	*74.81*	*74.81*	**69.19**	*72.75*	*74.44*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.77**	-	-	-	-	-	-	-	-	**0.67**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.94**	-	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	-	-	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	-	-	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	-	-	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	-	-	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	-	-	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	-	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	-	-	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	-	-	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	-	-	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	-	-	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	-	-	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	-	-	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.66**	*28.17*	*28.51*	*28.89*	*28.99*	*29.09*	*29.07*	*29.01*	*28.96*	**26.28**	*28.64*	*29.03*
Other Liquids (a)	**5.16**	**5.26**	**5.31**	**5.41**	*5.58*	*5.46*	*5.50*	*5.54*	*5.56*	*5.44*	*5.49*	*5.52*	**5.29**	*5.52*	*5.50*
Total OPEC Production	**30.24**	**30.75**	**32.15**	**33.07**	*33.75*	*33.96*	*34.40*	*34.53*	*34.65*	*34.51*	*34.50*	*34.49*	**31.56**	*34.16*	*34.53*
Crude Oil Production Capacity															
Middle East	**25.51**	**25.80**	**25.80**	**25.78**	*25.92*	*26.02*	*26.02*	*26.12*	*26.32*	*26.32*	*26.32*	*26.32*	**25.72**	*26.02*	*26.32*
Other	**6.18**	**6.19**	**6.16**	**6.25**	*6.32*	*6.46*	*6.42*	*6.41*	*6.42*	*6.42*	*6.39*	*6.36*	**6.19**	*6.40*	*6.40*
OPEC Total	**31.69**	**31.98**	**31.95**	**32.03**	*32.24*	*32.48*	*32.44*	*32.53*	*32.74*	*32.74*	*32.71*	*32.68*	**31.91**	*32.42*	*32.72*
Surplus Crude Oil Production Capacity															
Middle East	**5.96**	**5.82**	**4.51**	**3.83**	*3.70*	*3.73*	*3.35*	*3.35*	*3.45*	*3.45*	*3.45*	*3.45*	**5.02**	*3.53*	*3.45*
Other	**0.65**	**0.68**	**0.60**	**0.54**	*0.37*	*0.24*	*0.20*	*0.19*	*0.20*	*0.23*	*0.25*	*0.27*	**0.62**	*0.25*	*0.23*
OPEC Total	**6.61**	**6.49**	**5.11**	**4.37**	*4.07*	*3.97*	*3.55*	*3.54*	*3.65*	*3.68*	*3.70*	*3.72*	**5.64**	*3.78*	*3.68*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	-	-	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.20**	**23.83**	**24.19**	**24.44**	*24.18*	*24.50*	*24.88*	*25.02*	*24.44*	*24.96*	*25.20*	*25.27*	**23.67**	*24.65*	*24.97*
Canada	**2.12**	**2.16**	**2.41**	**2.37**	*2.31*	*2.29*	*2.41*	*2.38*	*2.38*	*2.33*	*2.43*	*2.41*	**2.27**	*2.35*	*2.39*
Mexico	**1.62**	**1.63**	**1.56**	**1.67**	*1.63*	*1.65*	*1.63*	*1.64*	*1.60*	*1.63*	*1.62*	*1.64*	**1.62**	*1.64*	*1.62*
United States	**18.45**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.78**	*20.66*	*20.95*
Central and South America	**5.99**	**6.13**	**6.35**	**6.48**	*6.26*	*6.35*	*6.46*	*6.47*	*6.33*	*6.47*	*6.57*	*6.51*	**6.24**	*6.39*	*6.47*
Brazil	**2.78**	**2.89**	**3.01**	**3.11**	*2.90*	*2.91*	*2.99*	*2.99*	*2.91*	*2.97*	*3.04*	*3.02*	**2.95**	*2.95*	*2.98*
Europe	**12.65**	**13.36**	**14.57**	**14.30**	*13.96*	*14.10*	*14.45*	*14.12*	*13.95*	*14.13*	*14.53*	*14.30*	**13.73**	*14.16*	*14.23*
Eurasia	**4.65**	**4.72**	**5.08**	**4.94**	*4.84*	*4.90*	*5.26*	*5.13*	*4.83*	*5.00*	*5.33*	*5.24*	**4.85**	*5.03*	*5.10*
Russia	**3.41**	**3.52**	**3.81**	**3.65**	*3.55*	*3.64*	*3.93*	*3.79*	*3.59*	*3.68*	*3.98*	*3.83*	**3.60**	*3.73*	*3.77*
Middle East	**7.83**	**8.23**	**8.75**	**8.53**	*8.63*	*8.59*	*9.04*	*8.50*	*8.77*	*8.77*	*9.24*	*8.72*	**8.34**	*8.69*	*8.88*
Asia and Oceania	**36.42**	**35.53**	**34.97**	**36.55**	*37.36*	*37.07*	*36.56*	*37.69*	*39.28*	*38.36*	*37.24*	*37.94*	**35.87**	*37.17*	*38.20*
China	**15.26**	**15.46**	**14.98**	**15.32**	*15.52*	*15.92*	*15.65*	*15.89*	*16.65*	*16.54*	*15.91*	*15.83*	**15.25**	*15.74*	*16.23*
Japan	**3.73**	**3.08**	**3.18**	**3.47**	*3.73*	*3.08*	*3.19*	*3.52*	*3.65*	*3.05*	*3.15*	*3.47*	**3.37**	*3.38*	*3.33*
India	**4.94**	**4.37**	**4.41**	**4.89**	*5.06*	*5.14*	*4.80*	*5.10*	*5.33*	*5.40*	*5.03*	*5.36*	**4.65**	*5.02*	*5.28*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	*4.47*	*4.52*	*4.45*	*4.64*	*4.61*	*4.63*	*4.54*	*4.71*	**4.37**	*4.52*	*4.62*
Total OECD Liquid Fuels Consumption	**42.30**	**43.98**	**45.68**	**46.01**	*45.82*	*45.45*	*46.33*	*46.62*	*46.03*	*45.90*	*46.67*	*46.97*	**44.51**	*46.06*	*46.40*
Total non-OECD Liquid Fuels Consumption	**51.79**	**52.21**	**52.52**	**53.69**	*53.88*	*54.60*	*54.77*	*54.94*	*56.19*	*56.40*	*56.00*	*55.73*	**52.56**	*54.55*	*56.08*
Total World Liquid Fuels Consumption	**94.09**	**96.19**	**98.20**	**99.70**	*99.70*	*100.04*	*101.10*	*101.56*	*102.23*	*102.30*	*102.67*	*102.70*	**97.07**	*100.61*	*102.48*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.4**	**117.3**	**118.7**	**120.2**	*121.1*	*122.7*	*124.1*	*125.3*	*126.4*	*127.7*	*128.8*	*129.9*	**118.1**	*123.3*	*128.2*
Percent change from prior year	**3.3**	**11.5**	**4.8**	**4.1**	*4.1*	*4.5*	*4.6*	*4.2*	*4.4*	*4.1*	*3.8*	*3.7*	**5.8**	*4.4*	*4.0*
OECD Index, 2015 = 100													**109.2**	*113.3*	*116.2*
Percent change from prior year													**5.2**	*3.7*	*2.6*
Non-OECD Index, 2015 = 100													**123.4**	*129.3*	*135.8*
Percent change from prior year													**6.2**	*4.8*	*5.0*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	*109.7*	*109.9*	*109.5*	*109.0*	*108.7*	*108.4*	*108.1*	*107.8*	**107.3**	*109.6*	*108.3*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	*3.0*	*3.6*	*1.9*	*0.0*	*-1.0*	*-1.4*	*-1.3*	*-1.1*	**-3.9**	*2.1*	*-1.2*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.69**	*11.67*	*11.86*	*12.06*	*12.27*	*12.46*	*12.54*	*12.63*	*12.75*	**11.20**	*11.97*	*12.60*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	*0.42*	*0.36*	*0.38*	*0.40*	*0.41*	*0.36*	*0.39*	*0.41*	**0.44**	*0.39*	*0.39*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.80**	*1.84*	*1.83*	*1.79*	*1.81*	*1.88*	*1.87*	*1.79*	*1.79*	**1.72**	*1.82*	*1.83*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.46**	*9.41*	*9.67*	*9.89*	*10.06*	*10.17*	*10.31*	*10.45*	*10.55*	**9.05**	*9.76*	*10.37*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.23**	*3.63*	*4.21*	*4.35*	*3.40*	*2.71*	*4.00*	*4.19*	*2.80*	**3.17**	*3.90*	*3.43*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	*0.27*	*0.10*	*0.00*	*0.08*	*0.09*	*0.09*	*-0.04*	*0.11*	**0.12**	*0.11*	*0.06*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**0.03**	*-0.30*	*-0.09*	*0.22*	*-0.05*	*-0.35*	*-0.09*	*0.07*	*0.07*	**0.19**	*-0.05*	*-0.07*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.29**	*-0.01*	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.47**	*0.15*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	*15.25*	*16.29*	*16.85*	*15.88*	*15.12*	*16.75*	*17.08*	*15.90*	**15.15**	*16.07*	*16.22*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	*1.08*	*1.04*	*1.07*	*1.08*	*1.03*	*1.01*	*1.02*	*1.01*	**0.96**	*1.07*	*1.02*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.70**	*5.69*	*5.84*	*5.94*	*6.02*	*6.06*	*6.17*	*6.17*	*6.19*	**5.39**	*5.87*	*6.15*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.23**	*1.17*	*1.19*	*1.21*	*1.25*	*1.18*	*1.22*	*1.22*	*1.27*	**1.12**	*1.21*	*1.22*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	*1.00*	*1.02*	*1.03*	*1.05*	*1.00*	*1.03*	*1.02*	*1.05*	**0.98**	*1.03*	*1.02*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.22**	*0.21*	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.21**	*0.22*	*0.22*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	*-3.44*	*-3.33*	*-4.10*	*-3.77*	*-3.50*	*-3.84*	*-4.29*	*-3.78*	**-3.29**	*-3.66*	*-3.85*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.26**	*-2.25*	*-2.24*	*-2.29*	*-2.28*	*-2.43*	*-2.47*	*-2.54*	*-2.46*	**-2.17**	*-2.27*	*-2.47*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.13**	*0.26*	*0.28*	*0.30*	*0.20*	*0.19*	*0.22*	*0.29*	*0.20*	**0.19**	*0.26*	*0.23*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	*-0.06*	*-0.05*	*-0.07*	*-0.06*	*-0.06*	*-0.05*	*-0.05*	*-0.04*	**-0.05**	*-0.06*	*-0.05*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.38**	*0.33*	*0.71*	*0.39*	*0.21*	*0.39*	*0.60*	*0.38*	*0.41*	**0.60**	*0.41*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.81**	*-0.60*	*-0.55*	*-0.62*	*-0.52*	*-0.64*	*-0.57*	*-0.60*	*-0.69*	**-0.70**	*-0.58*	*-0.63*
Jet Fuel	**0.03**	**0.09**	**0.09**	**-0.01**	*0.01*	*0.01*	*-0.01*	*0.01*	*-0.01*	*0.03*	*0.05*	*0.09*	**0.05**	*0.00*	*0.04*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.86**	*-0.59*	*-1.00*	*-1.19*	*-0.93*	*-0.56*	*-1.06*	*-1.20*	*-0.92*	**-0.80**	*-0.93*	*-0.94*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.14**	*0.08*	*0.08*	*0.03*	*0.10*	*0.01*	*0.03*	*-0.01*	*0.10*	**0.09**	*0.07*	*0.03*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.52**	*-0.60*	*-0.55*	*-0.63*	*-0.51*	*-0.38*	*-0.57*	*-0.60*	*-0.47*	**-0.50**	*-0.57*	*-0.51*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.54**	*0.28*	*-0.69*	*-0.37*	*0.31*	*0.35*	*-0.53*	*-0.29*	*0.40*	**0.24**	*-0.12*	*-0.02*
Total Supply	**18.43**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.77**	*20.66*	*20.95*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.54**	*3.88*	*3.38*	*3.39*	*3.85*	*3.99*	*3.54*	*3.47*	*3.88*	**3.39**	*3.62*	*3.72*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	*0.17*	*0.16*	*0.15*	*0.21*	*0.19*	*0.19*	*0.18*	*0.24*	**0.13**	*0.17*	*0.20*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**0.02**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.01**	*0.00*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.94**	*8.41*	*9.15*	*9.23*	*8.98*	*8.47*	*9.23*	*9.27*	*9.02*	**8.79**	*8.95*	*9.00*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	*0.85*	*0.94*	*0.94*	*0.94*	*0.87*	*0.95*	*0.95*	*0.95*	**0.91**	*0.92*	*0.93*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.48**	*1.45*	*1.55*	*1.64*	*1.62*	*1.51*	*1.66*	*1.72*	*1.68*	**1.37**	*1.57*	*1.64*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.05**	*4.23*	*4.02*	*3.97*	*4.09*	*4.23*	*4.09*	*4.04*	*4.12*	**3.96**	*4.08*	*4.12*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.39**	*0.33*	*0.28*	*0.31*	*0.31*	*0.27*	*0.28*	*0.29*	*0.31*	**0.31**	*0.31*	*0.29*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	*1.78*	*2.01*	*2.13*	*1.92*	*1.80*	*2.05*	*2.17*	*1.94*	**1.82**	*1.96*	*1.99*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.78**	*20.66*	*20.95*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.62**	*0.19*	*0.89*	*0.25*	*-0.37*	*-0.79*	*0.16*	*-0.10*	*-0.98*	**-0.13**	*0.24*	*-0.43*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**417.2**	*444.3*	*452.8*	*432.2*	*436.6*	*468.2*	*476.2*	*470.1*	*463.7*	**417.2**	*436.6*	*463.7*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**185.8**	*138.7*	*191.6*	*239.0*	*199.8*	*160.5*	*208.3*	*245.6*	*201.9*	**185.8**	*199.8*	*201.9*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**82.8**	*91.4*	*90.6*	*89.9*	*83.0*	*92.7*	*90.6*	*89.8*	*82.6*	**82.8**	*83.0*	*82.6*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**27.5**	*32.1*	*30.9*	*30.6*	*30.9*	*32.9*	*31.7*	*31.4*	*31.7*	**27.5**	*30.9*	*31.7*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**233.9**	*243.1*	*246.8*	*234.0*	*249.1*	*248.2*	*247.5*	*238.8*	*250.6*	**233.9**	*249.1*	*250.6*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.3**	*18.3*	*21.7*	*23.5*	*26.9*	*23.5*	*24.4*	*25.5*	*27.9*	**17.3**	*26.9*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**216.6**	*224.9*	*225.2*	*210.5*	*222.3*	*224.8*	*223.0*	*213.3*	*222.7*	**216.6**	*222.3*	*222.7*
Jet Fuel	**39.0**	**44.7**	**42.0**	**34.9**	*37.0*	*38.4*	*41.3*	*38.4*	*38.0*	*39.0*	*41.6*	*38.5*	**34.9**	*38.4*	*38.5*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**127.2**	*114.8*	*121.0*	*128.9*	*130.6*	*119.3*	*124.4*	*131.3*	*133.2*	**127.2**	*130.6*	*133.2*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**26.0**	*27.2*	*29.8*	*29.0*	*30.6*	*30.3*	*31.1*	*29.7*	*31.1*	**26.0**	*30.6*	*31.1*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**52.3**	*61.3*	*59.1*	*49.9*	*51.3*	*60.5*	*58.4*	*49.2*	*50.5*	**52.3**	*51.3*	*50.5*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1187.7**	*1190.0*	*1261.1*	*1274.6*	*1250.4*	*1250.6*	*1307.1*	*1327.4*	*1284.0*	**1187.7**	*1250.4*	*1284.0*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.6**	*569.3*	*560.6*	*560.6*	*552.8*	*545.0*	*537.2*	*540.6*	*530.1*	**593.6**	*552.8*	*530.1*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.28**	*2.32*	*2.46*	*2.51*	*2.58*	*2.61*	*2.66*	*2.59*	*2.64*	**2.13**	*2.47*	*2.62*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	*1.81*	*1.79*	*1.81*	*1.83*	*1.85*	*1.87*	*1.89*	*1.90*	**1.74**	*1.81*	*1.88*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	*0.96*	*0.96*	*0.97*	*0.98*	*1.00*	*1.00*	*1.02*	*1.02*	**0.92**	*0.97*	*1.01*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	*0.60*	*0.62*	*0.65*	*0.62*	*0.60*	*0.64*	*0.67*	*0.64*	**0.61**	*0.62*	*0.64*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.00**	**0.01**	*0.00*	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	*0.30*	*0.29*	*0.30*	*0.30*	*0.29*	*0.29*	*0.30*	*0.30*	**0.28**	*0.30*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	*0.27*	*0.28*	*0.28*	*0.28*	*0.27*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.19**	*-0.07*	*0.27*	*0.19*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.49**	*-0.43*	*-0.44*	*-0.45*	*-0.46*	*-0.47*	*-0.46*	*-0.46*	*-0.47*	**-0.41**	*-0.45*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.21**	*-1.18*	*-1.14*	*-1.19*	*-1.23*	*-1.27*	*-1.31*	*-1.38*	*-1.37*	**-1.18**	*-1.18*	*-1.33*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.37**	*-0.43*	*-0.46*	*-0.46*	*-0.41*	*-0.47*	*-0.49*	*-0.49*	*-0.43*	**-0.38**	*-0.44*	*-0.47*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	*-0.22*	*-0.20*	*-0.20*	*-0.18*	*-0.22*	*-0.21*	*-0.21*	*-0.19*	**-0.20**	*-0.20*	*-0.21*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.51**	*0.40*	*0.28*	*0.32*	*0.50*	*0.38*	*0.28*	*0.32*	*0.51*	**0.38**	*0.37*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.21**	*0.17*	*0.18*	*0.19*	*0.19*	*0.18*	*0.18*	*0.19*	*0.18*	**0.16**	*0.18*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.85**	*1.97*	*2.01*	*2.06*	*2.10*	*2.15*	*2.15*	*2.14*	*2.17*	**1.76**	*2.04*	*2.15*
Propane	**1.09**	**0.65**	**0.66**	**0.95**	*1.19*	*0.64*	*0.61*	*1.01*	*1.15*	*0.64*	*0.59*	*0.97*	**0.84**	*0.86*	*0.84*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	*0.29*	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.29*	**0.30**	*0.30*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	*0.20*	*0.22*	*0.20*	*0.20*	*0.18*	*0.22*	*0.20*	*0.20*	**0.24**	*0.21*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.23**	*0.21*	*0.21*	*0.23*	*0.24*	*0.21*	*0.22*	*0.24*	*0.25*	**0.26**	*0.22*	*0.23*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**63.6**	*53.2*	*53.1*	*52.9*	*56.1*	*54.8*	*59.5*	*59.3*	*61.6*	**65.4**	*53.8*	*58.8*
Propane	**39.3**	**53.2**	**68.6**	**63.8**	*38.6*	*64.8*	*92.7*	*81.3*	*54.4*	*72.0*	*90.6*	*76.0*	**63.8**	*81.3*	*76.0*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	*1.4*	*1.7*	*1.9*	*1.8*	*1.6*	*1.8*	*2.0*	*1.9*	**1.4**	*1.8*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**40.4**	*27.2*	*51.6*	*69.5*	*40.5*	*30.7*	*55.1*	*73.0*	*43.8*	**40.4**	*40.5*	*43.8*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**21.3**	*19.3*	*20.4*	*21.2*	*20.4*	*18.0*	*19.2*	*20.0*	*19.3*	**21.3**	*20.4*	*19.3*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	*15.25*	*16.29*	*16.85*	*15.88*	*15.12*	*16.75*	*17.08*	*15.90*	**15.15**	*16.07*	*16.22*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.72**	*0.57*	*0.46*	*0.51*	*0.68*	*0.55*	*0.47*	*0.51*	*0.69*	**0.54**	*0.55*	*0.55*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.16**	*1.10*	*1.19*	*1.20*	*1.17*	*1.10*	*1.20*	*1.20*	*1.18*	**1.15**	*1.16*	*1.17*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.19**	*0.16*	*0.28*	*0.31*	*0.27*	*0.08*	*0.28*	*0.31*	*0.27*	**0.16**	*0.26*	*0.24*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.24**	*0.32*	*0.81*	*0.65*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.67**	*0.52*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.82**	*17.40*	*19.03*	*19.52*	*18.30*	*17.34*	*19.41*	*19.68*	*18.57*	**17.67**	*18.57*	*18.76*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	*1.08*	*1.04*	*1.07*	*1.08*	*1.03*	*1.01*	*1.02*	*1.01*	**0.96**	*1.07*	*1.02*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.40**	*0.50*	*0.85*	*0.78*	*0.39*	*0.49*	*0.85*	*0.78*	*0.39*	**0.61**	*0.63*	*0.63*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.61**	*9.09*	*9.81*	*9.94*	*9.71*	*9.16*	*9.87*	*9.94*	*9.91*	**9.50**	*9.64*	*9.72*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	*1.47*	*1.56*	*1.69*	*1.58*	*1.51*	*1.65*	*1.70*	*1.56*	**1.31**	*1.57*	*1.60*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.85**	*4.68*	*5.09*	*5.25*	*5.03*	*4.67*	*5.20*	*5.31*	*5.06*	**4.66**	*5.01*	*5.06*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.23**	*0.26*	*0.23*	*0.28*	*0.22*	*0.25*	*0.26*	*0.29*	*0.23*	**0.21**	*0.25*	*0.26*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.35**	*2.48*	*2.54*	*2.66*	*2.45*	*2.28*	*2.60*	*2.67*	*2.43*	**2.33**	*2.53*	*2.50*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.86**	*18.48*	*20.08*	*20.59*	*19.39*	*18.36*	*20.42*	*20.71*	*19.57*	**18.62**	*19.64*	*19.77*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.01**	*15.61*	*16.52*	*17.09*	*16.18*	*15.48*	*16.92*	*17.29*	*16.20*	**15.67**	*16.35*	*16.48*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.13**	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	*18.13*	**18.12**	*18.13*	*18.13*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.88**	*0.86*	*0.91*	*0.94*	*0.89*	*0.85*	*0.93*	*0.95*	*0.89*	**0.86**	*0.90*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**242**	*255*	*254*	*239*	*210*	*205*	*209*	*204*	*188*	**219**	*240*	*201*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	*331*	*327*	*317*	*292*	*279*	*283*	*277*	*266*	**294**	*317*	*276*
PADD 2	**247**	**288**	**304**	**315**	*314*	*323*	*304*	*279*	*274*	*280*	*275*	*256*	**290**	*305*	*271*
PADD 3	**228**	**267**	**282**	**298**	*305*	*307*	*288*	*260*	*250*	*255*	*249*	*233*	**271**	*290*	*247*
PADD 4	**247**	**311**	**360**	**351**	*340*	*342*	*331*	*300*	*283*	*296*	*292*	*273*	**319**	*328*	*286*
PADD 5	**312**	**366**	**391**	**410**	*421*	*419*	*393*	*383*	*363*	*364*	*356*	*336*	**372**	*403*	*355*
U.S. Average	**256**	**297**	**316**	**333**	*337*	*339*	*322*	*299*	*287*	*292*	*286*	*270*	**302**	*324*	*284*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	*348*	*351*	*335*	*312*	*301*	*306*	*300*	*284*	**311**	*336*	*298*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**63.3**	*65.8*	*68.3*	*63.1*	*68.8*	*68.1*	*68.8*	*63.4*	*68.7*	**63.3**	*68.8*	*68.7*
PADD 2	**50.7**	**50.6**	**46.9**	**51.4**	*54.6*	*52.5*	*50.2*	*50.6*	*52.9*	*51.5*	*51.1*	*50.0*	**51.4**	*50.6*	*50.0*
PADD 3	**81.9**	**81.6**	**82.9**	**82.0**	*84.7*	*88.8*	*83.7*	*90.1*	*89.3*	*90.0*	*87.5*	*91.1*	**82.0**	*90.1*	*91.1*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	*8.2*	*7.9*	*7.5*	*8.2*	*8.0*	*8.1*	*7.7*	*8.4*	**8.1**	*8.2*	*8.4*
PADD 5	**31.4**	**29.0**	**30.6**	**29.1**	*29.8*	*29.4*	*29.4*	*31.6*	*29.9*	*29.0*	*29.2*	*32.5*	**29.1**	*31.6*	*32.5*
U.S. Total	**237.6**	**237.2**	**227.0**	**233.9**	*243.1*	*246.8*	*234.0*	*249.1*	*248.2*	*247.5*	*238.8*	*250.6*	**233.9**	*249.1*	*250.6*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.3**	*18.3*	*21.7*	*23.5*	*26.9*	*23.5*	*24.4*	*25.5*	*27.9*	**17.3**	*26.9*	*27.9*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**216.6**	*224.9*	*225.2*	*210.5*	*222.3*	*224.8*	*223.0*	*213.3*	*222.7*	**216.6**	*222.3*	*222.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**105.04**	*103.67*	*103.78*	*104.57*	*105.50*	*105.63*	*106.12*	*106.95*	*107.49*	**101.45**	*104.39*	*106.55*
Alaska	**1.02**	**0.95**	**0.90**	**0.98**	*0.91*	*0.75*	*0.71*	*0.85*	*0.90*	*0.75*	*0.71*	*0.86*	**0.96**	*0.80*	*0.80*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.19**	*2.33*	*2.26*	*2.14*	*2.10*	*2.14*	*2.08*	*1.96*	*1.92*	**2.13**	*2.21*	*2.02*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.87**	*100.44*	*100.77*	*101.72*	*102.55*	*102.60*	*103.28*	*104.28*	*104.71*	**98.36**	*101.38*	*103.73*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.69**	*95.43*	*95.54*	*96.26*	*97.12*	*97.11*	*97.57*	*98.34*	*98.84*	**93.59**	*96.09*	*97.97*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.12**	*0.32*	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.08**	*0.22*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.40**	*11.03*	*10.84*	*11.33*	*12.18*	*12.72*	*11.86*	*11.73*	*12.23*	**9.77**	*11.35*	*12.13*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.81**	*7.97*	*6.44*	*6.39*	*6.72*	*7.76*	*6.45*	*6.32*	*6.51*	**7.63**	*6.88*	*6.75*
Pipeline Gross Exports	**8.31**	**8.67**	**8.50**	**8.33**	*8.70*	*8.34*	*9.21*	*9.19*	*9.11*	*9.02*	*9.33*	*9.23*	**8.45**	*8.86*	*9.17*
Supplemental Gaseous Fuels	**0.18**	**0.15**	**0.15**	**0.18**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.17*	*0.17*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**0.90**	*18.45*	*-10.89*	*-7.94*	*4.12*	*15.19*	*-11.16*	*-8.93*	*2.75*	**0.21**	*0.87*	*-0.60*
Total Supply	**99.19**	**72.52**	**75.31**	**86.97**	*102.61*	*72.26*	*74.51*	*86.96*	*98.71*	*72.34*	*75.02*	*87.00*	**83.44**	*84.01*	*83.21*
Balancing Item (b)	**0.21**	**-0.60**	**-0.23**	**-1.43**	*-0.13*	*-0.70*	*0.99*	*0.87*	*0.85*	*0.17*	*0.95*	*0.59*	**-0.52**	*0.26*	*0.64*
Total Primary Supply	**99.40**	**71.92**	**75.08**	**85.54**	*102.47*	*71.56*	*75.50*	*87.83*	*99.56*	*72.51*	*75.97*	*87.59*	**82.92**	*84.27*	*83.85*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.49**	**3.62**	**14.48**	*25.86*	*7.91*	*3.71*	*16.65*	*25.08*	*7.91*	*3.76*	*16.51*	**12.76**	*13.48*	*13.27*
Commercial	**14.87**	**6.23**	**4.69**	**9.74**	*15.57*	*6.51*	*4.79*	*10.49*	*15.00*	*6.49*	*4.74*	*10.40*	**8.86**	*9.31*	*9.13*
Industrial	**23.81**	**21.46**	**21.13**	**23.58**	*24.75*	*22.17*	*22.25*	*24.99*	*24.85*	*22.37*	*22.37*	*25.24*	**22.49**	*23.54*	*23.70*
Electric Power (c)	**26.75**	**29.17**	**37.93**	**29.52**	*27.55*	*27.29*	*36.89*	*27.37*	*25.87*	*27.90*	*37.11*	*27.02*	**30.87**	*29.79*	*29.50*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.24**	*5.17*	*5.17*	*5.21*	*5.26*	*5.27*	*5.29*	*5.33*	*5.36*	**5.06**	*5.20*	*5.31*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	*3.41*	*2.35*	*2.48*	*2.91*	*3.32*	*2.38*	*2.50*	*2.90*	**2.74**	*2.79*	*2.77*
Vehicle Use	**0.14**	**0.15**	**0.15**	**0.15**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.15**	*0.16*	*0.16*
Total Consumption	**99.40**	**71.92**	**75.08**	**85.54**	*102.47*	*71.56*	*75.50*	*87.83*	*99.56*	*72.51*	*75.97*	*87.59*	**82.92**	*84.27*	*83.85*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,583**	**3,305**	**3,220**	*1,560*	*2,551*	*3,281*	*2,902*	*1,535*	*2,550*	*3,372*	*3,120*	**3,220**	*2,902*	*3,120*
East Region (d)	**313**	**515**	**804**	**767**	*244*	*515*	*780*	*644*	*258*	*564*	*852*	*752*	**767**	*644*	*752*
Midwest Region (d)	**395**	**630**	**966**	**893**	*309*	*564*	*909*	*799*	*330*	*602*	*942*	*836*	**893**	*799*	*836*
South Central Region (d)	**760**	**991**	**1,052**	**1,143**	*699*	*998*	*1,066*	*991*	*646*	*936*	*1,033*	*1,041*	**1,143**	*991*	*1,041*
Mountain Region (d)	**113**	**175**	**205**	**172**	*86*	*135*	*186*	*172*	*104*	*146*	*209*	*188*	**172**	*172*	*188*
Pacific Region (d)	**197**	**246**	**248**	**219**	*196*	*315*	*315*	*270*	*173*	*278*	*312*	*278*	**219**	*270*	*278*
Alaska	**23**	**27**	**30**	**26**	*25*	*25*	*25*	*25*	*25*	*25*	*25*	*25*	**26**	*25*	*25*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	*4.51*	*3.97*	*3.93*	*3.86*	*3.88*	*3.60*	*3.66*	*3.80*	**4.06**	*4.07*	*3.74*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.40**	*15.84*	*16.10*	*18.46*	*14.21*	*13.78*	*14.70*	*17.62*	*13.78*	**16.04**	*15.57*	*14.18*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.64**	*12.07*	*13.79*	*18.00*	*11.83*	*10.80*	*12.95*	*17.42*	*11.40*	**12.54**	*12.66*	*11.76*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.68**	*9.66*	*12.34*	*17.65*	*9.23*	*8.46*	*11.38*	*17.06*	*8.95*	**10.19**	*10.39*	*9.57*
W. N. Central	**7.49**	**11.63**	**20.31**	**12.81**	*10.33*	*12.77*	*18.36*	*10.16*	*8.80*	*11.59*	*17.66*	*9.76*	**10.12**	*11.08*	*9.99*
S. Atlantic	**11.95**	**18.04**	**27.54**	**16.81**	*13.66*	*18.21*	*23.88*	*13.43*	*11.98*	*17.01*	*23.17*	*13.04*	**15.23**	*14.99*	*13.80*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.12**	*11.65*	*16.26*	*23.13*	*14.18*	*12.13*	*17.10*	*23.60*	*14.69*	**11.86**	*13.88*	*14.37*
W. S. Central	**9.23**	**15.85**	**23.76**	**16.06**	*11.20*	*16.03*	*21.43*	*12.18*	*9.22*	*14.77*	*20.79*	*11.94*	**12.93**	*13.27*	*11.75*
Mountain	**7.90**	**10.64**	**15.58**	**11.22**	*10.14*	*11.44*	*14.78*	*9.22*	*8.61*	*10.29*	*14.09*	*8.86*	**9.81**	*10.39*	*9.36*
Pacific	**14.20**	**15.01**	**15.90**	**16.15**	*15.74*	*15.98*	*16.42*	*15.06*	*15.06*	*15.52*	*16.16*	*15.07*	**15.12**	*15.65*	*15.27*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.87**	*11.87*	*14.21*	*18.52*	*11.50*	*10.47*	*13.34*	*18.02*	*11.22*	**12.29**	*12.56*	*11.67*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**13.09**	*12.59*	*12.09*	*11.35*	*10.87*	*11.11*	*11.09*	*10.69*	*10.45*	**11.48**	*11.84*	*10.86*
Middle Atlantic	**7.92**	**8.00**	**7.98**	**10.02**	*9.88*	*9.25*	*8.40*	*8.61*	*8.80*	*8.40*	*7.76*	*8.16*	**8.54**	*9.19*	*8.41*
E. N. Central	**6.11**	**8.60**	**11.03**	**8.74**	*8.11*	*8.88*	*9.73*	*7.43*	*7.35*	*8.19*	*9.33*	*7.27*	**7.61**	*8.12*	*7.59*
W. N. Central	**6.32**	**7.69**	**9.94**	**10.23**	*8.95*	*8.95*	*9.86*	*7.81*	*7.68*	*8.17*	*9.41*	*7.61*	**7.87**	*8.65*	*7.85*
S. Atlantic	**8.69**	**9.84**	**10.37**	**10.87**	*10.17*	*10.71*	*10.75*	*9.52*	*9.19*	*10.05*	*10.39*	*9.46*	**9.72**	*10.13*	*9.56*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.36**	*10.24*	*10.82*	*11.04*	*9.67*	*9.08*	*10.01*	*10.52*	*9.37*	**9.77**	*10.23*	*9.47*
W. S. Central	**6.91**	**8.57**	**10.12**	**10.81**	*9.22*	*9.11*	*9.16*	*8.15*	*7.44*	*8.03*	*8.53*	*7.82*	**8.63**	*8.89*	*7.80*
Mountain	**6.50**	**7.76**	**9.26**	**9.03**	*8.79*	*8.91*	*9.49*	*8.07*	*7.73*	*7.99*	*8.77*	*7.55*	**7.74**	*8.65*	*7.82*
Pacific	**10.46**	**10.31**	**11.31**	**11.78**	*11.40*	*10.73*	*10.85*	*10.21*	*9.77*	*9.29*	*9.46*	*8.97*	**10.97**	*10.81*	*9.38*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.23**	*9.52*	*9.66*	*9.76*	*8.61*	*8.39*	*8.76*	*9.11*	*8.23*	**8.80**	*9.31*	*8.48*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.03**	*9.83*	*8.99*	*7.83*	*8.67*	*9.02*	*8.40*	*7.45*	*8.55*	**8.77**	*8.99*	*8.49*
Middle Atlantic	**7.66**	**7.36**	**7.90**	**10.07**	*9.57*	*8.77*	*8.31*	*8.50*	*8.77*	*8.17*	*7.81*	*8.10*	**8.29**	*9.01*	*8.38*
E. N. Central	**5.43**	**8.14**	**8.48**	**8.22**	*7.53*	*6.89*	*6.56*	*6.37*	*6.68*	*6.36*	*6.24*	*6.27*	**7.00**	*6.96*	*6.45*
W. N. Central	**5.13**	**4.34**	**5.25**	**7.44**	*6.85*	*5.66*	*5.31*	*5.64*	*5.90*	*5.10*	*4.93*	*5.44*	**5.59**	*5.92*	*5.38*
S. Atlantic	**5.12**	**4.75**	**6.01**	**7.53**	*6.65*	*5.82*	*5.64*	*5.75*	*6.04*	*5.41*	*5.34*	*5.69*	**5.86**	*6.00*	*5.65*
E. S. Central	**4.72**	**4.28**	**5.37**	**7.19**	*6.31*	*5.52*	*5.20*	*5.39*	*5.68*	*5.05*	*4.84*	*5.26*	**5.39**	*5.63*	*5.23*
W. S. Central	**5.75**	**3.20**	**4.36**	**5.81**	*4.49*	*4.13*	*4.13*	*4.02*	*4.05*	*3.78*	*3.83*	*3.93*	**4.78**	*4.19*	*3.90*
Mountain	**4.98**	**5.31**	**6.66**	**7.37**	*7.20*	*6.77*	*6.74*	*6.40*	*6.40*	*6.10*	*6.21*	*6.04*	**6.01**	*6.79*	*6.20*
Pacific	**8.28**	**7.24**	**8.88**	**9.27**	*8.32*	*7.67*	*7.77*	*7.65*	*7.54*	*6.95*	*6.82*	*6.87*	**8.53**	*7.86*	*7.06*
U.S. Average	**5.73**	**4.09**	**5.10**	**6.80**	*5.91*	*5.05*	*4.88*	*5.09*	*5.34*	*4.63*	*4.53*	*4.92*	**5.48**	*5.25*	*4.87*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**147.1**	*147.0*	*145.2*	*156.5*	*157.4*	*157.3*	*149.3*	*161.4*	*156.3*	**578.4**	*606.0*	*624.3*
Appalachia	**40.8**	**39.5**	**36.6**	**41.3**	*42.3*	*41.6*	*39.4*	*41.4*	*43.9*	*41.7*	*40.1*	*38.2*	**158.2**	*164.7*	*163.9*
Interior	**25.0**	**23.3**	**22.7**	**24.7**	*24.1*	*23.1*	*25.1*	*25.7*	*27.5*	*24.8*	*25.9*	*25.2*	**95.7**	*98.0*	*103.4*
Western	**74.5**	**80.0**	**89.0**	**81.0**	*80.6*	*80.5*	*92.0*	*90.3*	*85.9*	*82.8*	*95.5*	*92.9*	**324.6**	*343.3*	*357.0*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.9**	*-1.3*	*-2.2*	*-0.9*	*-5.2*	*-2.0*	*-1.2*	*1.6*	*-1.7*	**-1.7**	*-9.7*	*-3.2*
Imports	**1.1**	**1.5**	**1.1**	**1.4**	*1.0*	*0.9*	*1.1*	*1.1*	*1.3*	*2.0*	*2.6*	*2.4*	**5.1**	*4.1*	*8.3*
Exports	**20.7**	**22.1**	**20.7**	**22.0**	*26.9*	*17.9*	*18.8*	*25.1*	*21.9*	*23.3*	*22.9*	*24.3*	**85.6**	*88.7*	*92.5*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**13.8**	*14.5*	*10.5*	*12.1*	*13.5*	*13.1*	*14.1*	*13.6*	*14.2*	**47.2**	*50.6*	*55.0*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.8**	*12.3*	*7.4*	*6.8*	*11.6*	*8.8*	*9.3*	*9.3*	*10.1*	**39.9**	*38.1*	*37.5*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**124.5**	*119.8*	*126.0*	*137.9*	*128.1*	*134.6*	*126.8*	*142.8*	*132.7*	**496.2**	*511.8*	*536.8*
Secondary Inventory Withdrawals	**22.3**	**0.2**	**30.4**	**-14.4**	*5.5*	*-8.1*	*23.8*	*1.1*	*-1.6*	*-13.9*	*11.6*	*-6.5*	**38.6**	*22.4*	*-10.4*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	*1.8*	*1.8*	*1.8*	*1.8*	*1.4*	*1.4*	*1.4*	*1.4*	**7.9**	*7.4*	*5.5*
Total Supply	**140.6**	**126.2**	**163.7**	**112.1**	*127.1*	*119.8*	*163.5*	*131.1*	*134.4*	*114.2*	*155.7*	*127.6*	**542.7**	*541.6*	*532.0*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.6**	*5.4*	*4.9*	*4.7*	*5.2*	*5.2*	*5.3*	*5.3*	*5.3*	**17.8**	*20.2*	*21.2*
Electric Power Sector (b)	**127.9**	**113.8**	**157.0**	**104.4**	*118.7*	*108.0*	*152.0*	*118.9*	*122.0*	*102.7*	*144.1*	*115.2*	**503.1**	*497.7*	*484.1*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.1**	*7.2*	*6.8*	*6.8*	*7.1*	*7.2*	*6.2*	*6.2*	*7.0*	**26.8**	*27.9*	*26.7*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.4*	*0.2*	*0.2*	*0.3*	**0.8**	*0.8*	*1.0*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.9**	*7.0*	*6.7*	*6.6*	*6.8*	*6.8*	*6.0*	*6.1*	*6.7*	**26.0**	*27.1*	*25.7*
Total Consumption	**139.1**	**124.6**	**167.9**	**116.1**	*131.3*	*119.8*	*163.5*	*131.1*	*134.4*	*114.2*	*155.7*	*127.6*	**547.7**	*545.7*	*532.0*
Discrepancy (c)	**1.5**	**1.6**	**-4.1**	**-4.0**	*-4.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-5.0**	*-4.1*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	*26.7*	*28.9*	*29.8*	*35.0*	*37.0*	*38.2*	*36.6*	*38.2*	**25.3**	*35.0*	*38.2*
Secondary Inventories	**115.8**	**115.6**	**85.1**	**99.5**	*94.0*	*102.0*	*78.3*	*77.1*	*78.7*	*92.6*	*81.1*	*87.5*	**99.5**	*77.1*	*87.5*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**93.9**	*88.5*	*96.3*	*72.4*	*71.5*	*73.8*	*87.5*	*75.7*	*82.1*	**93.9**	*71.5*	*82.1*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**3.4**	*3.6*	*3.5*	*3.5*	*3.3*	*2.8*	*2.8*	*3.0*	*3.1*	**3.4**	*3.3*	*3.1*
Coke Plants	**1.5**	**1.9**	**1.8**	**2.0**	*1.6*	*2.1*	*2.2*	*2.2*	*2.0*	*2.2*	*2.2*	*2.2*	**2.0**	*2.2*	*2.2*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	*6.30*	*6.30*	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	*0.269*	*0.267*	*0.274*	*0.284*	*0.302*	*0.295*	*0.300*	*0.308*	**0.258**	*0.274*	*0.301*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.04**	*2.05*	*2.06*	*1.91*	*1.91*	*1.85*	*1.85*	*1.84*	*1.82*	**1.98**	*1.98*	*1.84*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**991**	**985**	**1,167**	**978**	*1,016*	*995*	*1,168*	*990*	*1,013*	*1,007*	*1,178*	*999*	**4,120**	*4,169*	*4,196*
Electric Power Sector (a)	**954**	**948**	**1,126**	**938**	*977*	*957*	*1,126*	*950*	*974*	*968*	*1,136*	*959*	**3,966**	*4,010*	*4,037*
Industrial Sector (b)	**34**	**33**	**37**	**36**	*36*	*35*	*38*	*36*	*36*	*35*	*38*	*36*	**140**	*145*	*145*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*14*	*14*
Net Imports	**11**	**11**	**11**	**11**	*12*	*12*	*15*	*11*	*12*	*13*	*15*	*12*	**44**	*50*	*51*
Total Supply	**1,002**	**996**	**1,177**	**989**	*1,028*	*1,007*	*1,183*	*1,001*	*1,026*	*1,019*	*1,193*	*1,010*	**4,164**	*4,219*	*4,247*
Losses and Unaccounted for (c)	**56**	**66**	**52**	**53**	*58*	*64*	*53*	*51*	*43*	*65*	*54*	*52*	**227**	*226*	*213*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**913**	**898**	**1,089**	**900**	*935*	*909*	*1,092*	*914*	*948*	*920*	*1,101*	*923*	**3,801**	*3,851*	*3,893*
Residential Sector	**379**	**328**	**446**	**329**	*368*	*324*	*439*	*335*	*373*	*328*	*443*	*340*	**1,482**	*1,465*	*1,484*
Commercial Sector	**304**	**321**	**377**	**322**	*320*	*330*	*380*	*325*	*322*	*331*	*381*	*325*	**1,325**	*1,355*	*1,359*
Industrial Sector	**229**	**247**	**264**	**248**	*246*	*254*	*272*	*254*	*251*	*259*	*276*	*257*	**988**	*1,025*	*1,044*
Transportation Sector	**2**	**1**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**33**	**36**	**35**	*35*	*34*	*37*	*35*	*35*	*34*	*37*	*35*	**137**	*141*	*141*
Total Consumption	**946**	**931**	**1,125**	**936**	*970*	*943*	*1,130*	*950*	*983*	*954*	*1,139*	*958*	**3,937**	*3,992*	*4,034*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,231**	**2,383**	*2,638*	*2,320*	*3,144*	*2,398*	*2,644*	*2,326*	*3,138*	*2,406*	**10,739**	*10,499*	*10,513*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**93.9**	*88.5*	*96.3*	*72.4*	*71.5*	*73.8*	*87.5*	*75.7*	*82.1*	**93.9**	*71.5*	*82.1*
Residual Fuel (mmb)	**8.0**	**7.4**	**7.1**	**7.9**	*7.4*	*7.3*	*7.4*	*7.6*	*5.5*	*5.6*	*3.8*	*4.5*	**7.9**	*7.6*	*4.5*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.4**	**15.8**	*15.7*	*15.5*	*15.5*	*15.8*	*15.7*	*15.6*	*15.5*	*15.8*	**15.8**	*15.8*	*15.8*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.04**	*2.05*	*2.06*	*1.91*	*1.91*	*1.85*	*1.85*	*1.84*	*1.82*	**1.98**	*1.98*	*1.84*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.39**	*4.73*	*4.03*	*3.94*	*4.04*	*4.29*	*3.63*	*3.64*	*3.98*	**4.97**	*4.16*	*3.86*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**15.92**	*15.27*	*16.51*	*15.35*	*14.14*	*13.72*	*13.78*	*12.66*	*12.27*	**13.62**	*15.28*	*13.09*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.00**	*19.82*	*19.56*	*18.72*	*17.66*	*16.83*	*16.23*	*15.92*	*15.93*	**15.50**	*19.05*	*16.28*
Retail Prices (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**14.00**	**13.92**	*13.91*	*14.49*	*14.47*	*14.18*	*14.06*	*14.56*	*14.53*	*14.21*	**13.72**	*14.26*	*14.34*
Commercial Sector	**10.99**	**11.07**	**11.64**	**11.28**	*11.58*	*11.59*	*11.99*	*11.53*	*11.77*	*11.66*	*12.05*	*11.56*	**11.27**	*11.69*	*11.77*
Industrial Sector	**7.09**	**6.92**	**7.63**	**7.30**	*7.20*	*7.03*	*7.59*	*7.15*	*7.15*	*6.99*	*7.53*	*7.12*	**7.25**	*7.25*	*7.20*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	*37.03*	*35.50*	*41.97*	*32.33*	*32.45*	*31.34*	*34.99*	*30.84*	**189.54**	*36.71*	*32.41*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	*51.75*	*48.91*	*57.25*	*49.41*	*47.35*	*41.65*	*50.95*	*43.51*	**53.53**	*51.83*	*45.86*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	*104.99*	*72.26*	*76.32*	*47.29*	*71.06*	*64.12*	*65.52*	*46.87*	**51.81**	*75.21*	*61.89*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	*96.45*	*64.09*	*68.24*	*41.95*	*65.49*	*57.56*	*58.73*	*41.35*	**46.14**	*67.68*	*55.78*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	*55.12*	*43.70*	*51.73*	*42.80*	*47.55*	*43.99*	*49.12*	*43.17*	**45.67**	*48.34*	*45.96*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	*46.98*	*43.37*	*50.45*	*41.22*	*45.83*	*43.88*	*48.85*	*41.49*	**46.47**	*45.50*	*45.01*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	*38.14*	*37.80*	*44.92*	*35.24*	*36.37*	*37.27*	*42.73*	*33.61*	**93.88**	*39.02*	*37.50*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	*41.24*	*40.75*	*44.11*	*38.06*	*40.89*	*38.66*	*41.78*	*37.08*	**42.39**	*41.04*	*39.60*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	*40.17*	*38.36*	*39.42*	*36.96*	*38.21*	*35.98*	*36.68*	*36.16*	**37.92**	*38.73*	*36.76*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	*45.53*	*41.63*	*45.90*	*42.21*	*46.63*	*33.87*	*41.97*	*39.62*	**59.53**	*43.82*	*40.52*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	*41.49*	*41.95*	*50.22*	*42.64*	*39.33*	*38.51*	*44.65*	*38.08*	**55.44**	*44.08*	*40.14*

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	*13.0*	*10.1*	*13.5*	*11.2*	*12.9*	*10.0*	*13.5*	*11.2*	**48.7**	*47.7*	*47.6*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.9**	*36.5*	*28.9*	*40.0*	*31.2*	*36.3*	*29.0*	*40.3*	*31.4*	**139.1**	*136.6*	*137.1*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.9**	*50.6*	*40.9*	*53.0*	*44.7*	*50.2*	*41.3*	*53.6*	*45.2*	**193.4**	*189.1*	*190.3*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.7**	*30.2*	*23.7*	*30.5*	*26.6*	*30.6*	*24.5*	*30.8*	*26.9*	**109.3**	*111.1*	*112.8*
S. Atlantic	**95.2**	**85.1**	**111.5**	**85.0**	*93.1*	*85.1*	*112.2*	*85.4*	*94.0*	*86.6*	*113.4*	*87.2*	**376.7**	*375.9*	*381.2*
E. S. Central	**33.5**	**25.3**	**35.8**	**26.3**	*31.5*	*25.8*	*35.9*	*26.9*	*32.2*	*26.1*	*35.9*	*27.3*	**120.8**	*120.1*	*121.4*
W. S. Central	**56.8**	**50.0**	**76.1**	**47.3**	*50.6*	*51.7*	*77.1*	*49.0*	*54.1*	*53.1*	*78.0*	*50.5*	**230.3**	*228.4*	*235.7*
Mountain	**23.7**	**26.9**	**35.2**	**22.4**	*23.2*	*25.2*	*35.0*	*23.1*	*23.6*	*25.7*	*35.7*	*23.5*	**108.2**	*106.4*	*108.4*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**35.8**	*38.1*	*31.2*	*40.4*	*35.2*	*38.2*	*31.1*	*40.4*	*35.2*	**150.0**	*144.8*	*144.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.2*	*1.1*	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**378.5**	**328.5**	**445.8**	**328.7**	*368.0*	*323.7*	*438.7*	*334.6*	*373.2*	*328.4*	*443.0*	*339.7*	**1,481.5**	*1,465.0*	*1,484.3*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.7**	*12.3*	*11.8*	*13.5*	*11.8*	*12.3*	*11.8*	*13.4*	*11.7*	**48.7**	*49.4*	*49.2*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.6**	*36.3*	*33.8*	*39.5*	*34.9*	*36.6*	*33.9*	*39.4*	*34.8*	**142.2**	*144.6*	*144.7*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	*43.6*	*42.8*	*48.6*	*42.5*	*43.7*	*42.8*	*48.5*	*42.5*	**174.8**	*177.5*	*177.4*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.2**	*24.9*	*24.3*	*28.2*	*25.0*	*25.2*	*24.5*	*28.2*	*25.0*	**99.5**	*102.4*	*102.9*
S. Atlantic	**70.8**	**77.3**	**89.6**	**74.0**	*74.6*	*79.3*	*90.7*	*74.3*	*75.0*	*79.7*	*91.0*	*74.5*	**311.7**	*318.9*	*320.3*
E. S. Central	**20.7**	**21.5**	**26.0**	**21.0**	*22.0*	*22.4*	*26.5*	*21.1*	*22.3*	*22.5*	*26.5*	*21.0*	**89.1**	*92.0*	*92.4*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.8**	*44.7*	*53.2*	*60.5*	*50.0*	*45.3*	*53.5*	*60.9*	*50.3*	**201.4**	*208.3*	*210.0*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	*22.8*	*24.8*	*28.9*	*23.6*	*23.0*	*25.0*	*29.1*	*23.7*	**98.8**	*100.1*	*100.8*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.8**	*37.4*	*36.1*	*42.5*	*40.0*	*37.6*	*36.0*	*42.2*	*39.6*	**153.4**	*156.0*	*155.4*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	*1.3*	*1.3*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**5.3**	*5.5*	*5.6*
Total	**304.3**	**321.5**	**377.2**	**321.9**	*319.9*	*329.7*	*380.3*	*324.7*	*322.3*	*331.1*	*380.6*	*324.7*	**1,324.9**	*1,354.6*	*1,358.8*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	*3.9*	*4.0*	*4.2*	*3.9*	*3.9*	*4.0*	*4.2*	*3.9*	**15.8**	*16.0*	*15.9*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.2**	*18.9*	*18.4*	*19.9*	*18.4*	*19.2*	*18.7*	*20.1*	*18.6*	**73.2**	*75.6*	*76.6*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.1**	*47.6*	*47.3*	*50.0*	*47.2*	*48.9*	*48.4*	*50.7*	*47.7*	**185.6**	*192.1*	*195.7*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.9**	*24.5*	*25.4*	*27.1*	*25.5*	*25.2*	*26.2*	*27.9*	*26.2*	**98.1**	*102.5*	*105.5*
S. Atlantic	**33.4**	**35.9**	**38.3**	**35.5**	*35.8*	*36.8*	*39.2*	*36.1*	*36.5*	*37.6*	*39.8*	*36.6*	**143.1**	*147.9*	*150.6*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.1**	*26.3*	*26.0*	*26.8*	*25.5*	*26.6*	*26.3*	*26.9*	*25.5*	**99.8**	*104.7*	*105.3*
W. S. Central	**44.1**	**49.7**	**54.3**	**52.7**	*49.2*	*53.0*	*57.6*	*55.4*	*51.5*	*55.4*	*60.0*	*57.6*	**200.9**	*215.2*	*224.5*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	*19.6*	*21.7*	*23.6*	*20.8*	*19.9*	*22.1*	*23.9*	*21.0*	**84.3**	*85.6*	*86.9*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.3**	*18.9*	*20.4*	*22.3*	*19.5*	*18.2*	*19.7*	*21.4*	*18.8*	**82.5**	*81.0*	*78.1*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	*1.1*	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**248.3**	*245.7*	*254.2*	*271.8*	*253.5*	*251.1*	*259.4*	*276.2*	*257.1*	**987.9**	*1,025.2*	*1,043.8*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.8**	*29.3*	*25.9*	*31.3*	*27.0*	*29.2*	*25.8*	*31.2*	*26.9*	**113.6**	*113.6*	*113.2*
Middle Atlantic	**89.1**	**82.2**	**101.8**	**84.6**	*92.6*	*81.9*	*100.2*	*85.3*	*93.0*	*82.4*	*100.6*	*85.6*	**357.7**	*360.0*	*361.5*
E. N. Central	**136.4**	**131.7**	**154.0**	**132.2**	*142.0*	*131.0*	*151.7*	*134.5*	*142.9*	*132.6*	*153.0*	*135.5*	**554.3**	*559.2*	*563.9*
W. N. Central	**77.0**	**71.6**	**84.6**	**73.8**	*79.6*	*73.4*	*85.8*	*77.1*	*81.0*	*75.2*	*86.9*	*78.1*	**307.0**	*316.0*	*321.3*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.7**	*203.8*	*201.5*	*242.4*	*196.1*	*205.8*	*204.2*	*244.5*	*198.6*	**832.6**	*843.8*	*853.1*
E. S. Central	**77.8**	**71.8**	**87.8**	**72.4**	*79.8*	*74.2*	*89.2*	*73.5*	*81.1*	*74.9*	*89.4*	*73.8*	**309.7**	*316.7*	*319.2*
W. S. Central	**143.4**	**150.2**	**189.2**	**149.9**	*144.5*	*157.9*	*195.1*	*154.5*	*151.0*	*162.0*	*199.0*	*158.5*	**632.7**	*652.1*	*670.4*
Mountain	**64.9**	**73.3**	**87.3**	**66.1**	*65.6*	*71.8*	*87.5*	*67.5*	*66.5*	*72.8*	*88.7*	*68.2*	**291.5**	*292.3*	*296.2*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**96.2**	*94.5*	*87.9*	*105.3*	*94.9*	*94.1*	*86.9*	*104.2*	*93.8*	**386.7**	*382.5*	*379.0*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	*3.7*	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*15.0*	*15.1*
Total	**913.0**	**898.2**	**1,089.0**	**900.5**	*935.3*	*909.1*	*1,092.4*	*914.4*	*948.3*	*920.4*	*1,101.4*	*923.0*	**3,800.7**	*3,851.2*	*3,893.1*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.36**	**21.45**	**21.84**	*23.51*	*24.33*	*24.78*	*25.16*	*26.54*	*26.76*	*26.51*	*26.26*	**21.50**	*24.43*	*26.51*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.79**	*16.68*	*17.67*	*17.90*	*17.26*	*16.78*	*17.51*	*17.76*	*17.24*	**16.47**	*17.38*	*17.33*
E. N. Central	**13.39**	**14.50**	**14.15**	**14.47**	*14.04*	*15.26*	*14.82*	*14.86*	*14.30*	*15.40*	*14.94*	*15.00*	**14.11**	*14.72*	*14.88*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.80**	*10.92*	*12.36*	*12.38*	*10.92*	*10.56*	*12.17*	*12.70*	*11.13*	**12.18**	*11.63*	*11.63*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.45**	*12.48*	*13.11*	*13.08*	*12.72*	*12.43*	*12.90*	*12.85*	*12.57*	**12.23**	*12.86*	*12.70*
E. S. Central	**11.20**	**12.24**	**12.00**	**12.16**	*11.93*	*12.65*	*12.23*	*12.21*	*11.92*	*12.68*	*12.33*	*12.31*	**11.86**	*12.24*	*12.29*
W. S. Central	**11.85**	**11.70**	**11.82**	**12.31**	*13.01*	*12.05*	*11.89*	*12.08*	*12.76*	*11.90*	*11.80*	*12.03*	**11.90**	*12.22*	*12.09*
Mountain	**11.53**	**12.09**	**12.33**	**12.29**	*12.26*	*12.73*	*12.79*	*12.57*	*12.40*	*12.77*	*12.81*	*12.60*	**12.09**	*12.61*	*12.66*
Pacific	**16.76**	**18.15**	**19.43**	**17.16**	*16.97*	*19.02*	*20.44*	*17.98*	*17.89*	*20.21*	*21.14*	*18.26*	**17.92**	*18.62*	*19.38*
U.S. Average	**13.10**	**13.84**	**14.00**	**13.92**	*13.91*	*14.49*	*14.47*	*14.18*	*14.06*	*14.56*	*14.53*	*14.21*	**13.72**	*14.26*	*14.34*
Commercial Sector															
New England	**16.32**	**15.96**	**16.80**	**16.79**	*17.66*	*17.49*	*18.44*	*18.25*	*18.86*	*18.25*	*18.88*	*18.43*	**16.48**	*17.97*	*18.62*
Middle Atlantic	**12.53**	**13.24**	**14.79**	**13.36**	*13.42*	*14.12*	*15.43*	*13.76*	*13.58*	*14.02*	*15.26*	*13.51*	**13.53**	*14.22*	*14.12*
E. N. Central	**10.40**	**10.70**	**10.69**	**10.97**	*11.07*	*11.31*	*11.09*	*11.11*	*11.07*	*11.27*	*11.14*	*11.23*	**10.69**	*11.14*	*11.17*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.55**	*9.09*	*9.61*	*9.71*	*8.62*	*8.65*	*9.47*	*9.98*	*8.84*	**9.95**	*9.27*	*9.26*
S. Atlantic	**9.29**	**9.19**	**9.53**	**9.97**	*9.99*	*9.71*	*9.84*	*10.06*	*9.89*	*9.60*	*9.79*	*10.00*	**9.49**	*9.90*	*9.82*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.41**	*11.46*	*11.61*	*11.52*	*11.57*	*11.54*	*11.66*	*11.64*	*11.72*	**11.23**	*11.54*	*11.64*
W. S. Central	**10.39**	**8.89**	**8.55**	**8.31**	*10.13*	*8.88*	*8.60*	*8.51*	*10.54*	*9.05*	*8.78*	*8.66*	**8.97**	*8.98*	*9.20*
Mountain	**9.11**	**9.76**	**10.20**	**9.56**	*9.41*	*10.04*	*10.38*	*9.61*	*9.43*	*9.99*	*10.32*	*9.59*	**9.70**	*9.90*	*9.86*
Pacific	**14.52**	**15.99**	**18.09**	**15.77**	*15.77*	*17.57*	*19.57*	*16.94*	*16.81*	*18.26*	*19.82*	*16.99*	**16.19**	*17.52*	*18.01*
U.S. Average	**10.99**	**11.07**	**11.64**	**11.28**	*11.58*	*11.59*	*11.99*	*11.53*	*11.77*	*11.66*	*12.05*	*11.56*	**11.27**	*11.69*	*11.77*
Industrial Sector															
New England	**13.48**	**12.97**	**13.68**	**14.04**	*14.55*	*13.69*	*14.33*	*14.58*	*14.93*	*13.89*	*14.41*	*14.63*	**13.54**	*14.29*	*14.46*
Middle Atlantic	**6.52**	**6.59**	**7.26**	**7.12**	*6.73*	*6.66*	*7.14*	*6.73*	*6.47*	*6.49*	*6.93*	*6.58*	**6.88**	*6.82*	*6.62*
E. N. Central	**6.97**	**6.97**	**7.40**	**7.62**	*7.27*	*7.15*	*7.46*	*7.51*	*7.29*	*7.21*	*7.49*	*7.57*	**7.24**	*7.35*	*7.39*
W. N. Central	**6.97**	**7.30**	**8.00**	**6.93**	*7.01*	*7.46*	*8.10*	*6.95*	*7.10*	*7.56*	*8.20*	*7.05*	**7.32**	*7.39*	*7.49*
S. Atlantic	**6.24**	**6.31**	**7.05**	**6.84**	*6.43*	*6.42*	*7.02*	*6.67*	*6.41*	*6.38*	*6.98*	*6.66*	**6.62**	*6.64*	*6.61*
E. S. Central	**5.75**	**5.86**	**6.28**	**6.28**	*5.98*	*5.98*	*6.28*	*6.15*	*5.96*	*5.95*	*6.24*	*6.13*	**6.05**	*6.10*	*6.07*
W. S. Central	**7.23**	**5.46**	**6.00**	**6.05**	*6.78*	*5.42*	*5.77*	*5.71*	*6.51*	*5.21*	*5.52*	*5.51*	**6.15**	*5.90*	*5.67*
Mountain	**6.27**	**6.63**	**7.39**	**6.49**	*6.51*	*6.74*	*7.39*	*6.50*	*6.54*	*6.77*	*7.41*	*6.52*	**6.72**	*6.81*	*6.83*
Pacific	**9.68**	**10.71**	**12.62**	**11.02**	*10.07*	*11.06*	*12.86*	*11.27*	*10.36*	*11.37*	*13.21*	*11.57*	**11.09**	*11.38*	*11.68*
U.S. Average	**7.09**	**6.92**	**7.63**	**7.30**	*7.20*	*7.03*	*7.59*	*7.15*	*7.15*	*6.99*	*7.53*	*7.12*	**7.25**	*7.25*	*7.20*
All Sectors (a)															
New England	**18.21**	**17.68**	**18.41**	**18.43**	*19.80*	*19.53*	*20.60*	*20.54*	*21.68*	*20.83*	*21.57*	*21.11*	**18.19**	*20.13*	*21.32*
Middle Atlantic	**12.58**	**12.98**	**14.21**	**13.26**	*13.32*	*13.68*	*14.76*	*13.52*	*13.36*	*13.54*	*14.59*	*13.37*	**13.30**	*13.85*	*13.74*
E. N. Central	**10.38**	**10.62**	**10.91**	**10.96**	*10.85*	*11.04*	*11.19*	*11.09*	*10.91*	*11.07*	*11.26*	*11.19*	**10.72**	*11.04*	*11.11*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.42**	*9.15*	*9.76*	*10.15*	*8.86*	*8.88*	*9.68*	*10.38*	*9.03*	**9.90**	*9.49*	*9.51*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.48**	*10.50*	*10.54*	*10.88*	*10.60*	*10.43*	*10.41*	*10.75*	*10.51*	**10.24**	*10.64*	*10.54*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.90**	*9.84*	*10.00*	*10.23*	*9.92*	*9.86*	*10.01*	*10.29*	*10.01*	**9.81**	*10.01*	*10.05*
W. S. Central	**10.00**	**8.69**	**9.13**	**8.78**	*9.99*	*8.76*	*9.07*	*8.64*	*9.96*	*8.67*	*8.98*	*8.59*	**9.14**	*9.10*	*9.03*
Mountain	**9.16**	**9.69**	**10.31**	**9.54**	*9.55*	*9.99*	*10.53*	*9.67*	*9.62*	*9.99*	*10.54*	*9.68*	**9.72**	*9.98*	*10.00*
Pacific	**14.51**	**15.52**	**17.45**	**15.28**	*15.10*	*16.55*	*18.47*	*16.14*	*15.98*	*17.37*	*18.96*	*16.37*	**15.76**	*16.62*	*17.21*
U.S. Average	**10.89**	**10.94**	**11.63**	**11.15**	*11.34*	*11.34*	*11.89*	*11.28*	*11.44*	*11.37*	*11.91*	*11.30*	**11.17**	*11.48*	*11.52*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**320.7**	**345.6**	**453.6**	**356.0**	*329.5*	*322.6*	*440.3*	*329.8*	*309.1*	*328.8*	*441.3*	*324.4*	**1,475.9**	*1,422.1*	*1,403.7*
Coal	**230.0**	**203.8**	**280.9**	**183.5**	*214.9*	*194.7*	*272.1*	*211.1*	*221.9*	*184.7*	*257.9*	*204.1*	**898.2**	*892.7*	*868.7*
Nuclear	**198.4**	**186.6**	**202.8**	**192.0**	*194.6*	*190.8*	*204.4*	*192.8*	*195.3*	*188.9*	*207.7*	*198.0*	**779.7**	*782.5*	*789.9*
Renewable Energy Sources:	**197.9**	**207.3**	**183.2**	**200.3**	*230.3*	*243.3*	*204.4*	*210.6*	*240.9*	*260.7*	*223.3*	*226.5*	**788.7**	*888.6*	*951.4*
Conventional Hydropower	**68.7**	**65.8**	**60.8**	**62.4**	*74.2*	*80.9*	*64.6*	*58.2*	*71.4*	*82.1*	*66.1*	*60.2*	**257.6**	*277.9*	*279.9*
Wind	**96.9**	**96.1**	**76.8**	**104.3**	*118.0*	*108.1*	*84.8*	*112.1*	*122.9*	*111.8*	*88.1*	*116.4*	**374.1**	*423.0*	*439.2*
Solar (a)	**21.2**	**34.7**	**34.5**	**23.3**	*27.6*	*44.1*	*44.1*	*29.9*	*36.1*	*57.1*	*58.1*	*39.6*	**113.7**	*145.7*	*190.9*
Biomass	**7.2**	**6.8**	**7.2**	**6.6**	*6.6*	*6.3*	*6.9*	*6.4*	*6.8*	*6.4*	*6.9*	*6.5*	**27.7**	*26.2*	*26.5*
Geothermal	**3.8**	**3.9**	**4.0**	**3.8**	*3.8*	*3.9*	*4.0*	*4.0*	*3.7*	*3.4*	*4.0*	*3.8*	**15.6**	*15.7*	*14.9*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.1**	*-0.8*	*-1.1*	*-1.9*	*-0.9*	*-0.7*	*-1.0*	*-1.8*	*-0.8*	**-4.9**	*-4.7*	*-4.3*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.5**	*5.6*	*3.7*	*4.4*	*3.9*	*4.8*	*3.6*	*4.4*	*4.1*	**18.0**	*17.6*	*16.9*
Other Gases	**0.7**	**0.8**	**0.9**	**0.9**	*0.9*	*0.8*	*0.9*	*0.9*	*0.9*	*0.7*	*0.9*	*0.9*	**3.3**	*3.5*	*3.3*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	*1.9*	*1.8*	*1.8*	*1.8*	*1.9*	*1.8*	*1.8*	*1.8*	**7.2**	*7.3*	*7.3*
Total Generation	**953.6**	**948.4**	**1,126.2**	**937.9**	*976.8*	*956.5*	*1,126.3*	*950.0*	*974.1*	*968.3*	*1,135.5*	*959.0*	**3,966.0**	*4,009.7*	*4,036.9*
New England (ISO-NE)															
Natural Gas	**12.1**	**11.0**	**15.7**	**11.7**	*12.6*	*12.4*	*15.6*	*11.8*	*14.0*	*12.7*	*15.7*	*12.5*	**50.5**	*52.4*	*55.0*
Coal	**0.5**	**0.0**	**0.0**	**0.2**	*0.3*	*0.3*	*0.0*	*0.3*	*0.3*	*0.2*	*0.0*	*0.3*	**0.8**	*0.9*	*0.8*
Nuclear	**7.1**	**7.1**	**7.3**	**5.7**	*7.0*	*6.2*	*7.2*	*7.2*	*7.1*	*5.6*	*7.2*	*6.2*	**27.1**	*27.7*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.7**	*2.0*	*2.2*	*1.2*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.4**	*7.1*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.7**	*3.0*	*3.0*	*2.7*	*2.8*	*3.1*	*3.1*	*2.8*	*2.9*	**11.1**	*11.6*	*11.9*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	*1.4*	*0.4*	*0.3*	*0.4*	*0.8*	*0.4*	*0.3*	*0.4*	**1.5**	*2.5*	*1.8*
Total generation	**24.6**	**22.9**	**27.6**	**22.3**	*26.3*	*24.4*	*27.2*	*24.3*	*27.2*	*24.3*	*27.3*	*24.1*	**97.4**	*102.2*	*102.9*
Net energy for load (f)	**29.4**	**26.9**	**32.4**	**27.5**	*30.2*	*27.3*	*32.4*	*28.6*	*30.2*	*27.5*	*32.5*	*28.8*	**116.3**	*118.4*	*119.1*
New York (NYISO)															
Natural Gas	**12.8**	**14.1**	**19.7**	**15.3**	*16.3*	*14.4*	*21.4*	*17.0*	*15.2*	*14.7*	*20.5*	*16.4*	**62.0**	*69.2*	*66.7*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**6.9**	*6.4*	*6.8*	*6.5*	*6.7*	*6.5*	*6.3*	*6.9*	*6.9*	**31.1**	*26.4*	*26.5*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	*6.8*	*6.9*	*6.8*	*7.0*	*7.3*	*7.3*	*7.3*	*7.5*	**27.8**	*27.6*	*29.4*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	*2.0*	*2.0*	*1.7*	*2.0*	*2.2*	*2.5*	*2.1*	*2.6*	**7.1**	*7.7*	*9.4*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	*0.4*	*0.1*	*0.3*	*0.2*	*0.4*	*0.2*	*0.3*	*0.2*	**1.3**	*1.0*	*1.0*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	*32.0*	*30.2*	*36.7*	*33.0*	*31.6*	*31.0*	*37.1*	*33.5*	**129.3**	*131.8*	*133.1*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	*37.9*	*35.5*	*43.2*	*36.6*	*38.2*	*36.0*	*43.6*	*37.0*	**149.0**	*153.3*	*154.9*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.7**	**88.8**	**77.7**	*77.5*	*68.6*	*87.1*	*75.2*	*76.1*	*73.7*	*93.7*	*75.8*	**310.0**	*308.4*	*319.3*
Coal	**50.5**	**39.9**	**55.4**	**30.1**	*47.6*	*37.3*	*50.6*	*38.6*	*47.6*	*35.5*	*48.3*	*37.5*	**176.0**	*174.2*	*168.9*
Nuclear	**68.3**	**64.6**	**70.5**	**68.0**	*68.3*	*67.9*	*72.2*	*66.7*	*67.8*	*67.2*	*71.8*	*69.3*	**271.5**	*275.1*	*276.0*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.4**	*2.7*	*2.6*	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.5**	*9.1*	*9.0*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.2**	*12.0*	*12.1*	*10.0*	*12.1*	*13.6*	*13.9*	*11.9*	*13.5*	**42.1**	*46.2*	*52.8*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.7**	*0.8*	*0.6*	*0.4*	*0.6*	*0.8*	*0.6*	*0.4*	*0.7*	**2.5**	*2.4*	*2.4*
Total generation	**206.0**	**188.8**	**226.6**	**190.2**	*208.9*	*189.1*	*221.9*	*195.4*	*208.5*	*193.5*	*227.7*	*198.9*	**811.6**	*815.4*	*828.5*
Net energy for load (f)	**194.5**	**177.5**	**215.3**	**182.6**	*201.4*	*177.1*	*209.1*	*184.6*	*200.4*	*179.9*	*211.4*	*186.8*	**769.9**	*772.3*	*778.6*
Southeast (SERC)															
Natural Gas	**58.0**	**57.2**	**73.1**	**65.5**	*59.5*	*56.1*	*69.5*	*55.8*	*53.8*	*58.1*	*69.8*	*56.8*	**253.9**	*240.8*	*238.5*
Coal	**36.3**	**33.7**	**44.3**	**25.2**	*35.4*	*35.8*	*50.3*	*34.4*	*39.2*	*35.3*	*48.9*	*34.0*	**139.5**	*155.9*	*157.3*
Nuclear	**53.8**	**52.2**	**54.1**	**52.2**	*51.8*	*52.5*	*56.8*	*54.8*	*54.3*	*54.9*	*60.2*	*58.0*	**212.3**	*215.9*	*227.4*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.3**	*11.7*	*8.5*	*7.4*	*8.2*	*11.0*	*8.3*	*7.4*	*8.5*	**44.2**	*35.8*	*35.2*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	*4.3*	*6.7*	*6.4*	*4.7*	*5.0*	*7.9*	*7.4*	*5.2*	**19.1**	*22.2*	*25.5*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.1**	*0.0*	*-0.2*	*-0.5*	*-0.2*	*0.0*	*-0.2*	*-0.5*	*-0.2*	**-0.8**	*-0.8*	*-0.8*
Total generation	**163.7**	**159.0**	**187.3**	**158.2**	*162.8*	*159.3*	*189.9*	*157.8*	*163.3*	*164.3*	*193.2*	*162.4*	**668.2**	*669.7*	*683.1*
Net energy for load (f)	**164.2**	**162.3**	**186.3**	**158.6**	*168.5*	*160.9*	*191.2*	*158.7*	*168.0*	*164.9*	*194.1*	*161.7*	**671.4**	*679.3*	*688.7*
Florida (FRCC)															
Natural Gas	**34.7**	**43.8**	**52.5**	**40.3**	*36.2*	*46.4*	*51.6*	*38.3*	*36.7*	*47.4*	*52.2*	*38.6*	**171.3**	*172.5*	*174.9*
Coal	**4.7**	**5.3**	**5.6**	**3.3**	*2.8*	*3.1*	*4.2*	*4.0*	*3.0*	*3.0*	*4.1*	*4.0*	**18.8**	*14.0*	*14.2*
Nuclear	**7.8**	**7.2**	**7.2**	**7.3**	*7.6*	*7.3*	*8.0*	*7.1*	*7.1*	*6.9*	*8.0*	*7.4*	**29.5**	*30.0*	*29.4*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.5**	*3.1*	*3.6*	*3.5*	*2.9*	*3.5*	*3.9*	*3.7*	*3.0*	**11.0**	*13.1*	*14.0*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	*0.8*	*0.8*	*0.8*	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**2.8**	*3.1*	*3.1*
Total generation	**50.4**	**60.2**	**68.9**	**54.1**	*50.6*	*61.2*	*68.1*	*53.1*	*51.2*	*62.0*	*68.8*	*53.7*	**233.6**	*232.9*	*235.8*
Net energy for load (f)	**50.8**	**55.0**	**71.1**	**56.1**	*48.9*	*58.7*	*67.8*	*52.5*	*49.1*	*59.3*	*68.3*	*53.1*	**233.0**	*227.9*	*229.8*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.5**	**41.0**	**50.1**	**44.1**	*42.0*	*36.9*	*48.5*	*35.5*	*38.3*	*42.8*	*56.0*	*38.9*	**170.7**	*162.8*	*176.0*
Coal	**69.7**	**60.1**	**83.2**	**55.7**	*64.8*	*62.5*	*81.7*	*64.6*	*69.1*	*57.2*	*72.8*	*61.3*	**268.7**	*273.6*	*260.4*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	*22.7*	*22.1*	*23.5*	*22.9*	*22.1*	*21.2*	*22.5*	*21.0*	**95.8**	*91.2*	*86.8*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.4**	*2.6*	*2.8*	*2.3*	*2.1*	*2.5*	*2.9*	*2.4*	*2.2*	**10.4**	*9.8*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**25.9**	*26.3*	*25.0*	*20.0*	*27.1*	*27.0*	*26.0*	*21.2*	*28.0*	**91.7**	*98.4*	*102.3*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	*1.7*	*1.4*	*1.5*	*1.3*	*1.6*	*1.4*	*1.5*	*1.4*	**6.5**	*5.9*	*5.9*
Total generation	**157.5**	**150.9**	**181.2**	**154.3**	*159.9*	*150.8*	*177.6*	*153.4*	*160.6*	*151.6*	*176.4*	*152.9*	**643.8**	*641.7*	*641.5*
Net energy for load (f)	**159.1**	**154.0**	**180.7**	**153.3**	*159.4*	*155.6*	*179.6*	*158.0*	*162.1*	*159.2*	*182.5*	*160.8*	**647.0**	*652.5*	*664.6*
Central (Southwest Power Pool)															
Natural Gas	**12.7**	**14.3**	**18.7**	**11.4**	*11.5*	*14.0*	*20.4*	*11.9*	*11.5*	*14.2*	*21.2*	*11.1*	**57.1**	*57.7*	*57.9*
Coal	**21.8**	**19.8**	**31.3**	**19.8**	*20.5*	*15.6*	*28.6*	*20.7*	*18.6*	*15.9*	*27.4*	*20.2*	**92.6**	*85.4*	*82.0*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	*4.3*	*4.3*	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.2*	*17.4*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.5**	*3.7*	*4.2*	*3.8*	*3.1*	*3.9*	*4.7*	*4.3*	*3.5*	**15.2**	*14.8*	*16.4*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**25.8**	*31.6*	*26.8*	*23.4*	*28.4*	*33.6*	*28.0*	*24.6*	*29.5*	**93.1**	*110.2*	*115.7*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.7**	*0.7*	*0.7*
Total generation	**66.0**	**64.7**	**78.4**	**64.9**	*71.9*	*65.0*	*80.3*	*66.7*	*72.1*	*67.3*	*81.9*	*68.8*	**274.1**	*284.0*	*290.1*
Net energy for load (f)	**65.2**	**66.6**	**77.2**	**62.6**	*66.2*	*64.7*	*78.4*	*64.7*	*66.4*	*67.0*	*79.9*	*66.2*	**271.6**	*274.1*	*279.5*
Texas (ERCOT)															
Natural Gas	**33.2**	**39.6**	**57.2**	**34.1**	*29.5*	*33.1*	*50.3*	*27.3*	*20.9*	*26.9*	*42.9*	*24.3*	**164.1**	*140.2*	*115.1*
Coal	**16.3**	**18.5**	**22.7**	**16.2**	*13.8*	*19.7*	*23.4*	*18.8*	*16.7*	*19.5*	*23.4*	*18.0*	**73.7**	*75.8*	*77.6*
Nuclear	**10.5**	**9.8**	**11.0**	**9.0**	*10.9*	*10.0*	*10.6*	*10.9*	*10.7*	*9.0*	*11.0*	*10.1*	**40.2**	*42.4*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.7**	**29.0**	*35.0*	*37.4*	*30.5*	*33.4*	*38.5*	*42.5*	*35.7*	*36.4*	**105.8**	*136.3*	*153.1*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.4**	*1.4*	*1.4*
Total generation	**85.6**	**96.2**	**115.2**	**88.8**	*89.6*	*100.8*	*115.4*	*90.9*	*87.3*	*98.4*	*113.5*	*89.4*	**385.8**	*396.7*	*388.6*
Net energy for load (f)	**85.6**	**96.2**	**115.2**	**88.8**	*89.6*	*100.8*	*115.4*	*90.9*	*87.3*	*98.4*	*113.5*	*89.4*	**385.8**	*396.7*	*388.6*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**22.1**	*19.9*	*15.6*	*31.5*	*26.2*	*20.9*	*15.9*	*30.3*	*23.8*	**91.4**	*93.2*	*90.9*
Coal	**22.5**	**19.1**	**26.6**	**23.3**	*22.0*	*13.6*	*24.3*	*21.9*	*20.8*	*12.3*	*24.0*	*20.2*	**91.6**	*81.7*	*77.3*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	*2.4*	*2.4*	*2.4*	*2.4*	*2.3*	*1.2*	*2.4*	*2.4*	**8.5**	*9.6*	*8.3*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**28.9**	*38.1*	*42.6*	*31.1*	*27.8*	*34.4*	*41.7*	*30.6*	*27.9*	**119.5**	*139.7*	*134.6*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**16.2**	*17.3*	*17.4*	*16.5*	*17.7*	*19.0*	*18.8*	*17.8*	*19.7*	**64.3**	*68.9*	*75.3*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.8*
Total generation	**95.8**	**88.7**	**98.5**	**93.1**	*99.8*	*91.7*	*106.1*	*96.2*	*97.5*	*90.2*	*105.3*	*94.1*	**376.0**	*393.9*	*387.2*
Net energy for load (f)	**89.3**	**84.6**	**97.7**	**89.5**	*91.9*	*85.4*	*96.6*	*89.6*	*90.9*	*85.5*	*96.7*	*89.6*	**361.0**	*363.6*	*362.7*
Southwest															
Natural Gas	**10.9**	**15.7**	**20.1**	**12.1**	*9.1*	*11.5*	*17.8*	*9.6*	*7.9*	*10.7*	*15.7*	*7.6*	**58.7**	*48.1*	*41.9*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	*5.5*	*5.2*	*6.3*	*5.4*	*4.5*	*4.2*	*6.3*	*6.2*	**26.9**	*22.5*	*21.2*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	*8.3*	*7.4*	*8.6*	*7.5*	*8.4*	*7.5*	*8.6*	*7.5*	**31.7**	*31.9*	*32.1*
Conventional hydropower	**2.5**	**3.2**	**3.2**	**2.0**	*2.5*	*3.7*	*3.7*	*2.5*	*2.8*	*3.9*	*3.8*	*2.6*	**10.9**	*12.3*	*13.1*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.9**	*5.1*	*5.6*	*4.1*	*5.0*	*5.5*	*6.4*	*4.9*	*5.9*	**14.1**	*19.9*	*22.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.1**	*0.2*	*0.1*
Total generation	**30.4**	**35.7**	**43.4**	**32.9**	*30.6*	*33.6*	*40.6*	*30.0*	*29.1*	*32.8*	*39.5*	*29.8*	**142.4**	*134.8*	*131.2*
Net energy for load (f)	**19.7**	**25.9**	**32.2**	**20.8**	*20.4*	*25.2*	*32.9*	*21.4*	*20.2*	*25.2*	*32.9*	*21.3*	**98.6**	*99.9*	*99.6*
California															
Natural Gas	**16.5**	**17.5**	**28.8**	**21.0**	*14.7*	*13.0*	*26.0*	*20.3*	*13.1*	*11.0*	*22.8*	*17.8*	**83.8**	*74.1*	*64.6*
Coal	**1.8**	**1.4**	**3.0**	**1.7**	*1.7*	*1.2*	*2.1*	*2.0*	*1.9*	*1.2*	*2.2*	*2.0*	**7.9**	*7.0*	*7.2*
Nuclear	**2.9**	**4.2**	**5.0**	**4.4**	*4.8*	*3.9*	*4.5*	*4.0*	*4.7*	*4.7*	*4.8*	*4.8*	**16.5**	*17.2*	*18.9*
Conventional hydropower	**2.0**	**3.2**	**3.7**	**2.5**	*3.5*	*6.7*	*6.1*	*3.2*	*4.3*	*7.6*	*6.9*	*3.7*	**11.3**	*19.5*	*22.5*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**14.3**	*16.0*	*22.2*	*20.3*	*15.7*	*18.1*	*25.0*	*24.5*	*18.9*	**70.1**	*74.3*	*86.5*
Other energy sources (e)	**0.0**	**-0.1**	**0.0**	**0.0**	*0.1*	*-0.2*	*-0.2*	*0.1*	*0.3*	*0.0*	*-0.1*	*0.2*	**-0.1**	*-0.1*	*0.3*
Total generation	**38.7**	**47.4**	**59.6**	**43.9**	*40.8*	*46.9*	*58.9*	*45.4*	*42.3*	*49.4*	*60.9*	*47.4*	**189.6**	*192.0*	*200.1*
Net energy for load (f)	**56.2**	**63.8**	**77.8**	**61.0**	*58.9*	*61.8*	*76.1*	*60.5*	*57.8*	*61.8*	*76.2*	*60.4*	**258.9**	*257.3*	*256.3*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.034**	*0.034*	*0.034*	*0.035*	*0.035*	*0.032*	*0.030*	*0.035*	*0.033*	**0.137**	*0.138*	*0.131*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.552**	*0.660*	*0.720*	*0.575*	*0.519*	*0.636*	*0.731*	*0.589*	*0.536*	**2.265**	*2.475*	*2.492*
Solar (b)	**0.189**	**0.309**	**0.307**	**0.207**	*0.246*	*0.393*	*0.392*	*0.266*	*0.322*	*0.509*	*0.517*	*0.352*	**1.012**	*1.298*	*1.700*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	*0.059*	*0.058*	*0.059*	*0.058*	*0.059*	*0.058*	*0.059*	*0.058*	**0.235**	*0.233*	*0.234*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.045**	*0.044*	*0.040*	*0.049*	*0.042*	*0.046*	*0.041*	*0.050*	*0.043*	**0.196**	*0.175*	*0.179*
Wind	**0.863**	**0.856**	**0.684**	**0.929**	*1.051*	*0.963*	*0.755*	*0.998*	*1.094*	*0.995*	*0.785*	*1.036*	**3.331**	*3.767*	*3.911*
Subtotal	**1.800**	**1.881**	**1.672**	**1.825**	*2.094*	*2.208*	*1.866*	*1.918*	*2.190*	*2.364*	*2.035*	*2.059*	**7.177**	*8.086*	*8.648*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.169**	**0.188**	**0.185**	**0.199**	*0.188*	*0.195*	*0.199*	*0.202*	*0.188*	*0.197*	*0.197*	*0.202*	**0.742**	*0.783*	*0.784*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	*0.008*	*0.011*	*0.012*	*0.008*	*0.009*	*0.013*	*0.013*	*0.009*	**0.036**	*0.039*	*0.043*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.041**	*0.040*	*0.039*	*0.039*	*0.041*	*0.040*	*0.039*	*0.039*	*0.041*	**0.159**	*0.159*	*0.159*
Wood Biomass	**0.334**	**0.340**	**0.344**	**0.338**	*0.340*	*0.344*	*0.357*	*0.360*	*0.349*	*0.347*	*0.359*	*0.361*	**1.356**	*1.400*	*1.416*
Subtotal	**0.552**	**0.575**	**0.575**	**0.586**	*0.576*	*0.585*	*0.602*	*0.610*	*0.585*	*0.591*	*0.603*	*0.611*	**2.288**	*2.373*	*2.390*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	*0.032*	*0.047*	*0.047*	*0.032*	*0.037*	*0.053*	*0.053*	*0.037*	**0.141**	*0.158*	*0.180*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	*0.009*	*0.008*	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.035**	*0.035*	*0.035*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	*0.020*	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.082**	*0.082*	*0.082*
Subtotal	**0.069**	**0.083**	**0.085**	**0.071**	*0.074*	*0.088*	*0.090*	*0.075*	*0.078*	*0.095*	*0.096*	*0.079*	**0.308**	*0.327*	*0.349*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.065**	**0.099**	**0.097**	**0.067**	*0.076*	*0.116*	*0.116*	*0.080*	*0.086*	*0.129*	*0.128*	*0.087*	**0.328**	*0.388*	*0.430*
Wood Biomass	**0.112**	**0.113**	**0.115**	**0.115**	*0.112*	*0.113*	*0.115*	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.455**	*0.455*	*0.455*
Subtotal	**0.187**	**0.222**	**0.222**	**0.192**	*0.198*	*0.239*	*0.241*	*0.204*	*0.208*	*0.252*	*0.252*	*0.212*	**0.822**	*0.883*	*0.924*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (f)	**0.080**	**0.095**	**0.089**	**0.110**	*0.110*	*0.112*	*0.108*	*0.134*	*0.120*	*0.122*	*0.120*	*0.149*	**0.374**	*0.464*	*0.510*
Ethanol (f)	**0.244**	**0.283**	**0.287**	**0.288**	*0.261*	*0.286*	*0.289*	*0.288*	*0.261*	*0.289*	*0.291*	*0.291*	**1.102**	*1.125*	*1.132*
Subtotal	**0.324**	**0.378**	**0.376**	**0.406**	*0.369*	*0.398*	*0.397*	*0.422*	*0.380*	*0.412*	*0.411*	*0.439*	**1.484**	*1.587*	*1.642*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (f)	**0.080**	**0.095**	**0.089**	**0.110**	*0.110*	*0.112*	*0.108*	*0.134*	*0.120*	*0.122*	*0.120*	*0.149*	**0.374**	*0.464*	*0.510*
Biofuel Losses and Co-products (d)	**0.169**	**0.188**	**0.185**	**0.199**	*0.188*	*0.195*	*0.199*	*0.202*	*0.188*	*0.197*	*0.197*	*0.202*	**0.742**	*0.783*	*0.784*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.302**	*0.263*	*0.297*	*0.300*	*0.300*	*0.271*	*0.300*	*0.302*	*0.302*	**1.147**	*1.160*	*1.175*
Geothermal	**0.050**	**0.052**	**0.052**	**0.051**	*0.050*	*0.051*	*0.052*	*0.052*	*0.049*	*0.046*	*0.052*	*0.050*	**0.205**	*0.206*	*0.198*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.555**	*0.663*	*0.723*	*0.578*	*0.521*	*0.639*	*0.734*	*0.591*	*0.539*	**2.275**	*2.485*	*2.503*
Solar (b)(e)	**0.286**	**0.455**	**0.451**	**0.303**	*0.363*	*0.567*	*0.567*	*0.386*	*0.453*	*0.704*	*0.711*	*0.486*	**1.495**	*1.883*	*2.353*
Waste Biomass (c)	**0.110**	**0.107**	**0.105**	**0.108**	*0.108*	*0.106*	*0.106*	*0.107*	*0.108*	*0.106*	*0.106*	*0.107*	**0.430**	*0.427*	*0.428*
Wood Biomass	**0.517**	**0.519**	**0.534**	**0.518**	*0.517*	*0.517*	*0.541*	*0.537*	*0.527*	*0.522*	*0.544*	*0.539*	**2.089**	*2.112*	*2.133*
Wind	**0.863**	**0.856**	**0.684**	**0.929**	*1.051*	*0.963*	*0.755*	*0.998*	*1.094*	*0.995*	*0.785*	*1.036*	**3.331**	*3.767*	*3.911*
Total Consumption	**2.932**	**3.139**	**2.929**	**3.095**	*3.311*	*3.519*	*3.196*	*3.229*	*3.441*	*3.714*	*3.397*	*3.401*	**12.095**	*13.255*	*13.952*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*
Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,285**	**6,141**	**6,126**	**6,132**	*6,137*	*6,173*	*6,175*	*6,175*	*6,175*	*6,194*	*6,194*	*6,194*	**6,132**	*6,175*	*6,194*
Waste	**3,781**	**3,779**	**3,779**	**3,786**	*3,791*	*3,827*	*3,829*	*3,829*	*3,829*	*3,848*	*3,848*	*3,848*	**3,786**	*3,829*	*3,848*
Wood	**2,505**	**2,362**	**2,347**	**2,347**	*2,347*	*2,347*	*2,347*	*2,347*	*2,347*	*2,347*	*2,347*	*2,347*	**2,347**	*2,347*	*2,347*
Conventional Hydroelectric	**78,672**	**78,744**	**78,746**	**78,751**	*78,768*	*78,791*	*78,837*	*78,840*	*78,835*	*78,845*	*78,867*	*78,915*	**78,751**	*78,840*	*78,915*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	*2,500*	*2,500*	*2,500*	*2,525*	*2,525*	*2,525*	*2,525*	*2,525*	**2,483**	*2,525*	*2,525*
Large-Scale Solar (b)	**50,325**	**52,315**	**55,341**	**61,325**	*65,188*	*69,455*	*72,085*	*83,130*	*85,829*	*94,171*	*96,110*	*107,254*	**61,325**	*83,130*	*107,254*
Wind	**120,947**	**124,488**	**126,443**	**134,320**	*136,291*	*138,529*	*138,529*	*141,907*	*142,057*	*143,067*	*143,067*	*146,174*	**134,320**	*141,907*	*146,174*
Other Sectors (c)															
Biomass	**6,280**	**6,284**	**6,289**	**6,289**	*6,289*	*6,289*	*6,281*	*6,281*	*6,281*	*6,293*	*6,293*	*6,293*	**6,289**	*6,281*	*6,293*
Waste	**775**	**778**	**778**	**778**	*778*	*778*	*778*	*778*	*778*	*778*	*778*	*778*	**778**	*778*	*778*
Wood	**5,505**	**5,505**	**5,510**	**5,510**	*5,510*	*5,510*	*5,503*	*5,503*	*5,503*	*5,515*	*5,515*	*5,515*	**5,510**	*5,503*	*5,515*
Conventional Hydroelectric	**279**	**279**	**277**	**277**	*279*	*279*	*279*	*279*	*279*	*279*	*279*	*279*	**277**	*279*	*279*
Large-Scale Solar (b)	**475**	**477**	**492**	**537**	*551*	*560*	*563*	*576*	*576*	*576*	*576*	*576*	**537**	*576*	*576*
Small-Scale Solar (d)	**28,760**	**30,243**	**31,438**	**32,721**	*33,791*	*34,882*	*36,022*	*37,133*	*38,189*	*39,280*	*40,404*	*41,565*	**32,721**	*37,133*	*41,565*
Residential Sector	**17,959**	**19,039**	**19,974**	**20,936**	*21,722*	*22,484*	*23,210*	*23,894*	*24,529*	*25,185*	*25,861*	*26,559*	**20,936**	*23,894*	*26,559*
Commercial Sector	**8,720**	**9,074**	**9,294**	**9,561**	*9,794*	*10,068*	*10,422*	*10,789*	*11,150*	*11,524*	*11,910*	*12,311*	**9,561**	*10,789*	*12,311*
Industrial Sector	**2,080**	**2,130**	**2,170**	**2,224**	*2,275*	*2,330*	*2,389*	*2,450*	*2,510*	*2,571*	*2,633*	*2,695*	**2,224**	*2,450*	*2,695*
Wind	**347**	**347**	**347**	**347**	*347*	*347*	*347*	*347*	*347*	*347*	*347*	*347*	**347**	*347*	*347*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.6**	*6.6*	*6.3*	*6.9*	*6.4*	*6.8*	*6.4*	*6.9*	*6.5*	**27.7**	*26.2*	*26.5*
Waste	**4.0**	**3.9**	**3.9**	**3.8**	*3.9*	*3.8*	*3.9*	*3.8*	*3.9*	*3.9*	*3.9*	*3.8*	**15.6**	*15.4*	*15.4*
Wood	**3.2**	**2.8**	**3.4**	**2.7**	*2.7*	*2.5*	*3.0*	*2.6*	*2.8*	*2.5*	*3.1*	*2.7*	**12.2**	*10.8*	*11.1*
Conventional Hydroelectric	**68.7**	**65.8**	**60.8**	**62.4**	*74.2*	*80.9*	*64.6*	*58.2*	*71.4*	*82.1*	*66.1*	*60.2*	**257.6**	*277.9*	*279.9*
Geothermal	**3.8**	**3.9**	**4.0**	**3.8**	*3.8*	*3.9*	*4.0*	*4.0*	*3.7*	*3.4*	*4.0*	*3.8*	**15.6**	*15.7*	*14.9*
Large-Scale Solar (b)	**21.2**	**34.7**	**34.5**	**23.3**	*27.6*	*44.1*	*44.1*	*29.9*	*36.1*	*57.1*	*58.1*	*39.6*	**113.7**	*145.7*	*190.9*
Wind	**96.9**	**96.1**	**76.8**	**104.3**	*118.0*	*108.1*	*84.8*	*112.1*	*122.9*	*111.8*	*88.1*	*116.4*	**374.1**	*423.0*	*439.2*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.9**	*6.9*	*6.8*	*7.1*	*6.9*	*6.9*	*6.8*	*7.1*	*6.9*	**27.7**	*27.7*	*27.7*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.7**	*2.7*	*2.7*
Wood	**6.2**	**6.1**	**6.4**	**6.2**	*6.2*	*6.1*	*6.4*	*6.2*	*6.2*	*6.1*	*6.4*	*6.2*	**24.9**	*24.9*	*24.9*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**9.7**	**14.7**	**14.5**	**10.0**	*11.4*	*17.1*	*17.1*	*11.7*	*13.0*	*19.3*	*19.3*	*13.1*	**49.0**	*57.3*	*64.7*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.2**	*7.1*	*10.8*	*10.8*	*7.4*	*8.1*	*12.2*	*12.1*	*8.2*	**30.0**	*36.1*	*40.6*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	*3.5*	*5.0*	*5.0*	*3.5*	*4.0*	*5.7*	*5.8*	*3.9*	**15.1**	*17.0*	*19.4*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	*0.8*	*1.2*	*1.3*	*0.9*	*0.9*	*1.4*	*1.4*	*1.0*	**3.8**	*4.2*	*4.7*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**1.1**	*0.9*	*0.8*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,799**	*19,973*	*20,144*	*20,339*	*20,477*	*20,605*	*20,726*	*20,855*	*20,989*	**19,425**	*20,233*	*20,794*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,910**	*14,009*	*14,095*	*14,189*	*14,266*	*14,351*	*14,441*	*14,537*	*14,640*	**13,648**	*14,140*	*14,492*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,606**	*3,667*	*3,699*	*3,731*	*3,750*	*3,770*	*3,791*	*3,816*	*3,846*	**3,587**	*3,712*	*3,806*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**119**	*95*	*134*	*170*	*180*	*178*	*166*	*159*	*150*	**-52**	*145*	*163*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,364**	*3,388*	*3,403*	*3,425*	*3,441*	*3,452*	*3,462*	*3,471*	*3,481*	**3,378**	*3,415*	*3,466*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,345**	*2,352*	*2,393*	*2,447*	*2,503*	*2,555*	*2,601*	*2,642*	*2,680*	**2,296**	*2,424*	*2,619*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,684**	*3,688*	*3,727*	*3,763*	*3,800*	*3,838*	*3,875*	*3,911*	*3,951*	**3,578**	*3,745*	*3,894*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,633**	**15,365**	*15,285*	*15,397*	*15,538*	*15,617*	*15,717*	*15,834*	*15,968*	*16,097*	**16,006**	*15,459*	*15,904*
Non-Farm Employment															
(millions)	**143.4**	**145.1**	**147.4**	**148.7**	*150.2*	*151.3*	*152.3*	*152.9*	*153.4*	*153.7*	*154.0*	*154.3*	**146.1**	*151.7*	*153.9*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	*3.8*	*3.6*	*3.4*	*3.3*	*3.3*	*3.4*	*3.4*	*3.5*	**5.4**	*3.5*	*3.4*
Housing Starts															
(millions - SAAR)	**1.60**	**1.59**	**1.56**	**1.59**	*1.56*	*1.51*	*1.46*	*1.42*	*1.38*	*1.37*	*1.35*	*1.35*	**1.59**	*1.49*	*1.36*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.7**	**101.7**	*103.4*	*104.2*	*105.2*	*105.9*	*106.7*	*107.2*	*107.7*	*108.2*	**100.2**	*104.7*	*107.5*
Manufacturing	**97.3**	**98.7**	**99.7**	**100.9**	*102.5*	*103.4*	*104.9*	*105.9*	*106.9*	*107.5*	*108.1*	*108.7*	**99.2**	*104.2*	*107.8*
Food	**101.2**	**100.5**	**99.4**	**101.1**	*101.5*	*101.8*	*102.0*	*102.3*	*102.6*	*103.0*	*103.3*	*103.8*	**100.6**	*101.9*	*103.2*
Paper	**93.9**	**95.0**	**95.1**	**95.7**	*95.9*	*95.9*	*96.2*	*96.6*	*97.0*	*97.2*	*97.2*	*97.1*	**94.9**	*96.1*	*97.1*
Petroleum and Coal Products	**90.5**	**95.9**	**94.7**	**95.8**	*94.5*	*96.4*	*97.3*	*98.1*	*98.5*	*98.7*	*98.8*	*98.9*	**94.2**	*96.6*	*98.7*
Chemicals	**91.8**	**99.3**	**99.6**	**101.4**	*102.3*	*102.8*	*103.7*	*104.4*	*105.1*	*105.7*	*106.0*	*106.5*	**98.0**	*103.3*	*105.8*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.5**	**98.2**	*98.7*	*98.8*	*99.1*	*99.9*	*100.6*	*101.4*	*102.1*	*103.0*	**96.9**	*99.1*	*101.8*
Primary Metals	**92.4**	**96.7**	**98.0**	**98.9**	*99.1*	*99.3*	*100.6*	*101.6*	*102.7*	*103.0*	*102.9*	*102.9*	**96.5**	*100.1*	*102.9*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.3**	**97.5**	*97.6*	*98.0*	*99.0*	*99.7*	*100.5*	*100.9*	*101.0*	*101.2*	**95.6**	*98.6*	*100.9*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.7**	**104.2**	*104.9*	*105.6*	*106.4*	*107.2*	*107.8*	*108.1*	*108.3*	*108.8*	**102.6**	*106.0*	*108.3*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.7**	**99.0**	*99.8*	*100.5*	*101.6*	*102.5*	*103.3*	*103.7*	*103.9*	*104.2*	**97.1**	*101.1*	*103.8*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.8**	**97.2**	*97.7*	*98.3*	*99.4*	*100.2*	*100.9*	*101.2*	*101.3*	*101.5*	**95.1**	*98.9*	*101.2*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.63**	**2.69**	**2.73**	**2.79**	*2.80*	*2.81*	*2.83*	*2.84*	*2.85*	*2.87*	*2.88*	*2.89*	**2.71**	*2.82*	*2.87*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.11**	**2.24**	**2.33**	**2.37**	*2.36*	*2.36*	*2.36*	*2.36*	*2.36*	*2.37*	*2.37*	*2.36*	**2.26**	*2.36*	*2.37*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	*2.58*	*2.56*	*2.44*	*2.22*	*2.16*	*2.15*	*2.11*	*2.03*	**2.41**	*2.45*	*2.11*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**120.8**	*121.9*	*122.6*	*123.2*	*123.7*	*124.4*	*125.1*	*125.7*	*126.4*	**118.4**	*122.9*	*125.4*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,139**	**9,368**	**8,886**	*8,395*	*9,364*	*9,571*	*9,124*	*8,597*	*9,575*	*9,725*	*9,313*	**8,834**	*9,117*	*9,306*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**596**	**658**	**664**	*626*	*690*	*718*	*688*	*667*	*697*	*726*	*704*	**614**	*681*	*699*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**370**	*370*	*410*	*414*	*389*	*378*	*421*	*434*	*413*	**332**	*396*	*412*
Airline Ticket Price Index															
(index, 1982-1984=100)	**202.5**	**232.2**	**221.9**	**212.2**	*223.1*	*242.4*	*238.5*	*248.4*	*216.5*	*243.4*	*247.7*	*261.7*	**217.2**	*238.1*	*242.3*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	*0.269*	*0.267*	*0.274*	*0.284*	*0.302*	*0.295*	*0.300*	*0.308*	**0.258**	*0.274*	*0.301*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**569**	**571**	*562*	*574*	*587*	*586*	*565*	*582*	*592*	*590*	**2,216**	*2,309*	*2,329*
Natural Gas	**485**	**353**	**373**	**416**	*500*	*351*	*375*	*437*	*485*	*356*	*377*	*436*	**1,626**	*1,662*	*1,654*
Coal	**255**	**228**	**306**	**229**	*242*	*221*	*299*	*242*	*248*	*211*	*286*	*236*	**1,018**	*1,004*	*981*
Total Energy (c)	**1,260**	**1,143**	**1,251**	**1,218**	*1,306*	*1,149*	*1,264*	*1,268*	*1,301*	*1,152*	*1,258*	*1,265*	**4,872**	*4,986*	*4,976*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**976**	**993**	**999**	**1,016**	*1,023*	*1,034*	*1,044*	*1,051*	*1,056*	*1,062*	*1,068*	*1,074*	**996**	*1,038*	*1,065*
Middle Atlantic	**2,740**	**2,788**	**2,806**	**2,844**	*2,877*	*2,896*	*2,927*	*2,947*	*2,965*	*2,980*	*2,999*	*3,018*	**2,795**	*2,912*	*2,990*
E. N. Central	**2,482**	**2,521**	**2,526**	**2,568**	*2,588*	*2,611*	*2,633*	*2,652*	*2,666*	*2,680*	*2,694*	*2,709*	**2,524**	*2,621*	*2,687*
W. N. Central	**1,201**	**1,220**	**1,222**	**1,239**	*1,248*	*1,258*	*1,270*	*1,277*	*1,283*	*1,290*	*1,298*	*1,305*	**1,221**	*1,263*	*1,294*
S. Atlantic	**3,381**	**3,433**	**3,458**	**3,515**	*3,542*	*3,573*	*3,606*	*3,628*	*3,649*	*3,669*	*3,691*	*3,714*	**3,447**	*3,587*	*3,681*
E. S. Central	**834**	**845**	**848**	**861**	*867*	*874*	*882*	*887*	*891*	*895*	*900*	*904*	**847**	*877*	*897*
W. S. Central	**2,332**	**2,365**	**2,380**	**2,428**	*2,453*	*2,478*	*2,507*	*2,527*	*2,549*	*2,568*	*2,587*	*2,606*	**2,376**	*2,491*	*2,578*
Mountain	**1,264**	**1,284**	**1,291**	**1,313**	*1,325*	*1,337*	*1,350*	*1,361*	*1,371*	*1,383*	*1,394*	*1,406*	**1,288**	*1,343*	*1,389*
Pacific	**3,675**	**3,746**	**3,774**	**3,838**	*3,870*	*3,903*	*3,938*	*3,966*	*3,990*	*4,013*	*4,038*	*4,064*	**3,758**	*3,920*	*4,027*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.1**	**96.4**	**97.8**	**93.5**	*94.8*	*95.7*	*96.9*	*97.9*	*98.7*	*99.3*	*99.8*	*100.3*	**95.7**	*96.3*	*99.5*
Middle Atlantic	**93.0**	**94.3**	**95.7**	**91.9**	*93.4*	*94.4*	*95.6*	*96.5*	*97.4*	*97.8*	*98.2*	*98.6*	**93.8**	*95.0*	*98.0*
E. N. Central	**95.0**	**95.8**	**96.8**	**100.2**	*101.9*	*103.1*	*104.6*	*106.0*	*107.0*	*107.8*	*108.4*	*109.0*	**97.0**	*103.9*	*108.1*
W. N. Central	**98.0**	**99.3**	**100.9**	**101.1**	*102.7*	*103.4*	*104.9*	*105.8*	*106.7*	*107.3*	*107.8*	*108.4*	**99.8**	*104.2*	*107.5*
S. Atlantic	**98.9**	**100.3**	**101.2**	**106.1**	*107.7*	*108.7*	*110.1*	*111.1*	*112.0*	*112.6*	*113.1*	*113.8*	**101.6**	*109.4*	*112.9*
E. S. Central	**97.8**	**98.9**	**99.9**	**106.2**	*107.4*	*108.2*	*109.5*	*110.5*	*111.2*	*111.8*	*112.4*	*113.0*	**100.7**	*108.9*	*112.1*
W. S. Central	**98.8**	**100.4**	**101.3**	**95.6**	*97.4*	*98.4*	*99.8*	*100.8*	*101.7*	*102.5*	*103.1*	*103.7*	**99.0**	*99.1*	*102.7*
Mountain	**105.2**	**107.6**	**108.0**	**114.9**	*116.5*	*117.5*	*119.0*	*120.2*	*121.2*	*122.0*	*122.6*	*123.4*	**108.9**	*118.3*	*122.3*
Pacific	**93.5**	**94.7**	**95.2**	**96.5**	*98.3*	*99.5*	*101.1*	*102.3*	*103.6*	*104.2*	*104.7*	*105.3*	**95.0**	*100.3*	*104.5*
Real Personal Income (Billion $2012)															
New England	**997**	**947**	**937**	**925**	*924*	*933*	*942*	*946*	*952*	*958*	*965*	*972*	**951**	*936*	*962*
Middle Atlantic	**2,624**	**2,460**	**2,444**	**2,403**	*2,407*	*2,417*	*2,440*	*2,452*	*2,468*	*2,482*	*2,500*	*2,518*	**2,483**	*2,429*	*2,492*
E. N. Central	**2,744**	**2,524**	**2,502**	**2,455**	*2,446*	*2,468*	*2,490*	*2,504*	*2,520*	*2,538*	*2,557*	*2,575*	**2,556**	*2,477*	*2,548*
W. N. Central	**1,278**	**1,196**	**1,182**	**1,162**	*1,157*	*1,166*	*1,177*	*1,184*	*1,193*	*1,202*	*1,212*	*1,222*	**1,204**	*1,171*	*1,207*
S. Atlantic	**3,719**	**3,441**	**3,420**	**3,388**	*3,381*	*3,410*	*3,445*	*3,466*	*3,493*	*3,521*	*3,553*	*3,584*	**3,492**	*3,426*	*3,538*
E. S. Central	**1,023**	**925**	**920**	**908**	*904*	*911*	*918*	*923*	*929*	*936*	*943*	*949*	**944**	*914*	*939*
W. S. Central	**2,246**	**2,086**	**2,076**	**2,064**	*2,065*	*2,085*	*2,108*	*2,122*	*2,140*	*2,159*	*2,179*	*2,199*	**2,118**	*2,095*	*2,169*
Mountain	**1,377**	**1,277**	**1,272**	**1,257**	*1,254*	*1,266*	*1,278*	*1,287*	*1,297*	*1,309*	*1,322*	*1,335*	**1,295**	*1,271*	*1,316*
Pacific	**3,256**	**3,076**	**3,055**	**3,013**	*2,997*	*3,022*	*3,047*	*3,064*	*3,082*	*3,105*	*3,131*	*3,156*	**3,100**	*3,032*	*3,119*
Households (Thousands)															
New England	**6,054**	**6,061**	**6,058**	**6,070**	*6,085*	*6,099*	*6,114*	*6,127*	*6,139*	*6,150*	*6,161*	*6,172*	**6,070**	*6,127*	*6,172*
Middle Atlantic	**16,405**	**16,405**	**16,395**	**16,420**	*16,456*	*16,495*	*16,530*	*16,567*	*16,601*	*16,631*	*16,660*	*16,687*	**16,420**	*16,567*	*16,687*
E. N. Central	**19,076**	**19,090**	**19,092**	**19,137**	*19,188*	*19,229*	*19,266*	*19,304*	*19,339*	*19,373*	*19,407*	*19,440*	**19,137**	*19,304*	*19,440*
W. N. Central	**8,717**	**8,729**	**8,734**	**8,759**	*8,786*	*8,817*	*8,845*	*8,868*	*8,890*	*8,912*	*8,934*	*8,955*	**8,759**	*8,868*	*8,955*
S. Atlantic	**26,284**	**26,358**	**26,405**	**26,518**	*26,641*	*26,769*	*26,886*	*26,995*	*27,100*	*27,199*	*27,297*	*27,397*	**26,518**	*26,995*	*27,397*
E. S. Central	**7,816**	**7,830**	**7,839**	**7,865**	*7,893*	*7,922*	*7,949*	*7,972*	*7,994*	*8,014*	*8,035*	*8,056*	**7,865**	*7,972*	*8,056*
W. S. Central	**15,332**	**15,379**	**15,415**	**15,485**	*15,562*	*15,639*	*15,711*	*15,775*	*15,836*	*15,894*	*15,954*	*16,013*	**15,485**	*15,775*	*16,013*
Mountain	**9,612**	**9,653**	**9,687**	**9,743**	*9,800*	*9,856*	*9,909*	*9,956*	*10,001*	*10,047*	*10,090*	*10,135*	**9,743**	*9,956*	*10,135*
Pacific	**19,002**	**18,992**	**18,976**	**19,006**	*19,053*	*19,098*	*19,141*	*19,173*	*19,202*	*19,231*	*19,263*	*19,297*	**19,006**	*19,173*	*19,297*
Total Non-farm Employment (Millions)															
New England	**7.0**	**7.1**	**7.2**	**7.3**	*7.3*	*7.4*	*7.4*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.1**	*7.4*	*7.5*
Middle Atlantic	**18.3**	**18.5**	**18.8**	**18.9**	*19.1*	*19.3*	*19.5*	*19.5*	*19.6*	*19.7*	*19.7*	*19.8*	**18.6**	*19.4*	*19.7*
E. N. Central	**20.9**	**21.1**	**21.4**	**21.5**	*21.8*	*21.9*	*22.0*	*22.1*	*22.2*	*22.2*	*22.2*	*22.3*	**21.2**	*22.0*	*22.2*
W. N. Central	**10.3**	**10.4**	**10.5**	**10.6**	*10.7*	*10.7*	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	*10.9*	**10.5**	*10.8*	*10.9*
S. Atlantic	**27.9**	**28.1**	**28.7**	**28.9**	*29.2*	*29.4*	*29.6*	*29.7*	*29.8*	*29.9*	*30.0*	*30.0*	**28.4**	*29.5*	*29.9*
E. S. Central	**8.0**	**8.1**	**8.2**	**8.2**	*8.3*	*8.3*	*8.4*	*8.4*	*8.4*	*8.4*	*8.5*	*8.5*	**8.1**	*8.4*	*8.4*
W. S. Central	**17.1**	**17.3**	**17.6**	**17.8**	*18.0*	*18.1*	*18.2*	*18.3*	*18.4*	*18.4*	*18.5*	*18.5*	**17.5**	*18.1*	*18.4*
Mountain	**10.7**	**10.9**	**11.1**	**11.2**	*11.3*	*11.4*	*11.4*	*11.5*	*11.5*	*11.6*	*11.6*	*11.7*	**11.0**	*11.4*	*11.6*
Pacific	**21.9**	**22.4**	**22.9**	**23.1**	*23.4*	*23.6*	*23.8*	*23.9*	*24.0*	*24.0*	*24.0*	*24.1*	**22.6**	*23.7*	*24.0*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,016**	**783**	**86**	**1,923**	*3,153*	*864*	*136*	*2,150*	*3,102*	*859*	*136*	*2,150*	**5,809**	*6,303*	*6,247*
Middle Atlantic	**2,817**	**665**	**56**	**1,721**	*2,932*	*688*	*88*	*1,971*	*2,849*	*681*	*88*	*1,970*	**5,258**	*5,679*	*5,588*
E. N. Central	**3,086**	**708**	**69**	**1,889**	*3,214*	*723*	*134*	*2,261*	*3,090*	*717*	*134*	*2,261*	**5,752**	*6,333*	*6,203*
W. N. Central	**3,229**	**720**	**88**	**2,027**	*3,323*	*701*	*168*	*2,477*	*3,244*	*706*	*168*	*2,478*	**6,064**	*6,669*	*6,595*
South Atlantic	**1,347**	**212**	**10**	**797**	*1,388*	*189*	*13*	*949*	*1,379*	*191*	*13*	*947*	**2,367**	*2,540*	*2,531*
E. S. Central	**1,789**	**312**	**19**	**1,034**	*1,821*	*242*	*22*	*1,315*	*1,794*	*247*	*22*	*1,315*	**3,154**	*3,400*	*3,377*
W. S. Central	**1,296**	**121**	**1**	**497**	*1,133*	*74*	*5*	*833*	*1,210*	*90*	*5*	*832*	**1,915**	*2,044*	*2,137*
Mountain	**2,306**	**663**	**110**	**1,639**	*2,232*	*693*	*145*	*1,883*	*2,262*	*703*	*145*	*1,882*	**4,717**	*4,952*	*4,992*
Pacific	**1,562**	**483**	**77**	**1,203**	*1,488*	*615*	*89*	*1,231*	*1,540*	*607*	*90*	*1,233*	**3,325**	*3,424*	*3,469*
U.S. Average	**2,107**	**472**	**51**	**1,306**	*2,122*	*487*	*77*	*1,541*	*2,102*	*487*	*77*	*1,539*	**3,935**	*4,228*	*4,205*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	*3,101*	*853*	*108*	*2,104*	*3,153*	*867*	*108*	*2,111*	**6,195**	*6,165*	*6,239*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	*2,886*	*684*	*71*	*1,908*	*2,943*	*693*	*72*	*1,911*	**5,572**	*5,549*	*5,620*
E. N. Central	**3,157**	**731**	**104**	**2,170**	*3,133*	*727*	*97*	*2,162*	*3,209*	*739*	*97*	*2,172*	**6,161**	*6,119*	*6,217*
W. N. Central	**3,248**	**728**	**133**	**2,368**	*3,219*	*726*	*125*	*2,357*	*3,301*	*745*	*127*	*2,369*	**6,477**	*6,427*	*6,542*
South Atlantic	**1,395**	**181**	**11**	**916**	*1,380*	*187*	*11*	*905*	*1,406*	*190*	*10*	*901*	**2,503**	*2,483*	*2,507*
E. S. Central	**1,771**	**231**	**16**	**1,249**	*1,763*	*243*	*15*	*1,227*	*1,809*	*250*	*14*	*1,227*	**3,267**	*3,248*	*3,300*
W. S. Central	**1,140**	**86**	**3**	**786**	*1,145*	*93*	*3*	*754*	*1,168*	*97*	*3*	*766*	**2,015**	*1,995*	*2,034*
Mountain	**2,188**	**704**	**135**	**1,850**	*2,181*	*685*	*132*	*1,818*	*2,194*	*696*	*135*	*1,828*	**4,877**	*4,816*	*4,853*
Pacific	**1,461**	**553**	**81**	**1,147**	*1,455*	*523*	*79*	*1,136*	*1,448*	*524*	*79*	*1,142*	**3,242**	*3,192*	*3,193*
U.S. Average	**2,112**	**483**	**65**	**1,487**	*2,096*	*479*	*62*	*1,473*	*2,130*	*485*	*63*	*1,477*	**4,147**	*4,110*	*4,155*
Cooling Degree Days															
New England	**0**	**142**	**453**	**6**	*0*	*79*	*402*	*2*	*0*	*79*	*402*	*2*	**601**	*483*	*483*
Middle Atlantic	**0**	**182**	**633**	**24**	*0*	*148*	*532*	*5*	*0*	*149*	*533*	*5*	**839**	*685*	*686*
E. N. Central	**2**	**250**	**629**	**30**	*0*	*216*	*519*	*6*	*0*	*216*	*519*	*6*	**911**	*741*	*741*
W. N. Central	**8**	**310**	**745**	**23**	*3*	*263*	*653*	*9*	*3*	*262*	*652*	*9*	**1,086**	*928*	*926*
South Atlantic	**151**	**617**	**1,171**	**285**	*123*	*655*	*1,160*	*237*	*124*	*653*	*1,161*	*238*	**2,225**	*2,175*	*2,176*
E. S. Central	**41**	**436**	**1,018**	**127**	*27*	*513*	*1,034*	*62*	*28*	*510*	*1,033*	*62*	**1,621**	*1,636*	*1,634*
W. S. Central	**89**	**769**	**1,474**	**315**	*93*	*903*	*1,493*	*192*	*81*	*879*	*1,494*	*192*	**2,647**	*2,682*	*2,646*
Mountain	**10**	**531**	**967**	**68**	*16*	*426*	*930*	*76*	*17*	*427*	*931*	*76*	**1,575**	*1,447*	*1,451*
Pacific	**24**	**255**	**703**	**59**	*27*	*167*	*590*	*60*	*27*	*167*	*589*	*59*	**1,041**	*843*	*843*
U.S. Average	**49**	**412**	**903**	**128**	*44*	*404*	*848*	*93*	*43*	*401*	*850*	*93*	**1,492**	*1,389*	*1,387*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	*0*	*87*	*471*	*2*	*0*	*87*	*463*	*2*	**555**	*560*	*552*
Middle Atlantic	**0**	**163**	**610**	**6**	*0*	*162*	*609*	*8*	*0*	*159*	*599*	*8*	**779**	*779*	*766*
E. N. Central	**3**	**234**	**572**	**7**	*3*	*238*	*571*	*9*	*1*	*230*	*558*	*10*	**816**	*821*	*798*
W. N. Central	**7**	**294**	**686**	**10**	*7*	*298*	*681*	*11*	*4*	*287*	*666*	*12*	**997**	*998*	*969*
South Atlantic	**143**	**679**	**1,194**	**260**	*147*	*668*	*1,189*	*269*	*141*	*670*	*1,189*	*274*	**2,276**	*2,272*	*2,273*
E. S. Central	**42**	**532**	**1,065**	**74**	*44*	*518*	*1,057*	*84*	*36*	*512*	*1,056*	*86*	**1,713**	*1,703*	*1,690*
W. S. Central	**114**	**881**	**1,568**	**210**	*113*	*853*	*1,536*	*224*	*105*	*842*	*1,531*	*225*	**2,772**	*2,726*	*2,703*
Mountain	**24**	**441**	**949**	**85**	*23*	*459*	*946*	*84*	*23*	*452*	*942*	*83*	**1,499**	*1,512*	*1,500*
Pacific	**31**	**193**	**648**	**86**	*31*	*208*	*664*	*85*	*31*	*209*	*658*	*84*	**959**	*989*	*982*
U.S. Average	**52**	**413**	**892**	**104**	*53*	*412*	*889*	*109*	*50*	*409*	*884*	*110*	**1,461**	*1,463*	*1,453*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the February 2022 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Dec 2021	Jan 2022	Dec 2021 – Jan 2022 Average	Dec 2020 - Jan 2021 Average	2018 - 2020 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	98.6	99.0	98.8	93.2	98.2
Global Petroleum and Other Liquids Consumption (b)	101.2	99.0	100.1	94.0	97.3
Biofuels Production (c)	2.4	2.2	2.3	2.3	2.7
Biofuels Consumption (c)	2.6	2.5	2.5	2.5	2.6
Iran Liquid Fuels Production	3.6	3.8	3.7	3.1	3.6
Iran Liquid Fuels Consumption	2.2	2.4	2.3	2.1	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	92.6	93.0	92.8	87.9	91.9
Consumption (d)	96.4	94.1	95.2	89.4	92.8
Production minus Consumption	-3.8	-1.1	-2.4	-1.5	-0.9
World Inventory Net Withdrawals Including Iran	2.6	0.0	1.3	0.8	-0.9
Estimated OECD Inventory Level (e) (million barrels)	2,682	2,676	2,679	3,025	2,943
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	4.2	4.2	4.2	6.1	3.2

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Dec 2021	Jan 2022	Dec 2021 - Jan 2022 Average	Dec 2020 – Jan 2021 Average	2018 – 2020 Average
Brent Front Month Futures Price ($ per barrel)	74.80	85.57	79.93	52.64	59.69
WTI Front Month Futures Price ($ per barrel)	71.69	82.98	77.07	49.46	53.76
Dubai Front Month Futures Price ($ per barrel)	73.40	83.95	78.42	52.40	59.01
Brent 1st - 13th Month Futures Spread ($ per barrel)	4.39	8.21	6.21	1.77	1.01
WTI 1st - 13th Month Futures Spread ($ per barrel)	4.67	9.09	6.77	1.61	0.57
RBOB Front Month Futures Price ($ per gallon)	2.14	2.40	2.26	1.42	1.61
Heating Oil Front Month Futures Price ($ per gallon)	2.25	2.61	2.42	1.51	1.76
RBOB - Brent Futures Crack Spread ($ per gallon)	0.35	0.36	0.36	0.17	0.19
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.47	0.57	0.52	0.26	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

March 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The March *Short-Term Energy Outlook* (STEO) is subject to heightened levels of uncertainty resulting from a variety of factors, including Russia's further invasion of Ukraine. This STEO assumes U.S. GDP will grow by 3.6% in 2022 and by 2.7% in 2023, after growing by 5.7% in 2021. We use the S&P Global (formerly IHS Markit) macroeconomic model to generate our U.S. economic assumptions. Global macroeconomic assumptions in our forecast are from Oxford Economics and include global GDP growth of 4.3% in 2022 and 4.0% in 2023, compared with growth of 5.9% in 2021. These GDP forecasts were completed in mid-February. The rest of the forecast was completed on March 3 and accounts for available information to that point. A wide range of potential macroeconomic outcomes could significantly affect energy markets during the forecast period. Supply uncertainty results from the conflict in Ukraine, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- Brent crude oil spot prices averaged $97 per barrel (b) in February, an $11/b increase from January. Daily spot prices for Brent closed at almost $124/b in the first week of March as the further invasion of Ukraine by Russia and subsequent sanctions on Russia and other actions created significant market uncertainties about the potential for oil supply disruptions. These events are occurring against a backdrop of low oil inventories and persistent upward oil price pressures. Global oil inventories have fallen steadily since mid-2020, and inventory draws averaged 1.8 million barrels per day (b/d) from the third quarter of 2020 (3Q20) through the end of 2021. We estimate that oil inventories fell further in the first two months of 2022 and that commercial inventories in the OECD ended February at 2.64 billion barrels, which is the lowest level since mid-2014.

- We expect the Brent price will average $117/b in March, $116/b in 2Q22, and $102/b in the second half of 2022 (2H22). We expect the average price to fall to $89/b in 2023. However, this price forecast is highly uncertain. Actual price outcomes will be dependent on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market. In addition, the degree to which other oil producers respond to current oil prices, as well as the effects macroeconomic developments might have on global oil demand, will be important for oil price formation

in the coming months. Although we reduced Russia's oil production in our forecast, we still expect that global oil inventories will build at an average rate of 0.5 million b/d from 2Q22 through the end of 2023, which we expect will put downward pressure on crude oil prices. However, if production disruptions—in Russia or elsewhere—are more than we forecast, resulting crude oil prices would be higher than our forecast.

- We forecast that global consumption of petroleum and liquid fuels will average 100.6 million b/d for all of 2022, up 3.1 million b/d from 2021. We forecast that consumption will increase by 1.9 million b/d in 2023 to average 102.6 million b/d. Economic forecasts in this outlook were completed before Russia's further invasion of Ukraine. The outlook for economic growth and oil consumption in Russia and surrounding countries is highly uncertain. Oil consumption will depend on how economic activity and travel respond to recent and any potential future events and sanctions.

- U.S. regular gasoline retail prices averaged $3.52 per gallon (gal) in February, up 20 cents/gal from January and up $1.02/gal from February 2021. Retail diesel prices averaged $4.03/gal in February—the highest average price (not adjusted for inflation) for any month since March 2013. Product prices have risen compared with year-ago levels because of rising crude oil prices and high refining margins. We expect crude oil price increases will push the U.S. average gasoline price to $4.10/gal on average in 2Q22, which would be the first time that gasoline prices (not adjusted for inflation) have reached at least $4/gal in any month since July 2008. We expect diesel prices will average $4.43/gal during 2Q22. Gasoline and diesel prices are closely tied to crude oil prices. We forecast gasoline prices will average $3.71/gal in 2H22, and we forecast diesel prices will average $4.04/gal over the same period. However, actual prices could be significantly affected by the same factors that affect crude oil prices.

- U.S. crude oil production fell below 11.6 million b/d in December 2021 (the most recent monthly historical data point), a decline of 0.2 million b/d from November 2021. We forecast that production will rise to average 12.0 million b/d in 2022 and then to record-high production on an annual-average basis of 13.0 million b/d in 2023. The previous annual-average record of 12.3 million b/d was set in 2019.

Natural Gas

- In February, the Henry Hub natural gas spot price averaged $4.69 per million British thermal units (MMBtu), which was up from the January average of $4.38/MMBtu. Although temperatures across the eastern part of the United States were close to normal in February, reducing natural gas consumption from January levels, natural gas production fell slightly last month relative to January, in part as a result of temporary freeze-offs in producing regions. The drop in production partly contributed to inventory draws outpacing the five-year (2017–2021) average in February. This outlook assumes that temperatures in March will be milder than February and near the 10-year average

for March. We expect production will rise from February levels, contributing to a lower average Henry Hub price of $4.10/MMBtu for March. We expect the Henry Hub price will average $3.83/MMBtu in 2Q22 and $3.95/MMBtu for all of 2022. We expect the Henry Hub spot price will average $3.59/MMBtu in 2023.

- We estimate that inventory withdrawals in February were 627 billion cubic feet (Bcf) and that natural gas inventories ended the month at 1.6 trillion cubic feet (Tcf). We expect natural gas inventories to fall by about 95 Bcf in March, ending the withdrawal season at about 1.5 Tcf, which would be 10% less than the five-year average for this time of year. We forecast that natural gas inventories will end the 2022 injection season (end of October) at 3.5 Tcf, which would be 4% less than the five-year average.

- In February, U.S. liquefied natural gas (LNG) exports averaged 10.9 billion cubic feet per day (Bcf/d), down from 11.2 Bcf/d in January. Similar to last year, U.S. LNG exports in February were limited by fog in the Gulf of Mexico that affected vessel traffic and led to piloting services being suspended for several days on the Sabine Pass, Lake Charles (location of Cameron LNG), and Corpus Christi waterways. Although exports fell in February, they were higher than in any month prior to December 2021. Many U.S. LNG cargoes were delivered to Europe last month, where inventories are lower than the five-year average and potential supply disruptions related to the conflict in Ukraine are a concern. Although Europe's inventories are low, the additional LNG imports, as well as a mild winter, are helping bring inventories closer to the five-year average than they were at the beginning of the winter. We expect high levels of U.S. LNG exports to continue in 2022, averaging 11.3 Bcf/d for the year, a 16% increase from 2021.

- We expect that U.S. consumption of natural gas will average 84.6 Bcf/d in 2022, up 2% from 2021. The increase in U.S. natural gas consumption reflects rising demand in the industrial sector as a result of increased manufacturing activity. In addition, the increase in natural gas consumption reflects higher consumption in the residential and commercial sectors as a result of colder temperatures this year compared with 2021. Higher consumption in these sectors is partly offset by lower consumption in the electric power sector due to a forecast increase in generation from renewable energy sources.

- We estimate dry natural gas production averaged 95.3 Bcf/d in the United States in February, down 0.6 Bcf/d from January. Production in January and February was lower than in December because of freezing temperatures in certain production regions. We forecast natural gas production to average 95.7 Bcf/d in March. For 2022, we expect that natural gas production will average 96.7 Bcf/d, which is 3.1 Bcf/d more than in 2021. We expect dry natural gas production to rise to an average of 99.1 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- U.S. electric power sector generation in February 2022 was 1.3% lower than generation in February 2021, when generation was high because of extreme cold weather. We forecast that the annual share of U.S. electricity generation from renewable energy sources will rise from 20% in 2021, to 22% in 2022, and to 24% in 2023, as a result of continuing increases in solar and wind generating capacity. This increase in renewables generation leads to an expected decline in natural gas generation, which falls from a 37% share in 2021, to 36% in 2022, and to 35% in 2023. Natural gas generation falls in the forecast even though we expect the cost of natural gas for power generation to fall from $4.97/MMBtu in 2021, to $4.16/MMBtu in 2022, and to $3.80/MMBtu in 2023. Increasing renewable generation also contributes to our forecast that the share of generation from coal will fall from 23% in 2021 to 22% in 2022 and 21% in 2023. Nuclear generation remains relatively constant in the forecast at an average share of 20%.

- Planned additions to U.S. wind and solar capacity in 2022 and 2023 increase electricity generation from those sources in our forecast. The U.S. electric power sector added 14 gigawatts (GW) of new wind capacity in 2021. We expect 10 GW of new wind capacity will come online in 2022 and 5 GW in 2023. Utility-scale solar capacity rose by 13 GW in 2021. Our forecast for added utility-scale solar capacity is 22 GW for 2022 and 24 GW for 2023. We expect solar additions to account for nearly half of new electric generating capacity in 2022. In addition, in 2021, small-scale solar capacity (systems less than 1 megawatt) increased by 5.4 GW to 33 GW. We project that small-scale solar capacity will grow by 4.0 GW in 2022 and 4.3 GW in 2023.

- We expect U.S. coal production to increase by more than 25 million short tons (MMst) (4%) in 2022 to 604 MMst and then rise by 9 MMst (1%) in 2023. Although labor strikes at some metallurgical mines in Appalachia continue to affect production, we expect producers to regain a portion of that production later during 1H22. Increased production of coal will help support rising export demand as well as help replenish coal inventories at power plants that were depleted during 2021.

- We expect U.S. coal consumption to decrease by 7 MMst in 2022 and by 15 MMst in 2023. In both forecast years, declining consumption from the electric power sector is somewhat offset by rising consumption at coke plants.

- Coal exports in our forecast total 88 MMst in 2022, up 3% from 2021, and 91 MMst in 2023. We assume international prices will remain supportive of U.S. coal exports as the conflict in Ukraine creates the potential to disrupt supplies from that region.

- U.S. energy-related carbon dioxide (CO_2) emissions increased by nearly 7% in 2021 as economic activity increased and contributed to rising energy use. We expect a 2% increase in energy-related CO_2 emissions in 2022, primarily from growing

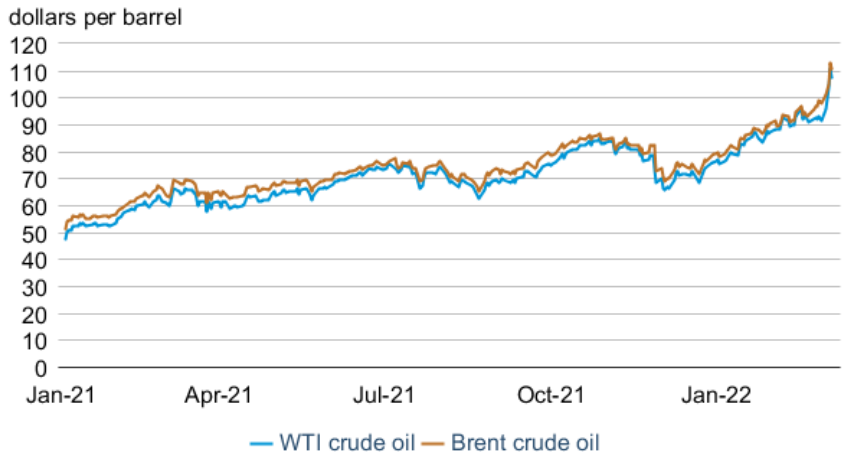
transportation-related petroleum consumption. Forecast energy-related CO_2 emissions remain almost unchanged in 2023. We expect petroleum emissions to increase by 4% in 2022 compared with 2021, and this growth rate slows to less than 1% in 2023. Natural gas emissions increase by 2% in 2022 and then decrease slightly in our forecast for 2023. We forecast that coal-related CO_2 emissions will fall by 3% in 2022 and by 2% in 2023.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $110.46 per barrel (b) on March 3, 2022, an increase of $21.30/b from the February 1, 2022, price of $89.16/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $19.47/b during the same period, settling at $107.67/b on March 3 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: Graph by EIA, based on CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

The Russian invasion further into Ukraine on February 24 and the subsequent escalation of armed conflict, which had been preceded by increasing tensions in earlier weeks, contributed to rising crude oil prices. On February 28, the front-month Brent crude oil price settled at over $100/b for the first time since September 2014. The increase in crude oil prices reflects potential effects of the extensive sanctions levied by the United States, European Union, and others on Russian entities in response to Russia's continued invasion of Ukraine, as well as the risk of potential disruptions to crude oil and energy production and infrastructure related to the conflict. The sanctions that have so far been announced have primarily targeted Russian individuals and financial institutions but avoided direct sanctions on Russia's energy companies, including crude oil and natural gas production and exports. Although sanctions so far have generally avoided direct sanctions on Russia's energy companies, there are trade press reports

that sanctions targeting financial institutions have increased concerns among oil market participants about purchasing energy from Russia and about the potential for additional sanctions.

The February monthly average front-month Brent crude oil futures price was $94/b, up $9/b over January 2022 and up $32/b over February 2021. The increased risks to oil supplies presented by Russia's further invasion of Ukraine builds on a number of other factors that have been underpinning crude oil price increases for the past several months. First, oil consumption has persistently been greater than oil production since mid-2020, contributing to a decline in global oil inventories in all but one month from June 2020 through February 2022. As a result, total commercial oil inventories in the OECD have fallen to their lowest levels since mid-2014. Second, several minor geopolitical disruptions contributed to increased risks in recent months. Port closures contributed to reduced crude oil production in Libya, while Houthi attacks targeting the United Arab Emirates and political unrest in Kazakhstan also contributed to additional risks to global supplies. Third, several OPEC members have been unable to increase production in line with previously agreed on targets. Finally, decreasing COVID-19 cases and natural gas-to-oil switching in the electric power sector have likely contributed to demand increases.

A number of western energy companies, including ExxonMobil, Shell, BP, and Equinor have announced they are stopping operations in Russia and ending partnerships with Russian firms. Trade press also reports that a number of European refiners, shippers, and insurance companies are not purchasing or shipping crude oil from Russia, even without formal energy sanctions. This distancing from Russian markets by private entities has contributed to significant price discounts on some Russian crude oil streams. However, as of March 3, trade press reported significant volumes of Russian crude oil and petroleum products remained unsold as shippers and refiners refuse to take cargoes from Russia. We expect that the withdrawal of some firms from Russia, combined with limitations on finance, are likely to contribute to ongoing constraints on new field development and crude oil production with ongoing effects into the medium term. Market participant trading activity combined with the active conflict involving Russia remains a substantial source of uncertainty and risk for global crude oil production and prices.

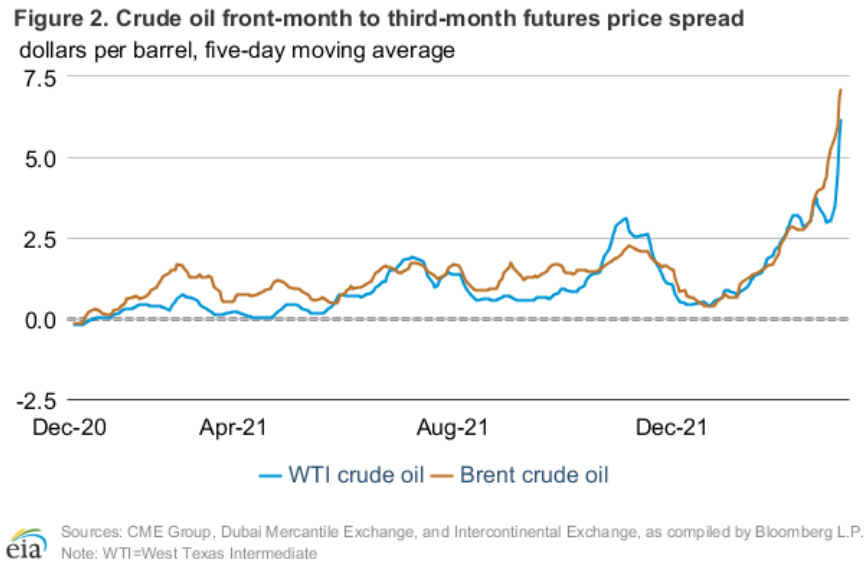
We estimate Russia produced 11.3 million b/d of petroleum and other liquids in February 2022, and given most recent reports, we expect that production in Russia will fall by 0.25 million b/d in March, with an additional decline of 0.5 million b/d in April. We expect production to temporarily decrease as some shippers refrain from picking up crude oil cargoes from Russia, mainly as a result of current sanctions or anticipation of additional sanctions. Although Russia's crude oil production and export capacity will continue to be available, there is considerable uncertainty to which degree countries will continue to import crude oil and petroleum products from Russia. While we recognize that the range of outcomes for Russia's oil production is wide, we assume that there will be a decrease in Russian crude oil exports, and therefore in production, in the coming months. With crude oil exports decreasing, onshore storage likely will

fill up quickly because of limited onshore storage capacity, which will necessitate production shut-ins and the use of floating storage on ships. We assess that most of Russia's crude oil will find export destinations, but we expect there will be a temporary dislocation of production and exports as new trade routes are established and as Russia finds other crude oil buyers. However, this assessment is based on sanctions as of March 3, 2022, and it is subject to significant uncertainty about the way in which market participants will respond to those sanctions.

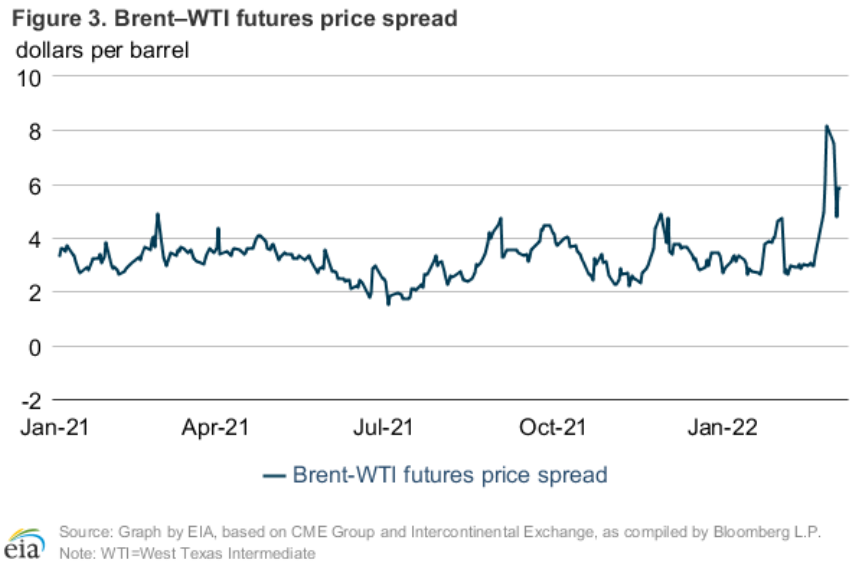
We expect that Russia's liquid fuels production will decrease by about 0.7 million b/d in 2Q22 compared with 1Q22 and then increase slightly in 3Q22. Overall, we expect Russia's production to be about 0.5 million b/d lower in December 2022 compared with February and to remain flat in 2023. Compared with our forecast last month, in which were expecting growth in Russia's liquid fuels production, we now expect Russia's liquid fuels production to be 1.0 million b/d less on average from 2Q22 through the end of 2023. This forecast remains subject to significant revisions because the extent to which sanctions and other private corporate actions will affect production remains unclear.

We expect the Brent crude oil spot price to average $117/b in March, then average $116/b in 2Q22 and $102/b in 2H22, although this forecast remains highly uncertain in light of current geopolitical developments. The effect that current sanctions and private corporate action will have on production in Russia or on global purchases of crude oil from Russia remains a major source of uncertainty in the outlook. Similarly, the effect that current and near-term high price levels have on production outside of Russia remains a potential risk and is highly variable in our current outlook, because high prices increase the incentive for new production.

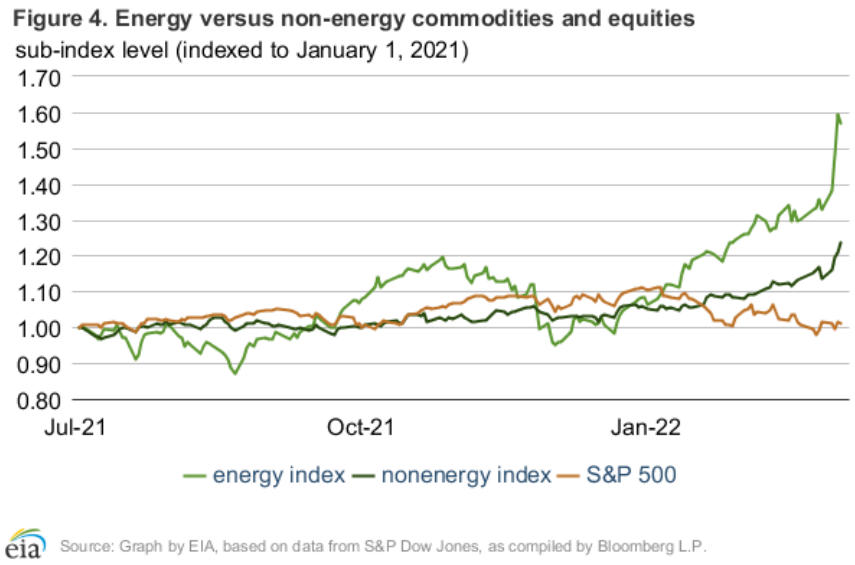
Crude oil front-month to 3rd month futures spread: Oil market uncertainties linked to Russia's further invasion of Ukraine have occurred while global petroleum inventory levels are low. This situation has contributed to historically high levels of backwardation (when near-term prices are higher than longer-dated ones). The spread between crude oil front-month contracts and third-month contracts (1-3) reflects heightened calls on crude oil inventories in the very short term **(Figure 2)**. The Brent 1-3 spread increased to its highest level on record at $7.06/b on March 3. The spread averaged $3.55/b throughout February, more than doubling from January, when the spread was $1.46/b, and is also well above the 2021 annual average of $1.11/b. The WTI 1-3 crude oil price spread increased similarly to the Brent spread in February, reaching a high of $6.15/b on March 3 and averaging $3.12/b in February, also doubling the January level.



The increase in the spread for WTI futures is not quite as sharp as the spread with Brent, which is also reflected in the front-month prices **(Figure 3)**. The spread between Brent and WTI increased by $1.60/b to $4.93/b on February 22, when the possibility of further Russian invasion into Ukraine heightened, and widened another $3.21/b over the next two days to $8.14/b on February 24, the day the invasion escalated. The highest Brent-WTI spread in 2021 was $4.90/b, and the spread averaged $3.38/b in January 2022. Since February 22, the spread has averaged $6.40/b, likely reflecting the impact of risks related to the Russian invasion further into Ukraine. European oil markets are likely to be affected more significantly than U.S. or western hemisphere markets, which may be better captured by the WTI price. Countries in OECD Europe received 24% of their crude oil and condensate imports from Russia in 2020. About 48% of Russia's crude oil and condensate exports in 2020 went to countries in Europe. Slight differences in the delivery times of the WTI and Brent crude oil futures contracts may also be contributing to some of the difference in the spread.

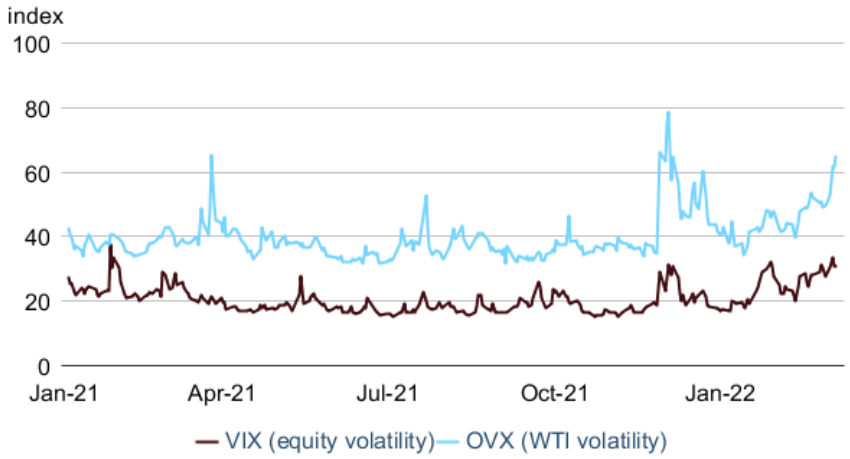


Energy and non-energy commodity indexes: Since the start of 2022, price increases in energy commodities have outpaced increases in non-energy commodities. The energy component of the S&P Goldman Sachs Commodity Index (GSCI) is heavily weighted toward crude oil, although it also includes smaller shares of natural gas, gasoline, and distillate commodity prices. The non-energy component accounts for a basket of other commodities, including agricultural products, livestock, and metals. The increase in the energy segment of the index reflects the drivers of increased crude oil prices discussed previously. Non-energy commodity prices have also been increasing through much of February, although not necessarily by as much as energy commodities. Although Russia's energy exports may be the largest source of uncertainty for global markets, Ukraine and Russia are both substantial producers and exporter of agricultural products, and the impact of the conflict is also likely reflected in risks to non-energy agricultural commodities. Equities in the S&P 500, conversely, have experienced downward pressure in February as a result of rising prices for global commodities, concerns over inflation, and risks of commercial disruptions related to the Ukraine conflict. As of March 3, the energy index had increased 57% over July 1, 2021, compared with an increase of 23% for the non-energy index, and the S&P 500 increased 1% over July 1 levels **(Figure 4)**.



U.S. volatility indexes: The Volatility Index (VIX) is a measure of implied volatility in U.S. equity prices, calculated from prices of put and call options on the S&P 500 index, by the Chicago Board of Options Exchange. The Crude Oil Volatility Index (OVX) is a similar estimate derived from options prices for the United States Oil Fund, reflecting the WTI crude oil futures price. The OVX is generally higher than the VIX, partially because it represents the price volatility of a single commodity instead of a diversified group of large U.S. companies **(Figure 5)**. In addition, since the beginning of the COVID-19 pandemic, energy markets have been more volatile compared with equities markets, likely related to the unique effects of the pandemic on oil production and consumption. In 2021, the OVX averaged almost double the VIX over the course of the year. New volatility introduced by Russia's invasion further into Ukraine in February 2022 pushed the monthly average OVX value to higher than in any month in 2021, other than December, averaging 47% in February and peaking at 64% on March 3. This volatility remained below the peak related to the COVID-19 Omicron variant on December 1, 2021, which was 78%. The impact on equities from Russia's invasion further into Ukraine was also high, with the VIX averaging 26% in February, higher than any monthly average last year, and peaking at 33% on March 1 (exceeding the Omicron-related peak of 31% in December 2021).

Figure 5. Equity and crude oil volatility indexes

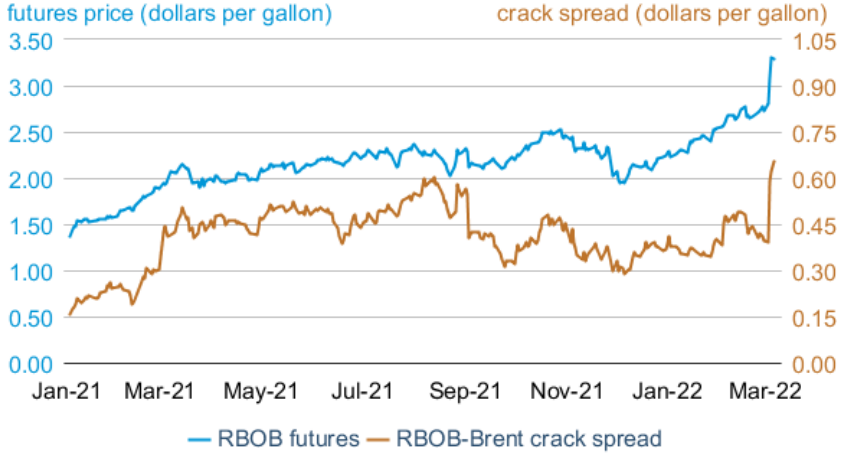


Source: Graph by EIA, based on data from Chicago Board of Options Exchange, as compiled by Bloomberg L.P.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $3.28 per gallon (gal) on March 3, up 71 cents/gal from February 1 **(Figure 6)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at 65 cents/gal on March 3, up 20 cents/gal during the same period. The average RBOB–Brent crack spread in February was 45 cents/gal, 8 cents/gal higher than January and 19 cents/gal higher than February 2021.

Figure 6. Historical RBOB front-month futures prices and crack spreads



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

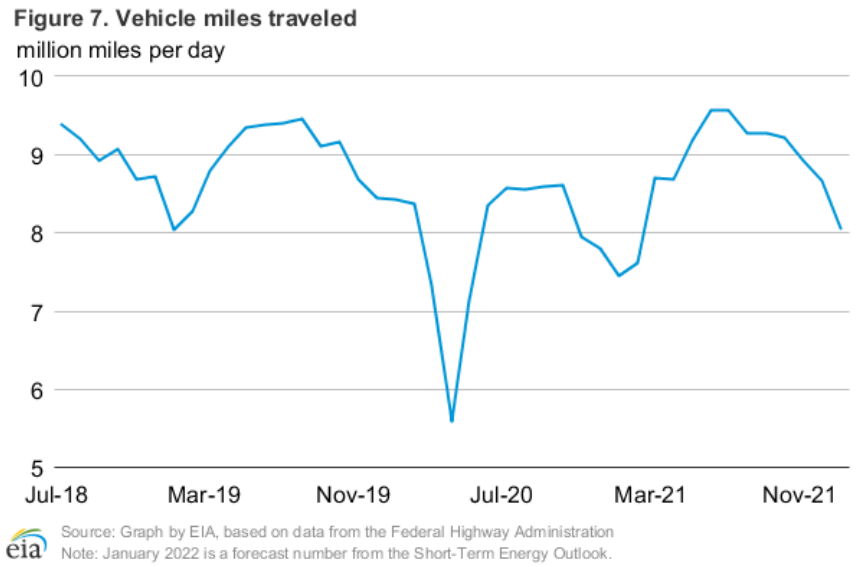
The RBOB–Brent crack spread remains well above the average for this time of year, likely as a result of low gasoline stocks and relatively low gasoline production. Gasoline inventories tend to build in the winter in preparation for the summer driving season, when gasoline demand is at its

highest. However, after building in January, we estimate U.S. gasoline inventories declined to 246 million barrels, a 2.1 million barrel draw in February, putting inventories 4.3 million barrels (1.7%) below the five-year average. Gasoline inventories have been below the five-year average since January 2021. From February 28 to March 3, the RBOB-Brent crack spread increased by 67%, from 39 cents/gal to 65 cents/gal, as oil prices increased.

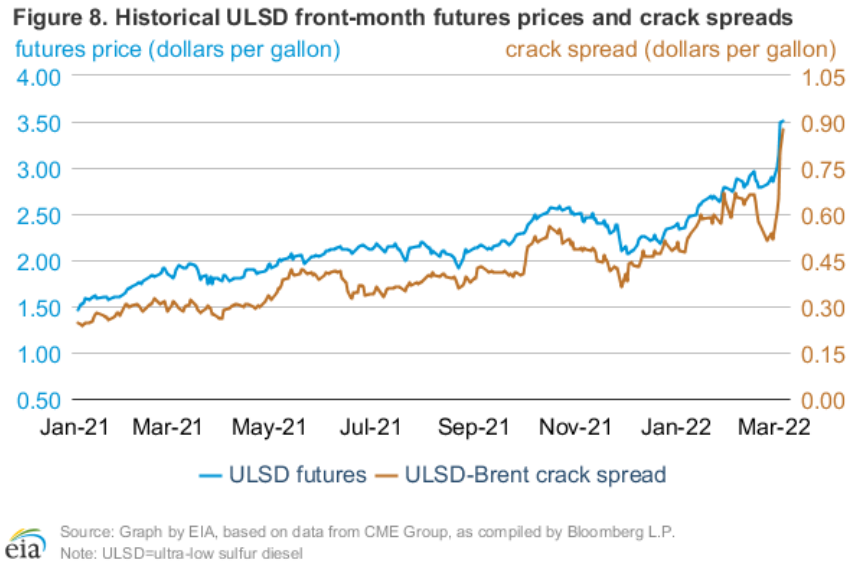
We estimate U.S. gasoline consumption averaged 8.5 million barrels per day (b/d) in February, about 0.5 million b/d (5.7%) below the 2016–2020 average, which for February are the years preceding the effects of the pandemic. Meanwhile, we estimate finished motor gasoline production in February totaled 9.2 million b/d, around 0.5 million b/d (4.9%) below the 2016–2020 average for this time of year. Both planned and unplanned refinery outages, including cold weather-related power outages at several Houston area refineries and an explosion at Marathon's 578,000-b/d Garyville, Louisiana, refinery, likely contributed to lower production and higher crack spreads.

RBOB prices reached $3.31/gal on March 2, the highest price since September 2012. Rising crude oil prices are supporting higher prices for RBOB. Starting from the most recent low of $1.95/gal on December 1, 2021, when news of the outbreak of the Omicron variant created expectations of reduced demand, RBOB prices have increased 68%. One third of the increase happened since February 28.

Gasoline demand: The Federal Highway Administration's (FHWA) report, *Traffic Volume Trends*, estimates vehicle miles traveled based on hourly traffic count data reported by states. Transportation makes up 96% of the end use for motor gasoline, which makes changes in vehicle miles traveled a direct factor on gasoline demand. The latest FHWA report shows total vehicle miles traveled in December 2021 were 268.4 billion, about 1.3% above the five-year (2015–19) average of 264.9 billion. Seasonally adjusted data shows a 1.1 billion mile (0.4%) decline in total vehicle miles traveled from November to December 2021. Total vehicle miles (for both passenger vehicles and trucks) increased for most of 2021, surpassing 2019 levels in every month from June to November **(Figure 7)**. For passenger vehicles alone, November marked the first time since the beginning of the COVID-19 pandemic that total miles traveled in weekly data surpassed 2019 levels. Since then, passenger vehicle miles traveled have been below 2019 levels in every week through February 27. The emergence of the Omicron variant at the end of November may have contributed to less driving in the following months.



Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $3.50/gal on March 3, a 76 cent/gal increase from February 1 **(Figure 8)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 26 cents/gal during the same period and settled at 87 cents/gal on March 3.

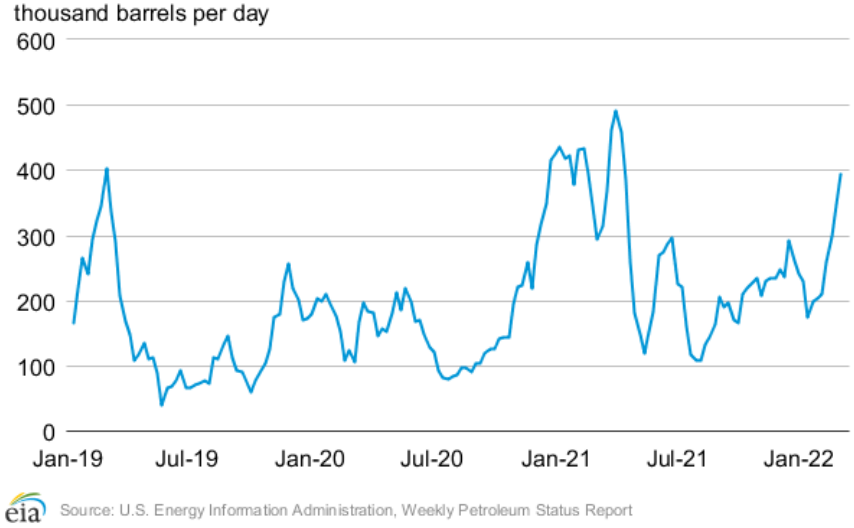


The front-month ULSD contract averaged higher in February than in any month since June 2008. The ULSD–Brent crack spread increased significantly on February 28 and the first three trading days of March because of the possibility of reduced distillate exports from Russia. After a particularly cold January in New England, the U.S. region that relies most heavily on heating oil, ULSD crack spreads began February at 62 cents/gal and reached as high as 67 cents/gal on February 3. Crack spreads decreased in the second half of February due in part to warmer

weather. We estimate that there were 295 (23%) fewer heating degree days in New England in February than in January, contributing to slightly lower consumption for distillate fuel in February than in January. However, our 4.3 million b/d estimate of distillate consumption for February is 0.3 million b/d (8%) higher than in February 2021. One reason for higher distillate demand from a year ago is congestion at U.S. ports leading to increased trucking demand, as shown by the American Trucker's Associations' Truck Tonnage Index. This index measures freight tonnage transported by trucks, which increased 1.2% year-over-year in January 2022. Consistently high demand has resulted in low distillate stocks. We estimate that United States distillate fuel oil stocks totaled 118.4 million barrels in February, the lowest level since May 2018, and 17% lower than the five-year February average. We forecast distillate stocks to begin increasing in May 2022.

East Coast distillate fuel oil imports: Distillate imports into the U.S. East Coast (PADD 1) have recently been increasing, likely due to a combination of lower prices abroad, high demand in the United States, and low domestic stocks. According to our *Weekly Petroleum Status Report*, the four-week average of distillate imports increased every week from January 7 through February 25, and the four-week average of distillate imports to the East Coast was 393,000 b/d as of February 25 **(Figure 9)**. If confirmed in monthly data, this would be the most East Coast distillate imports for the month of February since 2004, likely because of high heating oil demand.

Figure 9. Four-week average of U.S. East Coast distillate fuel oil imports

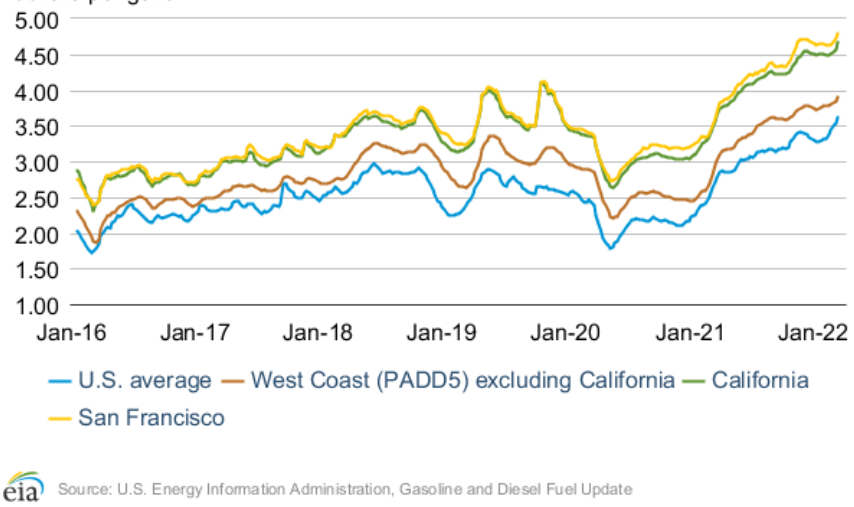


West Coast retail fuel prices: On February 28, the average U.S. regular-grade retail gasoline price was $3.61/gal, the highest price (in nominal terms, meaning not adjusted for inflation) since July 2014 **(Figure 10)**. Over the past two years, the average U.S. gasoline price increased by $1.84/gal (103%) from the pandemic low of $1.77/gal on April 27, 2020. In California, a market with higher and more variable prices than other states, prices have increased more than in any other state. The average California price has increased by $2.04/gal (77%) from the pandemic low of $2.64/gal to average $4.67/gal as of February 28, the highest nominal price according to

data going back to 2000. San Francisco's average price of $4.80/gal is the highest price in city-level data and the highest nominal price on record for any city in data going back to 2000.

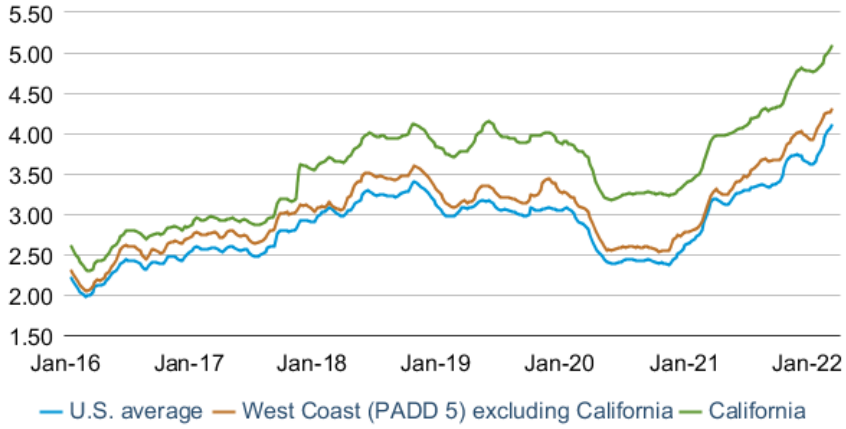
Crude oil prices are the most important factor in determining gasoline prices, making up 56% of the total cost to produce a gallon of gasoline in January 2022. In addition, refinery closures could be contributing to higher prices in the West as suppliers rely more on imports and structurally different supply sources. We forecast West Coast gasoline prices to continue to increase through May as higher crude oil prices increase the cost to produce gasoline.

Figure 10. Nominal U.S. and West Coast weekly regular retail gasoline prices



The nominal average retail price for on-highway diesel in the United States exceeded $4.00/gal on February 14 for the first time since March 17, 2014, and was $4.10/gal on February 28 **(Figure 11)**. Crude oil prices are the primary driver of U.S. retail diesel prices, making up 51% of the total cost to produce a gallon of diesel in January 2022. On the West Coast (PADD 5), excluding California, the average retail diesel price was $4.30/gal on February 28. In California, the average retail diesel price was $5.08/gal on February 28, which when adjusting for inflation is the highest retail diesel price in California since September 2013.

Figure 11. Nominal U.S. and West Coast weekly retail diesel prices

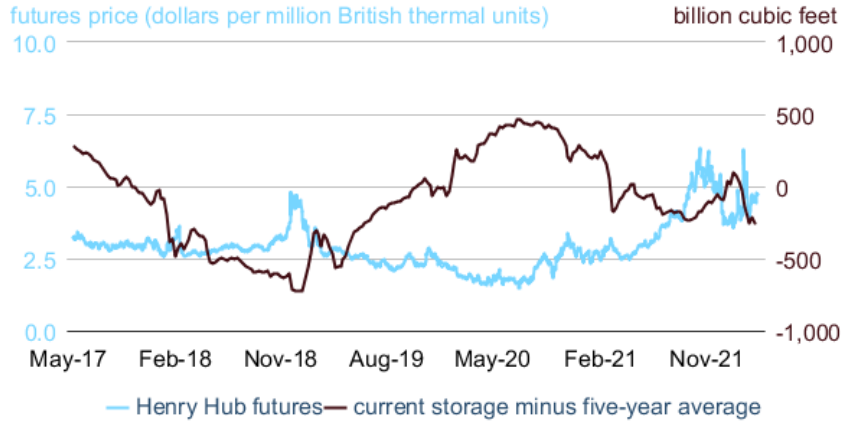


Source: U.S. Energy Information Administration, Gasoline and Diesel Fuel Update

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub was $4.72 per million British thermal units (MMBtu) on March 3, 2022, which was down 3 cents from February 1, 2022 **(Figure 12)**. The average closing price for front-month natural gas futures prices in February was $4.46/MMBtu, the highest February monthly average in real terms since February 2014.

Figure 12. U.S. natural gas front-month futures prices and current storage deviation from five-year average



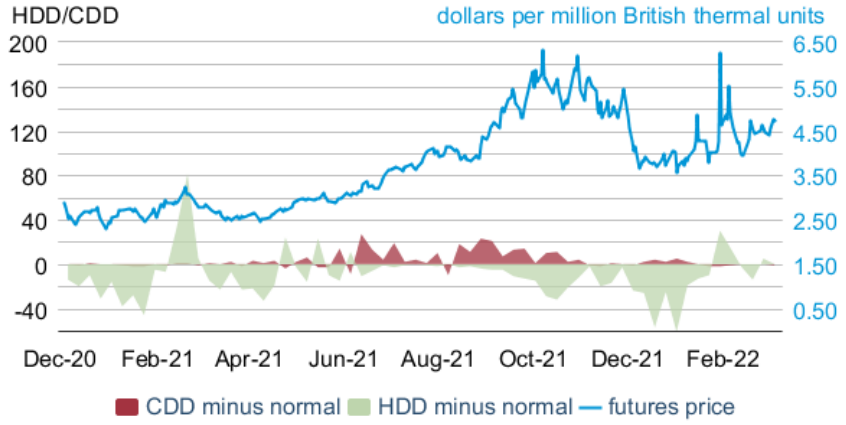
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

Natural gas storage withdrawals outpaced the five-year (2017−2021) average at the beginning of February. Colder-than-normal weather during the second half of January and early February contributed to higher-than-average consumption of natural gas used for space heating in the residential and commercial sectors, resulting in increased natural gas storage withdrawals.

Weekly storage withdrawals for the Lower 48 states during most of January and early February (weeks ending January 14 to February 11) each totaled at least 190 billion cubic feet (Bcf), compared with a five-year average range of 150 Bcf–167 Bcf for those same weeks. As a result, total inventories fell to 12% below the five-year average as of February 11.

Despite the colder-than-normal temperatures in early February, the weather across the country was near the 10-year average for the entire month. For February, heating degree days (HDDs) totaled 696, which is 1% fewer than the 10-year average **(Figure 13)**. The cold start to February followed by warmer-than-normal weather for the rest of the month contributed to storage inventories ending February at 1,626 Bcf, or 13% below the five-year average.

Figure 13. Natural gas front-month futures prices and actual minus historical average HDD and CDD



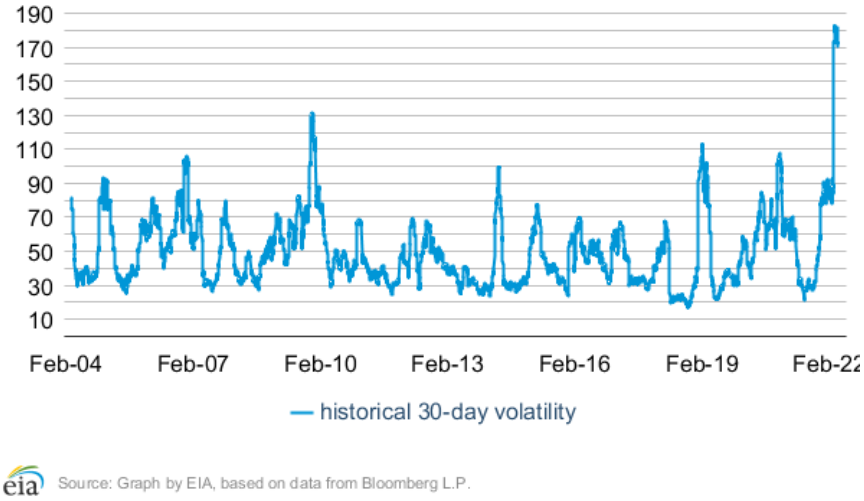
Sources: CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.
Note: HDD=heating degree days, CDD=cooling degree days.

Warmer weather on average in February compared with January contributed to a decrease in natural gas consumption in the residential and commercial sectors, which averaged an estimated combined 45.5 billion cubic feet per day (Bcf/d) in February, down 4.1 Bcf/d (8%) from January. Natural gas consumption in the electric power sector was also down in February, averaging 28.4 Bcf/d, or 2.3 Bcf/d (7%) less than in January. Despite the decrease in natural gas consumption compared with January, natural gas futures prices increased in February and remained above $4/MMBtu. Prices were supported by below-average inventories and by high demand for U.S. liquefied natural gas (LNG) exports – a result of high international prices. We estimate U.S. LNG exports were 10.9 Bcf/d in February, down 0.3 Bcf/d from January and up 3.5 Bcf/d from February 2021. We forecast U.S. LNG exports to increase to 13.0 Bcf/d by the end of 2022 and average 12.1 Bcf/d in 2023.

Historical volatility: Volatility of U.S. natural gas futures prices has risen during the past seven months, reaching record-high levels in February **(Figure 14)**. Historical volatility measures the magnitude of daily changes in the closing price for a commodity during a specific time in the past. Based on rolling front-month contracts, the 30-day historical volatility of the U.S. natural

gas futures price was 179.1% for February, almost doubling from January. The previous record natural gas price volatility for any month was October 2009, when the historical volatility averaged 123.8%. The historical volatility of the natural gas futures price at the Henry Hub in February has corresponded with volatility at international pricing hubs in Europe and Asia. Daily front-month natural gas futures prices ranged from a monthly intraday high of $5.57/MMBtu on February 2 to a low of $3.88/MMBtu on February 11.

Figure 14. Natural gas historical volatility



eia Source: Graph by EIA, based on data from Bloomberg L.P.

Notable forecast changes

- We forecast the Brent crude oil spot price will average $105/b in 2022, which is $22/b more than we forecast in the February STEO. The higher price forecast partly reflects the uncertainties about disruptions to supply and additional sanctions related to Russia's further invasion of Ukraine. It also reflects a reduction in our forecast of OECD inventories throughout the forecast. The increase in crude oil prices in the forecast also results in higher prices for gasoline and diesel fuel in 2022 compared with last month's forecast.

- We forecast U.S. crude oil production to average 13.0 million b/d in 2023, 0.4 million b/d more than in last month's forecast. The higher production forecast is the result of higher forecast crude oil prices.

- Our forecast for Russia's liquid fuels production averages 10.8 million b/d in both 2022 and 2023, which is unchanged from 2021, but 0.7 million b/d and 1.1 million b/d lower, respectively, than we forecast in the February STEO.

- We forecast global oil inventories will rise by 0.4 million b/d in both 2022 and 2023. Our current expectation for 2022 inventory builds are 0.4 million b/d less than forecast last month and builds for 2023 are 0.6 million b/d less.
- For more information, see the detailed table of forecast changes.

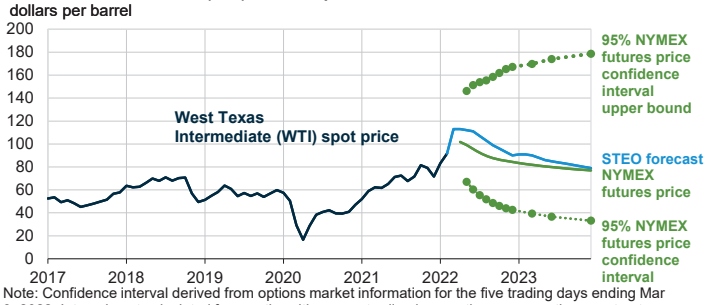
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

March 8, 2022

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

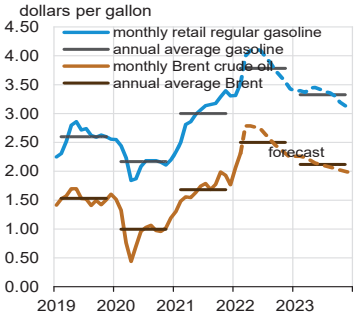


Note: Confidence interval derived from options market information for the five trading days ending Mar 3, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

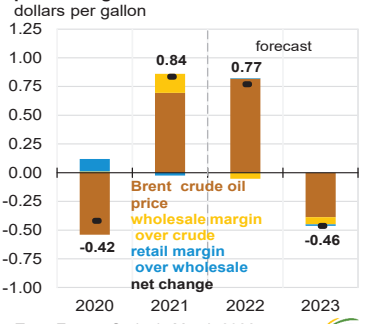
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



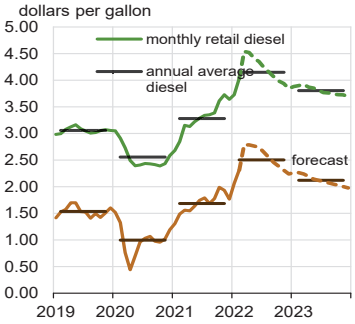
Components of annual gasoline price changes
dollars per gallon



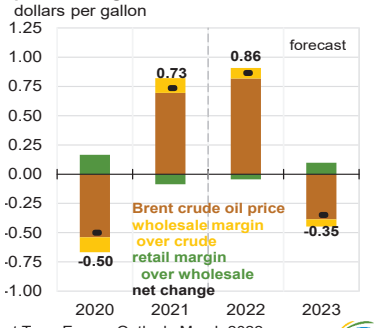
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices

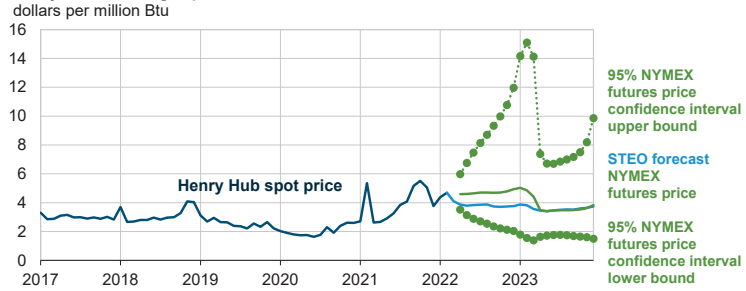


Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022, and Refinitiv an LSEG Business

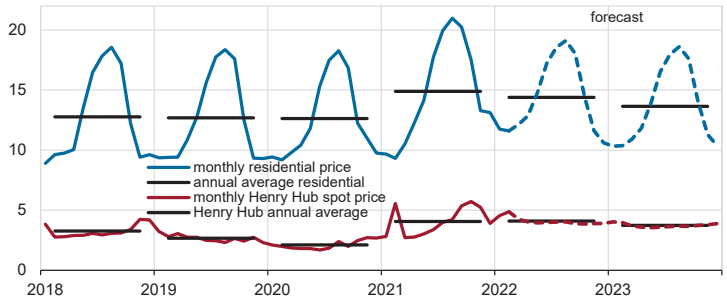
Henry Hub natural gas price and NYMEX confidence intervals



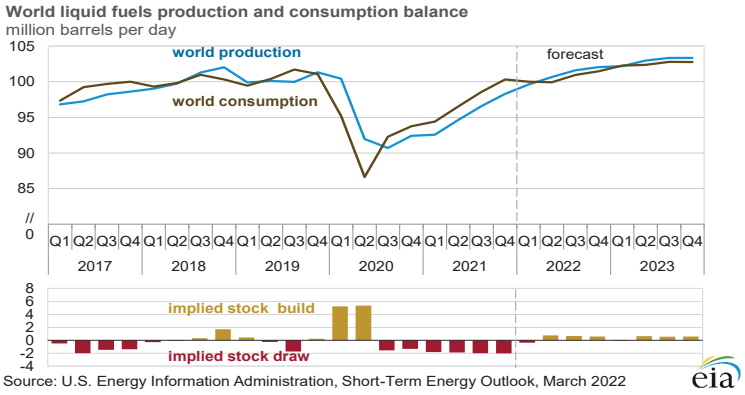
Note: Confidence interval derived from options market information for the five trading days ending Mar 3, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022, CME Group, and Refinitiv an LSEG Business

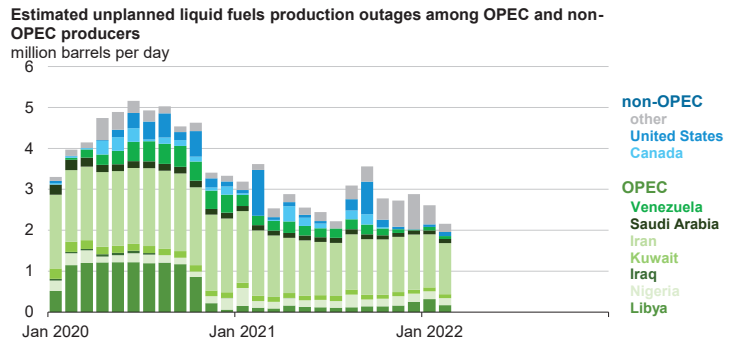
U.S. natural gas prices



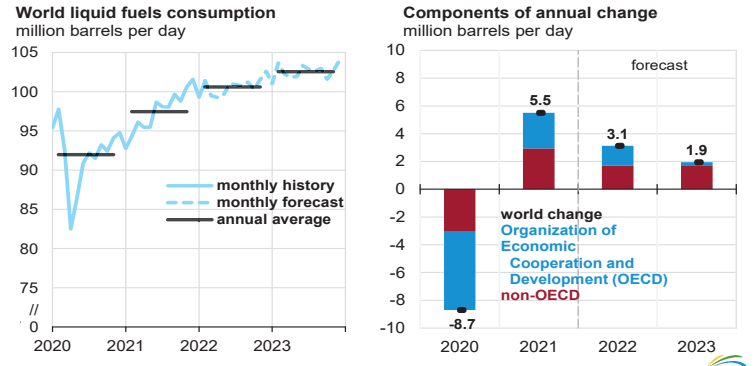
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022, and Refinitiv an LSEG Business



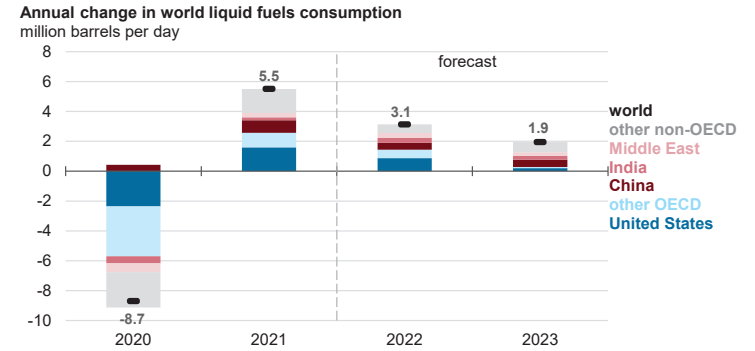
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



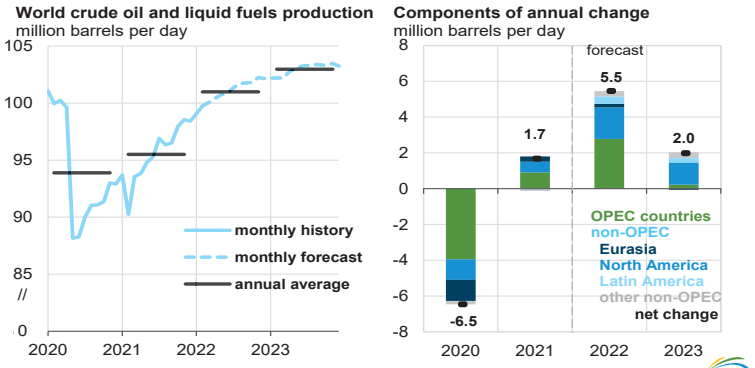
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



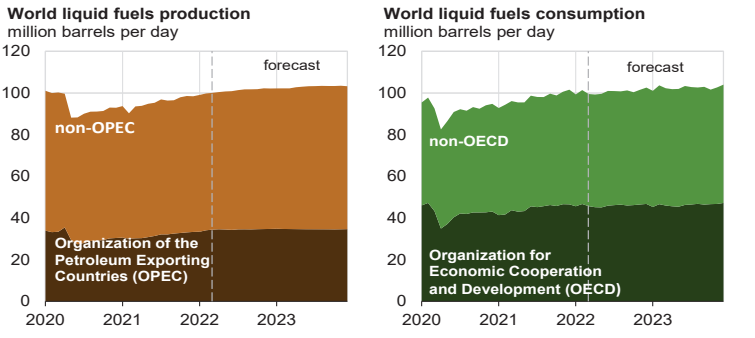
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

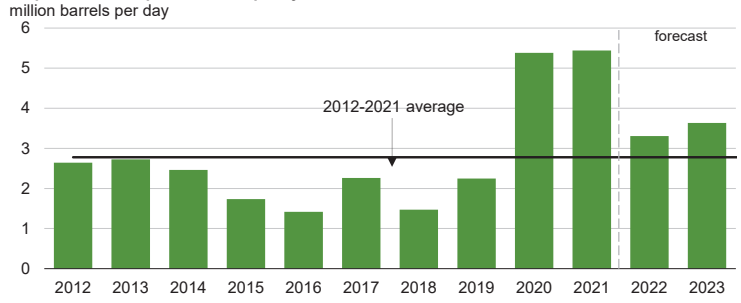


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



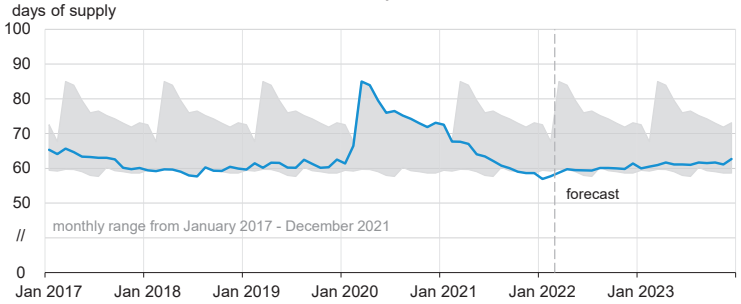
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



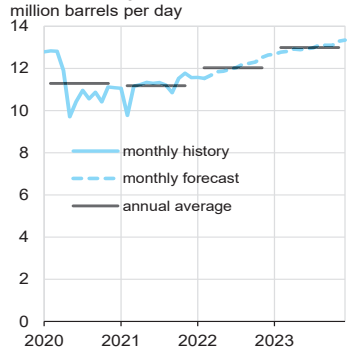
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

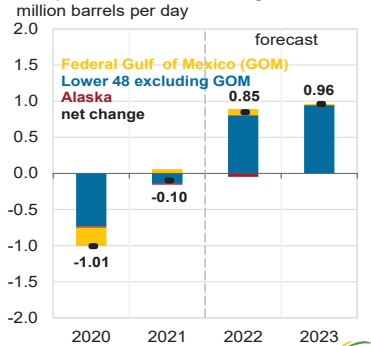


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

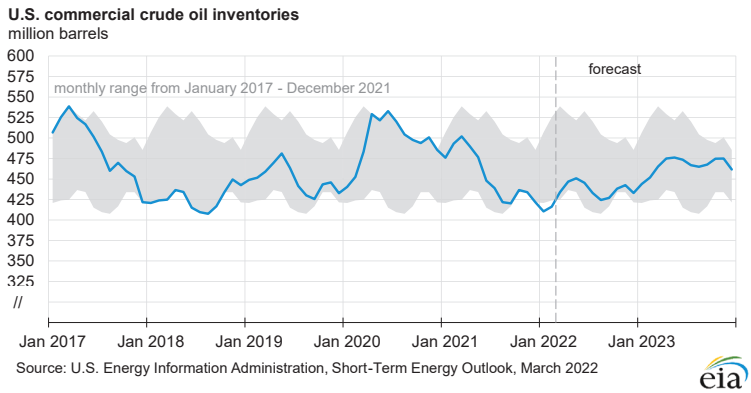
U.S. crude oil production
million barrels per day

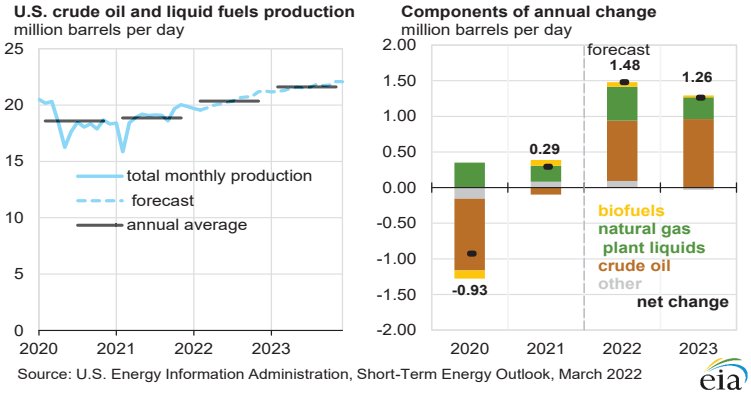


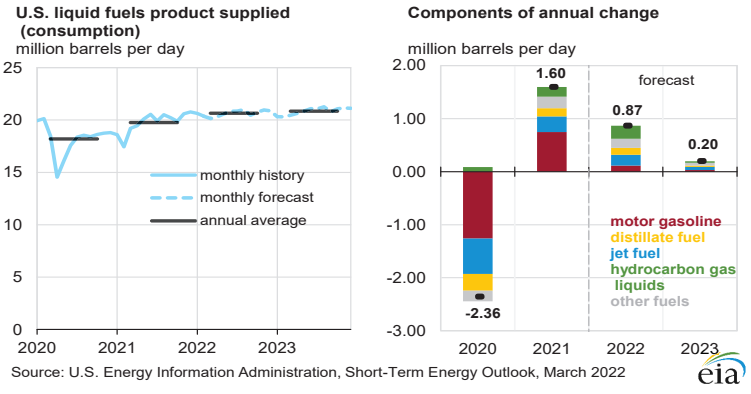
Components of annual change
million barrels per day



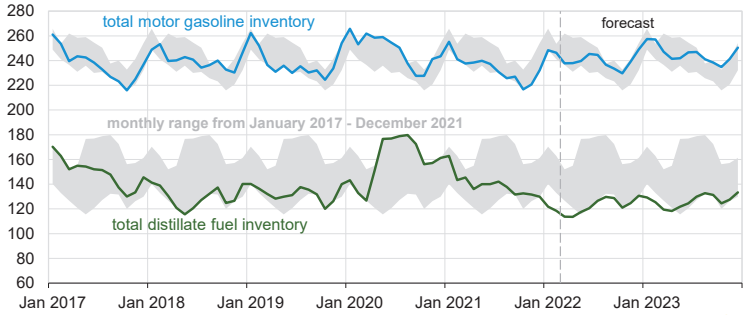
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2017 - December 2021
forecast
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022
eia


U.S. crude oil and liquid fuels production
million barrels per day
25
20
15
10
5
0
total monthly production
forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
forecast
1.48
1.26
0.29
-0.93
biofuels
natural gas
plant liquids
crude oil
other
net change
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022
eia

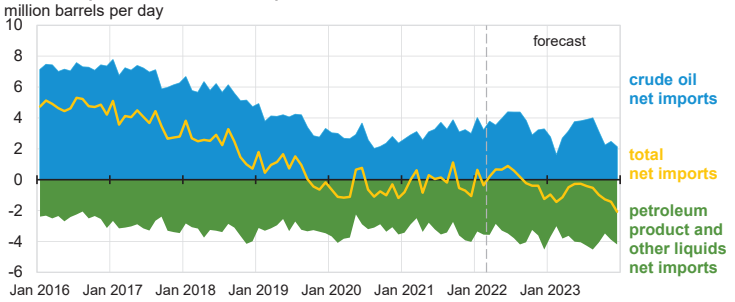

U.S. liquid fuels product supplied (consumption)
million barrels per day
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
2.00
1.00
0.00
-1.00
-2.00
-3.00
1.60
forecast
0.87
0.20
-2.36
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022
eia

U.S. gasoline and distillate inventories
million barrels



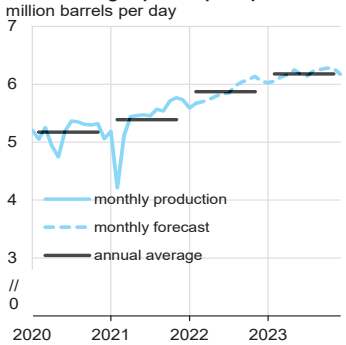
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

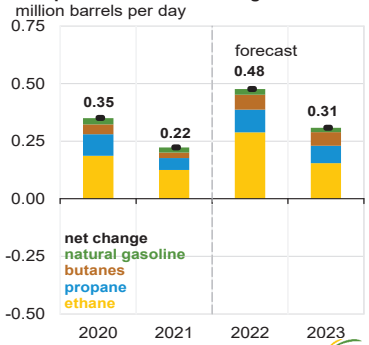


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

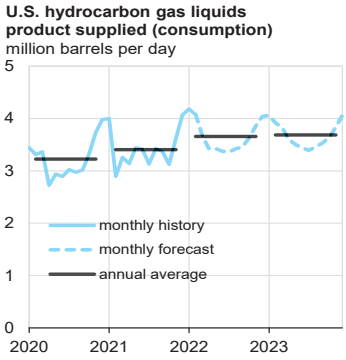
U.S. natural gas plant liquids production
million barrels per day

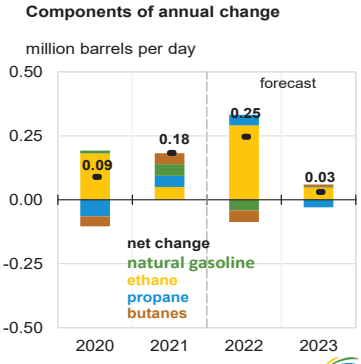


Components of annual change
million barrels per day

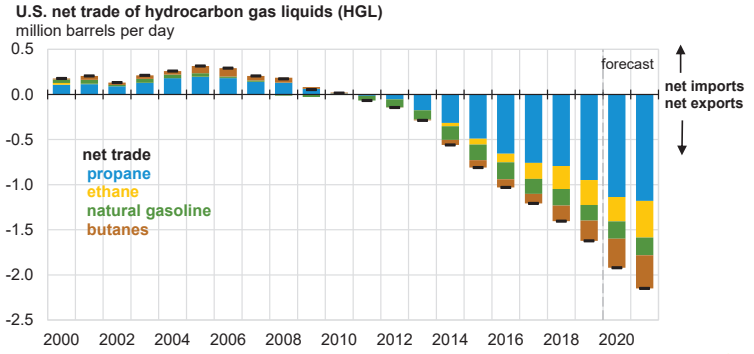


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

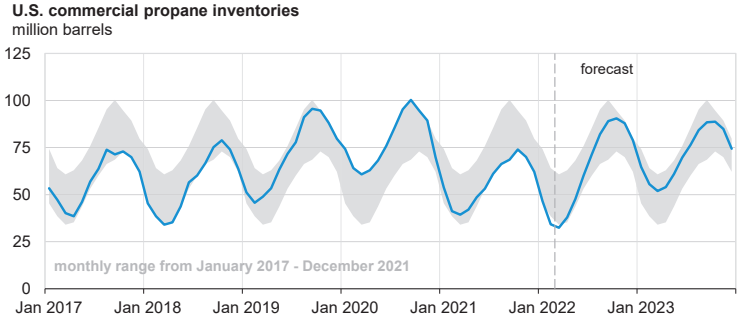




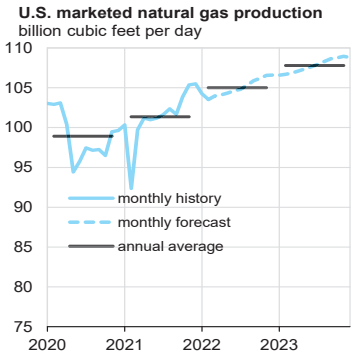
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

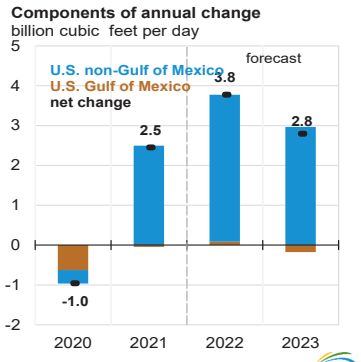


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

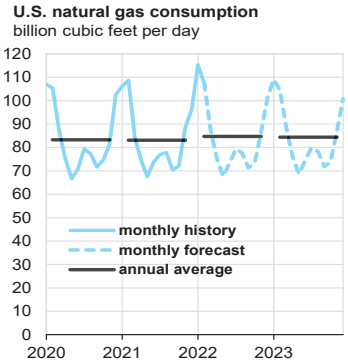


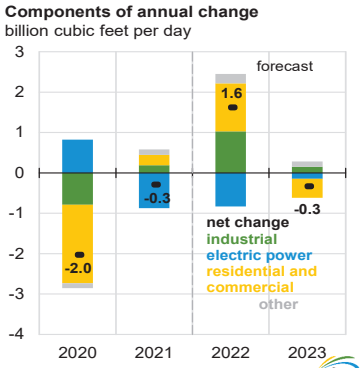
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



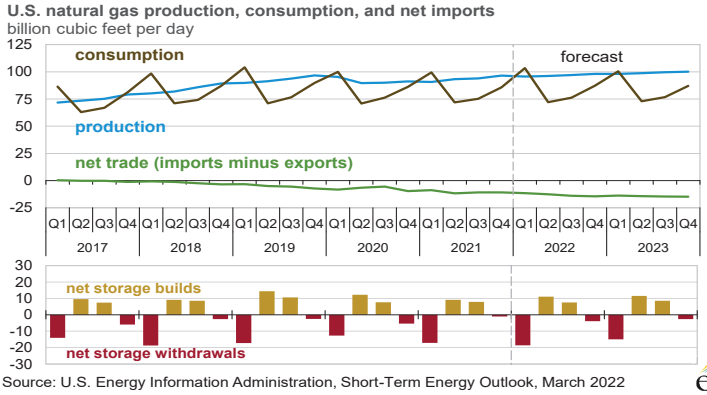


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

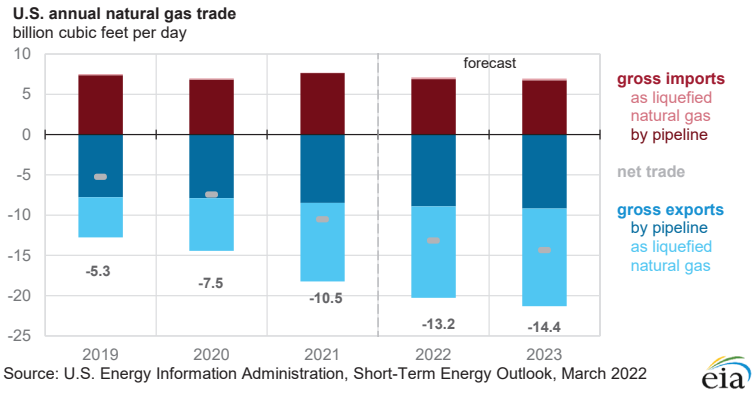




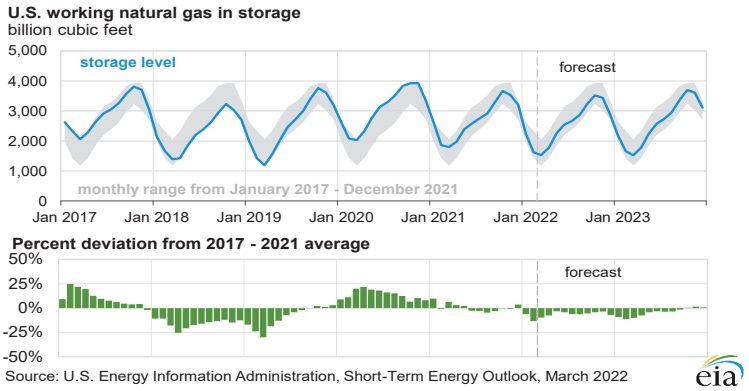
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



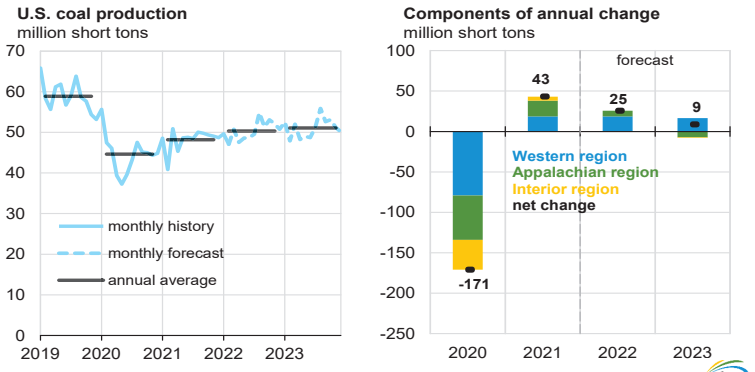
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



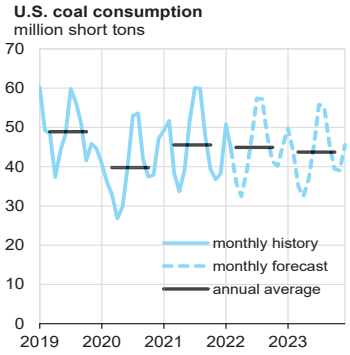
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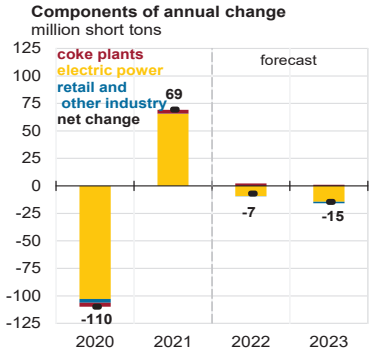


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

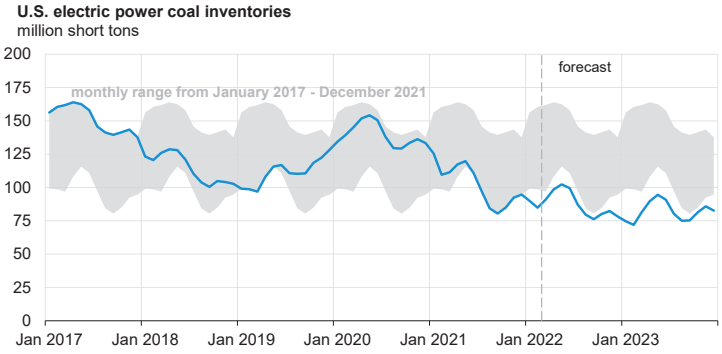


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

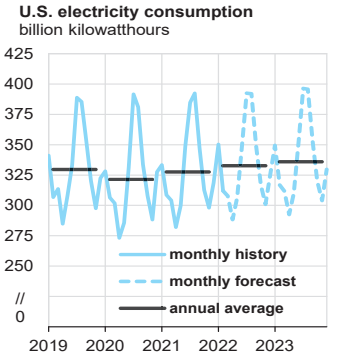


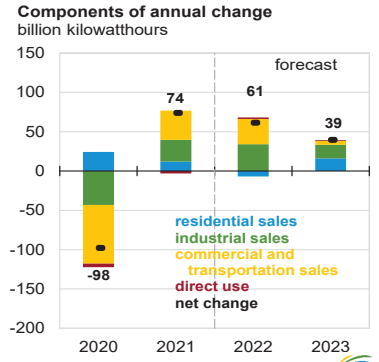


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



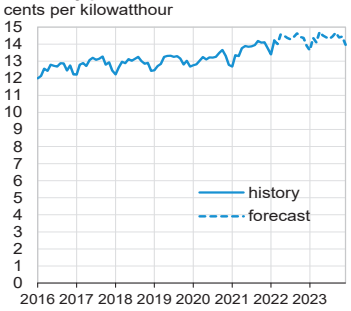
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



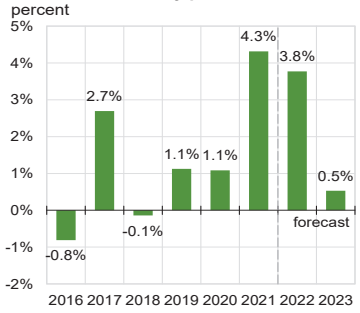


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

U.S. monthly nominal residential electricity price
cents per kilowatthour

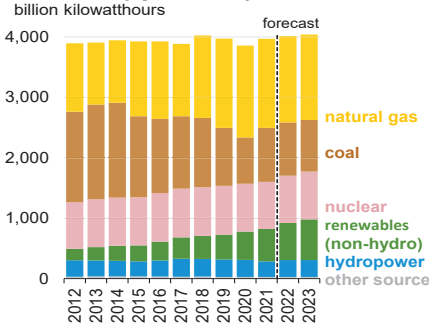


Annual growth in nominal residential electricity prices
percent

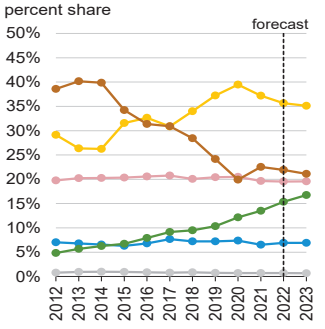


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

U.S. electricity generation by source, all sectors
billion kilowatthours

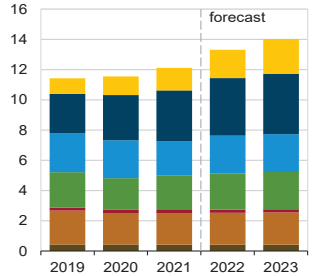


percent share

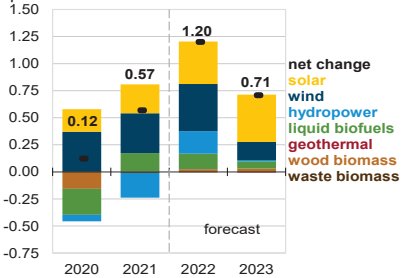


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

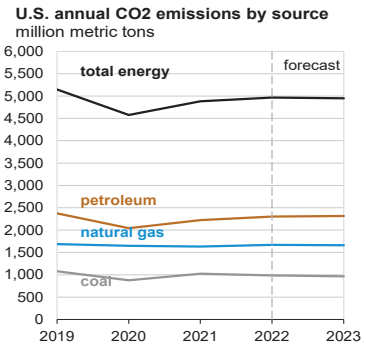
U.S. renewable energy supply
quadrillion British thermal units

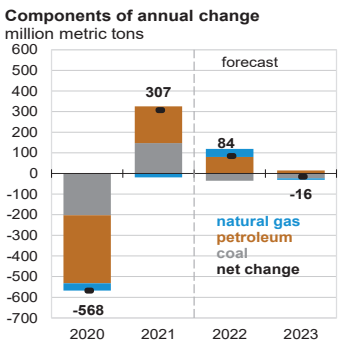


Components of annual change
quadrillion British thermal units

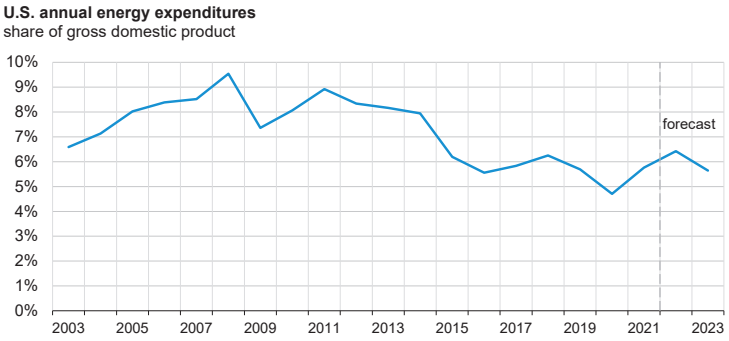


Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biommas includes municipal waste from biogenic sources, landfill gas, and non-wood waste.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

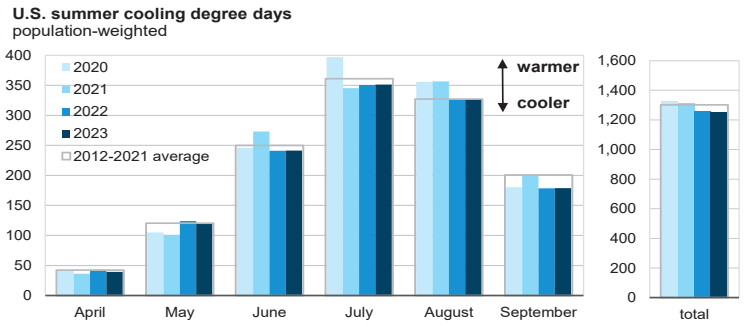




Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



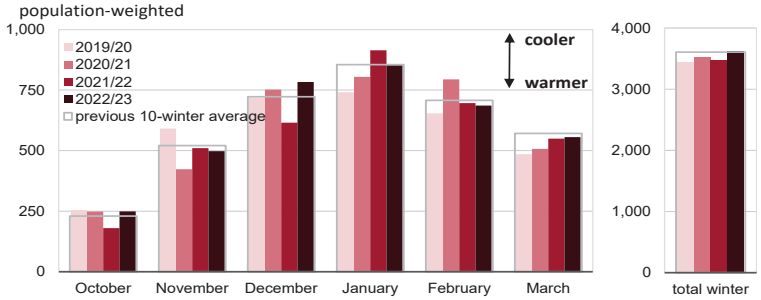
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

U.S. winter heating degree days
population-weighted

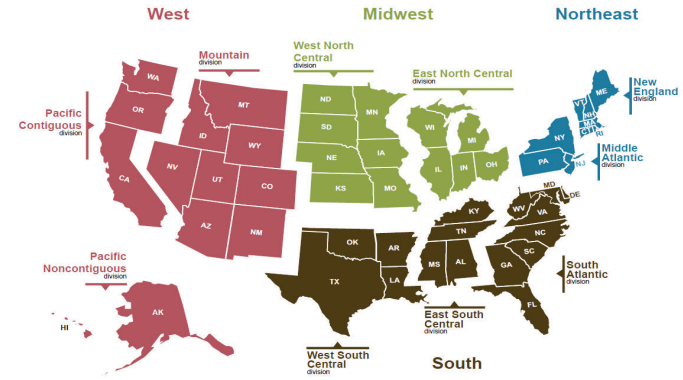


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2022

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U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

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Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.13**	**11.62**	*11.59*	*11.89*	*12.15*	*12.48*	*12.75*	*12.91*	*13.06*	*13.24*	**11.18**	*12.03*	*12.99*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.57**	*95.69*	*96.09*	*96.97*	*98.00*	*98.11*	*98.75*	*99.60*	*100.10*	**93.56**	*96.69*	*99.15*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	*147*	*145*	*156*	*156*	*152*	*146*	*160*	*154*	**578**	*604*	*613*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.41**	*20.38*	*20.58*	*20.77*	*20.85*	*20.36*	*20.86*	*21.03*	*21.11*	**19.78**	*20.65*	*20.84*
Natural Gas															
(billion cubic feet per day)	**99.44**	**71.95**	**75.09**	**85.64**	*103.32*	*72.03*	*76.15*	*87.13*	*100.47*	*72.98*	*76.73*	*87.08*	**82.97**	*84.59*	*84.26*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	*131*	*119*	*162*	*127*	*129*	*115*	*157*	*124*	**546**	*539*	*524*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	*10.78*	*10.38*	*12.33*	*10.25*	*10.87*	*10.49*	*12.44*	*10.36*	**10.77**	*10.94*	*11.04*
Renewables (c)															
(quadrillion Btu)	**2.94**	**3.15**	**2.94**	**3.12**	*3.31*	*3.53*	*3.21*	*3.27*	*3.45*	*3.72*	*3.40*	*3.46*	**12.15**	*13.31*	*14.03*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.03**	**23.14**	**24.52**	**24.46**	*26.27*	*23.67*	*25.00*	*25.24*	*26.14*	*23.95*	*25.28*	*25.51*	**97.14**	*100.18*	*100.88*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	*96.85*	*111.97*	*102.94*	*92.95*	*90.63*	*86.25*	*83.00*	*80.03*	**68.21**	*101.17*	*84.98*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	*4.39*	*3.83*	*3.83*	*3.73*	*3.75*	*3.45*	*3.52*	*3.66*	**3.91**	*3.95*	*3.59*
Coal															
(dollars per million Btu)	**1.91**	**1.92**	**2.03**	**2.05**	*1.80*	*1.74*	*1.58*	*1.58*	*1.59*	*1.61*	*1.60*	*1.59*	**1.98**	*1.67*	*1.60*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	*19,884*	*20,079*	*20,218*	*20,352*	*20,475*	*20,609*	*20,749*	*20,901*	**19,427**	*20,133*	*20,684*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	*4.3*	*3.7*	*3.8*	*2.8*	*3.0*	*2.6*	*2.6*	*2.7*	**5.7**	*3.6*	*2.7*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	*122.5*	*123.7*	*124.6*	*125.3*	*125.9*	*126.6*	*127.4*	*128.1*	**118.5**	*124.0*	*127.0*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.8**	*5.7*	*5.3*	*4.5*	*3.3*	*2.8*	*2.4*	*2.2*	*2.3*	**4.2**	*4.7*	*2.4*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,633**	**15,401**	*15,236*	*15,370*	*15,513*	*15,617*	*15,761*	*15,875*	*15,991*	*16,112*	**16,015**	*15,434*	*15,935*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**-0.3**	*-11.5*	*-2.8*	*-0.8*	*1.4*	*3.4*	*3.3*	*3.1*	*3.2*	**2.2**	*-3.6*	*3.2*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**99.7**	**100.9**	*101.9*	*103.6*	*104.5*	*105.5*	*106.4*	*107.3*	*108.0*	*108.8*	**99.2**	*103.9*	*107.6*
Percent change from prior year	**-0.2**	**17.2**	**5.9**	**4.4**	*4.7*	*4.9*	*4.8*	*4.6*	*4.4*	*3.6*	*3.3*	*3.1*	**6.5**	*4.8*	*3.6*
Weather															
U.S. Heating Degree-Days	**2,106**	**472**	**51**	**1,306**	*2,160*	*483*	*74*	*1,531*	*2,094*	*484*	*74*	*1,529*	**3,935**	*4,247*	*4,182*
U.S. Cooling Degree-Days	**49**	**410**	**901**	**127**	*44*	*408*	*856*	*94*	*43*	*400*	*857*	*95*	**1,488**	*1,401*	*1,395*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	*96.85*	*111.97*	*102.94*	*92.95*	*90.63*	*86.25*	*83.00*	*80.03*	**68.21**	*101.17*	*84.98*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	*101.08*	*115.97*	*106.94*	*96.95*	*94.63*	*90.25*	*87.00*	*84.03*	**70.89**	*105.22*	*88.98*
U.S. Imported Average	**55.27**	**64.80**	**68.38**	**75.42**	*93.64*	*109.43*	*100.64*	*90.12*	*87.86*	*83.48*	*80.33*	*77.26*	**66.32**	*99.04*	*82.16*
U.S. Refiner Average Acquisition Cost	**57.12**	**66.11**	**70.30**	**76.97**	*94.70*	*110.48*	*101.53*	*91.16*	*88.90*	*84.54*	*81.28*	*78.23*	**67.98**	*99.62*	*83.12*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	*285*	*327*	*303*	*265*	*257*	*262*	*252*	*231*	**219**	*295*	*250*
Diesel Fuel	**178**	**204**	**219**	**241**	*295*	*329*	*303*	*280*	*269*	*260*	*254*	*248*	**211**	*302*	*257*
Fuel Oil	**162**	**180**	**197**	**222**	*279*	*304*	*282*	*268*	*264*	*247*	*236*	*238*	**188**	*281*	*255*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	*283*	*319*	*301*	*279*	*268*	*257*	*251*	*246*	**195**	*296*	*255*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	*214*	*261*	*246*	*221*	*226*	*217*	*210*	*203*	**190**	*234*	*214*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	*362*	*410*	*388*	*354*	*338*	*344*	*335*	*314*	**302**	*379*	*333*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	*372*	*421*	*400*	*368*	*352*	*357*	*348*	*328*	**311**	*391*	*346*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	*410*	*443*	*415*	*392*	*390*	*384*	*376*	*371*	**329**	*415*	*380*
Heating Oil	**272**	**283**	**297**	**346**	*392*	*404*	*376*	*366*	*364*	*343*	*326*	*330*	**300**	*385*	*348*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	*4.56*	*3.98*	*3.98*	*3.88*	*3.89*	*3.58*	*3.65*	*3.80*	**4.06**	*4.10*	*3.73*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	*4.39*	*3.83*	*3.83*	*3.73*	*3.75*	*3.45*	*3.52*	*3.66*	**3.91**	*3.95*	*3.59*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.10**	**6.87**	*5.88*	*5.09*	*4.91*	*5.15*	*5.35*	*4.62*	*4.52*	*4.95*	**5.50**	*5.27*	*4.88*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	*9.58*	*9.75*	*9.83*	*8.66*	*8.42*	*8.78*	*9.12*	*8.24*	**8.82**	*9.37*	*8.51*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.82**	*11.80*	*14.25*	*18.54*	*11.52*	*10.50*	*13.37*	*18.03*	*11.23*	**12.27**	*12.54*	*11.70*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.92**	**2.03**	**2.05**	*1.80*	*1.74*	*1.58*	*1.58*	*1.59*	*1.61*	*1.60*	*1.59*	**1.98**	*1.67*	*1.60*
Natural Gas	**7.23**	**3.26**	**4.36**	**5.42**	*4.84*	*3.98*	*3.91*	*4.00*	*4.23*	*3.56*	*3.58*	*3.93*	**4.97**	*4.16*	*3.80*
Residual Fuel Oil (c)	**11.28**	**13.08**	**14.21**	**16.10**	*15.74*	*20.52*	*19.72*	*17.95*	*17.18*	*17.30*	*15.97*	*15.30*	**13.66**	*18.16*	*16.42*
Distillate Fuel Oil	**13.54**	**15.20**	**16.20**	**18.03**	*20.96*	*24.88*	*23.25*	*21.52*	*20.68*	*19.95*	*19.42*	*19.06*	**15.50**	*22.34*	*19.85*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	*7.28*	*7.04*	*7.58*	*7.24*	*7.22*	*7.02*	*7.53*	*7.21*	**7.26**	*7.29*	*7.25*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	*11.60*	*11.59*	*11.91*	*11.60*	*11.75*	*11.62*	*11.93*	*11.61*	**11.27**	*11.68*	*11.74*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	*13.85*	*14.46*	*14.43*	*14.22*	*14.02*	*14.52*	*14.47*	*14.25*	**13.72**	*14.24*	*14.32*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.07**	**30.74**	**31.07**	**32.25**	*32.27*	*32.65*	*32.97*	*33.73*	*34.13*	*34.37*	*34.44*	*34.84*	**31.04**	*32.91*	*34.45*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.86**	*19.66*	*20.10*	*20.57*	*21.06*	*21.23*	*21.53*	*21.72*	*21.98*	**18.87**	*20.35*	*21.61*
Canada	**5.62**	**5.37**	**5.49**	**5.76**	*5.87*	*5.83*	*5.85*	*5.86*	*5.91*	*5.88*	*5.89*	*5.90*	**5.56**	*5.85*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	*1.94*	*1.93*	*1.89*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.91*	*1.85*
Other OECD	**4.91**	**4.37**	**4.74**	**4.71**	*4.79*	*4.78*	*4.66*	*4.95*	*5.08*	*5.10*	*5.00*	*5.17*	**4.68**	*4.80*	*5.09*
Non-OECD	**62.51**	**63.91**	**65.52**	**66.04**	*67.35*	*68.02*	*68.64*	*68.33*	*68.07*	*68.63*	*68.91*	*68.50*	**64.51**	*68.09*	*68.53*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	*34.00*	*34.48*	*34.57*	*34.71*	*34.78*	*34.63*	*34.62*	*34.61*	**31.66**	*34.44*	*34.66*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.66**	*28.44*	*29.05*	*29.09*	*29.19*	*29.24*	*29.22*	*29.16*	*29.11*	**26.28**	*28.95*	*29.18*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	*5.56*	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	*14.32*	*13.66*	*13.83*	*13.92*	*13.94*	*13.82*	*13.82*	*13.91*	**13.70**	*13.93*	*13.87*
China	**4.99**	**5.03**	**5.01**	**4.94**	*5.04*	*5.04*	*5.04*	*5.08*	*5.06*	*5.09*	*5.08*	*5.13*	**4.99**	*5.05*	*5.09*
Other Non-OECD	**13.79**	**14.38**	**14.64**	**13.78**	*14.00*	*14.84*	*15.20*	*14.62*	*14.29*	*15.08*	*15.38*	*14.85*	**14.15**	*14.67*	*14.91*
Total World Production	**92.58**	**94.65**	**96.59**	**98.29**	*99.62*	*100.67*	*101.61*	*102.06*	*102.20*	*103.00*	*103.35*	*103.34*	**95.55**	*101.00*	*102.97*
Non-OPEC Production	**62.23**	**63.77**	**64.31**	**65.20**	*65.62*	*66.19*	*67.04*	*67.35*	*67.42*	*68.36*	*68.72*	*68.73*	**63.89**	*66.56*	*68.31*
Consumption (million barrels per day) (c)															
OECD	**42.30**	**44.00**	**45.72**	**46.32**	*46.00*	*45.41*	*46.22*	*46.50*	*45.96*	*45.78*	*46.59*	*46.89*	**44.60**	*46.03*	*46.31*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	*20.38*	*20.58*	*20.77*	*20.86*	*20.36*	*20.86*	*21.03*	*21.11*	**19.78**	*20.65*	*20.84*
U.S. Territories	**0.20**	**0.18**	**0.18**	**0.19**	*0.20*	*0.18*	*0.19*	*0.20*	*0.19*	*0.17*	*0.17*	*0.18*	**0.19**	*0.19*	*0.18*
Canada	**2.12**	**2.16**	**2.41**	**2.37**	*2.30*	*2.29*	*2.41*	*2.39*	*2.38*	*2.33*	*2.43*	*2.40*	**2.27**	*2.35*	*2.38*
Europe	**11.91**	**12.62**	**13.83**	**13.67**	*13.22*	*13.28*	*13.62*	*13.31*	*13.18*	*13.34*	*13.74*	*13.50*	**13.01**	*13.36*	*13.44*
Japan	**3.73**	**3.08**	**3.18**	**3.56**	*3.76*	*3.09*	*3.20*	*3.55*	*3.68*	*3.08*	*3.18*	*3.50*	**3.39**	*3.40*	*3.36*
Other OECD	**5.89**	**5.92**	**5.90**	**6.12**	*6.14*	*5.99*	*6.03*	*6.19*	*6.17*	*6.01*	*6.04*	*6.18*	**5.96**	*6.09*	*6.10*
Non-OECD	**52.11**	**52.54**	**52.87**	**54.00**	*54.01*	*54.52*	*54.75*	*55.00*	*56.32*	*56.58*	*56.21*	*55.87*	**52.88**	*54.57*	*56.24*
Eurasia	**4.65**	**4.73**	**5.08**	**4.94**	*4.77*	*4.68*	*5.06*	*4.97*	*4.75*	*4.91*	*5.25*	*5.16*	**4.85**	*4.87*	*5.02*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	*0.76*	*0.76*	*0.77*	*0.78*	*0.76*	*0.78*	*0.78*	*0.79*	**0.75**	*0.77*	*0.78*
China	**15.27**	**15.48**	**14.99**	**15.33**	*15.55*	*15.86*	*15.60*	*15.91*	*16.64*	*16.54*	*15.90*	*15.82*	**15.27**	*15.73*	*16.22*
Other Asia	**13.61**	**13.16**	**13.01**	**13.89**	*14.02*	*14.15*	*13.76*	*14.16*	*14.84*	*14.81*	*14.22*	*14.52*	**13.42**	*14.02*	*14.60*
Other Non-OECD	**17.84**	**18.43**	**19.04**	**19.08**	*18.91*	*19.07*	*19.55*	*19.18*	*19.33*	*19.54*	*20.06*	*19.59*	**18.60**	*19.18*	*19.63*
Total World Consumption	**94.41**	**96.53**	**98.58**	**100.32**	*100.01*	*99.93*	*100.97*	*101.49*	*102.28*	*102.37*	*102.80*	*102.76*	**97.48**	*100.61*	*102.55*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	*0.59*	*-0.47*	*-0.20*	*0.31*	*0.08*	*-0.54*	*-0.27*	*0.57*	**0.53**	*0.06*	*-0.04*
Other OECD	**0.81**	**0.14**	**0.96**	**0.27**	*-0.06*	*-0.08*	*-0.14*	*-0.28*	*0.00*	*-0.03*	*-0.09*	*-0.37*	**0.54**	*-0.14*	*-0.12*
Other Stock Draws and Balance	**0.56**	**1.24**	**0.66**	**0.98**	*-0.14*	*-0.18*	*-0.30*	*-0.60*	*0.00*	*-0.06*	*-0.19*	*-0.79*	**0.86**	*-0.31*	*-0.26*
Total Stock Draw	**1.83**	**1.88**	**1.99**	**2.02**	*0.40*	*-0.74*	*-0.64*	*-0.57*	*0.08*	*-0.63*	*-0.55*	*-0.58*	**1.93**	*-0.39*	*-0.42*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	*1,167*	*1,249*	*1,267*	*1,246*	*1,247*	*1,304*	*1,326*	*1,284*	**1,194**	*1,246*	*1,284*
OECD Commercial Inventory	**2,911**	**2,868**	**2,749**	**2,677**	*2,656*	*2,745*	*2,776*	*2,781*	*2,782*	*2,841*	*2,871*	*2,863*	**2,677**	*2,781*	*2,863*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.33**	**27.54**	*27.47*	*27.86*	*28.31*	*28.78*	*29.04*	*29.27*	*29.43*	*29.67*	**26.36**	*28.11*	*29.36*
Canada	**5.62**	**5.37**	**5.49**	**5.76**	*5.87*	*5.83*	*5.85*	*5.86*	*5.91*	*5.88*	*5.89*	*5.90*	**5.56**	*5.85*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	*1.94*	*1.93*	*1.89*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.91*	*1.85*
United States	**17.62**	**19.05**	**18.94**	**19.86**	*19.66*	*20.10*	*20.57*	*21.06*	*21.23*	*21.53*	*21.72*	*21.98*	**18.87**	*20.35*	*21.61*
Central and South America	**5.64**	**6.29**	**6.69**	**5.80**	*5.88*	*6.72*	*7.11*	*6.56*	*6.21*	*7.03*	*7.36*	*6.84*	**6.11**	*6.57*	*6.86*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	*0.73*	*0.74*	*0.77*	*0.79*	*0.77*	*0.78*	*0.81*	*0.83*	**0.70**	*0.76*	*0.80*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	*3.40*	*4.21*	*4.52*	*3.89*	*3.50*	*4.29*	*4.58*	*4.03*	**3.69**	*4.01*	*4.10*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	*0.76*	*0.75*	*0.74*	*0.73*	*0.68*	*0.67*	*0.66*	*0.65*	**0.76**	*0.74*	*0.66*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	*0.49*	*0.53*	*0.53*	*0.53*	*0.54*	*0.56*	*0.58*	*0.60*	**0.48**	*0.52*	*0.57*
Other Central and S. America	**0.49**	**0.46**	**0.49**	**0.46**	*0.49*	*0.50*	*0.55*	*0.62*	*0.72*	*0.73*	*0.73*	*0.73*	**0.48**	*0.54*	*0.73*
Europe	**4.32**	**3.83**	**4.13**	**4.12**	*4.21*	*4.18*	*4.06*	*4.35*	*4.49*	*4.51*	*4.41*	*4.59*	**4.10**	*4.20*	*4.50*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	*2.11*	*2.12*	*2.09*	*2.27*	*2.39*	*2.39*	*2.38*	*2.48*	**2.03**	*2.15*	*2.41*
United Kingdom	**1.06**	**0.81**	**0.93**	**0.94**	*0.97*	*0.95*	*0.85*	*0.96*	*0.99*	*1.00*	*0.91*	*0.98*	**0.93**	*0.93*	*0.97*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	*14.32*	*13.66*	*13.83*	*13.92*	*13.94*	*13.82*	*13.82*	*13.91*	**13.70**	*13.93*	*13.87*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	*0.73*	*0.74*	*0.73*	*0.73*	*0.71*	*0.70*	*0.69*	*0.71*	**0.72**	*0.73*	*0.70*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	*2.04*	*2.01*	*1.98*	*2.02*	*2.05*	*1.95*	*1.96*	*2.03*	**1.87**	*2.01*	*2.00*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	*11.21*	*10.56*	*10.76*	*10.81*	*10.81*	*10.81*	*10.81*	*10.81*	**10.78**	*10.83*	*10.81*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.24**	*0.23*	*0.23*	*0.23*	*0.23*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.23*	*0.24*
Other Eurasia	**0.10**	**0.10**	**0.10**	**0.10**	*0.12*	*0.13*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	**0.10**	*0.13*	*0.13*
Middle East	**3.07**	**3.09**	**3.13**	**3.14**	*3.17*	*3.17*	*3.17*	*3.17*	*3.20*	*3.20*	*3.20*	*3.19*	**3.11**	*3.17*	*3.20*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	*1.04*	*1.04*	*1.04*	*1.04*	*1.07*	*1.07*	*1.07*	*1.07*	**0.98**	*1.04*	*1.07*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	*1.85*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.97**	*9.18*	*9.16*	*9.14*	*9.16*	*9.12*	*9.11*	*9.09*	*9.12*	**9.07**	*9.16*	*9.11*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	*0.48*	*0.50*	*0.50*	*0.49*	*0.48*	*0.48*	*0.47*	*0.46*	**0.46**	*0.49*	*0.47*
China	**4.99**	**5.03**	**5.01**	**4.94**	*5.04*	*5.04*	*5.04*	*5.08*	*5.06*	*5.09*	*5.08*	*5.13*	**4.99**	*5.05*	*5.09*
India	**0.90**	**0.89**	**0.89**	**0.89**	*0.90*	*0.88*	*0.89*	*0.89*	*0.89*	*0.87*	*0.87*	*0.87*	**0.89**	*0.89*	*0.88*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	*0.85*	*0.84*	*0.84*	*0.83*	*0.83*	*0.82*	*0.81*	*0.81*	**0.86**	*0.84*	*0.82*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	*0.62*	*0.62*	*0.61*	*0.60*	*0.60*	*0.59*	*0.59*	*0.58*	**0.61**	*0.61*	*0.59*
Vietnam	**0.21**	**0.21**	**0.20**	**0.20**	*0.20*	*0.20*	*0.19*	*0.18*	*0.18*	*0.18*	*0.17*	*0.17*	**0.20**	*0.19*	*0.18*
Africa	**1.48**	**1.47**	**1.40**	**1.40**	*1.39*	*1.42*	*1.42*	*1.42*	*1.42*	*1.42*	*1.40*	*1.40*	**1.44**	*1.42*	*1.41*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	*0.65*	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	*0.64*	*0.64*	**0.66**	*0.65*	*0.64*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	*0.16*	*0.18*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.18*	*0.19*
Total non-OPEC liquids	**62.23**	**63.77**	**64.31**	**65.20**	*65.62*	*66.19*	*67.04*	*67.35*	*67.42*	*68.36*	*68.72*	*68.73*	**63.89**	*66.56*	*68.31*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	*5.56*	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Non-OPEC + OPEC non-crude	**67.50**	**69.16**	**69.75**	**70.64**	*71.18*	*71.62*	*72.52*	*72.87*	*72.96*	*73.78*	*74.18*	*74.23*	**69.27**	*72.05*	*73.79*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.77**	-	-	-	-	-	-	-	-	**0.67**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.94**	-	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	-	-	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	-	-	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	-	-	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	-	-	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	-	-	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	-	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	-	-	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	-	-	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	-	-	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	-	-	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	-	-	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	-	-	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.66**	*28.44*	*29.05*	*29.09*	*29.19*	*29.24*	*29.22*	*29.16*	*29.11*	**26.28**	*28.95*	*29.18*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	*5.56*	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	*34.00*	*34.48*	*34.57*	*34.71*	*34.78*	*34.63*	*34.62*	*34.61*	**31.66**	*34.44*	*34.66*
Crude Oil Production Capacity															
Middle East	**25.31**	**25.60**	**25.60**	**25.58**	*25.66*	*25.73*	*25.82*	*26.22*	*26.42*	*26.42*	*26.42*	*26.42*	**25.52**	*25.86*	*26.42*
Other	**6.18**	**6.19**	**6.16**	**6.25**	*6.27*	*6.46*	*6.42*	*6.41*	*6.42*	*6.42*	*6.39*	*6.36*	**6.19**	*6.39*	*6.40*
OPEC Total	**31.49**	**31.78**	**31.75**	**31.83**	*31.93*	*32.19*	*32.24*	*32.63*	*32.84*	*32.84*	*32.81*	*32.78*	**31.71**	*32.25*	*32.82*
Surplus Crude Oil Production Capacity															
Middle East	**5.76**	**5.62**	**4.31**	**3.63**	*3.09*	*2.90*	*2.95*	*3.25*	*3.40*	*3.40*	*3.40*	*3.40*	**4.82**	*3.05*	*3.40*
Other	**0.65**	**0.68**	**0.60**	**0.54**	*0.41*	*0.24*	*0.20*	*0.19*	*0.20*	*0.23*	*0.25*	*0.27*	**0.62**	*0.26*	*0.23*
OPEC Total	**6.41**	**6.29**	**4.91**	**4.17**	*3.49*	*3.14*	*3.15*	*3.44*	*3.60*	*3.63*	*3.65*	*3.67*	**5.44**	*3.31*	*3.63*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	-	-	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.20**	**23.84**	**24.22**	**24.49**	*24.31*	*24.52*	*24.82*	*24.89*	*24.35*	*24.82*	*25.09*	*25.16*	**23.70**	*24.64*	*24.86*
Canada	**2.12**	**2.16**	**2.41**	**2.37**	*2.30*	*2.29*	*2.41*	*2.39*	*2.38*	*2.33*	*2.43*	*2.40*	**2.27**	*2.35*	*2.38*
Mexico	**1.62**	**1.64**	**1.60**	**1.70**	*1.62*	*1.64*	*1.63*	*1.64*	*1.60*	*1.62*	*1.62*	*1.64*	**1.64**	*1.63*	*1.62*
United States	**18.45**	**20.03**	**20.21**	**20.41**	*20.38*	*20.58*	*20.77*	*20.86*	*20.36*	*20.86*	*21.03*	*21.11*	**19.78**	*20.65*	*20.84*
Central and South America	**5.99**	**6.14**	**6.36**	**6.48**	*6.26*	*6.35*	*6.46*	*6.47*	*6.34*	*6.47*	*6.58*	*6.51*	**6.24**	*6.38*	*6.48*
Brazil	**2.78**	**2.89**	**3.01**	**3.11**	*2.90*	*2.91*	*2.99*	*2.99*	*2.91*	*2.96*	*3.04*	*3.02*	**2.95**	*2.94*	*2.98*
Europe	**12.65**	**13.36**	**14.57**	**14.42**	*13.99*	*14.05*	*14.39*	*14.08*	*13.94*	*14.11*	*14.52*	*14.29*	**13.76**	*14.13*	*14.22*
Eurasia	**4.65**	**4.73**	**5.08**	**4.94**	*4.77*	*4.68*	*5.06*	*4.97*	*4.75*	*4.91*	*5.25*	*5.16*	**4.85**	*4.87*	*5.02*
Russia	**3.42**	**3.52**	**3.81**	**3.66**	*3.49*	*3.45*	*3.76*	*3.64*	*3.50*	*3.59*	*3.90*	*3.75*	**3.60**	*3.59*	*3.69*
Middle East	**8.12**	**8.54**	**9.08**	**8.82**	*8.86*	*8.87*	*9.34*	*8.75*	*9.05*	*9.10*	*9.61*	*9.02*	**8.65**	*8.96*	*9.20*
Asia and Oceania	**36.44**	**35.55**	**34.99**	**36.70**	*37.36*	*36.95*	*36.46*	*37.70*	*39.26*	*38.33*	*37.22*	*37.92*	**35.92**	*37.12*	*38.18*
China	**15.27**	**15.48**	**14.99**	**15.33**	*15.55*	*15.86*	*15.60*	*15.91*	*16.64*	*16.54*	*15.90*	*15.82*	**15.27**	*15.73*	*16.22*
Japan	**3.73**	**3.08**	**3.18**	**3.56**	*3.76*	*3.09*	*3.20*	*3.55*	*3.68*	*3.08*	*3.18*	*3.50*	**3.39**	*3.40*	*3.36*
India	**4.94**	**4.37**	**4.41**	**4.89**	*5.02*	*5.11*	*4.77*	*5.08*	*5.31*	*5.38*	*5.01*	*5.34*	**4.65**	*5.00*	*5.26*
Africa	**4.35**	**4.37**	**4.28**	**4.46**	*4.46*	*4.51*	*4.44*	*4.63*	*4.60*	*4.62*	*4.53*	*4.70*	**4.37**	*4.51*	*4.61*
Total OECD Liquid Fuels Consumption	**42.30**	**44.00**	**45.72**	**46.32**	*46.00*	*45.41*	*46.22*	*46.50*	*45.96*	*45.78*	*46.59*	*46.89*	**44.60**	*46.03*	*46.31*
Total non-OECD Liquid Fuels Consumption	**52.11**	**52.54**	**52.87**	**54.00**	*54.01*	*54.52*	*54.75*	*55.00*	*56.32*	*56.58*	*56.21*	*55.87*	**52.88**	*54.57*	*56.24*
Total World Liquid Fuels Consumption	**94.41**	**96.53**	**98.58**	**100.32**	*100.01*	*99.93*	*100.97*	*101.49*	*102.28*	*102.37*	*102.80*	*102.76*	**97.48**	*100.61*	*102.55*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.3**	**117.3**	**118.6**	**120.4**	*120.9*	*122.6*	*124.0*	*125.3*	*126.3*	*127.6*	*128.7*	*129.9*	**118.2**	*123.2*	*128.1*
Percent change from prior year	**3.3**	**11.5**	**4.8**	**4.4**	*3.9*	*4.5*	*4.5*	*4.1*	*4.5*	*4.1*	*3.8*	*3.7*	**5.9**	*4.3*	*4.0*
OECD Index, 2015 = 100													**109.4**	*113.2*	*116.3*
Percent change from prior year													**5.4**	*3.5*	*2.7*
Non-OECD Index, 2015 = 100													**123.5**	*129.5*	*136.1*
Percent change from prior year													**6.2**	*4.8*	*5.1*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	*109.6*	*109.9*	*109.7*	*109.3*	*108.8*	*108.5*	*108.2*	*107.9*	**107.3**	*109.6*	*108.3*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	*2.9*	*3.6*	*2.1*	*0.2*	*-0.7*	*-1.3*	*-1.4*	*-1.3*	**-3.9**	*2.2*	*-1.2*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.62**	*11.59*	*11.89*	*12.15*	*12.48*	*12.75*	*12.91*	*13.06*	*13.24*	**11.18**	*12.03*	*12.99*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	*0.42*	*0.36*	*0.38*	*0.41*	*0.41*	*0.36*	*0.39*	*0.42*	**0.44**	*0.39*	*0.39*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.73**	*1.81*	*1.82*	*1.74*	*1.79*	*1.84*	*1.83*	*1.75*	*1.78*	**1.70**	*1.79*	*1.80*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.44**	*9.37*	*9.71*	*10.03*	*10.29*	*10.50*	*10.72*	*10.92*	*11.05*	**9.05**	*9.85*	*10.80*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	*3.67*	*3.95*	*4.19*	*3.12*	*2.36*	*3.56*	*3.66*	*2.26*	**3.13**	*3.73*	*2.96*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	*0.30*	*0.43*	*0.00*	*0.08*	*0.09*	*0.09*	*-0.04*	*0.11*	**0.12**	*0.20*	*0.06*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	*-0.14*	*-0.13*	*0.20*	*-0.06*	*-0.36*	*-0.09*	*0.06*	*0.06*	**0.18**	*-0.03*	*-0.08*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.55**	*-0.06*	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.54**	*0.14*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	*15.37*	*16.35*	*16.77*	*15.79*	*15.06*	*16.69*	*16.97*	*15.85*	**15.15**	*16.07*	*16.14*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	*1.04*	*1.03*	*1.05*	*1.06*	*1.03*	*1.00*	*1.02*	*1.01*	**0.95**	*1.05*	*1.01*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	*5.65*	*5.79*	*5.95*	*6.09*	*6.07*	*6.20*	*6.21*	*6.24*	**5.40**	*5.87*	*6.18*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	*1.17*	*1.18*	*1.19*	*1.21*	*1.17*	*1.20*	*1.21*	*1.26*	**1.12**	*1.19*	*1.21*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	*1.00*	*1.00*	*1.01*	*1.02*	*0.98*	*1.01*	*1.00*	*1.02*	**0.98**	*1.01*	*1.00*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	*0.21*	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	*-3.49*	*-3.22*	*-4.01*	*-3.80*	*-3.53*	*-3.90*	*-4.29*	*-3.86*	**-3.29**	*-3.63*	*-3.90*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	*-2.20*	*-2.14*	*-2.26*	*-2.34*	*-2.44*	*-2.50*	*-2.59*	*-2.53*	**-2.15**	*-2.24*	*-2.52*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	*0.23*	*0.28*	*0.30*	*0.20*	*0.18*	*0.23*	*0.29*	*0.20*	**0.17**	*0.25*	*0.23*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	*-0.05*	*-0.03*	*-0.05*	*-0.03*	*-0.04*	*-0.03*	*-0.03*	*-0.02*	**-0.05**	*-0.04*	*-0.03*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	*0.35*	*0.75*	*0.40*	*0.21*	*0.37*	*0.60*	*0.39*	*0.41*	**0.60**	*0.43*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	*-0.65*	*-0.56*	*-0.66*	*-0.56*	*-0.66*	*-0.63*	*-0.63*	*-0.73*	**-0.71**	*-0.61*	*-0.66*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	*0.00*	*0.04*	*-0.01*	*0.01*	*0.01*	*0.02*	*0.04*	*0.08*	**0.05**	*0.01*	*0.04*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	*-0.65*	*-1.05*	*-1.17*	*-0.89*	*-0.58*	*-1.05*	*-1.18*	*-0.91*	**-0.80**	*-0.94*	*-0.93*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	*0.10*	*0.05*	*0.01*	*0.09*	*-0.01*	*0.01*	*-0.02*	*0.09*	**0.09**	*0.06*	*0.02*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	*-0.63*	*-0.55*	*-0.58*	*-0.48*	*-0.36*	*-0.54*	*-0.56*	*-0.45*	**-0.49**	*-0.56*	*-0.48*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	*0.43*	*-0.77*	*-0.40*	*0.29*	*0.35*	*-0.54*	*-0.30*	*0.39*	**0.23**	*-0.11*	*-0.02*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	*20.38*	*20.58*	*20.77*	*20.85*	*20.36*	*20.86*	*21.03*	*21.11*	**19.78**	*20.65*	*20.84*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	*3.97*	*3.41*	*3.41*	*3.84*	*3.93*	*3.51*	*3.46*	*3.85*	**3.41**	*3.66*	*3.69*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	*0.17*	*0.17*	*0.16*	*0.21*	*0.20*	*0.19*	*0.19*	*0.26*	**0.13**	*0.18*	*0.21*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.00**	*0.00*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	*8.45*	*9.11*	*9.17*	*8.91*	*8.44*	*9.14*	*9.20*	*8.97*	**8.80**	*8.91*	*8.94*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	*0.87*	*0.94*	*0.94*	*0.93*	*0.87*	*0.94*	*0.94*	*0.94*	**0.91**	*0.92*	*0.92*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	*1.48*	*1.58*	*1.63*	*1.61*	*1.52*	*1.65*	*1.71*	*1.67*	**1.37**	*1.58*	*1.64*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	*4.26*	*4.02*	*3.95*	*4.06*	*4.20*	*4.07*	*4.02*	*4.10*	**3.94**	*4.07*	*4.10*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	*0.32*	*0.26*	*0.29*	*0.29*	*0.25*	*0.26*	*0.28*	*0.30*	**0.31**	*0.29*	*0.27*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	*1.73*	*2.03*	*2.16*	*1.93*	*1.82*	*2.07*	*2.19*	*1.96*	**1.82**	*1.96*	*2.01*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	*20.38*	*20.58*	*20.77*	*20.85*	*20.36*	*20.86*	*21.03*	*21.11*	**19.78**	*20.65*	*20.84*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	*0.18*	*0.73*	*0.18*	*-0.68*	*-1.17*	*-0.34*	*-0.64*	*-1.60*	**-0.16**	*0.10*	*-0.94*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	*433.9*	*445.4*	*427.0*	*432.9*	*465.3*	*473.4*	*467.6*	*461.7*	**421.4**	*432.9*	*461.7*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	*133.5*	*188.5*	*237.3*	*199.7*	*161.3*	*209.2*	*246.8*	*203.8*	**188.4**	*199.7*	*203.8*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	*90.3*	*90.4*	*89.8*	*83.0*	*92.3*	*90.4*	*89.7*	*82.6*	**80.3**	*83.0*	*82.6*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	*31.8*	*30.6*	*30.3*	*30.6*	*32.6*	*31.4*	*31.1*	*31.4*	**28.6**	*30.6*	*31.4*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	*237.7*	*245.4*	*233.5*	*249.0*	*247.0*	*246.6*	*238.4*	*250.5*	**232.2**	*249.0*	*250.5*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	*16.8*	*20.9*	*23.1*	*26.6*	*23.2*	*24.3*	*25.4*	*27.9*	**17.7**	*26.6*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	*221.0*	*224.5*	*210.5*	*222.4*	*223.8*	*222.3*	*213.0*	*222.6*	**214.5**	*222.4*	*222.6*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	*37.8*	*39.0*	*41.8*	*38.8*	*38.3*	*39.3*	*41.9*	*38.8*	**35.8**	*38.8*	*38.8*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	*113.7*	*120.6*	*128.8*	*130.7*	*119.4*	*124.5*	*131.4*	*133.3*	**129.9**	*130.7*	*133.3*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	*27.7*	*30.1*	*29.2*	*30.8*	*30.5*	*31.2*	*29.9*	*31.3*	**25.4**	*30.8*	*31.3*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	*60.8*	*58.7*	*49.5*	*51.0*	*60.2*	*58.1*	*48.9*	*50.2*	**51.8**	*51.0*	*50.2*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	*1167.2*	*1248.7*	*1267.1*	*1246.4*	*1246.9*	*1304.1*	*1325.7*	*1283.7*	**1193.8**	*1246.4*	*1283.7*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	*566.8*	*528.1*	*528.1*	*520.3*	*512.5*	*504.7*	*508.1*	*497.6*	**593.7**	*520.3*	*497.6*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.32**	*2.28*	*2.38*	*2.47*	*2.59*	*2.57*	*2.61*	*2.56*	*2.60*	**2.14**	*2.43*	*2.58*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	*1.81*	*1.81*	*1.84*	*1.87*	*1.87*	*1.90*	*1.92*	*1.94*	**1.73**	*1.83*	*1.91*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	*0.96*	*0.97*	*0.99*	*1.00*	*1.02*	*1.04*	*1.05*	*1.06*	**0.92**	*0.98*	*1.04*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	*0.60*	*0.63*	*0.66*	*0.63*	*0.61*	*0.65*	*0.68*	*0.65*	**0.61**	*0.63*	*0.65*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.00**	**0.01**	*0.00*	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	*0.30*	*0.29*	*0.30*	*0.29*	*0.28*	*0.28*	*0.29*	*0.29*	**0.28**	*0.29*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	*0.27*	*0.28*	*0.28*	*0.28*	*0.27*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	*-0.07*	*0.27*	*0.19*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.47**	*-0.40*	*-0.34*	*-0.38*	*-0.44*	*-0.47*	*-0.46*	*-0.46*	*-0.47*	**-0.40**	*-0.39*	*-0.47*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.20**	*-1.15*	*-1.10*	*-1.18*	*-1.25*	*-1.27*	*-1.30*	*-1.37*	*-1.39*	**-1.18**	*-1.17*	*-1.33*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.34**	*-0.43*	*-0.48*	*-0.48*	*-0.44*	*-0.46*	*-0.51*	*-0.52*	*-0.46*	**-0.37**	*-0.46*	*-0.49*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	*-0.22*	*-0.22*	*-0.23*	*-0.21*	*-0.25*	*-0.23*	*-0.24*	*-0.22*	**-0.20**	*-0.22*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.52**	*0.41*	*0.28*	*0.32*	*0.49*	*0.41*	*0.29*	*0.32*	*0.51*	**0.38**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	*0.17*	*0.18*	*0.19*	*0.19*	*0.18*	*0.18*	*0.19*	*0.18*	**0.17**	*0.18*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.90**	*2.00*	*2.03*	*2.08*	*2.13*	*2.10*	*2.10*	*2.10*	*2.13*	**1.77**	*2.06*	*2.11*
Propane	**1.09**	**0.65**	**0.66**	**0.96**	*1.27*	*0.67*	*0.63*	*1.00*	*1.17*	*0.67*	*0.63*	*0.98*	**0.84**	*0.89*	*0.86*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	*0.29*	*0.30*	*0.29*	*0.29*	*0.30*	*0.30*	*0.29*	*0.29*	**0.31**	*0.29*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	*0.20*	*0.21*	*0.19*	*0.19*	*0.17*	*0.23*	*0.21*	*0.21*	**0.24**	*0.20*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	*0.21*	*0.20*	*0.22*	*0.23*	*0.20*	*0.20*	*0.22*	*0.23*	**0.25**	*0.21*	*0.21*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**64.0**	*51.5*	*51.1*	*51.2*	*54.8*	*54.5*	*59.2*	*58.9*	*61.3*	**65.4**	*52.1*	*58.5*
Propane	**39.3**	**53.2**	**68.6**	**62.1**	*32.4*	*60.2*	*89.0*	*78.8*	*52.0*	*69.7*	*88.4*	*74.4*	**62.1**	*78.8*	*74.4*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	*1.3*	*1.6*	*1.9*	*1.8*	*1.6*	*1.8*	*2.0*	*1.9*	**1.4**	*1.8*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**44.4**	*31.2*	*55.6*	*73.5*	*44.6*	*34.8*	*59.2*	*77.1*	*47.9*	**44.4**	*44.6*	*47.9*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**20.7**	*18.7*	*19.8*	*20.7*	*20.0*	*17.5*	*18.8*	*19.7*	*19.0*	**20.7**	*20.0*	*19.0*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	*15.37*	*16.35*	*16.77*	*15.79*	*15.06*	*16.69*	*16.97*	*15.85*	**15.15**	*16.07*	*16.14*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.75**	*0.57*	*0.46*	*0.51*	*0.68*	*0.59*	*0.47*	*0.51*	*0.69*	**0.54**	*0.56*	*0.57*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.18**	*1.10*	*1.19*	*1.19*	*1.16*	*1.10*	*1.19*	*1.19*	*1.17*	**1.15**	*1.16*	*1.16*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.20**	*0.12*	*0.28*	*0.31*	*0.27*	*0.08*	*0.28*	*0.31*	*0.27*	**0.16**	*0.25*	*0.24*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.28**	*0.35*	*0.81*	*0.65*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.91**	*17.52*	*19.09*	*19.43*	*18.20*	*17.31*	*19.35*	*19.56*	*18.51*	**17.69**	*18.56*	*18.69*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	*1.04*	*1.03*	*1.05*	*1.06*	*1.03*	*1.00*	*1.02*	*1.01*	**0.95**	*1.05*	*1.01*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	*0.50*	*0.84*	*0.78*	*0.38*	*0.48*	*0.84*	*0.77*	*0.38*	**0.62**	*0.63*	*0.62*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.69**	*9.12*	*9.79*	*9.91*	*9.68*	*9.15*	*9.85*	*9.91*	*9.90*	**9.52**	*9.63*	*9.70*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	*1.49*	*1.55*	*1.67*	*1.57*	*1.51*	*1.64*	*1.69*	*1.55*	**1.31**	*1.57*	*1.60*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.87**	*4.73*	*5.15*	*5.21*	*4.98*	*4.66*	*5.18*	*5.27*	*5.04*	**4.66**	*5.02*	*5.04*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.22**	*0.25*	*0.23*	*0.27*	*0.22*	*0.25*	*0.26*	*0.29*	*0.22*	**0.21**	*0.24*	*0.26*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.33**	*2.46*	*2.56*	*2.64*	*2.43*	*2.28*	*2.59*	*2.65*	*2.42*	**2.32**	*2.52*	*2.49*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.94**	*18.56*	*20.12*	*20.48*	*19.26*	*18.33*	*20.35*	*20.58*	*19.51*	**18.64**	*19.61*	*19.70*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.02**	*15.76*	*16.57*	*17.02*	*16.10*	*15.42*	*16.87*	*17.19*	*16.16*	**15.67**	*16.37*	*16.41*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.05**	*17.88*	*17.88*	*17.88*	*17.88*	*17.88*	*17.88*	*17.88*	*17.88*	**18.10**	*17.88*	*17.88*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	*0.88*	*0.93*	*0.95*	*0.90*	*0.86*	*0.94*	*0.96*	*0.90*	**0.87**	*0.92*	*0.92*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	*285*	*327*	*303*	*265*	*257*	*262*	*252*	*231*	**219**	*295*	*250*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	*356*	*400*	*383*	*348*	*331*	*336*	*326*	*310*	**294**	*372*	*326*
PADD 2	**247**	**288**	**304**	**315**	*344*	*394*	*368*	*333*	*323*	*331*	*323*	*300*	**290**	*360*	*319*
PADD 3	**228**	**267**	**282**	**298**	*330*	*377*	*353*	*315*	*299*	*305*	*297*	*277*	**271**	*344*	*295*
PADD 4	**247**	**311**	**360**	**351**	*349*	*409*	*398*	*357*	*335*	*349*	*342*	*318*	**319**	*379*	*336*
PADD 5	**312**	**366**	**391**	**410**	*439*	*487*	*460*	*440*	*416*	*414*	*405*	*381*	**372**	*457*	*404*
U.S. Average	**256**	**297**	**316**	**333**	*362*	*410*	*388*	*354*	*338*	*344*	*335*	*314*	**302**	*379*	*333*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	*372*	*421*	*400*	*368*	*352*	*357*	*348*	*328*	**311**	*391*	*346*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	*61.0*	*67.2*	*62.9*	*68.7*	*67.1*	*68.1*	*63.1*	*68.6*	**61.8**	*68.7*	*68.6*
PADD 2	**50.7**	**50.6**	**46.9**	**50.9**	*56.2*	*52.8*	*50.2*	*50.6*	*53.1*	*51.8*	*51.2*	*50.0*	**50.9**	*50.6*	*50.0*
PADD 3	**81.9**	**81.6**	**82.9**	**81.7**	*84.0*	*88.6*	*83.7*	*90.1*	*89.2*	*89.9*	*87.4*	*91.1*	**81.7**	*90.1*	*91.1*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	*8.0*	*7.9*	*7.5*	*8.1*	*8.0*	*8.0*	*7.6*	*8.4*	**8.1**	*8.1*	*8.4*
PADD 5	**31.4**	**29.0**	**30.6**	**29.6**	*28.5*	*28.9*	*29.3*	*31.5*	*29.7*	*28.8*	*29.1*	*32.4*	**29.6**	*31.5*	*32.4*
U.S. Total	**237.6**	**237.2**	**227.0**	**232.2**	*237.7*	*245.4*	*233.5*	*249.0*	*247.0*	*246.6*	*238.4*	*250.5*	**232.2**	*249.0*	*250.5*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.7**	*16.8*	*20.9*	*23.1*	*26.6*	*23.2*	*24.3*	*25.4*	*27.9*	**17.7**	*26.6*	*27.9*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**214.5**	*221.0*	*224.5*	*210.5*	*222.4*	*223.8*	*222.3*	*213.0*	*222.6*	**214.5**	*222.4*	*222.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.90**	*103.93*	*104.36*	*105.32*	*106.44*	*106.70*	*107.38*	*108.30*	*108.84*	**101.41**	*105.02*	*107.81*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	*0.93*	*0.75*	*0.71*	*0.85*	*0.90*	*0.75*	*0.71*	*0.87*	**0.97**	*0.81*	*0.81*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.12**	*2.29*	*2.25*	*2.12*	*2.12*	*2.14*	*2.08*	*1.95*	*1.92*	**2.11**	*2.20*	*2.02*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.76**	*100.71*	*101.36*	*102.50*	*103.47*	*103.66*	*104.55*	*105.63*	*106.05*	**98.33**	*102.02*	*104.98*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.57**	*95.69*	*96.09*	*96.97*	*98.00*	*98.11*	*98.75*	*99.60*	*100.10*	**93.56**	*96.69*	*99.15*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	*0.32*	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.22*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	*10.99*	*10.84*	*11.33*	*12.18*	*12.72*	*11.86*	*11.73*	*12.23*	**9.76**	*11.34*	*12.13*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	*8.04*	*6.44*	*6.38*	*6.71*	*7.75*	*6.44*	*6.32*	*6.50*	**7.63**	*6.89*	*6.75*
Pipeline Gross Exports	**8.31**	**8.67**	**8.50**	**8.41**	*8.84*	*8.41*	*9.25*	*9.21*	*9.12*	*9.03*	*9.33*	*9.24*	**8.47**	*8.93*	*9.18*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.17*	*0.17*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	*18.64*	*-11.10*	*-7.51*	*3.88*	*15.02*	*-11.49*	*-8.59*	*2.64*	**0.24**	*0.92*	*-0.66*
Total Supply	**99.18**	**72.53**	**75.31**	**86.90**	*103.02*	*72.52*	*75.61*	*87.58*	*99.52*	*73.17*	*76.62*	*88.14*	**83.43**	*84.61*	*84.31*
Balancing Item (b)	**0.26**	**-0.58**	**-0.22**	**-1.27**	*0.31*	*-0.50*	*0.54*	*-0.44*	*0.95*	*-0.19*	*0.11*	*-1.06*	**-0.46**	*-0.02*	*-0.05*
Total Primary Supply	**99.44**	**71.95**	**75.09**	**85.64**	*103.32*	*72.03*	*76.15*	*87.13*	*100.47*	*72.98*	*76.73*	*87.08*	**82.97**	*84.59*	*84.26*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.49**	**3.62**	**14.43**	*26.48*	*7.96*	*3.73*	*16.17*	*25.29*	*8.02*	*3.79*	*16.09*	**12.75**	*13.53*	*13.25*
Commercial	**14.87**	**6.23**	**4.69**	**10.08**	*15.81*	*6.64*	*4.79*	*10.26*	*15.05*	*6.67*	*4.78*	*10.24*	**8.94**	*9.35*	*9.16*
Industrial	**23.81**	**21.46**	**21.13**	**23.45**	*24.70*	*22.14*	*22.21*	*24.91*	*24.75*	*22.29*	*22.33*	*25.20*	**22.46**	*23.49*	*23.64*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	*27.57*	*27.57*	*37.51*	*27.46*	*26.57*	*28.10*	*37.75*	*27.10*	**30.88**	*30.05*	*29.90*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	*5.18*	*5.20*	*5.25*	*5.31*	*5.32*	*5.35*	*5.40*	*5.43*	**5.06**	*5.24*	*5.37*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	*3.42*	*2.35*	*2.49*	*2.87*	*3.33*	*2.38*	*2.51*	*2.87*	**2.74**	*2.78*	*2.77*
Vehicle Use	**0.14**	**0.15**	**0.15**	**0.15**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.15**	*0.16*	*0.16*
Total Consumption	**99.44**	**71.95**	**75.09**	**85.64**	*103.32*	*72.03*	*76.15*	*87.13*	*100.47*	*72.98*	*76.73*	*87.08*	**82.97**	*84.59*	*84.26*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,583**	**3,305**	**3,208**	*1,530*	*2,540*	*3,231*	*2,874*	*1,522*	*2,567*	*3,357*	*3,114*	**3,208**	*2,874*	*3,114*
East Region (d)	**313**	**515**	**804**	**766**	*262*	*535*	*786*	*649*	*264*	*572*	*848*	*752*	**766**	*649*	*752*
Midwest Region (d)	**395**	**630**	**966**	**887**	*328*	*586*	*907*	*799*	*333*	*623*	*949*	*842*	**887**	*799*	*842*
South Central Region (d)	**760**	**991**	**1,052**	**1,141**	*673*	*979*	*1,036*	*973*	*636*	*935*	*1,021*	*1,035*	**1,141**	*973*	*1,035*
Mountain Region (d)	**113**	**175**	**205**	**171**	*81*	*128*	*181*	*169*	*101*	*144*	*207*	*187*	**171**	*169*	*187*
Pacific Region (d)	**197**	**246**	**248**	**218**	*164*	*289*	*300*	*261*	*165*	*272*	*309*	*277*	**218**	*261*	*277*
Alaska	**23**	**27**	**30**	**25**	*22*	*22*	*22*	*22*	*22*	*22*	*22*	*22*	**25**	*22*	*22*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	*4.56*	*3.98*	*3.98*	*3.88*	*3.89*	*3.58*	*3.65*	*3.80*	**4.06**	*4.10*	*3.73*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	*16.12*	*16.29*	*18.58*	*14.30*	*13.85*	*14.74*	*17.64*	*13.79*	**16.12**	*15.78*	*14.22*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	*11.91*	*13.74*	*17.99*	*11.85*	*10.84*	*12.99*	*17.45*	*11.43*	**12.55**	*12.57*	*11.80*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	*9.51*	*12.38*	*17.69*	*9.25*	*8.49*	*11.38*	*17.07*	*8.95*	**10.19**	*10.31*	*9.59*
W. N. Central	**7.49**	**11.63**	**20.31**	**12.62**	*10.40*	*12.89*	*18.44*	*10.21*	*8.84*	*11.62*	*17.67*	*9.77*	**10.23**	*11.11*	*10.03*
S. Atlantic	**11.95**	**18.04**	**27.54**	**16.57**	*13.58*	*18.22*	*23.90*	*13.48*	*12.02*	*17.04*	*23.17*	*13.06*	**15.23**	*14.98*	*13.84*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	*11.77*	*16.32*	*23.16*	*14.17*	*12.15*	*17.12*	*23.62*	*14.67*	**11.99**	*13.85*	*14.37*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.89**	*11.77*	*16.07*	*21.42*	*12.17*	*9.23*	*14.79*	*20.79*	*11.95*	**13.23**	*13.56*	*11.76*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	*9.58*	*11.13*	*14.61*	*9.18*	*8.59*	*10.28*	*14.07*	*8.90*	**9.77**	*10.08*	*9.36*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	*16.15*	*16.13*	*16.43*	*15.05*	*15.04*	*15.51*	*16.15*	*15.09*	**15.25**	*15.85*	*15.27*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.82**	*11.80*	*14.25*	*18.54*	*11.52*	*10.50*	*13.37*	*18.03*	*11.23*	**12.27**	*12.54*	*11.70*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.59**	*11.95*	*11.80*	*11.23*	*10.84*	*11.10*	*11.08*	*10.68*	*10.45*	**11.33**	*11.49*	*10.85*
Middle Atlantic	**7.92**	**8.00**	**7.98**	**10.11**	*10.04*	*9.36*	*8.48*	*8.66*	*8.84*	*8.43*	*7.78*	*8.17*	**8.56**	*9.30*	*8.44*
E. N. Central	**6.11**	**8.60**	**11.03**	**8.70**	*8.09*	*8.95*	*9.78*	*7.45*	*7.36*	*8.18*	*9.32*	*7.27*	**7.61**	*8.13*	*7.59*
W. N. Central	**6.32**	**7.69**	**9.94**	**10.19**	*8.93*	*9.01*	*9.90*	*7.84*	*7.70*	*8.18*	*9.41*	*7.61*	**7.91**	*8.67*	*7.87*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.01**	*10.37*	*10.85*	*10.84*	*9.58*	*9.23*	*10.06*	*10.39*	*9.45*	**9.75**	*10.27*	*9.58*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	*10.90*	*11.14*	*11.19*	*9.77*	*9.14*	*10.04*	*10.52*	*9.39*	**9.89**	*10.60*	*9.50*
W. S. Central	**6.91**	**8.57**	**10.12**	**10.84**	*9.12*	*9.08*	*9.16*	*8.18*	*7.45*	*8.04*	*8.52*	*7.83*	**8.61**	*8.86*	*7.81*
Mountain	**6.50**	**7.76**	**9.26**	**9.00**	*8.69*	*8.84*	*9.44*	*8.07*	*7.74*	*7.99*	*8.76*	*7.57*	**7.74**	*8.59*	*7.83*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	*12.00*	*11.10*	*11.06*	*10.37*	*9.88*	*9.34*	*9.48*	*9.01*	**11.09**	*11.17*	*9.44*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	*9.58*	*9.75*	*9.83*	*8.66*	*8.42*	*8.78*	*9.12*	*8.24*	**8.82**	*9.37*	*8.51*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	*9.98*	*9.10*	*7.89*	*8.71*	*9.05*	*8.40*	*7.44*	*8.54*	**8.73**	*9.09*	*8.50*
Middle Atlantic	**7.66**	**7.36**	**7.90**	**10.36**	*9.84*	*8.87*	*8.33*	*8.53*	*8.78*	*8.17*	*7.81*	*8.11*	**8.24**	*9.15*	*8.39*
E. N. Central	**5.43**	**8.14**	**8.48**	**7.88**	*7.28*	*6.91*	*6.60*	*6.41*	*6.71*	*6.37*	*6.23*	*6.28*	**6.89**	*6.88*	*6.46*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	*6.38*	*5.59*	*5.32*	*5.67*	*5.92*	*5.09*	*4.92*	*5.45*	**5.48**	*5.78*	*5.38*
S. Atlantic	**5.12**	**4.75**	**6.01**	**7.68**	*6.74*	*5.89*	*5.67*	*5.78*	*6.06*	*5.40*	*5.33*	*5.68*	**5.91**	*6.06*	*5.65*
E. S. Central	**4.72**	**4.28**	**5.37**	**7.21**	*6.35*	*5.56*	*5.22*	*5.41*	*5.69*	*5.04*	*4.83*	*5.26*	**5.39**	*5.66*	*5.23*
W. S. Central	**5.75**	**3.20**	**4.36**	**5.95**	*4.51*	*4.17*	*4.17*	*4.05*	*4.07*	*3.76*	*3.83*	*3.94*	**4.79**	*4.22*	*3.90*
Mountain	**4.98**	**5.31**	**6.66**	**7.27**	*7.04*	*6.68*	*6.70*	*6.39*	*6.40*	*6.09*	*6.20*	*6.03*	**5.99**	*6.71*	*6.19*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	*8.36*	*7.71*	*7.77*	*7.69*	*7.55*	*6.95*	*6.82*	*6.94*	**8.54**	*7.89*	*7.07*
U.S. Average	**5.73**	**4.09**	**5.10**	**6.87**	*5.88*	*5.09*	*4.91*	*5.15*	*5.35*	*4.62*	*4.52*	*4.95*	**5.50**	*5.27*	*4.88*

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**147.1**	*147.4*	*144.8*	*155.7*	*156.0*	*152.5*	*146.0*	*159.7*	*154.5*	**578.4**	*603.9*	*612.6*
Appalachia	**40.8**	**39.5**	**36.6**	**41.3**	*43.4*	*42.0*	*39.1*	*40.6*	*42.0*	*40.1*	*38.9*	*37.1*	**158.2**	*165.2*	*158.1*
Interior	**25.0**	**23.3**	**22.7**	**24.7**	*24.7*	*22.8*	*23.9*	*24.0*	*25.0*	*22.5*	*23.9*	*23.3*	**95.7**	*95.4*	*94.7*
Western	**74.5**	**80.0**	**89.0**	**81.0**	*79.4*	*80.0*	*92.7*	*91.3*	*85.5*	*83.4*	*96.9*	*94.1*	**324.6**	*343.3*	*359.8*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	*-1.3*	*-2.2*	*-0.9*	*-5.3*	*-2.1*	*-1.3*	*1.5*	*-1.8*	**-1.7**	*-9.8*	*-3.8*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	*1.4*	*1.1*	*1.2*	*1.2*	*1.0*	*1.2*	*1.6*	*1.4*	**5.4**	*4.9*	*5.2*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	*26.5*	*17.9*	*18.7*	*24.9*	*21.6*	*23.0*	*22.7*	*24.1*	**85.2**	*88.0*	*91.4*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	*13.7*	*10.3*	*11.9*	*13.4*	*13.0*	*14.0*	*13.6*	*14.1*	**45.3**	*49.3*	*54.7*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	*12.8*	*7.5*	*6.8*	*11.5*	*8.5*	*9.0*	*9.1*	*10.0*	**39.9**	*38.7*	*36.7*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**125.2**	*121.0*	*125.9*	*137.2*	*126.9*	*129.8*	*122.8*	*140.1*	*130.0*	**496.9**	*511.0*	*522.6*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-15.1**	*3.9*	*-9.0*	*23.3*	*-1.8*	*-2.5*	*-9.6*	*15.4*	*-7.4*	**37.9**	*16.4*	*-4.1*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	*1.8*	*1.8*	*1.8*	*1.8*	*1.4*	*1.4*	*1.4*	*1.4*	**7.9**	*7.4*	*5.5*
Total Supply	**140.6**	**126.2**	**163.7**	**112.1**	*126.8*	*118.7*	*162.3*	*126.9*	*128.7*	*114.6*	*156.8*	*124.0*	**542.7**	*534.7*	*524.1*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.6**	*5.4*	*4.9*	*4.7*	*5.2*	*5.2*	*5.3*	*5.4*	*5.4*	**17.8**	*20.2*	*21.2*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	*118.5*	*107.3*	*151.2*	*115.1*	*116.8*	*103.4*	*145.6*	*111.9*	**501.4**	*492.1*	*477.7*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	*6.9*	*6.6*	*6.4*	*6.7*	*6.7*	*5.9*	*5.9*	*6.7*	**26.7**	*26.5*	*25.2*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.2*	*0.2*	*0.3*	*0.2*	*0.1*	*0.3*	**0.8**	*0.7*	*0.9*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	*6.7*	*6.4*	*6.3*	*6.5*	*6.4*	*5.7*	*5.7*	*6.4*	**25.8**	*25.8*	*24.3*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.3**	*130.8*	*118.7*	*162.3*	*126.9*	*128.7*	*114.6*	*156.8*	*124.0*	**545.9**	*538.8*	*524.1*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-2.2**	*-4.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-3.3**	*-4.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	*26.6*	*28.8*	*29.7*	*35.1*	*37.2*	*38.5*	*37.0*	*38.8*	**25.3**	*35.1*	*38.8*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**100.2**	*96.3*	*105.3*	*82.0*	*83.9*	*86.3*	*96.0*	*80.6*	*88.0*	**100.2**	*83.9*	*88.0*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	*90.9*	*99.6*	*76.2*	*78.3*	*81.5*	*90.9*	*75.3*	*82.6*	**94.7**	*78.3*	*82.6*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**3.4**	*3.6*	*3.5*	*3.4*	*3.3*	*2.7*	*2.8*	*3.0*	*3.0*	**3.4**	*3.3*	*3.0*
Coke Plants	**1.5**	**1.9**	**1.8**	**2.0**	*1.6*	*2.1*	*2.2*	*2.2*	*2.0*	*2.2*	*2.2*	*2.2*	**2.0**	*2.2*	*2.2*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	*6.30*	*6.30*	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	*0.258*	*0.259*	*0.269*	*0.277*	*0.289*	*0.290*	*0.300*	*0.308*	**0.258**	*0.266*	*0.297*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.92**	**2.03**	**2.05**	*1.80*	*1.74*	*1.58*	*1.58*	*1.59*	*1.61*	*1.60*	*1.59*	**1.98**	*1.67*	*1.60*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	*1,015*	*996*	*1,172*	*983*	*1,008*	*1,007*	*1,184*	*993*	**4,116**	*4,165*	*4,192*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	*976*	*958*	*1,132*	*944*	*969*	*970*	*1,143*	*954*	**3,963**	*4,010*	*4,036*
Industrial Sector (b)	**34**	**33**	**36**	**36**	*35*	*34*	*37*	*36*	*35*	*34*	*37*	*36*	**140**	*142*	*143*
Commercial Sector (b)	**3**	**3**	**4**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**11**	**13**	**15**	**12**	*13*	*13*	*15*	*12*	*12*	*13*	*15*	*12*	**51**	*53*	*52*
Total Supply	**1,000**	**998**	**1,181**	**987**	*1,028*	*1,009*	*1,187*	*994*	*1,020*	*1,020*	*1,199*	*1,005*	**4,166**	*4,218*	*4,244*
Losses and Unaccounted for (c)	**54**	**67**	**57**	**57**	*58*	*64*	*53*	*51*	*42*	*65*	*54*	*51*	**236**	*226*	*213*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**913**	**898**	**1,089**	**894**	*936*	*911*	*1,098*	*909*	*944*	*921*	*1,108*	*919*	**3,795**	*3,854*	*3,892*
Residential Sector	**379**	**329**	**446**	**324**	*372*	*325*	*443*	*330*	*373*	*330*	*448*	*335*	**1,477**	*1,470*	*1,486*
Commercial Sector	**304**	**321**	**377**	**322**	*319*	*330*	*382*	*325*	*321*	*332*	*383*	*326*	**1,325**	*1,357*	*1,362*
Industrial Sector	**229**	**247**	**264**	**247**	*244*	*254*	*271*	*252*	*248*	*259*	*276*	*256*	**987**	*1,021*	*1,038*
Transportation Sector	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	*34*	*33*	*36*	*35*	*34*	*33*	*36*	*35*	**136**	*138*	*139*
Total Consumption	**946**	**931**	**1,124**	**929**	*970*	*944*	*1,134*	*943*	*978*	*955*	*1,145*	*953*	**3,930**	*3,992*	*4,031*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	*2,664*	*2,331*	*3,173*	*2,367*	*2,645*	*2,335*	*3,171*	*2,376*	**10,703**	*10,535*	*10,528*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	*90.9*	*99.6*	*76.2*	*78.3*	*81.5*	*90.9*	*75.3*	*82.6*	**94.7**	*78.3*	*82.6*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	*6.6*	*6.6*	*6.6*	*6.9*	*4.8*	*4.8*	*3.0*	*3.7*	**7.0**	*6.9*	*3.7*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	*15.7*	*15.5*	*15.4*	*15.7*	*15.5*	*15.4*	*15.3*	*15.6*	**16.0**	*15.7*	*15.6*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.92**	**2.03**	**2.05**	*1.80*	*1.74*	*1.58*	*1.58*	*1.59*	*1.61*	*1.60*	*1.59*	**1.98**	*1.67*	*1.60*
Natural Gas	**7.23**	**3.26**	**4.36**	**5.42**	*4.84*	*3.98*	*3.91*	*4.00*	*4.23*	*3.56*	*3.58*	*3.93*	**4.97**	*4.16*	*3.80*
Residual Fuel Oil	**11.28**	**13.08**	**14.21**	**16.10**	*15.74*	*20.52*	*19.72*	*17.95*	*17.18*	*17.30*	*15.97*	*15.30*	**13.66**	*18.16*	*16.42*
Distillate Fuel Oil	**13.54**	**15.20**	**16.20**	**18.03**	*20.96*	*24.88*	*23.25*	*21.52*	*20.68*	*19.95*	*19.42*	*19.06*	**15.50**	*22.34*	*19.85*
Retail Prices (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	*13.85*	*14.46*	*14.43*	*14.22*	*14.02*	*14.52*	*14.47*	*14.25*	**13.72**	*14.24*	*14.32*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	*11.60*	*11.59*	*11.91*	*11.60*	*11.75*	*11.62*	*11.93*	*11.61*	**11.27**	*11.68*	*11.74*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	*7.28*	*7.04*	*7.58*	*7.24*	*7.22*	*7.02*	*7.53*	*7.21*	**7.26**	*7.29*	*7.25*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	*40.02*	*35.61*	*42.24*	*32.01*	*32.01*	*31.73*	*35.34*	*31.28*	**189.54**	*37.47*	*32.59*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	*48.06*	*43.07*	*53.40*	*44.30*	*41.50*	*36.48*	*44.74*	*38.95*	**53.53**	*47.21*	*40.42*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	*119.15*	*81.37*	*83.80*	*39.35*	*79.22*	*71.43*	*72.85*	*39.09*	**51.81**	*80.92*	*65.65*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	*103.36*	*72.96*	*76.25*	*35.30*	*73.01*	*65.56*	*66.37*	*35.26*	**46.14**	*71.97*	*60.05*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	*57.21*	*45.60*	*54.86*	*44.77*	*47.98*	*45.79*	*51.43*	*44.98*	**45.67**	*50.61*	*47.55*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	*47.17*	*43.79*	*50.97*	*41.23*	*44.28*	*43.45*	*48.49*	*40.98*	**46.47**	*45.79*	*44.30*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	*36.80*	*35.61*	*41.30*	*35.36*	*35.21*	*37.35*	*43.40*	*34.81*	**93.88**	*37.27*	*37.69*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	*40.29*	*39.89*	*43.34*	*37.23*	*38.54*	*37.39*	*40.72*	*35.91*	**42.39**	*40.19*	*38.14*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	*39.11*	*37.05*	*38.11*	*35.42*	*35.96*	*34.36*	*35.37*	*34.73*	**37.92**	*37.42*	*35.10*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	*43.10*	*35.84*	*41.39*	*38.03*	*38.16*	*30.55*	*37.79*	*36.02*	**59.53**	*39.59*	*35.63*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	*40.69*	*35.85*	*42.08*	*37.25*	*34.82*	*33.79*	*38.72*	*34.07*	**55.44**	*38.97*	*35.35*

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	*12.9*	*10.1*	*13.6*	*11.1*	*12.7*	*10.0*	*13.6*	*11.2*	**48.7**	*47.7*	*47.5*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	*36.2*	*28.9*	*40.3*	*30.7*	*35.8*	*29.1*	*40.6*	*31.0*	**138.7**	*136.1*	*136.4*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	*50.5*	*41.1*	*53.9*	*44.0*	*49.6*	*41.6*	*54.6*	*44.5*	**192.6**	*189.5*	*190.2*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	*30.9*	*23.9*	*30.9*	*26.0*	*30.8*	*24.7*	*31.3*	*26.2*	**108.6**	*111.7*	*113.0*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	*93.1*	*85.4*	*113.0*	*84.0*	*93.7*	*86.8*	*114.3*	*85.8*	**374.9**	*375.5*	*380.7*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	*31.7*	*25.9*	*36.3*	*26.6*	*32.1*	*26.2*	*36.3*	*27.0*	**120.5**	*120.5*	*121.7*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	*53.6*	*52.1*	*78.4*	*49.4*	*55.0*	*52.9*	*79.5*	*50.9*	**230.5**	*233.5*	*238.4*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	*23.6*	*25.2*	*35.1*	*23.0*	*23.8*	*25.8*	*35.9*	*23.4*	**108.1**	*106.9*	*108.9*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	*37.8*	*31.3*	*40.1*	*34.1*	*38.4*	*31.3*	*40.3*	*34.2*	**149.0**	*143.3*	*144.1*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**378.5**	**328.5**	**445.8**	**323.7**	*371.6*	*325.1*	*442.7*	*330.2*	*373.3*	*329.5*	*447.5*	*335.4*	**1,476.6**	*1,469.6*	*1,485.8*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	*12.2*	*11.8*	*13.5*	*11.7*	*12.2*	*11.8*	*13.5*	*11.6*	**48.5**	*49.2*	*49.1*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	*35.9*	*33.8*	*39.7*	*34.6*	*36.1*	*33.9*	*39.7*	*34.5*	**141.9**	*144.0*	*144.3*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	*43.0*	*42.8*	*48.9*	*42.5*	*43.0*	*42.9*	*49.0*	*42.5*	**174.8**	*177.2*	*177.4*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	*24.8*	*24.3*	*28.4*	*24.9*	*25.2*	*24.6*	*28.5*	*24.9*	**99.3**	*102.5*	*103.2*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	*74.1*	*79.3*	*91.1*	*75.9*	*74.5*	*79.9*	*91.6*	*76.2*	**313.1**	*320.4*	*322.2*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	*21.6*	*22.5*	*26.8*	*21.1*	*22.0*	*22.6*	*26.9*	*21.1*	**89.0**	*92.1*	*92.7*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	*45.6*	*53.4*	*61.0*	*49.8*	*45.9*	*53.6*	*61.5*	*50.2*	**201.0**	*209.8*	*211.1*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	*23.0*	*24.9*	*29.0*	*23.6*	*23.2*	*25.1*	*29.2*	*23.8*	**98.7**	*100.5*	*101.3*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	*37.3*	*36.1*	*42.4*	*39.8*	*37.5*	*36.0*	*42.2*	*39.5*	**153.2**	*155.7*	*155.3*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	*1.3*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**5.3**	*5.5*	*5.6*
Total	**304.3**	**321.5**	**377.2**	**321.8**	*318.9*	*330.3*	*382.3*	*325.4*	*321.0*	*331.8*	*383.5*	*325.8*	**1,324.8**	*1,356.9*	*1,362.1*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	*3.9*	*4.0*	*4.2*	*3.9*	*3.9*	*4.0*	*4.2*	*3.8*	**15.8**	*15.9*	*15.8*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	*18.6*	*18.4*	*19.8*	*18.2*	*18.8*	*18.7*	*20.1*	*18.5*	**73.1**	*75.1*	*76.0*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	*47.2*	*47.4*	*49.9*	*46.9*	*47.9*	*48.2*	*50.7*	*47.6*	**185.5**	*191.3*	*194.5*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	*24.5*	*25.4*	*27.1*	*25.3*	*25.1*	*26.1*	*27.9*	*26.0*	**97.9**	*102.2*	*105.2*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	*35.7*	*36.9*	*39.1*	*36.6*	*36.2*	*37.5*	*39.8*	*37.2*	**143.7**	*148.4*	*150.8*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	*25.8*	*25.8*	*26.7*	*25.3*	*25.9*	*25.9*	*26.8*	*25.4*	**99.7**	*103.5*	*104.0*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	*48.3*	*52.9*	*57.5*	*54.1*	*50.4*	*55.1*	*59.9*	*56.4*	**199.7**	*212.9*	*221.9*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	*19.9*	*21.8*	*23.5*	*20.7*	*20.1*	*22.1*	*23.9*	*21.0*	**84.4**	*85.9*	*87.1*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	*18.9*	*20.5*	*22.2*	*19.5*	*18.2*	*19.7*	*21.4*	*18.8*	**82.5**	*81.1*	*78.1*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	*1.1*	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.6**	*4.6*	*4.6*
Total	**228.5**	**246.7**	**264.4**	**247.2**	*243.8*	*254.1*	*271.2*	*251.7*	*247.7*	*258.5*	*275.8*	*255.9*	**986.8**	*1,020.9*	*1,038.0*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	*29.2*	*26.0*	*31.4*	*26.7*	*29.0*	*25.9*	*31.4*	*26.7*	**113.4**	*113.3*	*112.9*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	*91.5*	*81.9*	*100.6*	*84.4*	*91.5*	*82.5*	*101.2*	*84.7*	**356.9**	*358.4*	*359.9*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	*140.9*	*131.4*	*152.8*	*133.5*	*140.6*	*132.8*	*154.3*	*134.8*	**553.4**	*558.5*	*562.5*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	*80.2*	*73.6*	*86.4*	*76.2*	*81.1*	*75.4*	*87.6*	*77.1*	**305.8**	*316.4*	*321.3*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	*203.2*	*201.9*	*243.5*	*196.8*	*204.8*	*204.6*	*246.0*	*199.5*	**832.7**	*845.4*	*854.8*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	*79.1*	*74.2*	*89.7*	*73.1*	*80.0*	*74.8*	*90.0*	*73.5*	**309.2**	*316.0*	*318.3*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	*147.6*	*158.4*	*196.9*	*153.4*	*151.4*	*161.7*	*201.0*	*157.5*	**631.4**	*656.3*	*671.6*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	*66.5*	*71.9*	*87.7*	*67.4*	*67.2*	*73.0*	*89.0*	*68.2*	**291.4**	*293.5*	*297.5*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	*94.2*	*88.0*	*105.0*	*93.6*	*94.3*	*87.2*	*104.0*	*92.6*	**385.5**	*380.8*	*378.2*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	*3.7*	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*15.1*	*15.1*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	*936.0*	*911.0*	*1,097.9*	*908.8*	*943.7*	*921.4*	*1,108.4*	*918.6*	**3,794.5**	*3,853.7*	*3,892.2*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.39**	**21.34**	**21.43**	**21.95**	*23.71*	*24.44*	*24.93*	*25.53*	*27.01*	*27.08*	*26.79*	*26.66*	**21.51**	*24.64*	*26.88*
Middle Atlantic	**15.63**	**16.52**	**16.94**	**16.85**	*16.75*	*17.74*	*18.00*	*17.45*	*16.94*	*17.59*	*17.82*	*17.40*	**16.49**	*17.49*	*17.45*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	*14.03*	*15.26*	*14.78*	*14.88*	*14.32*	*15.39*	*14.90*	*15.00*	**14.10**	*14.71*	*14.88*
W. N. Central	**10.89**	**12.77**	**13.29**	**11.90**	*10.88*	*12.34*	*12.32*	*10.95*	*10.48*	*12.08*	*12.62*	*11.24*	**12.21**	*11.61*	*11.60*
S. Atlantic	**11.66**	**12.34**	**12.47**	**12.48**	*12.46*	*13.10*	*13.04*	*12.73*	*12.41*	*12.87*	*12.79*	*12.57*	**12.24**	*12.84*	*12.66*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	*11.62*	*12.49*	*12.13*	*12.03*	*11.60*	*12.50*	*12.22*	*12.11*	**11.83**	*12.05*	*12.09*
W. S. Central	**11.85**	**11.69**	**11.80**	**12.28**	*12.90*	*12.04*	*11.85*	*12.04*	*12.68*	*11.88*	*11.73*	*11.99*	**11.89**	*12.18*	*12.04*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	*12.19*	*12.68*	*12.74*	*12.49*	*12.26*	*12.64*	*12.70*	*12.47*	**12.08**	*12.55*	*12.54*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	*16.96*	*19.03*	*20.45*	*18.39*	*17.91*	*20.19*	*21.07*	*18.59*	**18.01**	*18.73*	*19.45*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	*13.85*	*14.46*	*14.43*	*14.22*	*14.02*	*14.52*	*14.47*	*14.25*	**13.72**	*14.24*	*14.32*
Commercial Sector															
New England	**16.31**	**15.97**	**16.78**	**16.88**	*17.71*	*17.55*	*18.52*	*18.49*	*19.03*	*18.38*	*18.97*	*18.63*	**16.49**	*18.08*	*18.76*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.52**	*13.55*	*14.20*	*15.04*	*14.06*	*13.78*	*14.12*	*14.85*	*13.77*	**13.43**	*14.24*	*14.15*
E. N. Central	**10.40**	**10.70**	**10.67**	**10.92**	*11.05*	*11.32*	*11.08*	*11.07*	*11.05*	*11.26*	*11.09*	*11.17*	**10.67**	*11.13*	*11.14*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	*9.11*	*9.59*	*9.65*	*8.61*	*8.58*	*9.39*	*9.93*	*8.93*	**9.97**	*9.25*	*9.23*
S. Atlantic	**9.29**	**9.19**	**9.53**	**9.95**	*9.98*	*9.71*	*9.82*	*10.01*	*9.86*	*9.57*	*9.76*	*9.94*	**9.49**	*9.87*	*9.78*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.27**	*11.20*	*11.46*	*11.42*	*11.36*	*11.24*	*11.49*	*11.51*	*11.50*	**11.19**	*11.36*	*11.44*
W. S. Central	**10.37**	**8.90**	**8.55**	**8.65**	*10.10*	*8.86*	*8.56*	*8.79*	*10.41*	*9.02*	*8.77*	*9.01*	**9.05**	*9.03*	*9.25*
Mountain	**9.11**	**9.76**	**10.20**	**9.60**	*9.48*	*10.07*	*10.37*	*9.61*	*9.43*	*9.94*	*10.25*	*9.58*	**9.70**	*9.91*	*9.83*
Pacific	**14.52**	**16.00**	**18.08**	**16.12**	*16.00*	*17.55*	*19.44*	*17.14*	*16.84*	*18.01*	*19.49*	*17.07*	**16.28**	*17.59*	*17.89*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	*11.60*	*11.59*	*11.91*	*11.60*	*11.75*	*11.62*	*11.93*	*11.61*	**11.27**	*11.68*	*11.74*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.12**	*14.71*	*13.78*	*14.42*	*14.73*	*15.13*	*13.98*	*14.49*	*14.76*	**13.58**	*14.40*	*14.59*
Middle Atlantic	**6.52**	**6.60**	**7.11**	**7.30**	*6.87*	*6.71*	*7.05*	*6.90*	*6.59*	*6.54*	*6.83*	*6.74*	**6.89**	*6.89*	*6.68*
E. N. Central	**6.97**	**6.96**	**7.38**	**7.69**	*7.36*	*7.18*	*7.46*	*7.59*	*7.36*	*7.22*	*7.48*	*7.64*	**7.26**	*7.40*	*7.43*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	*7.02*	*7.45*	*8.09*	*7.08*	*7.10*	*7.56*	*8.20*	*7.18*	**7.35**	*7.42*	*7.53*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	*6.42*	*6.40*	*6.99*	*6.70*	*6.38*	*6.36*	*6.95*	*6.69*	**6.64**	*6.64*	*6.60*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	*5.94*	*5.96*	*6.26*	*6.13*	*5.91*	*5.92*	*6.22*	*6.10*	**6.04**	*6.07*	*6.04*
W. S. Central	**7.22**	**5.45**	**6.00**	**6.13**	*6.91*	*5.43*	*5.77*	*5.79*	*6.61*	*5.24*	*5.54*	*5.60*	**6.17**	*5.95*	*5.72*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	*6.61*	*6.74*	*7.36*	*6.53*	*6.63*	*6.78*	*7.39*	*6.55*	**6.74**	*6.83*	*6.86*
Pacific	**9.69**	**10.72**	**12.62**	**11.06**	*10.17*	*11.02*	*12.81*	*11.27*	*10.43*	*11.35*	*13.16*	*11.58*	**11.10**	*11.37*	*11.68*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	*7.28*	*7.04*	*7.58*	*7.24*	*7.22*	*7.02*	*7.53*	*7.21*	**7.26**	*7.29*	*7.25*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.55**	*19.94*	*19.62*	*20.72*	*20.84*	*21.98*	*21.03*	*21.74*	*21.40*	**18.21**	*20.29*	*21.56*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	*13.44*	*13.75*	*14.64*	*13.74*	*13.54*	*13.62*	*14.44*	*13.56*	**13.26**	*13.92*	*13.82*
E. N. Central	**10.38**	**10.62**	**10.89**	**10.96**	*10.88*	*11.05*	*11.20*	*11.10*	*10.94*	*11.08*	*11.25*	*11.18*	**10.72**	*11.06*	*11.12*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	*9.16*	*9.75*	*10.11*	*8.90*	*8.84*	*9.64*	*10.34*	*9.12*	**9.92**	*9.49*	*9.51*
S. Atlantic	**9.91**	**10.02**	**10.50**	**10.46**	*10.49*	*10.53*	*10.86*	*10.56*	*10.41*	*10.38*	*10.71*	*10.46*	**10.23**	*10.62*	*10.50*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.79**	*9.65*	*9.91*	*10.17*	*9.79*	*9.66*	*9.92*	*10.22*	*9.86*	**9.78**	*9.89*	*9.93*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.94**	*10.07*	*8.76*	*9.06*	*8.78*	*9.97*	*8.67*	*8.98*	*8.75*	**9.17**	*9.15*	*9.07*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	*9.58*	*9.98*	*10.51*	*9.64*	*9.59*	*9.94*	*10.47*	*9.64*	**9.73**	*9.97*	*9.95*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	*15.20*	*16.55*	*18.40*	*16.36*	*16.03*	*17.27*	*18.78*	*16.50*	**15.83**	*16.68*	*17.19*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	*11.36*	*11.35*	*11.85*	*11.34*	*11.46*	*11.36*	*11.86*	*11.35*	**11.18**	*11.49*	*11.52*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	*327.7*	*325.4*	*447.0*	*329.9*	*315.1*	*329.8*	*447.6*	*323.8*	**1,473.6**	*1,429.9*	*1,416.3*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	*215.0*	*193.3*	*270.6*	*200.7*	*211.4*	*186.2*	*260.2*	*194.6*	**892.8**	*879.6*	*852.4*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	*195.7*	*191.3*	*204.3*	*192.1*	*194.9*	*188.1*	*208.0*	*198.6*	**778.2**	*783.4*	*789.6*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	*230.4*	*243.1*	*204.5*	*215.6*	*241.0*	*260.4*	*221.8*	*231.3*	**795.2**	*893.6*	*954.5*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	*75.0*	*80.3*	*64.2*	*58.0*	*70.9*	*82.0*	*66.0*	*60.2*	**259.0**	*277.6*	*279.1*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	*117.0*	*108.3*	*84.9*	*117.4*	*123.0*	*112.4*	*88.5*	*122.5*	**378.6**	*427.6*	*446.3*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	*27.9*	*44.3*	*44.5*	*29.8*	*36.4*	*56.3*	*56.4*	*38.4*	**113.9**	*146.5*	*187.5*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	*6.6*	*6.2*	*6.8*	*6.4*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.1*	*26.2*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	*4.0*	*3.9*	*4.0*	*4.0*	*4.0*	*3.5*	*4.0*	*3.9*	**15.7**	*15.9*	*15.4*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	*-0.9*	*-1.1*	*-1.8*	*-1.1*	*-0.8*	*-1.0*	*-1.7*	*-1.0*	**-5.1**	*-4.8*	*-4.5*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	*5.6*	*3.7*	*4.4*	*3.9*	*4.8*	*3.6*	*4.4*	*4.1*	**17.8**	*17.6*	*16.9*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	*0.9*	*0.8*	*0.9*	*0.8*	*0.9*	*0.7*	*0.9*	*0.8*	**3.2**	*3.4*	*3.3*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	*1.9*	*1.8*	*1.8*	*1.8*	*1.9*	*1.8*	*1.8*	*1.8*	**7.2**	*7.2*	*7.3*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	*976.4*	*958.2*	*1,131.7*	*943.7*	*969.3*	*969.7*	*1,142.8*	*954.1*	**3,962.8**	*4,009.9*	*4,035.8*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	*12.3*	*12.3*	*15.5*	*13.0*	*13.7*	*12.9*	*15.4*	*14.2*	**51.5**	*53.0*	*56.2*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	*0.3*	*0.1*	*0.1*	*0.0*	*0.3*	*0.4*	*0.1*	*0.0*	**0.6**	*0.5*	*0.8*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	*7.1*	*6.2*	*7.3*	*7.3*	*7.1*	*5.7*	*7.3*	*6.3*	**27.1**	*27.8*	*26.3*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	*1.9*	*2.2*	*1.2*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*7.0*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	*3.0*	*3.1*	*2.7*	*2.9*	*3.1*	*3.2*	*2.8*	*2.9*	**11.2**	*11.7*	*12.0*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	*1.4*	*0.3*	*0.3*	*0.4*	*0.7*	*0.4*	*0.3*	*0.4*	**1.5**	*2.5*	*1.8*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	*26.0*	*24.2*	*27.0*	*25.3*	*26.9*	*24.7*	*27.0*	*25.6*	**98.2**	*102.6*	*104.3*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	*29.6*	*27.2*	*32.4*	*28.3*	*30.0*	*27.5*	*32.6*	*28.6*	**116.4**	*117.5*	*118.7*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	*15.3*	*14.1*	*21.3*	*15.4*	*14.5*	*14.2*	*20.9*	*14.5*	**61.9**	*66.2*	*64.1*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	*6.5*	*6.9*	*6.6*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.8*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	*7.0*	*6.9*	*6.9*	*7.1*	*7.3*	*7.3*	*7.3*	*7.5*	**27.9**	*27.9*	*29.5*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	*2.0*	*2.0*	*1.7*	*2.1*	*2.2*	*2.5*	*2.1*	*2.7*	**7.1**	*7.7*	*9.4*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	*0.4*	*0.1*	*0.2*	*0.1*	*0.4*	*0.2*	*0.3*	*0.1*	**1.3**	*0.9*	*1.0*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	*31.2*	*30.1*	*36.7*	*31.5*	*31.0*	*30.6*	*37.5*	*31.8*	**129.3**	*129.5*	*131.0*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	*37.0*	*35.4*	*43.3*	*36.1*	*37.6*	*36.0*	*43.8*	*36.6*	**149.0**	*151.8*	*154.1*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	*73.6*	*70.0*	*88.2*	*74.9*	*76.6*	*72.9*	*94.5*	*74.7*	**310.9**	*306.7*	*318.8*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	*47.2*	*35.5*	*50.1*	*36.6*	*44.7*	*35.6*	*48.2*	*36.0*	**175.4**	*169.4*	*164.4*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	*68.5*	*67.9*	*72.3*	*66.8*	*67.9*	*67.2*	*71.9*	*69.4*	**271.7**	*275.5*	*276.4*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	*2.5*	*2.6*	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*8.9*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	*12.0*	*12.2*	*10.2*	*12.3*	*13.3*	*13.7*	*11.8*	*13.6*	**42.4**	*46.7*	*52.5*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	*0.8*	*0.6*	*0.4*	*0.6*	*0.8*	*0.6*	*0.4*	*0.6*	**2.5**	*2.3*	*2.4*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	*204.6*	*188.8*	*222.8*	*193.3*	*205.9*	*192.6*	*228.4*	*196.5*	**812.1**	*809.5*	*823.5*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	*196.2*	*176.5*	*209.5*	*182.4*	*197.4*	*180.0*	*212.6*	*185.4*	**770.2**	*764.6*	*775.3*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	*59.0*	*56.9*	*71.0*	*56.9*	*57.1*	*59.1*	*71.8*	*56.4*	**252.3**	*243.9*	*244.3*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	*35.0*	*35.8*	*50.6*	*32.6*	*35.8*	*35.3*	*49.1*	*32.2*	**137.7**	*153.9*	*152.4*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	*51.6*	*52.6*	*56.1*	*53.3*	*53.6*	*54.3*	*58.7*	*58.1*	**212.2**	*213.5*	*224.6*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	*11.3*	*8.3*	*7.3*	*8.2*	*11.0*	*8.3*	*7.4*	*8.5*	**43.9**	*35.0*	*35.2*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	*4.2*	*6.7*	*6.4*	*4.7*	*4.9*	*7.8*	*7.3*	*5.1*	**19.1**	*22.0*	*25.2*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	*0.0*	*-0.3*	*-0.5*	*-0.2*	*0.0*	*-0.2*	*-0.5*	*-0.2*	**-0.9**	*-1.0*	*-1.0*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	*161.0*	*159.9*	*190.9*	*155.5*	*162.3*	*164.5*	*193.8*	*160.1*	**664.2**	*667.3*	*680.7*
Net energy for load (f)	**163.7**	**162.3**	**186.4**	**155.7**	*166.6*	*161.6*	*192.3*	*158.5*	*167.0*	*165.0*	*195.4*	*161.6*	**668.0**	*679.0*	*689.1*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	*35.6*	*46.3*	*51.9*	*40.4*	*36.3*	*47.2*	*52.4*	*40.6*	**171.8**	*174.2*	*176.6*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	*3.2*	*2.9*	*4.0*	*2.8*	*3.2*	*2.9*	*4.0*	*2.8*	**18.3**	*12.9*	*12.8*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	*7.6*	*7.2*	*8.0*	*7.1*	*7.0*	*6.9*	*8.0*	*7.3*	**28.1**	*29.9*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	*3.1*	*3.6*	*3.5*	*2.9*	*3.6*	*4.1*	*3.8*	*3.2*	**11.0**	*13.1*	*14.7*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	*0.8*	*0.8*	*0.8*	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**2.8**	*3.1*	*3.1*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	*50.4*	*60.8*	*68.2*	*54.0*	*51.0*	*61.9*	*69.1*	*54.6*	**232.2**	*233.4*	*236.5*
Net energy for load (f)	**50.6**	**55.0**	**71.1**	**55.1**	*49.0*	*58.4*	*67.7*	*52.3*	*48.8*	*59.2*	*68.5*	*53.0*	**231.8**	*227.4*	*229.5*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	*40.7*	*37.6*	*49.9*	*34.0*	*38.4*	*43.7*	*55.3*	*38.2*	**169.7**	*162.1*	*175.6*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	*65.2*	*62.7*	*81.6*	*62.7*	*67.3*	*58.0*	*74.9*	*59.8*	**267.7**	*272.3*	*259.9*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	*23.7*	*22.4*	*24.1*	*23.5*	*22.2*	*21.0*	*24.2*	*21.4*	**95.7**	*93.8*	*88.9*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	*3.0*	*3.0*	*2.4*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*10.5*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.2**	**18.5**	**27.3**	*26.0*	*25.0*	*20.1*	*29.1*	*27.5*	*26.3*	*21.5*	*30.2*	**93.2**	*100.2*	*105.5*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	*1.7*	*1.4*	*1.5*	*1.2*	*1.6*	*1.4*	*1.5*	*1.4*	**6.4**	*5.8*	*5.8*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	*160.2*	*152.1*	*179.6*	*152.7*	*159.6*	*153.4*	*179.8*	*153.3*	**643.4**	*644.7*	*646.0*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	*159.9*	*157.4*	*182.1*	*157.8*	*161.2*	*160.1*	*184.8*	*160.5*	**647.3**	*657.2*	*666.5*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	*10.8*	*13.3*	*20.6*	*11.8*	*11.8*	*14.5*	*21.7*	*11.3*	**56.3**	*56.5*	*59.3*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	*20.0*	*15.9*	*28.7*	*19.7*	*17.7*	*15.6*	*27.7*	*19.2*	**92.0**	*84.3*	*80.2*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	*4.3*	*4.3*	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.3*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	*4.3*	*4.5*	*3.9*	*3.1*	*3.9*	*4.7*	*4.3*	*3.5*	**15.5**	*15.8*	*16.4*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	*31.3*	*26.8*	*23.4*	*29.4*	*33.6*	*28.0*	*24.5*	*30.4*	**93.6**	*110.9*	*116.5*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.7**	*0.6*	*0.6*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	*71.0*	*64.9*	*80.7*	*66.7*	*71.5*	*67.3*	*82.7*	*68.9*	**273.6**	*283.3*	*290.3*
Net energy for load (f)	**65.0**	**66.7**	**77.2**	**61.4**	*66.1*	*64.6*	*78.8*	*63.5*	*66.2*	*67.1*	*80.6*	*65.1*	**270.3**	*272.9*	*279.0*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	*30.4*	*32.4*	*51.0*	*26.8*	*21.0*	*26.1*	*44.0*	*22.9*	**164.2**	*140.6*	*113.9*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	*14.6*	*20.2*	*23.5*	*18.4*	*16.4*	*19.4*	*23.4*	*18.0*	**74.5**	*76.6*	*77.3*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	*10.9*	*10.0*	*10.6*	*10.8*	*10.7*	*9.0*	*11.0*	*10.2*	**40.2**	*42.4*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	*34.8*	*37.8*	*30.9*	*34.4*	*39.0*	*43.1*	*35.8*	*37.8*	**106.3**	*137.9*	*155.7*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.4**	*1.4*	*1.4*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	*91.2*	*101.0*	*116.5*	*90.9*	*87.6*	*98.2*	*114.7*	*89.3*	**387.1**	*399.5*	*389.8*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	*91.2*	*101.0*	*116.5*	*90.9*	*87.6*	*98.2*	*114.7*	*89.3*	**387.1**	*399.5*	*389.8*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	*21.8*	*17.4*	*31.4*	*25.6*	*21.2*	*16.5*	*29.0*	*23.4*	**90.2**	*96.2*	*90.1*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	*22.1*	*14.4*	*23.1*	*20.6*	*20.8*	*14.3*	*23.8*	*19.0*	**90.5**	*80.2*	*77.9*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	*2.4*	*2.4*	*2.4*	*2.4*	*2.3*	*1.2*	*2.4*	*2.4*	**8.5**	*9.6*	*8.3*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	*39.0*	*42.1*	*30.9*	*27.7*	*34.0*	*41.7*	*30.6*	*27.9*	**121.0**	*139.7*	*134.2*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	*16.9*	*17.8*	*16.3*	*18.3*	*18.6*	*19.2*	*17.6*	*20.4*	**65.5**	*69.2*	*75.8*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*	**0.7**	*0.8*	*0.8*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	*102.5*	*94.2*	*104.4*	*94.8*	*97.1*	*93.1*	*103.6*	*93.3*	**376.4**	*395.8*	*387.1*
Net energy for load (f)	**89.3**	**84.4**	**97.1**	**89.4**	*95.7*	*85.3*	*96.3*	*88.4*	*90.9*	*85.5*	*96.7*	*88.5*	**360.3**	*365.7*	*361.6*
Southwest															
Natural Gas	**10.9**	**15.7**	**20.1**	**12.1**	*9.5*	*11.8*	*19.5*	*10.5*	*8.0*	*10.8*	*17.8*	*9.0*	**58.7**	*51.3*	*45.7*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	*5.1*	*4.2*	*6.4*	*5.0*	*2.9*	*3.3*	*6.5*	*5.2*	**26.8**	*20.7*	*17.9*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	*8.2*	*7.4*	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.6*	*32.0*
Conventional hydropower	**2.5**	**3.2**	**3.2**	**2.0**	*2.4*	*3.7*	*3.7*	*2.4*	*2.8*	*3.9*	*3.8*	*2.6*	**10.9**	*12.2*	*13.1*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	*4.7*	*5.2*	*4.2*	*5.0*	*5.2*	*5.8*	*4.6*	*5.5*	**14.0**	*19.1*	*21.0*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.1**	*0.2*	*0.1*
Total generation	**30.4**	**35.7**	**43.4**	**32.6**	*29.9*	*32.4*	*42.5*	*30.3*	*27.2*	*31.4*	*41.4*	*29.8*	**142.1**	*135.1*	*129.8*
Net energy for load (f)	**19.7**	**25.8**	**32.0**	**20.7**	*22.0*	*25.8*	*33.5*	*21.8*	*21.0*	*25.8*	*33.6*	*21.7*	**98.2**	*103.2*	*102.0*
California															
Natural Gas	**16.5**	**17.5**	**28.8**	**21.0**	*18.0*	*12.5*	*26.0*	*19.9*	*15.7*	*11.1*	*24.2*	*17.8*	**83.8**	*76.4*	*68.9*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	*2.0*	*1.2*	*2.1*	*1.8*	*2.1*	*1.1*	*2.2*	*1.8*	**7.6**	*7.1*	*7.2*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	*4.8*	*3.9*	*4.4*	*4.0*	*4.6*	*4.7*	*4.7*	*4.7*	**16.5**	*17.1*	*18.7*
Conventional hydropower	**2.0**	**3.2**	**3.7**	**2.4**	*3.1*	*6.4*	*5.8*	*3.0*	*4.2*	*7.5*	*6.7*	*3.6*	**11.2**	*18.3*	*22.0*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	*17.0*	*22.2*	*20.3*	*16.2*	*18.7*	*24.2*	*23.3*	*18.8*	**71.1**	*75.7*	*85.0*
Other energy sources (e)	**0.0**	**-0.1**	**0.0**	**-0.1**	*0.1*	*-0.1*	*-0.1*	*0.0*	*0.2*	*0.0*	*-0.1*	*0.1*	**-0.2**	*-0.1*	*0.2*
Total generation	**38.7**	**47.4**	**59.6**	**44.3**	*44.9*	*46.1*	*58.6*	*44.9*	*45.5*	*48.6*	*61.0*	*47.0*	**190.0**	*194.5*	*202.0*
Net energy for load (f)	**56.3**	**63.7**	**77.3**	**60.0**	*60.8*	*61.5*	*75.6*	*59.8*	*57.9*	*61.7*	*75.8*	*59.8*	**257.2**	*257.7*	*255.3*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	*0.035*	*0.034*	*0.035*	*0.035*	*0.035*	*0.031*	*0.035*	*0.034*	**0.138**	*0.139*	*0.135*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.551**	*0.668*	*0.715*	*0.572*	*0.516*	*0.632*	*0.730*	*0.588*	*0.536*	**2.263**	*2.472*	*2.485*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	*0.248*	*0.395*	*0.396*	*0.265*	*0.324*	*0.501*	*0.503*	*0.342*	**1.014**	*1.304*	*1.670*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	*0.058*	*0.057*	*0.058*	*0.057*	*0.058*	*0.058*	*0.057*	*0.056*	**0.236**	*0.231*	*0.229*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	*0.044*	*0.040*	*0.049*	*0.043*	*0.046*	*0.041*	*0.050*	*0.044*	**0.199**	*0.176*	*0.180*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	*1.042*	*0.964*	*0.756*	*1.045*	*1.096*	*1.001*	*0.788*	*1.090*	**3.372**	*3.808*	*3.975*
Subtotal	**1.800**	**1.881**	**1.673**	**1.867**	*2.095*	*2.206*	*1.866*	*1.963*	*2.190*	*2.361*	*2.020*	*2.103*	**7.222**	*8.129*	*8.674*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.169**	**0.188**	**0.185**	**0.201**	*0.186*	*0.190*	*0.194*	*0.197*	*0.184*	*0.192*	*0.193*	*0.197*	**0.744**	*0.767*	*0.766*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	*0.008*	*0.011*	*0.011*	*0.008*	*0.009*	*0.012*	*0.013*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	*0.040*	*0.039*	*0.039*	*0.041*	*0.040*	*0.040*	*0.039*	*0.041*	**0.160**	*0.160*	*0.160*
Wood Biomass	**0.334**	**0.340**	**0.344**	**0.334**	*0.334*	*0.343*	*0.358*	*0.360*	*0.350*	*0.348*	*0.360*	*0.362*	**1.351**	*1.395*	*1.421*
Subtotal (e)	**0.559**	**0.586**	**0.586**	**0.593**	*0.576*	*0.593*	*0.611*	*0.614*	*0.591*	*0.600*	*0.613*	*0.617*	**2.324**	*2.394*	*2.422*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	*0.032*	*0.047*	*0.047*	*0.033*	*0.037*	*0.053*	*0.054*	*0.037*	**0.140**	*0.159*	*0.181*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	*0.009*	*0.008*	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.035**	*0.035*	*0.035*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	*0.020*	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.084**	**0.086**	**0.072**	*0.075*	*0.089*	*0.091*	*0.076*	*0.080*	*0.096*	*0.098*	*0.081*	**0.312**	*0.332*	*0.355*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.068**	*0.074*	*0.115*	*0.115*	*0.079*	*0.085*	*0.128*	*0.127*	*0.086*	**0.329**	*0.382*	*0.426*
Wood Biomass	**0.112**	**0.113**	**0.115**	**0.115**	*0.112*	*0.113*	*0.115*	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.454**	*0.454*	*0.454*
Subtotal	**0.187**	**0.222**	**0.222**	**0.193**	*0.196*	*0.238*	*0.239*	*0.203*	*0.207*	*0.251*	*0.251*	*0.211*	**0.824**	*0.876*	*0.920*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	*0.112*	*0.118*	*0.112*	*0.133*	*0.126*	*0.127*	*0.128*	*0.158*	**0.372**	*0.475*	*0.538*
Ethanol (g)	**0.243**	**0.281**	**0.285**	**0.285**	*0.259*	*0.283*	*0.286*	*0.285*	*0.258*	*0.285*	*0.287*	*0.287*	**1.094**	*1.112*	*1.118*
Subtotal	**0.322**	**0.376**	**0.374**	**0.394**	*0.371*	*0.401*	*0.398*	*0.417*	*0.384*	*0.412*	*0.415*	*0.445*	**1.466**	*1.587*	*1.656*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	*0.112*	*0.118*	*0.112*	*0.133*	*0.126*	*0.127*	*0.128*	*0.158*	**0.372**	*0.475*	*0.538*
Biofuel Losses and Co-products (d)	**0.169**	**0.188**	**0.185**	**0.201**	*0.186*	*0.190*	*0.194*	*0.197*	*0.184*	*0.192*	*0.193*	*0.197*	**0.744**	*0.767*	*0.766*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.301**	*0.271*	*0.296*	*0.298*	*0.298*	*0.270*	*0.298*	*0.300*	*0.300*	**1.146**	*1.162*	*1.168*
Geothermal	**0.050**	**0.052**	**0.052**	**0.051**	*0.052*	*0.051*	*0.052*	*0.052*	*0.052*	*0.048*	*0.052*	*0.051*	**0.205**	*0.207*	*0.203*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.553**	*0.671*	*0.718*	*0.574*	*0.519*	*0.635*	*0.733*	*0.590*	*0.538*	**2.274**	*2.483*	*2.496*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.283**	*0.362*	*0.567*	*0.570*	*0.384*	*0.454*	*0.695*	*0.696*	*0.475*	**1.491**	*1.884*	*2.320*
Waste Biomass (c)	**0.110**	**0.107**	**0.105**	**0.108**	*0.107*	*0.105*	*0.106*	*0.107*	*0.107*	*0.105*	*0.105*	*0.106*	**0.430**	*0.425*	*0.424*
Wood Biomass	**0.517**	**0.519**	**0.534**	**0.514**	*0.511*	*0.517*	*0.542*	*0.538*	*0.528*	*0.523*	*0.546*	*0.541*	**2.084**	*2.108*	*2.138*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	*1.042*	*0.964*	*0.756*	*1.045*	*1.096*	*1.001*	*0.788*	*1.090*	**3.372**	*3.808*	*3.975*
Total Consumption	**2.939**	**3.150**	**2.941**	**3.125**	*3.307*	*3.527*	*3.205*	*3.274*	*3.452*	*3.720*	*3.397*	*3.457*	**12.154**	*13.313*	*14.026*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,263**	**6,099**	**6,082**	**6,080**	*6,077*	*6,110*	*6,112*	*6,114*	*6,090*	*6,109*	*6,050*	*6,050*	**6,080**	*6,114*	*6,050*
Waste	**3,759**	**3,738**	**3,736**	**3,735**	*3,731*	*3,764*	*3,766*	*3,768*	*3,744*	*3,763*	*3,704*	*3,704*	**3,735**	*3,768*	*3,704*
Wood	**2,504**	**2,361**	**2,346**	**2,346**	*2,346*	*2,346*	*2,346*	*2,346*	*2,346*	*2,346*	*2,346*	*2,346*	**2,346**	*2,346*	*2,346*
Conventional Hydroelectric	**78,689**	**78,760**	**78,763**	**78,763**	*78,783*	*78,808*	*78,853*	*78,853*	*78,848*	*78,858*	*78,880*	*78,928*	**78,763**	*78,853*	*78,928*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	*2,500*	*2,500*	*2,500*	*2,525*	*2,525*	*2,525*	*2,525*	*2,525*	**2,483**	*2,525*	*2,525*
Large-Scale Solar (b)	**50,330**	**52,320**	**55,558**	**60,487**	*65,541*	*69,932*	*72,949*	*82,147*	*85,200*	*91,163*	*93,516*	*106,414*	**60,487**	*82,147*	*106,414*
Wind	**120,947**	**124,489**	**126,442**	**131,990**	*136,426*	*138,519*	*138,744*	*141,756*	*141,906*	*143,422*	*143,422*	*146,936*	**131,990**	*141,756*	*146,936*
Other Sectors (c)															
Biomass	**6,216**	**6,219**	**6,224**	**6,224**	*6,224*	*6,224*	*6,216*	*6,216*	*6,216*	*6,228*	*6,228*	*6,228*	**6,224**	*6,216*	*6,228*
Waste	**775**	**779**	**778**	**778**	*778*	*778*	*778*	*778*	*778*	*778*	*778*	*778*	**778**	*778*	*778*
Wood	**5,441**	**5,441**	**5,446**	**5,446**	*5,446*	*5,446*	*5,438*	*5,438*	*5,438*	*5,450*	*5,450*	*5,450*	**5,446**	*5,438*	*5,450*
Conventional Hydroelectric	**291**	**291**	**289**	**289**	*291*	*291*	*291*	*291*	*291*	*291*	*291*	*291*	**289**	*291*	*291*
Large-Scale Solar (b)	**475**	**477**	**510**	**528**	*553*	*562*	*565*	*579*	*581*	*581*	*582*	*582*	**528**	*579*	*582*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	*33,769*	*34,829*	*35,940*	*37,022*	*38,048*	*39,109*	*40,203*	*41,333*	**32,972**	*37,022*	*41,333*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	*21,654*	*22,384*	*23,079*	*23,732*	*24,334*	*24,958*	*25,602*	*26,266*	**21,022**	*23,732*	*26,266*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	*9,848*	*10,124*	*10,480*	*10,849*	*11,212*	*11,588*	*11,976*	*12,379*	**9,728**	*10,849*	*12,379*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	*2,267*	*2,321*	*2,381*	*2,442*	*2,502*	*2,563*	*2,625*	*2,688*	**2,223**	*2,442*	*2,688*
Wind	**347**	**347**	**347**	**347**	*347*	*347*	*347*	*347*	*347*	*347*	*347*	*347*	**347**	*347*	*347*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	*6.6*	*6.2*	*6.8*	*6.4*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.1*	*26.2*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	*3.8*	*3.8*	*3.8*	*3.8*	*3.8*	*3.8*	*3.7*	*3.7*	**15.5**	*15.2*	*15.0*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	*2.7*	*2.5*	*3.0*	*2.7*	*2.8*	*2.5*	*3.1*	*2.7*	**12.4**	*10.9*	*11.2*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	*75.0*	*80.3*	*64.2*	*58.0*	*70.9*	*82.0*	*66.0*	*60.2*	**259.0**	*277.6*	*279.1*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	*4.0*	*3.9*	*4.0*	*4.0*	*4.0*	*3.5*	*4.0*	*3.9*	**15.7**	*15.9*	*15.4*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	*27.9*	*44.3*	*44.5*	*29.8*	*36.4*	*56.3*	*56.4*	*38.4*	**113.9**	*146.5*	*187.5*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	*117.0*	*108.3*	*84.9*	*117.4*	*123.0*	*112.4*	*88.5*	*122.5*	**378.6**	*427.6*	*446.3*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	*6.9*	*6.8*	*7.1*	*6.8*	*6.9*	*6.8*	*7.1*	*6.8*	**27.6**	*27.6*	*27.6*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	*6.2*	*6.1*	*6.4*	*6.1*	*6.2*	*6.1*	*6.4*	*6.1*	**24.8**	*24.8*	*24.8*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*0.9*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	*11.2*	*16.9*	*17.0*	*11.6*	*12.9*	*19.2*	*19.2*	*13.1*	**49.0**	*56.7*	*64.4*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	*6.9*	*10.6*	*10.7*	*7.3*	*8.0*	*12.1*	*12.0*	*8.1*	**30.1**	*35.4*	*40.2*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	*3.5*	*5.0*	*5.1*	*3.5*	*4.0*	*5.8*	*5.8*	*4.0*	**15.1**	*17.1*	*19.5*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	*0.8*	*1.2*	*1.3*	*0.9*	*0.9*	*1.4*	*1.4*	*1.0*	**3.8**	*4.2*	*4.7*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**1.1**	*1.0*	*0.8*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	*19,884*	*20,079*	*20,218*	*20,352*	*20,475*	*20,609*	*20,749*	*20,901*	**19,427**	*20,133*	*20,684*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,843**	*13,913*	*14,028*	*14,089*	*14,172*	*14,270*	*14,381*	*14,493*	*14,611*	**13,631**	*14,051*	*14,439*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,596**	*3,667*	*3,702*	*3,726*	*3,738*	*3,748*	*3,765*	*3,791*	*3,828*	**3,585**	*3,708*	*3,783*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**225**	*119*	*144*	*160*	*167*	*157*	*147*	*144*	*143*	**-26**	*148*	*148*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,357**	*3,364*	*3,377*	*3,391*	*3,401*	*3,413*	*3,424*	*3,432*	*3,442*	**3,376**	*3,384*	*3,428*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,401**	*2,453*	*2,505*	*2,554*	*2,595*	*2,633*	*2,668*	*2,699*	*2,730*	**2,310**	*2,527*	*2,683*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,739**	*3,793*	*3,834*	*3,855*	*3,868*	*3,895*	*3,927*	*3,964*	*4,010*	**3,591**	*3,838*	*3,949*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,633**	**15,401**	*15,236*	*15,370*	*15,513*	*15,617*	*15,761*	*15,875*	*15,991*	*16,112*	**16,015**	*15,434*	*15,935*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	*150.0*	*151.1*	*152.0*	*152.7*	*153.2*	*153.7*	*154.0*	*154.3*	**146.1**	*151.5*	*153.8*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	*3.9*	*3.6*	*3.5*	*3.5*	*3.5*	*3.5*	*3.6*	*3.7*	**5.4**	*3.6*	*3.6*
Housing Starts															
(millions - SAAR)	**1.60**	**1.59**	**1.56**	**1.64**	*1.59*	*1.50*	*1.44*	*1.38*	*1.34*	*1.32*	*1.32*	*1.33*	**1.60**	*1.48*	*1.33*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.7**	**101.7**	*103.3*	*105.0*	*105.6*	*106.2*	*106.8*	*107.4*	*108.0*	*108.5*	**100.2**	*105.0*	*107.7*
Manufacturing	**97.3**	**98.7**	**99.7**	**100.9**	*101.9*	*103.6*	*104.5*	*105.5*	*106.4*	*107.3*	*108.0*	*108.8*	**99.2**	*103.9*	*107.6*
Food	**101.2**	**100.5**	**99.4**	**101.1**	*102.4*	*102.7*	*102.7*	*102.9*	*103.3*	*103.7*	*104.0*	*104.5*	**100.6**	*102.7*	*103.9*
Paper	**93.9**	**95.0**	**95.1**	**95.7**	*96.1*	*96.0*	*96.2*	*96.4*	*96.8*	*97.2*	*97.4*	*97.5*	**94.9**	*96.2*	*97.2*
Petroleum and Coal Products	**90.5**	**95.9**	**94.7**	**95.8**	*96.7*	*97.2*	*97.6*	*98.1*	*98.4*	*98.7*	*98.7*	*98.8*	**94.2**	*97.4*	*98.7*
Chemicals	**91.8**	**99.3**	**99.6**	**101.4**	*102.5*	*103.0*	*103.5*	*104.1*	*104.7*	*105.3*	*105.7*	*106.3*	**98.0**	*103.3*	*105.5*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.5**	**98.2**	*100.3*	*100.2*	*100.2*	*100.1*	*100.2*	*100.7*	*101.3*	*102.2*	**96.9**	*100.2*	*101.1*
Primary Metals	**92.4**	**96.7**	**98.0**	**98.9**	*99.3*	*98.4*	*98.7*	*99.2*	*100.1*	*101.4*	*101.9*	*102.5*	**96.5**	*98.9*	*101.5*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.3**	**97.5**	*98.6*	*98.4*	*98.7*	*99.1*	*99.6*	*100.3*	*100.6*	*101.1*	**95.6**	*98.7*	*100.4*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.7**	**104.2**	*105.8*	*106.2*	*106.6*	*106.9*	*107.2*	*107.6*	*108.0*	*108.5*	**102.6**	*106.4*	*107.8*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.7**	**99.0**	*100.3*	*100.7*	*101.3*	*102.0*	*102.6*	*103.4*	*103.8*	*104.3*	**97.1**	*101.1*	*103.5*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.8**	**97.2**	*98.5*	*98.7*	*99.3*	*99.9*	*100.5*	*101.2*	*101.4*	*101.8*	**95.1**	*99.1*	*101.2*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	*2.82*	*2.83*	*2.85*	*2.85*	*2.87*	*2.88*	*2.90*	*2.91*	**2.71**	*2.84*	*2.89*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	*2.40*	*2.41*	*2.41*	*2.40*	*2.40*	*2.40*	*2.41*	*2.41*	**2.27**	*2.40*	*2.41*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	*2.81*	*3.25*	*3.06*	*2.76*	*2.68*	*2.66*	*2.59*	*2.46*	**2.41**	*2.97*	*2.60*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	*122.5*	*123.7*	*124.6*	*125.3*	*125.9*	*126.6*	*127.4*	*128.1*	**118.5**	*124.0*	*127.0*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,139**	**9,368**	**8,933**	*8,386*	*9,373*	*9,531*	*9,068*	*8,526*	*9,507*	*9,684*	*9,258*	**8,846**	*9,092*	*9,247*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**553**	**596**	**659**	**674**	*648*	*719*	*725*	*693*	*688*	*702*	*730*	*710*	**621**	*697*	*707*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**258**	**340**	**372**	**379**	*375*	*412*	*415*	*389*	*378*	*421*	*423*	*398*	**338**	*398*	*405*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	*212.6*	*232.5*	*227.2*	*239.9*	*209.1*	*238.9*	*242.2*	*254.0*	**217.5**	*228.0*	*236.1*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	*0.258*	*0.259*	*0.269*	*0.277*	*0.289*	*0.290*	*0.300*	*0.308*	**0.258**	*0.266*	*0.297*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**569**	**575**	*563*	*573*	*583*	*582*	*562*	*577*	*588*	*588*	**2,221**	*2,301*	*2,315*
Natural Gas	**485**	**353**	**373**	**419**	*503*	*354*	*378*	*433*	*489*	*358*	*381*	*433*	**1,629**	*1,668*	*1,662*
Coal	**255**	**228**	**306**	**233**	*238*	*217*	*296*	*236*	*236*	*210*	*287*	*231*	**1,022**	*987*	*963*
Total Energy (c)	**1,260**	**1,143**	**1,251**	**1,230**	*1,307*	*1,146*	*1,260*	*1,255*	*1,290*	*1,148*	*1,258*	*1,255*	**4,883**	*4,968*	*4,951*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**976**	**993**	**999**	**1,016**	*1,019*	*1,031*	*1,038*	*1,044*	*1,050*	*1,056*	*1,063*	*1,070*	**996**	*1,033*	*1,059*
Middle Atlantic	**2,740**	**2,788**	**2,806**	**2,845**	*2,864*	*2,886*	*2,909*	*2,929*	*2,946*	*2,964*	*2,984*	*3,005*	**2,795**	*2,897*	*2,975*
E. N. Central	**2,482**	**2,521**	**2,526**	**2,569**	*2,577*	*2,602*	*2,618*	*2,636*	*2,649*	*2,665*	*2,681*	*2,698*	**2,525**	*2,608*	*2,673*
W. N. Central	**1,201**	**1,220**	**1,222**	**1,240**	*1,243*	*1,254*	*1,262*	*1,269*	*1,275*	*1,283*	*1,291*	*1,300*	**1,221**	*1,257*	*1,287*
S. Atlantic	**3,381**	**3,433**	**3,458**	**3,516**	*3,526*	*3,562*	*3,584*	*3,606*	*3,626*	*3,648*	*3,672*	*3,698*	**3,447**	*3,570*	*3,661*
E. S. Central	**834**	**845**	**848**	**861**	*864*	*871*	*876*	*881*	*885*	*890*	*895*	*900*	**847**	*873*	*893*
W. S. Central	**2,332**	**2,365**	**2,380**	**2,429**	*2,442*	*2,470*	*2,492*	*2,511*	*2,533*	*2,554*	*2,574*	*2,595*	**2,376**	*2,479*	*2,564*
Mountain	**1,264**	**1,284**	**1,291**	**1,313**	*1,319*	*1,333*	*1,342*	*1,353*	*1,363*	*1,375*	*1,387*	*1,400*	**1,288**	*1,337*	*1,381*
Pacific	**3,675**	**3,746**	**3,774**	**3,840**	*3,853*	*3,891*	*3,915*	*3,942*	*3,965*	*3,991*	*4,018*	*4,047*	**3,759**	*3,900*	*4,005*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.1**	**96.4**	**97.8**	**93.5**	*94.3*	*95.8*	*96.6*	*97.5*	*98.3*	*99.1*	*99.7*	*100.4*	**95.7**	*96.1*	*99.4*
Middle Atlantic	**93.0**	**94.3**	**95.7**	**91.9**	*92.9*	*94.5*	*95.3*	*96.1*	*96.9*	*97.6*	*98.1*	*98.7*	**93.8**	*94.7*	*97.8*
E. N. Central	**95.0**	**95.8**	**96.8**	**100.2**	*101.3*	*103.2*	*104.3*	*105.6*	*106.5*	*107.6*	*108.3*	*109.1*	**97.0**	*103.6*	*107.9*
W. N. Central	**98.0**	**99.3**	**100.9**	**101.1**	*102.2*	*103.6*	*104.6*	*105.4*	*106.2*	*107.0*	*107.7*	*108.5*	**99.8**	*103.9*	*107.3*
S. Atlantic	**98.9**	**100.3**	**101.2**	**106.1**	*107.1*	*108.8*	*109.8*	*110.7*	*111.5*	*112.4*	*113.1*	*113.9*	**101.6**	*109.1*	*112.7*
E. S. Central	**97.8**	**98.9**	**99.9**	**106.2**	*106.8*	*108.4*	*109.1*	*110.1*	*110.7*	*111.6*	*112.3*	*113.1*	**100.7**	*108.6*	*111.9*
W. S. Central	**98.8**	**100.4**	**101.3**	**95.6**	*96.8*	*98.6*	*99.5*	*100.4*	*101.2*	*102.2*	*103.0*	*103.8*	**99.0**	*98.8*	*102.6*
Mountain	**105.2**	**107.6**	**108.0**	**114.9**	*115.9*	*117.6*	*118.6*	*119.7*	*120.6*	*121.7*	*122.6*	*123.5*	**108.9**	*118.0*	*122.1*
Pacific	**93.5**	**94.7**	**95.2**	**96.5**	*97.7*	*99.6*	*100.7*	*101.9*	*103.1*	*103.9*	*104.7*	*105.4*	**95.0**	*100.0*	*104.3*
Real Personal Income (Billion $2012)															
New England	**997**	**947**	**937**	**927**	*922*	*933*	*941*	*947*	*955*	*961*	*967*	*974*	**952**	*936*	*964*
Middle Atlantic	**2,624**	**2,460**	**2,444**	**2,409**	*2,402*	*2,417*	*2,440*	*2,455*	*2,475*	*2,489*	*2,505*	*2,523*	**2,484**	*2,428*	*2,498*
E. N. Central	**2,744**	**2,524**	**2,502**	**2,461**	*2,441*	*2,468*	*2,490*	*2,507*	*2,528*	*2,545*	*2,563*	*2,580*	**2,558**	*2,476*	*2,554*
W. N. Central	**1,278**	**1,196**	**1,182**	**1,165**	*1,155*	*1,166*	*1,177*	*1,185*	*1,196*	*1,205*	*1,215*	*1,224*	**1,205**	*1,171*	*1,210*
S. Atlantic	**3,719**	**3,441**	**3,420**	**3,397**	*3,374*	*3,411*	*3,445*	*3,470*	*3,503*	*3,531*	*3,561*	*3,590*	**3,494**	*3,425*	*3,546*
E. S. Central	**1,023**	**925**	**920**	**910**	*902*	*911*	*918*	*924*	*932*	*938*	*944*	*950*	**945**	*914*	*941*
W. S. Central	**2,246**	**2,086**	**2,076**	**2,069**	*2,061*	*2,085*	*2,108*	*2,124*	*2,146*	*2,165*	*2,183*	*2,203*	**2,119**	*2,095*	*2,174*
Mountain	**1,377**	**1,277**	**1,272**	**1,260**	*1,252*	*1,266*	*1,278*	*1,288*	*1,300*	*1,313*	*1,325*	*1,338*	**1,296**	*1,271*	*1,319*
Pacific	**3,256**	**3,076**	**3,055**	**3,020**	*2,990*	*3,022*	*3,047*	*3,067*	*3,091*	*3,114*	*3,137*	*3,162*	**3,102**	*3,032*	*3,126*
Households (Thousands)															
New England	**6,054**	**6,061**	**6,058**	**6,069**	*6,083*	*6,098*	*6,113*	*6,126*	*6,137*	*6,149*	*6,159*	*6,169*	**6,069**	*6,126*	*6,169*
Middle Atlantic	**16,405**	**16,405**	**16,395**	**16,419**	*16,451*	*16,492*	*16,526*	*16,562*	*16,596*	*16,626*	*16,653*	*16,678*	**16,419**	*16,562*	*16,678*
E. N. Central	**19,076**	**19,090**	**19,092**	**19,135**	*19,182*	*19,226*	*19,262*	*19,298*	*19,334*	*19,367*	*19,399*	*19,430*	**19,135**	*19,298*	*19,430*
W. N. Central	**8,717**	**8,729**	**8,734**	**8,758**	*8,784*	*8,815*	*8,843*	*8,865*	*8,887*	*8,910*	*8,930*	*8,951*	**8,758**	*8,865*	*8,951*
S. Atlantic	**26,284**	**26,358**	**26,405**	**26,516**	*26,634*	*26,765*	*26,880*	*26,987*	*27,092*	*27,191*	*27,286*	*27,383*	**26,516**	*26,987*	*27,383*
E. S. Central	**7,816**	**7,830**	**7,839**	**7,864**	*7,891*	*7,921*	*7,948*	*7,970*	*7,992*	*8,012*	*8,032*	*8,052*	**7,864**	*7,970*	*8,052*
W. S. Central	**15,332**	**15,379**	**15,415**	**15,484**	*15,558*	*15,637*	*15,708*	*15,770*	*15,831*	*15,890*	*15,948*	*16,005*	**15,484**	*15,770*	*16,005*
Mountain	**9,612**	**9,653**	**9,687**	**9,742**	*9,798*	*9,854*	*9,907*	*9,953*	*9,998*	*10,044*	*10,086*	*10,130*	**9,742**	*9,953*	*10,130*
Pacific	**19,002**	**18,992**	**18,976**	**19,004**	*19,047*	*19,095*	*19,137*	*19,167*	*19,197*	*19,226*	*19,255*	*19,287*	**19,004**	*19,167*	*19,287*
Total Non-farm Employment (Millions)															
New England	**7.0**	**7.1**	**7.2**	**7.3**	*7.3*	*7.4*	*7.4*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.1**	*7.4*	*7.5*
Middle Atlantic	**18.4**	**18.5**	**18.7**	**18.9**	*19.1*	*19.3*	*19.5*	*19.5*	*19.6*	*19.7*	*19.7*	*19.8*	**18.6**	*19.4*	*19.7*
E. N. Central	**21.0**	**21.1**	**21.3**	**21.6**	*21.8*	*21.9*	*22.0*	*22.1*	*22.2*	*22.2*	*22.3*	*22.3*	**21.3**	*22.0*	*22.2*
W. N. Central	**10.3**	**10.4**	**10.5**	**10.6**	*10.7*	*10.7*	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	*10.9*	**10.5**	*10.8*	*10.9*
S. Atlantic	**28.0**	**28.2**	**28.6**	**28.9**	*29.2*	*29.4*	*29.6*	*29.7*	*29.8*	*29.9*	*30.0*	*30.1*	**28.4**	*29.5*	*30.0*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.2**	*8.3*	*8.3*	*8.4*	*8.4*	*8.4*	*8.5*	*8.5*	*8.5*	**8.1**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.8**	*18.0*	*18.1*	*18.2*	*18.3*	*18.4*	*18.4*	*18.5*	*18.5*	**17.5**	*18.1*	*18.5*
Mountain	**10.8**	**10.9**	**11.1**	**11.2**	*11.3*	*11.4*	*11.4*	*11.5*	*11.5*	*11.6*	*11.6*	*11.7*	**11.0**	*11.4*	*11.6*
Pacific	**22.0**	**22.5**	**22.8**	**23.1**	*23.4*	*23.6*	*23.7*	*23.9*	*24.0*	*24.0*	*24.1*	*24.1*	**22.6**	*23.7*	*24.0*

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - March 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,017**	**783**	**86**	**1,924**	*3,203*	*860*	*132*	*2,138*	*3,088*	*848*	*132*	*2,138*	**5,811**	*6,333*	*6,207*
Middle Atlantic	**2,819**	**667**	**56**	**1,724**	*2,983*	*678*	*83*	*1,964*	*2,835*	*668*	*83*	*1,964*	**5,267**	*5,707*	*5,549*
E. N. Central	**3,086**	**709**	**69**	**1,888**	*3,281*	*702*	*122*	*2,251*	*3,071*	*705*	*122*	*2,251*	**5,752**	*6,356*	*6,149*
W. N. Central	**3,228**	**718**	**88**	**2,028**	*3,419*	*685*	*163*	*2,473*	*3,238*	*709*	*163*	*2,473*	**6,063**	*6,739*	*6,583*
South Atlantic	**1,345**	**211**	**10**	**798**	*1,387*	*189*	*13*	*949*	*1,373*	*189*	*13*	*947*	**2,364**	*2,538*	*2,522*
E. S. Central	**1,789**	**312**	**19**	**1,032**	*1,841*	*240*	*20*	*1,307*	*1,789*	*247*	*20*	*1,307*	**3,152**	*3,407*	*3,363*
W. S. Central	**1,296**	**121**	**1**	**495**	*1,256*	*72*	*4*	*825*	*1,204*	*90*	*4*	*825*	**1,913**	*2,158*	*2,124*
Mountain	**2,308**	**663**	**110**	**1,636**	*2,288*	*686*	*144*	*1,862*	*2,259*	*708*	*144*	*1,861*	**4,716**	*4,980*	*4,971*
Pacific	**1,555**	**484**	**78**	**1,206**	*1,439*	*628*	*92*	*1,205*	*1,542*	*613*	*92*	*1,206*	**3,322**	*3,364*	*3,454*
U.S. Average	**2,106**	**472**	**51**	**1,306**	*2,160*	*483*	*74*	*1,531*	*2,094*	*484*	*74*	*1,529*	**3,935**	*4,247*	*4,182*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	*3,101*	*853*	*108*	*2,104*	*3,158*	*866*	*108*	*2,110*	**6,195**	*6,165*	*6,242*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	*2,887*	*684*	*71*	*1,908*	*2,949*	*693*	*71*	*1,911*	**5,572**	*5,550*	*5,624*
E. N. Central	**3,157**	**731**	**104**	**2,170**	*3,133*	*728*	*97*	*2,162*	*3,216*	*736*	*96*	*2,171*	**6,161**	*6,119*	*6,219*
W. N. Central	**3,248**	**728**	**133**	**2,368**	*3,219*	*726*	*125*	*2,357*	*3,311*	*744*	*126*	*2,369*	**6,477**	*6,427*	*6,549*
South Atlantic	**1,395**	**181**	**11**	**916**	*1,380*	*187*	*11*	*905*	*1,405*	*190*	*10*	*901*	**2,503**	*2,483*	*2,507*
E. S. Central	**1,771**	**231**	**16**	**1,249**	*1,763*	*243*	*15*	*1,227*	*1,811*	*249*	*14*	*1,226*	**3,267**	*3,248*	*3,301*
W. S. Central	**1,140**	**86**	**3**	**786**	*1,145*	*93*	*3*	*754*	*1,180*	*97*	*3*	*765*	**2,015**	*1,995*	*2,045*
Mountain	**2,188**	**704**	**135**	**1,850**	*2,181*	*685*	*132*	*1,817*	*2,200*	*696*	*135*	*1,826*	**4,877**	*4,816*	*4,856*
Pacific	**1,461**	**553**	**81**	**1,147**	*1,454*	*523*	*79*	*1,136*	*1,443*	*525*	*80*	*1,140*	**3,242**	*3,192*	*3,187*
U.S. Average	**2,112**	**483**	**65**	**1,487**	*2,095*	*479*	*62*	*1,473*	*2,134*	*485*	*62*	*1,475*	**4,147**	*4,109*	*4,157*
Cooling Degree Days															
New England	**0**	**141**	**452**	**6**	*0*	*82*	*409*	*2*	*0*	*83*	*409*	*2*	**599**	*493*	*494*
Middle Atlantic	**0**	**182**	**630**	**24**	*0*	*152*	*540*	*5*	*0*	*153*	*540*	*5*	**835**	*697*	*698*
E. N. Central	**2**	**249**	**627**	**30**	*0*	*223*	*540*	*6*	*0*	*221*	*540*	*6*	**908**	*770*	*768*
W. N. Central	**8**	**311**	**745**	**23**	*3*	*272*	*666*	*9*	*3*	*265*	*666*	*9*	**1,088**	*951*	*943*
South Atlantic	**152**	**617**	**1,171**	**284**	*125*	*654*	*1,167*	*238*	*126*	*652*	*1,167*	*239*	**2,224**	*2,184*	*2,184*
E. S. Central	**40**	**435**	**1,018**	**127**	*23*	*520*	*1,051*	*65*	*28*	*511*	*1,051*	*65*	**1,620**	*1,661*	*1,656*
W. S. Central	**90**	**769**	**1,473**	**315**	*90*	*917*	*1,523*	*196*	*83*	*861*	*1,524*	*196*	**2,646**	*2,725*	*2,664*
Mountain	**10**	**528**	**961**	**67**	*14*	*426*	*929*	*77*	*17*	*425*	*930*	*77*	**1,566**	*1,447*	*1,448*
Pacific	**24**	**250**	**697**	**58**	*28*	*162*	*567*	*61*	*27*	*163*	*567*	*60*	**1,029**	*818*	*817*
U.S. Average	**49**	**410**	**901**	**127**	*44*	*408*	*856*	*94*	*43*	*400*	*857*	*95*	**1,488**	*1,401*	*1,395*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	*0*	*87*	*471*	*2*	*0*	*87*	*464*	*2*	**555**	*560*	*553*
Middle Atlantic	**0**	**163**	**610**	**6**	*0*	*162*	*608*	*8*	*0*	*159*	*600*	*8*	**779**	*779*	*767*
E. N. Central	**3**	**234**	**572**	**7**	*3*	*237*	*571*	*10*	*1*	*230*	*559*	*10*	**816**	*821*	*801*
W. N. Central	**7**	**294**	**686**	**10**	*7*	*299*	*681*	*11*	*4*	*288*	*667*	*12*	**997**	*998*	*971*
South Atlantic	**143**	**679**	**1,194**	**260**	*147*	*668*	*1,189*	*269*	*141*	*670*	*1,189*	*274*	**2,276**	*2,272*	*2,274*
E. S. Central	**42**	**532**	**1,065**	**74**	*44*	*518*	*1,057*	*84*	*35*	*513*	*1,058*	*86*	**1,713**	*1,703*	*1,693*
W. S. Central	**114**	**881**	**1,568**	**210**	*113*	*853*	*1,536*	*224*	*105*	*843*	*1,534*	*225*	**2,772**	*2,726*	*2,707*
Mountain	**24**	**441**	**949**	**85**	*23*	*458*	*945*	*84*	*23*	*451*	*942*	*83*	**1,499**	*1,511*	*1,499*
Pacific	**31**	**193**	**648**	**86**	*31*	*208*	*664*	*85*	*31*	*208*	*655*	*84*	**959**	*988*	*978*
U.S. Average	**52**	**413**	**892**	**104**	*53*	*412*	*889*	*109*	*50*	*410*	*884*	*110*	**1,461**	*1,463*	*1,454*

- = no data available

Notes: EIA completed modeling and analysis for this report on March 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

April 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The April *Short-Term Energy Outlook* (STEO) is subject to heightened levels of uncertainty resulting from a variety of factors, including Russia's further invasion of Ukraine. This STEO assumes U.S. GDP will grow by 3.4% in 2022 and by 3.1% in 2023, following growth of 5.7% in 2021. We use the S&P Global macroeconomic model to generate our U.S. economic assumptions. Global macroeconomic assumptions in our forecast are from Oxford Economics and include global GDP growth of 4.0% in 2022 and 3.7% in 2023, compared with growth of 6.0% in 2021. A wide range of potential macroeconomic outcomes could significantly affect energy markets during the forecast period. Energy supply uncertainty results from the conflict in Ukraine, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- The Brent crude oil spot price averaged $117 per barrel (b) in March, a $20/b increase from February. Crude oil prices increased following the further invasion of Ukraine by Russia. Sanctions on Russia and other actions contributed to falling oil production in Russia and created significant market uncertainties about the potential for further oil supply disruptions. These events occurred against a backdrop of low oil inventories and persistent upward oil price pressures. Global oil inventory draws averaged 1.7 million barrels per day (b/d) from the third quarter of 2020 (3Q20) through the end of 2021. We estimate that commercial oil inventories in the OECD ended 1Q22 at 2.61 billion barrels, up slightly from February, which was the lowest level since April 2014.

- We expect the Brent price will average $108/b in 2Q22 and $102/b in the second half of 2022 (2H22). We expect the average price to fall to $93/b in 2023. However, this price forecast is highly uncertain. Actual price outcomes will depend on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market. In addition, the degree to which other oil producers respond to current oil prices, as well as the effects macroeconomic developments might have on global oil demand, will be important for oil price formation in the coming months. Although we reduced Russia's oil production in our forecast, we still expect that global oil inventories will build at an average rate of 0.5 million b/d from 2Q22 through the end of 2023, which we expect will put downward pressure on crude oil prices. However, if production

disruptions—in Russia or elsewhere—are more than we forecast, the resulting crude oil prices would be higher than our current forecast.

- We estimate that 98.3 million b/d of petroleum and liquid fuels was consumed globally in March 2022, an increase of 2.4 million b/d from March 2021. We forecast that global consumption of petroleum and liquid fuels will average 99.8 million b/d for all of 2022, which is a 2.4 million b/d increase from 2021. However, this forecast is down by 0.8 million b/d from last month's forecast as a result of downward revisions to global GDP growth from Oxford Economics. We forecast that global consumption of petroleum and liquid fuels will rise by 1.9 million b/d in 2023 to average 101.7 million b/d. The outlook for economic growth and oil consumption in Russia and surrounding countries continues to be highly uncertain.

- We are publishing the *Summer Fuels Outlook* as a supplement to this STEO. We expect U.S. prices for retail gasoline will average $3.84 per gallon (gal) this summer (April–September), which would be up from $3.06/gal last summer and the highest price (adjusted for inflation) since the summer of 2014. Retail diesel prices for the summer average $4.57/gal in the forecast, which would also be the highest inflation-adjusted price for the summer since 2014.

- U.S. crude oil production in the forecast averages 12.0 million b/d in 2022, up 0.8 million b/d from 2021. We forecast production to increase another 0.9 million b/d in 2023 to average almost 13.0 million b/d, surpassing the previous annual average record of 12.3 million b/d set in 2019.

Natural Gas

- In March, the Henry Hub natural gas spot price averaged $4.90 per million British thermal units (MMBtu), which was up from the February average of $4.69/MMBtu, as inventory withdrawals slightly outpaced the five-year (2017–2021) average. We expect liquefied natural gas (LNG) exports will increase from March levels, contributing to a Henry Hub price of $5.95/MMBtu for April. We expect the Henry Hub price will average $5.68/MMBtu in 2Q22 and $5.23/MMBtu for all of 2022. We expect the Henry Hub spot price will average $4.01/MMBtu in 2023. The forecast drop in prices for 2023 reflects our expectation that storage levels will be higher during 2023 than in 2022.

- We estimate that natural gas inventories ended March at 1.4 trillion cubic feet (Tcf), which is 17% below the five-year (2017−2021) average. Inventory withdrawals in March were 203 billion cubic feet (Bcf), resulting from relatively flat production and rising natural gas exports. We expect natural gas inventories to increase by 245 Bcf in April, as the injection season begins, ending the month at about almost 1.7 Tcf, which would be 14% below the five-year average for this time of year. We forecast that natural gas

inventories will end the 2022 injection season (end of October) at 3.5 Tcf, which is 4% below the five-year average.

- In March, U.S. LNG exports averaged 11.9 billion cubic feet per day (Bcf/d), an increase of 0.7 Bcf/d from February. LNG prices in Europe remain high amid supply uncertainties due to Russia's further invasion of Ukraine and the need to replenish Europe's natural gas inventories, which has kept Europe's demand for LNG elevated. Inventories in Europe were 26% full as of March 31, compared with the five-year average of 34%. We expect high levels of U.S. LNG exports to continue in 2022, averaging 12.2 Bcf/d for the year, a 25% increase from 2021.

- We expect that U.S. consumption of natural gas will average 84.1 Bcf/d in 2022, up 1% from 2021. The increase in U.S. natural gas consumption is a result of colder forecast temperatures in 2022 compared with 2021, which results in more consumption in the residential and commercial sectors. In addition, we expect the industrial sector to consume more natural gas in 2022 in response to expanding economic activity. We expect U.S. natural gas consumption will average 84.7 Bcf/d in 2023.

- We estimate dry natural gas production averaged 96.2 Bcf/d in the United States in March, up 1.2 Bcf/d from February. Similar to January and February, production in March was lower than in December because of brief periods of freezing temperatures in certain production regions and, in part, because of maintenance, according to public sources. We forecast dry natural gas production to average 96.9 Bcf/d in April. For all of 2022, we expect that dry natural gas production will average 97.4 Bcf/d, which would be 3.8 Bcf/d more than in 2021. We expect dry natural gas production to average of 100.9 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- We forecast that the annual share of U.S. electricity generation from renewable energy sources will rise from 20% in 2021, to 22% in 2022, and to 23% in 2023, as a result of continuing increases in solar and wind generating capacity. This increase in renewable generation leads to a decline in natural gas generation, which falls from a 37% share in 2021 to 35% in both 2022 and 2023. Natural gas generation falls in the forecast even though we expect the cost of natural gas for power generation to fall from an average of $5.85/MMBtu in 2Q22 to an annual average of $4.21/MMBtu in 2023. Although new natural gas-fired power generating units are scheduled to come online in 2022, they are likely to be run at lower utilization rates than in recent years. Increasing renewable generation also contributes to our forecast that the share of generation from coal will fall from 23% in both 2021 and 2022 to 21% by 2023. A major contributor to coal's declining generation share next year will be the retirement of coal-fired generating capacity during 2022. Nuclear generation remains relatively constant in the forecast at an average share of 20%. Although one nuclear reactor will be retired during 2022, that

loss will be offset by the opening of one new 1.1 GW reactor late in 2022, which will be the first new nuclear reactor to open in the United States since 2016.

- Planned additions to U.S. wind and solar capacity in 2022 and 2023 increase electricity generation from those sources in our forecast. We estimate that the U.S. electric power sector added 14 gigawatts (GW) of new wind capacity in 2021. We expect 10 GW of new wind capacity will come online in 2022 and 4 GW in 2023. Utility-scale solar capacity rose by 13 GW in 2021. Our forecast for added utility-scale solar capacity is 20 GW for 2022 and 24 GW for 2023. We expect solar additions to account for nearly half of new electric generating capacity in 2022. In addition, in 2021 small-scale solar increased by 5 GW to a total of 33 GW. We expect small-scale solar capacity (systems less than 1 megawatt) will grow by 4 GW in 2022 and by almost 6 GW in 2023.

- U.S. coal production in the forecast increases by 43 million short tons (MMst) (7%) in 2022 to 621 MMst and increases by 12 MMSt (2%) in 2023. We expect production in the Western region to drive the increases. Additional coal production will help refill electric sector inventories that were depleted during 2021.

- We expect U.S. coal consumption to increase by 14 MMst in 2022 and then decrease by 32 MMst in 2023 due to natural gas prices that are currently high, but which we expect will decline through the forecast. We expect coke plant consumption to fall by 10% in 2022 but increase next year back to 2021 levels.

- Coal exports in our forecast total 89 MMst in 2022, up 4% from 2021. We assume international prices will continue to drive increasing U.S. coal exports as the conflict in Ukraine creates the potential to disrupt supplies from Russia. However, exports to Asia, and particularly China, which supported U.S. coal exports in 2021 have slowed in 1Q22. We also assume transportation and terminal capacity constraints will limit exports in the forecast.

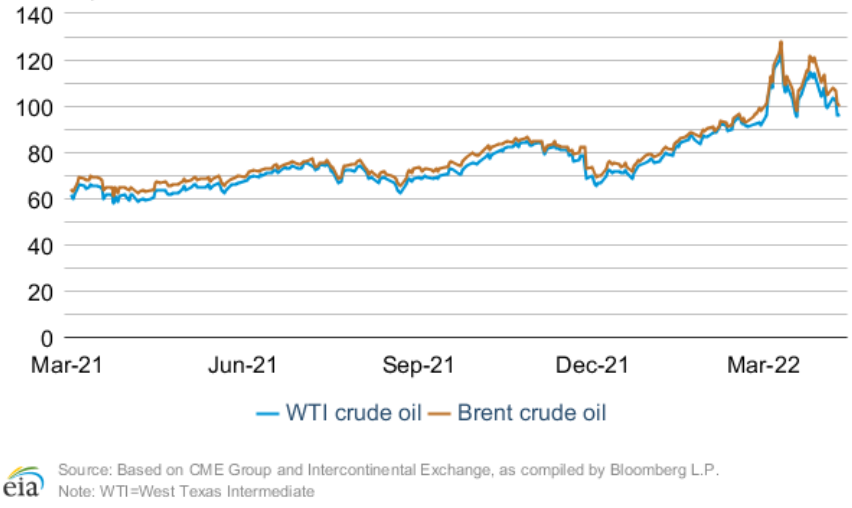
- U.S. energy-related carbon dioxide (CO_2) emissions increased by more than 6% in 2021 as economic activity increased and contributed to rising energy use. We expect a 2% increase in energy-related CO_2 emissions in 2022, primarily from growing transportation-related petroleum consumption. Forecast energy-related CO_2 emissions remain almost unchanged in 2023. We expect petroleum emissions to increase by 4% in 2022 compared with 2021, though this growth rate slows to less than 1% in 2023. Natural gas emissions are relatively flat in 2022 and then increase by 2% in our forecast for 2023. We forecast that coal-related CO_2 emissions will grow by 3% in 2022 and then fall 6% in 2023.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $100.58 per barrel (b) on April 7, 2022, a decrease of $4.39/b from the March 1, 2022, price of $104.97/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $7.38/b during the same period, settling at $96.03/b on April 7 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: Based on CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Crude oil prices in March were subject to a wide range of price pressures and sustained price volatility throughout most of the month. Russia's further invasion of Ukraine, which began on February 24—as well as trade disruptions, sanctions, and private sector divestments from doing business in Russia—continued to contribute to substantial uncertainty in petroleum markets during March. The conflict in Ukraine increased crude oil prices to over $100/b in late February, and the Brent crude oil price closed above $100/b for all but two trading days in March. On March 8, the United States government announced a ban on petroleum imports from Russia, further contributing to temporary price increases associated with trade displacement. In addition to western sanctions and the U.S. import ban, weather-related disruptions at Kazakhstan's Caspian Pipeline Consortium (CPC) terminal along Russia's Black Sea Coast, as well as a fire related to a Houthi missile attack at a Saudi Aramco oil storage and distribution facility in Jeddah, contributed to additional volatility and risk of supply disruptions. On March 31, the White House announced a release of 1 million barrels of crude oil per day for a period of six months from the U.S. Strategic Petroleum Reserve (SPR) to expand supply and ease pressure on prices. On April 7, the International Energy Agency (IEA) confirmed an additional coordinated release. These releases from strategic reserves have contributed to downward oil price pressure by offsetting market perceptions of the risk of supply disruptions.

In addition to substantial supply-side uncertainty in March, city-scale mobility restrictions in China related to surging cases of COVID-19 contributed to heightened demand-side risks and downward pressure on crude oil prices during the month. Reports of restrictions began in early March, notably in the Jilin province and major industrial city of Shenzhen. On March 28, restrictions were announced in Shanghai and were extended on an indefinite basis on April 4.

Although front-month oil futures prices in early April have fallen from their early March levels, monthly average crude oil prices in March increased substantially over February. The average Brent front-month futures price in March 2022 was $112/b, an increase of $18/b (20%) over February 2022 and $47/b (71%) over March 2021. The Brent crude oil price in March closed at a monthly high of $128/b on March 8, and WTI also closed at a high of almost $124/b on the same day.

We lowered our outlooks for both global oil production and consumption in this STEO compared with last month's forecast. Lower expected oil production is primarily driven by reduced expectations of petroleum production in Russia, while lower expected consumption reflects reduced expectations of economic growth and associated fuels demand, as well as the impact of present COVID-19 responses in China. Despite the lower forecast for oil consumption, we continue to expect consumption to increase going into the summer. We forecast that rising consumption, falling oil production in Russia, and the risk of supply outages amid low global inventory levels will support crude oil prices in the coming months. However, we expect the release of strategic reserves by the United States and the IEA will limit upward price pressures. We forecast the Brent crude oil price in the second quarter (2Q22) will average $108/b before decreasing to $104/b in the 3Q22 and $101/b in 4Q22. Although we forecast Russia's oil production will decline by 1.7 million b/d from February 2022 to the end of 2023, global oil production will nonetheless increase as a result of higher production elsewhere, mostly from the United States and OPEC. We forecast that increasing production will be sufficient to contribute to net global builds in total petroleum inventories in 2Q22, and we expect global inventory to continue to build on a quarterly basis through the end of 2023. Significant sources of uncertainty in our forecast include:

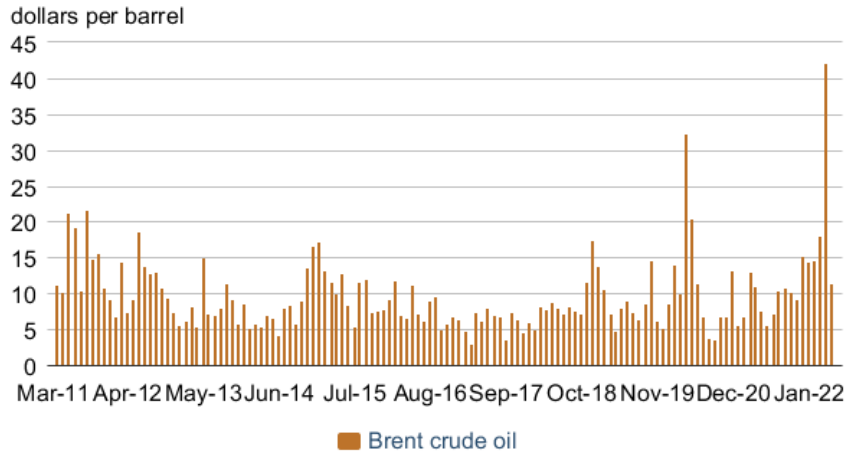
- Uncertainty related to geopolitical developments between Russia and Ukraine, the way in which existing sanctions on Russia will affect its oil production, and potential additional U.S. and EU sanctions on Russia
- The pace of oil demand growth in the summer
- The volume of new crude oil production at current price levels
- The potential for demand destruction because of high retail prices for petroleum products

Brent crude oil price trading range: The monthly price trading range for front-month Brent crude oil futures in March was $42/b, which was 38% of the monthly average price of $112/b

(Figure 2). This trading range is the widest since April 2020 in percentage terms, when the range averaged 77% of the monthly average price of $27/b. In March and April 2020, the market experienced significant price volatility from the initial effects of the COVID-19 pandemic. The wide price range is one measure of substantial volatility in the market, reflecting rapid changes in crude oil prices and heightened sensitivity to new market information. Several factors contributed to the wide swings in price within March, including:

- The competing pressures of trade displacement associated with sanctions on Russia and related divestments
- The impact of new mobility restrictions in China
- The announced SPR release
- Ongoing sources of uncertainty on future COVID-19 developments
- Additional geopolitical risks related to Iran and Libya

Figure 2. Monthly Brent crude oil price trading ranges

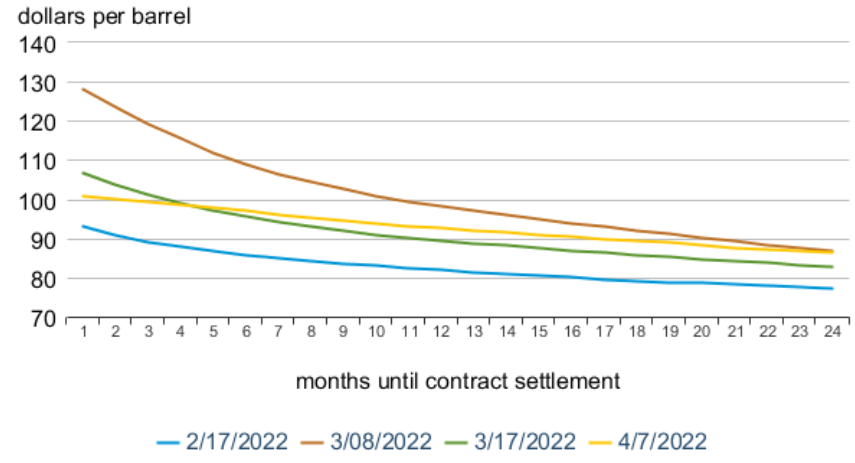


eia Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Brent futures strips: Energy market participants typically look at futures contracts in the form of futures strips to compare the price of crude oil over time. Crude oil futures strips show the sequential delivery of future contracts over a 24-month period. In the past six weeks, increased volatility in the Brent crude oil price has led to substantially different prices throughout the crude oil futures price strip **(Figure 3)**. On February 17, before the start of Russia's further invasion into Ukraine, the front-month Brent future price was $92.97/b, and the price for delivery two years in the future was trading below $80/b. By March 8, when prices reached their most recent peak, the front-month price was $127.98/b, and the price for crude oil delivery in August 2023 increased to $92.90/b. Backwardation, the condition in futures markets where

near-term prices are higher than longer-dated ones, increased to $30.90/b for the one-year ahead price spread between the front-month contracts and 13th-month contracts (1−13).

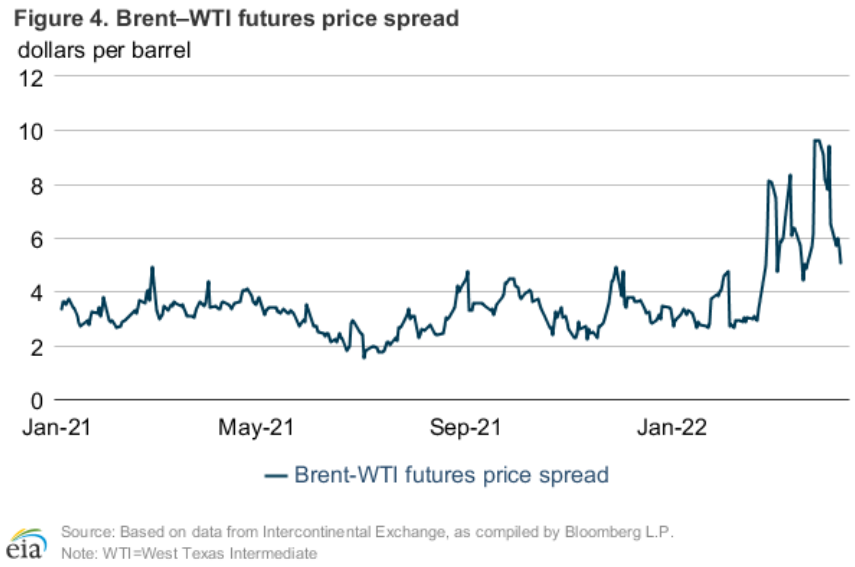
Figure 3. Brent crude oil futures price curves



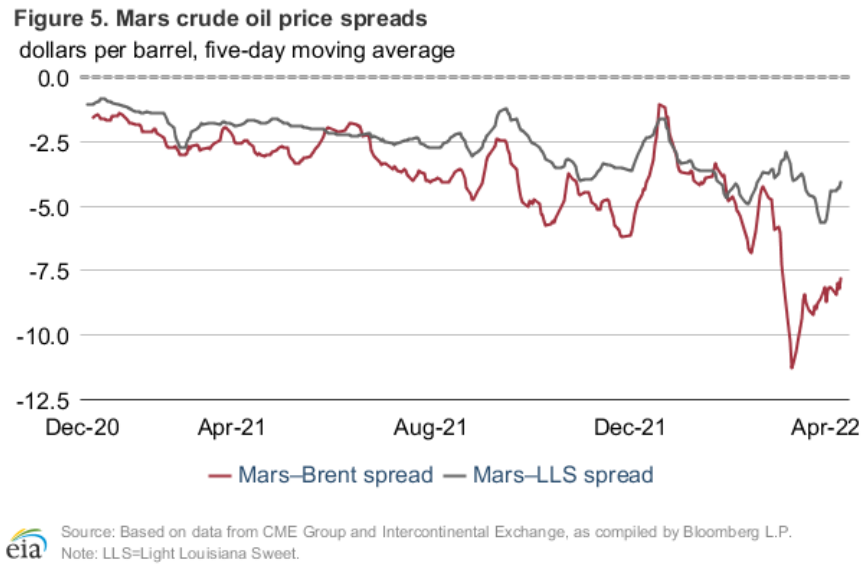
Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

On April 7, backwardation decreased with the front-month price at $100.58/b and the 1–13 price spread at $8.54/b, less than the 1–13 spread on February 17 of $11.67/b. Although shorter-term contract prices have decreased, which may be related to the recently announced release of expanded crude oil supply from the SPR, longer-term futures prices remain elevated. Prices do not fall below $80/b for crude oil delivery through the next two years, indicating a tighter crude oil market in the long term. A higher price for long-dated Brent crude oil could be the result of market uncertainty around future Russian crude oil production and availability.

Crude oil price differentials: Sharp widening in the differentials between Brent crude oil and WTI crude oil likely reflects the effects of current market risks and disruptions from European markets compared with markets in the Western Hemisphere. This regional price spread is reflected in both spot market and front-month futures prices. After increasing sharply in late February, the front-month futures spread between Brent and WTI increased to a monthly average of $6.83/b in March; its highest point since June 2019 **(Figure 4)**. As of April 7, the spread was $5.07/b. We forecast the Brent-WTI spot price spread will average $6.00/b in April and May before declining to $5.50/b by July 2022. Brent crude oil and WTI crude oil are both light, sweet crude oil grades, meaning they have low sulfur contents and relatively high API gravity.



The impacts of recent market uncertainty have also affected the spread between Brent crude oil and other North American grades. The price differentials between the Mars crude oil spot price and the Brent spot price continued to widen in March 2022 **(Figure 5)**. Mars is a medium, sour crude oil grade with an API gravity of 28.0 and a sulfur content of 1.93%, in contrast to Brent with an API gravity of 37.9 and a sulfur content of 0.45%. Medium and heavy grades, as well as sour grades, typically sell at a discount to light, sweet grades because they require more complex refining units to produce profitable yields of higher quality refined products such as gasoline or distillate fuel oil. However, the relative value of this discount varies according to market conditions and can reflect relative scarcity of certain grades. In addition to the difference in crude oil quality, the Mars-Brent differential also reflects geographic disparities, similar to the Brent-WTI differential. The Mars-Brent spread averaged -$8.98/b in March, and the five-day moving average was -$7.83/b on April 7.



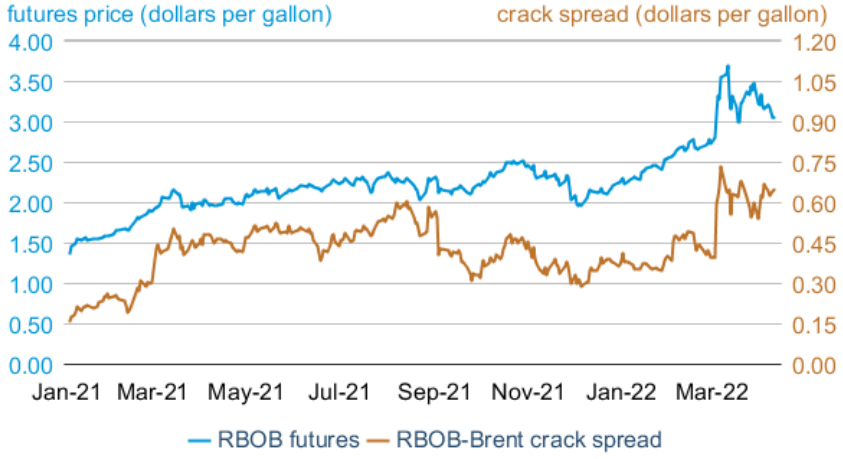
Unlike Brent, the Light Louisiana Sweet (LLS) benchmark is priced at the U.S. Gulf Coast, but similar to Brent and WTI, it is a light, sweet crude oil. The Mars-LLS spread averaged -$4.32/b in March, and the five-day moving average was -$4.11/b on April 7. The wide Mars-LLS spread reflects an increasing price premium for LLS based on its crude oil quality over Mars because both grades are priced at the U.S. Gulf Coast spot market and reflect market conditions for U.S. Gulf Coast refiners. Although not as wide as the Mars-Brent spread, the wide Mars-LLS differential suggests an increasing premium on light, sweet crude oil grades, or conversely, an increasing discount on medium, sour crude oil grades.

Mars is a U.S. benchmark grade but is also relatively similar in terms of quality to Russia's Urals grade, another medium, sour crude oil. Urals is the most exported Russian crude oil grade and has been subject to the most disruption in response to the sanctions levied on Russia. As Russia's crude oil production and exports decrease, it may contribute to rising medium, sour crude oil prices as volumes of Urals are taken off the market. However, the current width in the Mars-LLS spread suggests that a reduction in Russia's exports to the global market may not be currently reflected in the crude oil quality price spread at the U.S. Gulf Coast. One potential explanation may be that because Urals is forced to sell at a substantial discount to global benchmarks, the Urals discount may be putting downward pressure on other global medium, sour crude oil prices. As many buyers distance themselves from Russian purchases, buyers are still willing and able to buy discounted Urals, while non-Russian medium, sour crude oil grades may be experiencing some pressure on prices to remain competitive with Urals in certain markets. Alternatively, the widening Mars-LLS differential may not yet reflect reduced global supplies of medium, sour crude oil because of the distance from European markets or general market volatility.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $3.04 per gallon (gal) on April 7, down 5 cents/gal from March 1 **(Figure 6)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at 65 cents/gal on April 7, up 6 cents/gal during the same period. The average RBOB–Brent crack spread in March was 62 cents/gal, 17 cents/gal higher than February.

Figure 6. Historical RBOB front-month futures prices and crack spreads



Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

Increases in RBOB prices and the crack spread reflect rapidly increasing crude oil prices and reduced Russian petroleum products trade in the international market. Prices and crack spreads also increased as a result of the seasonal shift to producing more expensive summer-grade gasoline. Over a five-day period from February 28 to March 4, the crack spread increased by 34 cents/gal and closed on March 4 at 73 cents/gal. Since March 4, the crack spread has not fallen below 54 cents/gal. On March 8, RBOB prices settled at $3.68/gal. The average RBOB price in March was $3.30/gal.

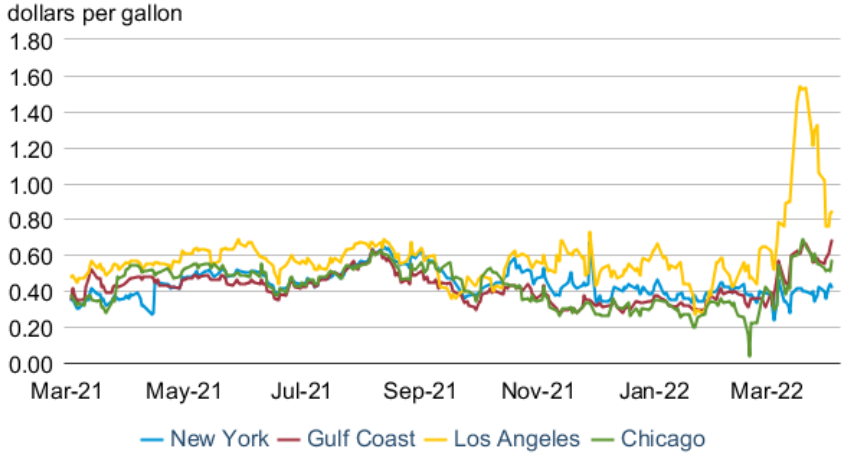
We estimate U.S. gasoline consumption averaged 8.6 million barrels a day (b/d) in March, which is 0.7 million b/d (7%) lower than the 2015–19 average and slightly higher than in March 2021. We expect vehicle miles traveled to increase by 1 billion miles per day (12%) between March and July as the summer travel season begins. We estimate gasoline inventories decreased by 7.8 million barrels in March and were 2.6% below the five-year (2017–2021) average. However, expected production increases in response to higher crack spreads suggest U.S. inventories will increase above the five-year average by June and remain above average for the rest of 2022.

West Coast gasoline spot market: Products in the West Coast gasoline spot market typically sell at a premium to those in other parts of the country because the region is relatively isolated from other refining centers in the United States and more expensive gasoline specifications in

California narrow supply options. However, West Coast premiums in March rose to the highest levels on a real basis since mid-2015, as reduced refinery capacity, unplanned refinery and other infrastructure outages, and higher than normal volatility in market prices constrained an already tight market for gasoline. Planned refinery outages typically do not drive large price increases. Refineries prepare ahead of outages to ensure adequate inventories and alternative sources of supplies are available. However, unplanned refinery outages can result in large price increases, especially when they occur at the same time as planned outages in a tightly balanced market.

Recent planned outages include turnaround activity at Marathon's 382,000-b/d Los Angeles refinery and Valero's 93,000-b/d Wilmington refinery, which extended its maintenance schedule after unplanned flaring on March 26. Unplanned outages this month include Kinder Morgan's SFPP pipeline entering unplanned maintenance on March 4 due to a petroleum product release at its Watson facility in Long Beach, PBF's 166,200-b/d Torrance refinery beginning unplanned maintenance on March 6 that has continued to disrupt operations as of April 5, and Valero's 149,000-b/d Benicia refinery experiencing mechanical issues on March 10. With West Coast gasoline inventories below average since the beginning of the year, an increasingly tight market pushed the Los Angeles CARBOB-Brent crack spread to $1.53/gal on March 18, a $1.12/gal premium over the New York Harbor spot crack spread **(Figure 7)**.

Figure 7. Spot market gasoline crack spread

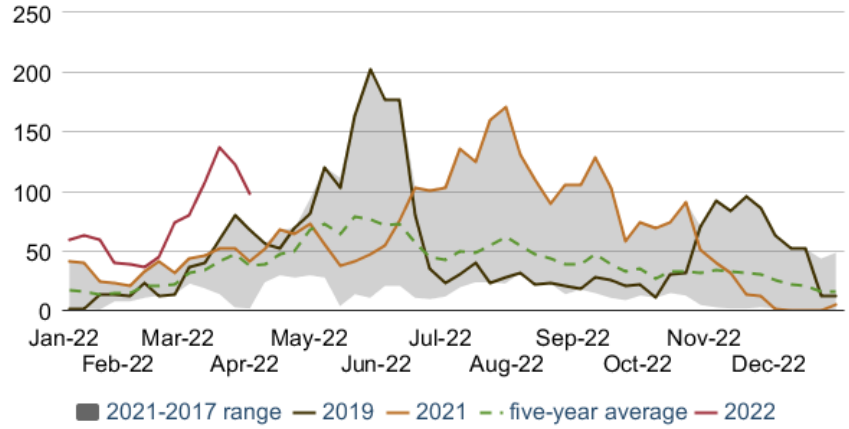


eia Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Refinery closures in the West may be contributing to low refinery output of gasoline and resulting low inventories, which contributes to higher prices. Another consequence of these refinery closures, particularly during unplanned refinery outages, is more gasoline imports into the West Coast. From mid-2020, refinery capacity in the West Coast has declined by about 200,000 b/d (7.5%). Since the beginning of the year, data from our *Weekly Petroleum Status Report* shows West Coast gasoline imports have been higher than the five-year range maximum for this time of year, reaching a four-week average of 137,000 b/d in the week ending March 18 **(Figure 8)**. In previous years, imports have generally been low except for similar periods of

market tightness, such as during several refinery outages in mid-2019. Total gasoline imports into the West Coast began increasing in 2021, reaching high levels even in the absence of significant unplanned outages, such as in the summer of 2021. This trend suggests the region may need more imports to offset the loss of supplies from reduced refining capacity. According to trade press reports, arrivals of gasoline and alkylate (a gasoline blending stock needed to produce Los Angeles CARBOB specification fuel) helped spur a drop in the Los Angeles spot market gasoline crack spread in the second half of March.

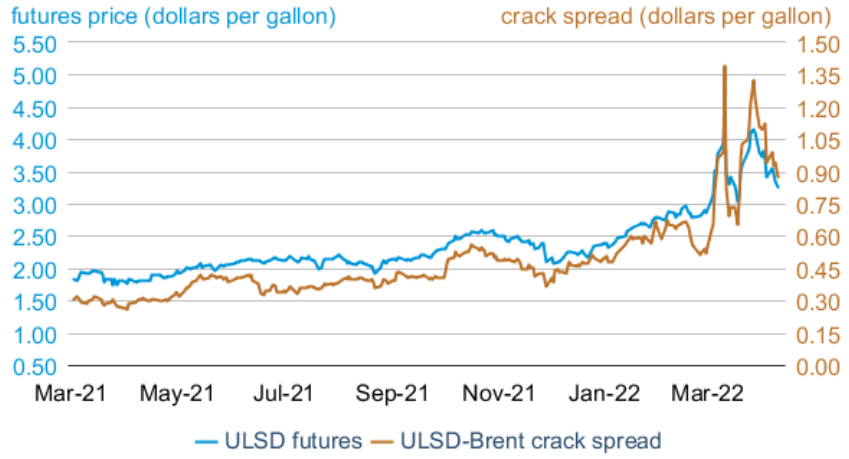
Figure 8. West coast (PADD 5) gasoline imports
thousands of barrels per day, four-week average



eia Source: U.S. Energy Information Administration, Weekly Petroleum Status Report

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $3.27/gal on April 7, a 12 cent/gal increase from March 1 **(Figure 9)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 22 cents/gal during the same period and settled at 87 cents/gal on April 7.

Figure 9. Historical ULSD front-month futures prices and crack spreads

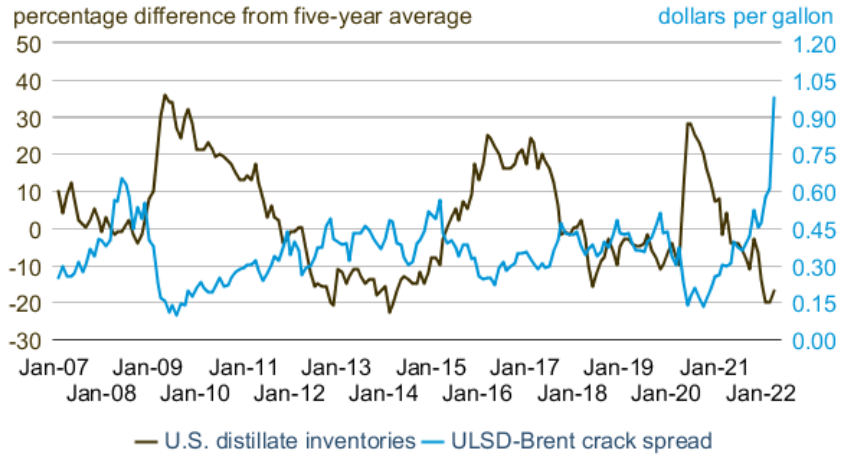


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

Low inventories and high consumption globally contributed to the increasing ULSD-Brent crack spread in March. The ULSD-Brent crack spread reached as high as $1.39/gal on March 8 and averaged 97 cents/gal for the month, which—even when adjusted for inflation—is the highest monthly average crack spread in our data going back to July 1988. Our 4.0 million b/d estimate for distillate fuel oil consumption in March was 3% lower than the five-year average. Additionally, our March distillate production estimate of 5.0 million b/d was the highest since April 2020 and contributed to the first distillate inventory build since October 2021.

U.S. distillate inventories in March were 17% below their five-year March average **(Figure 10)**. As distillate inventories have come down from their June 2020 peak, ULSD-Brent crack spreads have been increasing. The more recent increase in the ULSD-Brent crack spread has been due to the possibility of reduced distillate exports from Russia, adding to the already short global supply. We estimate U.S. distillate production in March increased by 0.4 million b/d (8%), contributing to a slight inventory build, and we forecast inventories to generally increase throughout 2022.

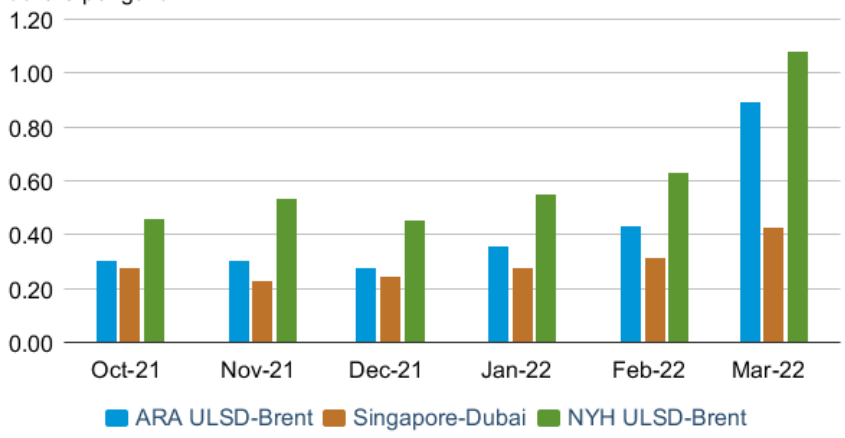
Figure 10. U.S. distillate inventories and ULSD-Brent crack spread



eia Source: Based on data from CME Group, as compiled by Bloomberg, L.P.

Low distillate inventories across the globe have been causing high spot distillate crack spreads at the major global trading hubs in Amsterdam, Rotterdam, and Antwerp (ARA); Singapore; and New York Harbor (NYH). In March, the ARA ULSD-Brent crack spread averaged 90 cents/gal, the Singapore-Dubai crack spread averaged 43 cents/gal, and the NYH ULSD-Brent crack spread averaged $1.08/gal **(Figure 11)**. Although distillate crack spreads have been increasing across the globe, they increased more at the ARA and NYH trading hubs in March, likely because of bans on petroleum imports from Russia into the United States and parts of Europe. The distillate crack spread increased by less at the Singapore hub because changes in Russia's oil trading patterns may have had less of an effect in the East of Suez market, a region that primarily exports diesel. Nevertheless, the Singapore crack spread has increased 15 cents/gal since October 2021. Distillate inventories are at more-than-five-year lows for the month of March at all three trading hubs.

Figure 11. International ULSD crack spreads

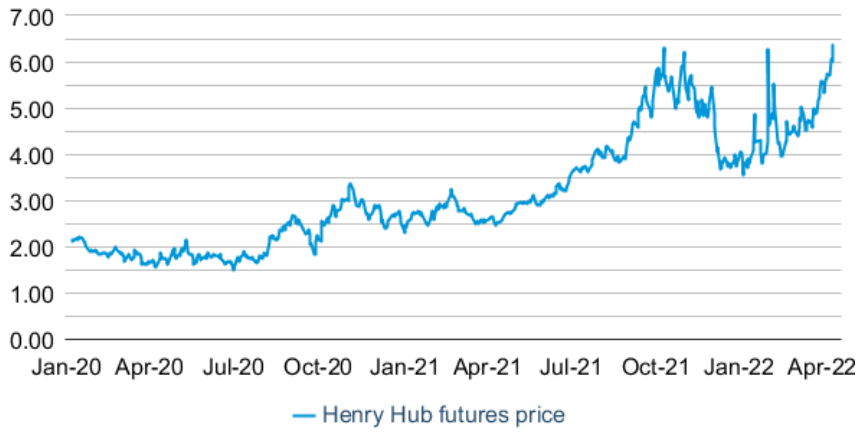


eia Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ARA=Amsterdam, Rotterdam, and Antwerp; ULSD=ultra-low sulfur diesel; NYH=New York Harbor

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $6.36 per million British thermal units (MMBtu) on April 7, 2022, which was up $1.79/MMBtu from March 1, 2022 **(Figure 12)**. The average closing price for front-month natural gas futures prices in March was $4.98/MMBtu, the highest March monthly average in real terms since 2014.

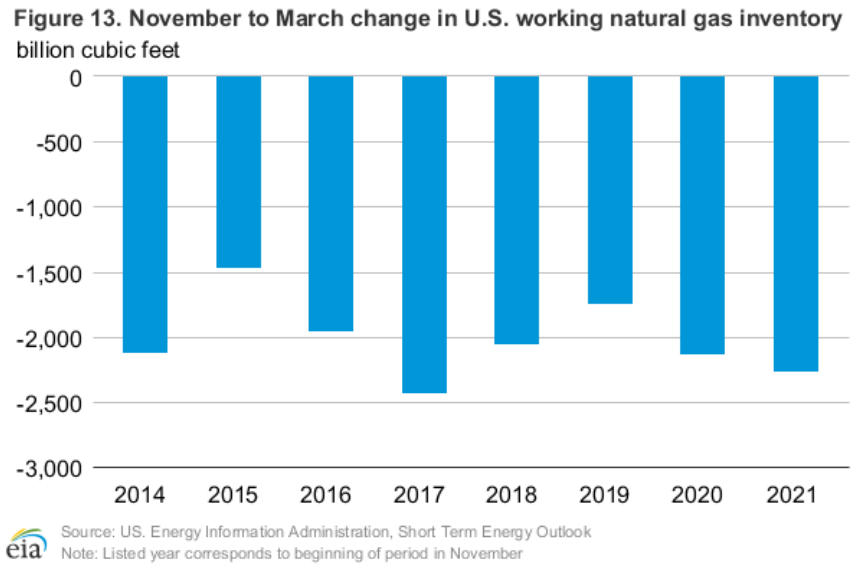
Figure 12. Historical nominal front-month U.S. natural gas prices



eia Source: Based on data from CME Group, as compiled by Bloomberg L.P.

The front-month natural gas futures contract price rose above $5.00/MMBtu in the second half of March and climbed above $6.00/MMBtu in early April amid high demand in the residential, commercial, and electric power sectors, along with high levels of U.S. liquefied natural gas (LNG) exports. In addition, storage inventories below the five-year (2017–2021) average coupled with only modest increases in production both contributed to upward pressure on natural gas futures prices. Natural gas consumption in the residential and commercial sectors was 31.1 billion cubic feet per day (Bcf/d) in March, which is 1.4 Bcf/d higher than March last year. Natural gas consumption in the electric power sector averaged 25.8 Bcf/d, up 1.5 Bcf/d from March last year. U.S. LNG export levels set another record high in March of 11.9 Bcf/d, which is 1.5 Bcf/d higher than March last year and 2.1 Bcf/d higher than the annual average last year, as facilities continue to operate at high utilization rates and new capacity comes online.

In STEO, we estimate storage inventories remained below the five-year average in March, finishing the month at 1.4 trillion cubic feet (Tcf), which is 17% lower than the five-year average for this time of year. U.S. dry natural gas production peaked in December 2021 at 97.3 Bcf/d, but then it declined to 94.9 Bcf/d in January, partially due to freeze-offs in key producing regions. Production has yet to return to its December level, averaging 96.2 Bcf/d in March.



We estimate natural gas storage inventories ended the withdrawal season (November–March) at 1.4 Tcf, which is almost 0.3 Tcf lower than the five-year average and 0.4 Tcf lower than last year at this time **(Figure 13)**. Despite weather near the 10-year average over the course of the winter, natural gas withdrawals during winter were the most since winter 2017–2018, and the second highest in the past eight years. Consumption of natural gas in the residential and commercial sectors was about the same as last year, averaging 37.3 Bcf/d from November–March. However, natural gas consumption in the electric power sector averaged 28.8 Bcf/d, which was 1.9 Bcf/d higher than last winter. The increase in natural gas consumption in the electric power sector in recent months is partly the result of reductions in coal-fired electricity-generating capacity and ongoing constraints in the coal market, which make coal-to-natural gas fuel switching less sensitive to rising natural gas prices than they have been in recent years.

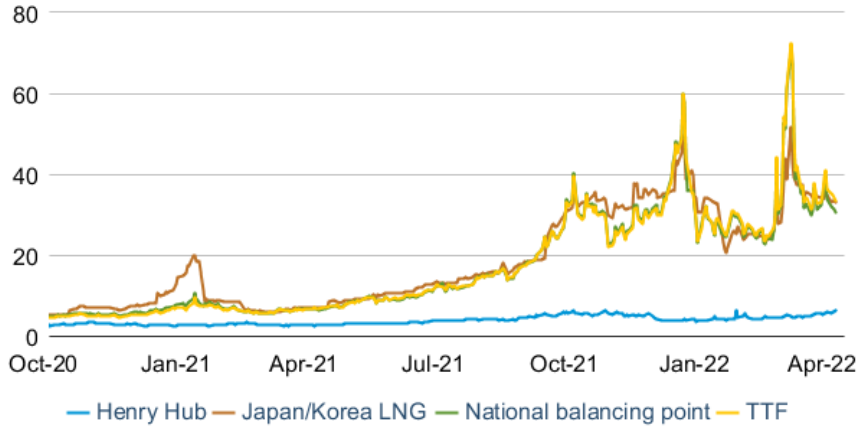
U.S. LNG exports have been at record-high levels since December 2021 and set another all-time record in March 2022. According to our estimates, LNG exports averaged 11.9 Bcf/d—an increase of 0.5 Bcf/d compared with the previous peak set in January (11.4 Bcf/d) and 0.7 Bcf/d higher than exports in February. The incremental increase in exports compared with prior months came from ramping up LNG production at a new U.S. LNG export facility, Calcasieu Pass LNG. The first LNG cargo from Calcasieu Pass was exported on March 1. During March 2022, Calcasieu Pass exported five LNG cargoes totaling 0.6 Bcf/d. We expect Calcasieu Pass to achieve its full LNG production capacity of 1.3 Bcf/d baseload (1.6 Bcf/d peak) by the third quarter of this year.

International natural gas prices: Most U.S. LNG exports since December 2021 have been shipped to countries in Europe, driven by high natural gas prices in Europe **(Figure 14)**. From January through November 2021, the United States shipped 49% of its LNG to countries in Asia, 27% to European Union (EU) countries and the United Kingdom, and 24% to other countries. However, from December 2021 through February 2022, 57% of U.S. LNG exports went to EU

countries and the United Kingdom, averaging 5.6 Bcf/d in December, 7.0 Bcf/d in January, and 6.6 Bcf/d in February.

Figure 14. International natural gas prices

dollars per million British thermal units

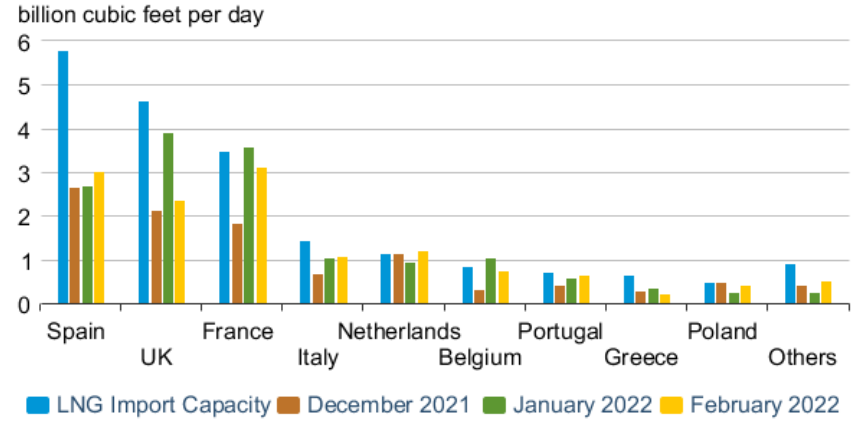


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: TTF=Title Transfer Facility

LNG swap prices in Europe remain high because of Europe's increased demand for LNG amid supply uncertainties due to Russia's further invasion of Ukraine. Europe's LNG imports will remain high to replenish natural gas inventories, which were 26% full as of March 31, 2022, compared with the five-year average of 34% and last year's level of 30% full.

Currently, 15 EU countries and the United Kingdom import LNG. Eleven of these countries account for 99% of Europe's total LNG imports and import capacity. Utilization of LNG import capacity across these 11 countries was relatively high this winter, averaging 66% compared with 39% last winter. Regionally, the European natural gas pipeline grid is not fully integrated between its northern and southern parts. Some countries, such as Belgium and the Netherlands, act as transit countries, delivering natural gas to other parts of Northwest Europe. Other countries in Southern Europe, including Spain, Portugal, Italy, and Greece, have limited pipeline interconnectivity and, therefore, use LNG imports primarily for domestic consumption. Belgium, the Netherlands, and France averaged utilization of 88% this winter, while Spain, Portugal, Italy, and Greece averaged 58% **(Figure 15)**.

Figure 15. Europe's liquefied natural gas imports and import capacity by country (Dec 2021-Feb 2022)



Source: Based on data from CEDIGAZ and the International Group of Liquefied Natural Gas Importers (GIIGNL)
Note: 'Others' include Lithuania, Croatia, Sweden, Finland, Malta, Gibraltar, and Norway

Notable forecast changes

- We forecast production of crude oil and other liquids in Russia will average 10.1 million b/d from 2Q22 through 4Q22, which would be down from 11.3 million b/d in 1Q22 and 0.6 million b/d less than we forecast in the March STEO. We forecast Russia's production will average 9.8 million b/d in 2023, which is 1.0 million b/d lower than we forecast in the March STEO. The lower forecast reflects our assumption that sanctions and independent corporate actions will limit crude oil production in Russia more than we expected last month.

- We revised our forecast for growth in world liquid fuels consumption in 2022 down by 0.7 million b/d from the March STEO to 2.4 million b/d. The effects on oil consumption and on economic growth in Russia and surrounding countries contributed to most of the downward revision. Our forecast for world GDP growth in 2022 from Oxford Economics is 4.0%, down from 4.3% in the March STEO. Other revisions to the global liquid fuels consumption forecast stemmed from an increase in mobility restrictions in China as a result of recent increases in COVID-19 cases.

- In this outlook, we have updated our assumptions to include the announced release of 1 million b/d of crude oil from the U.S. Strategic Petroleum Reserve (SPR) from May through October. Our assumption that SPR inventories will fall by 1.0 million b/d from May through October is changed from our assumption last STEO than SPR inventories would fall by 0.1 million b/d over the same period.

- In the April STEO, U.S. LNG exports for 2022 average 12.2 billion cubic feet per day (Bcf/d,) which is 0.9 Bcf/d more than we forecast in last month's STEO. The updated forecast factored in the recent agreement between the United States and EU that the United States will ensure additional LNG volumes for the EU market. We assume this

agreement will result in higher utilization at U.S. export facilities throughout the year than we had previously forecast. In addition, we assume that the Calcasieu Pass LNG export facility in Louisiana achieves full production sooner than we had previously forecast.

- The Henry Hub natural gas spot price average is $5.23/MMBtu in 2022 in this month's STEO. That forecast is $1.28/MMBtu higher than we had forecast in last month's STEO. The higher forecast largely reflects our forecast that natural gas exports in 2022 will be higher than we previously expected. It also reflects a reduction in our forecast of capacity additions of solar power generation, which increases the need for electric power generation from other sources, including natural gas.
- The electric power sector is currently scheduling 20 gigawatts (GW) of new solar PV capacity to be added in 2022, down from scheduled additions of 22 GW for 2022 that were reported in the last STEO. Some of these projects have been delayed into 2023, when we expect 24.0 GW will be added.
- You can find more information in the detailed table of forecast changes.

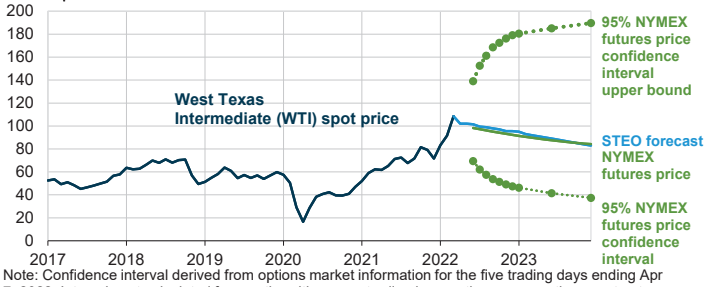
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Short-Term Energy Outlook
Chart Gallery

April 12, 2022

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

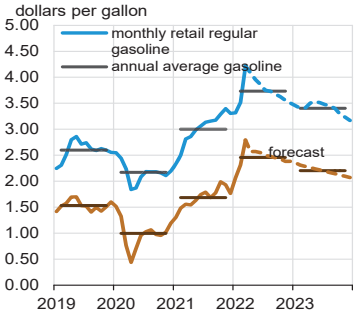


Note: Confidence interval derived from options market information for the five trading days ending Apr 7, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

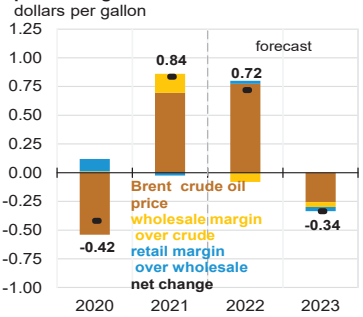
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



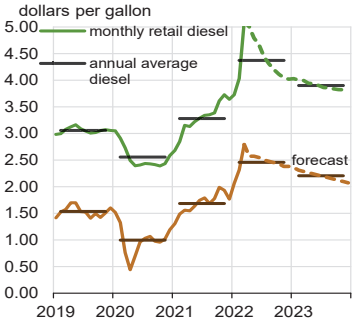
Components of annual gasoline price changes
dollars per gallon



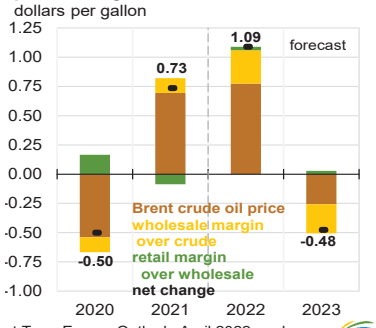
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices

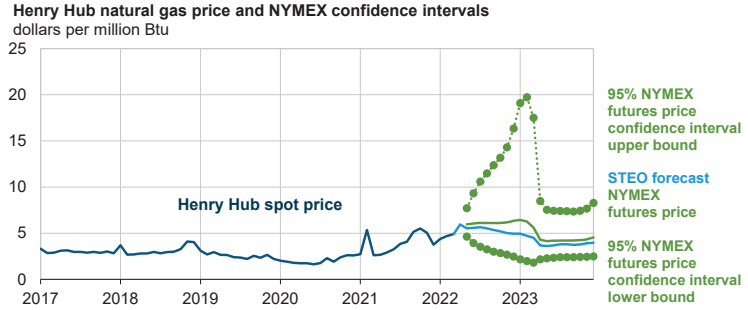


Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, and Refinitiv an LSEG Business

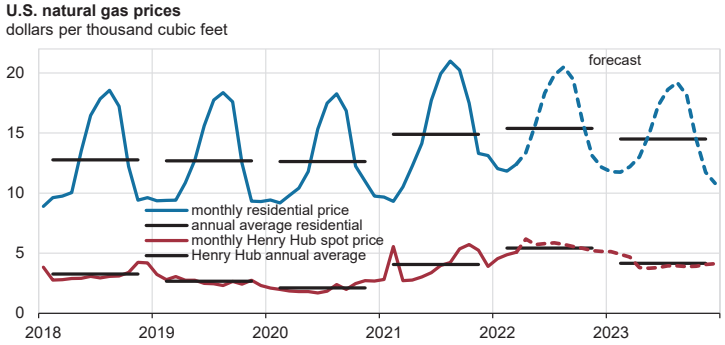
Henry Hub natural gas price and NYMEX confidence intervals



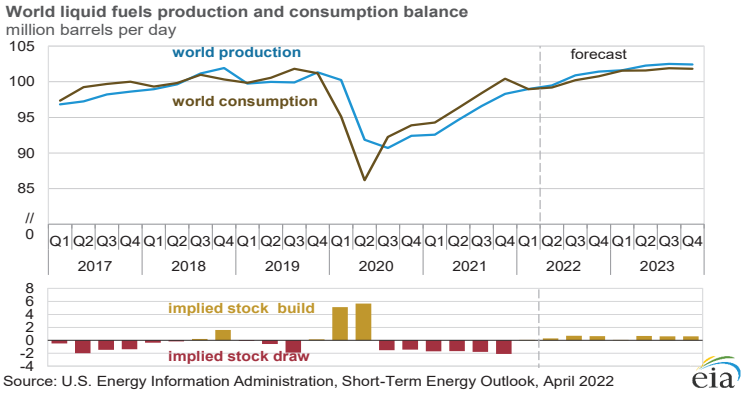
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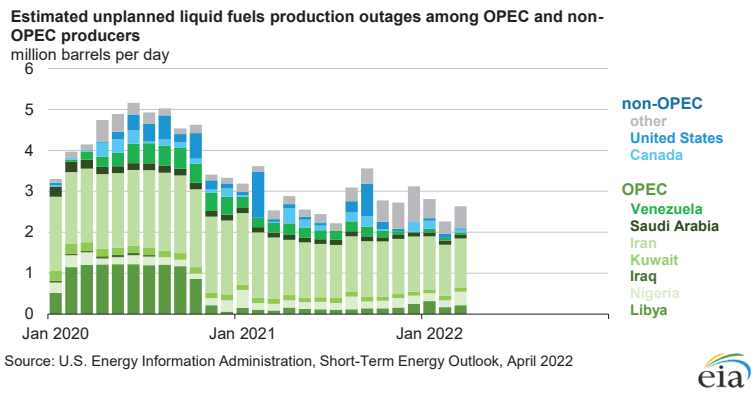
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, CME Group, and Refinitiv an LSEG Business

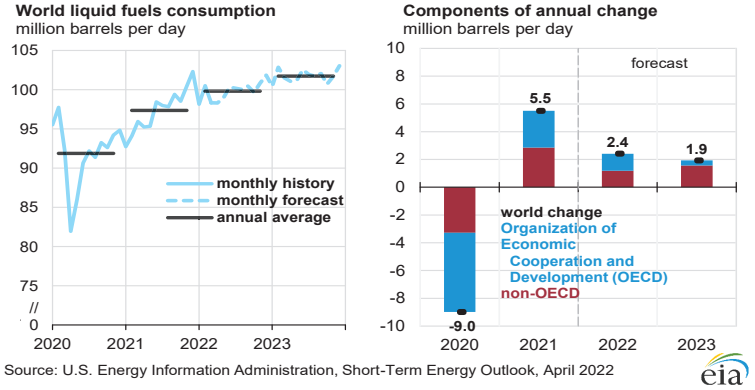
U.S. natural gas prices

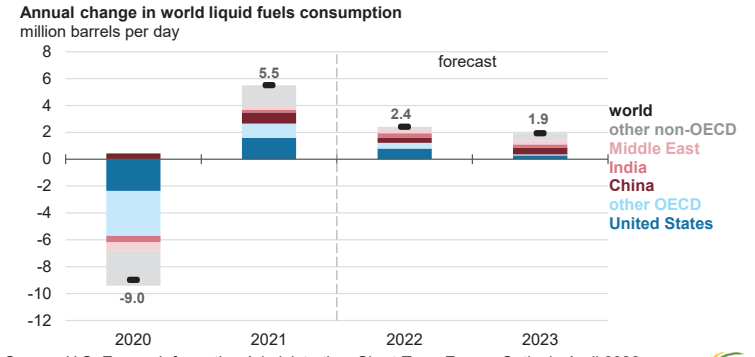


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, and Refinitiv an LSEG Business

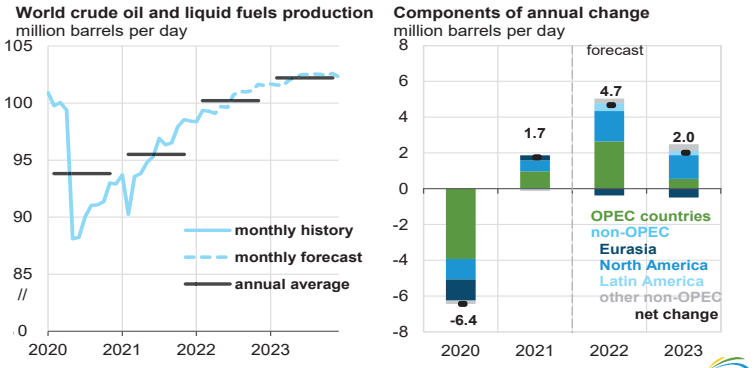

World liquid fuels production and consumption balance
million barrels per day
world production
world consumption
forecast
105
100
95
90
85
0
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2017
2018
2019
2020
2021
2022
2023
8
6
4
2
0
-2
-4
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022
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Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6
5
4
3
2
1
0
Jan 2020
Jan 2021
Jan 2022
non-OPEC
other
United States
Canada
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Libya
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022
eia

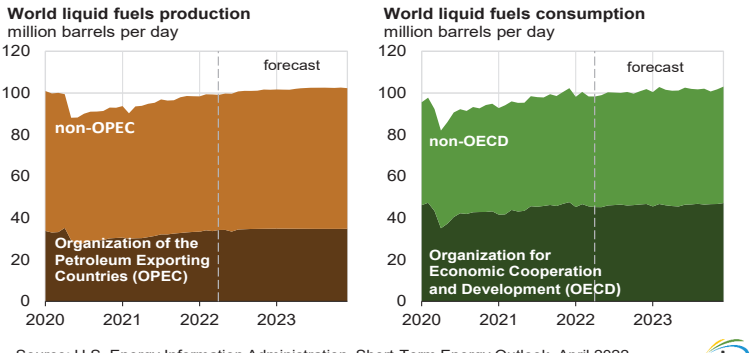

World liquid fuels consumption
million barrels per day
105
100
95
90
85
80
75
0
2020
2021
2022
2023
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
10
8
6
4
2
0
-2
-4
-6
-8
-10
forecast
5.5
2.4
1.9
-9.0
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

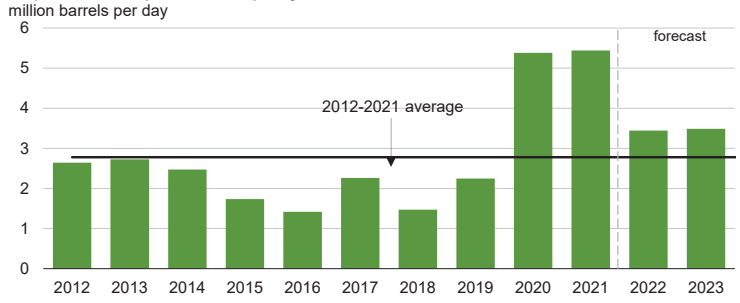


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



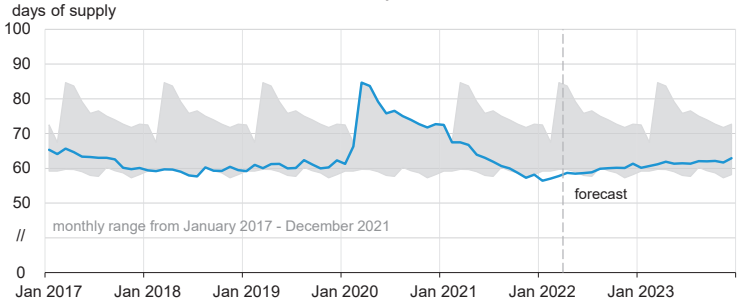
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



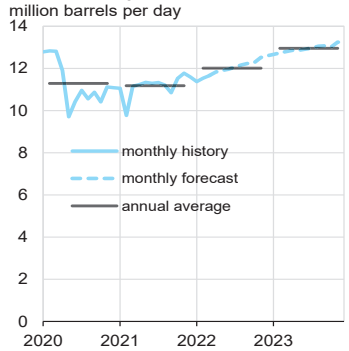
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

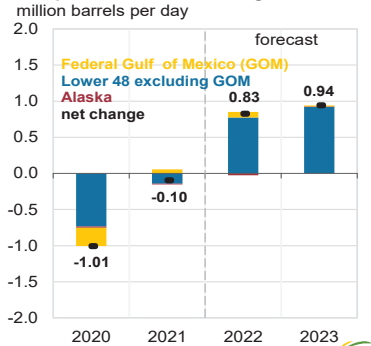


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. crude oil production
million barrels per day

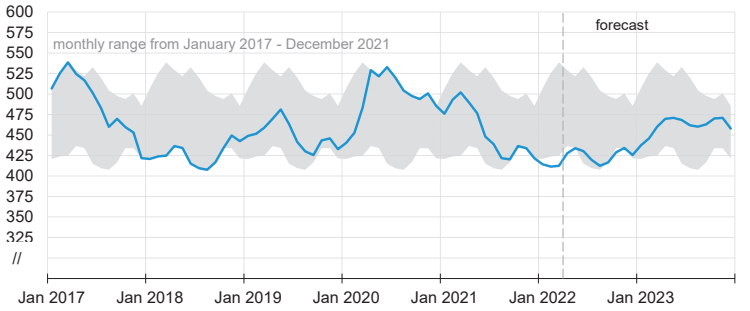


Components of annual change
million barrels per day



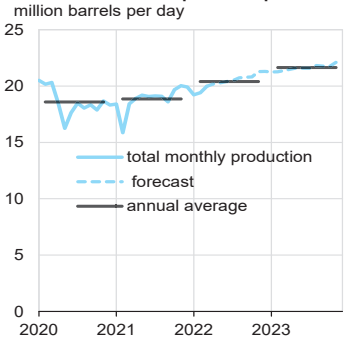
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. commercial crude oil inventories
million barrels

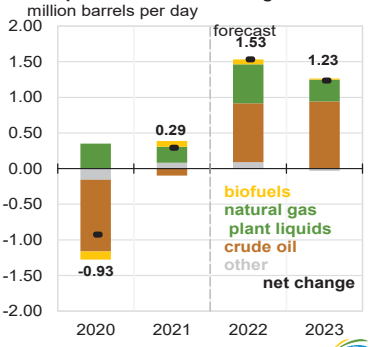


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. crude oil and liquid fuels production
million barrels per day

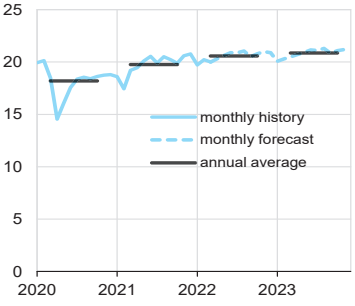


Components of annual change
million barrels per day

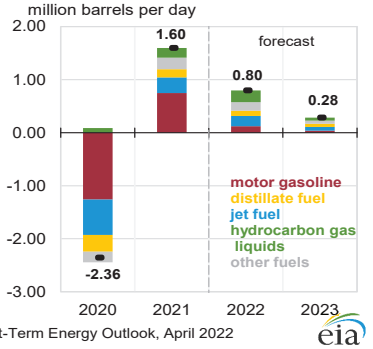


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. liquid fuels product supplied (consumption)
million barrels per day

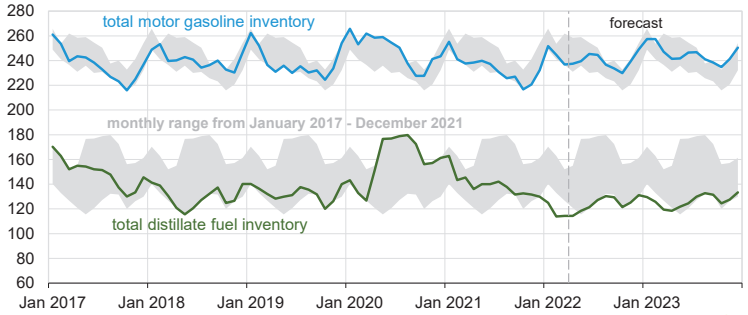


Components of annual change
million barrels per day



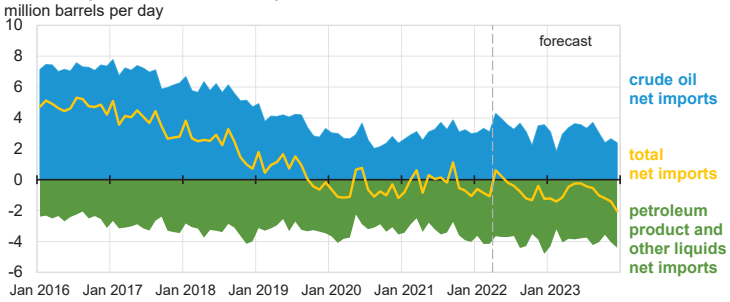
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. gasoline and distillate inventories
million barrels



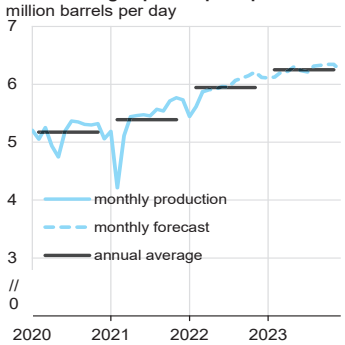
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

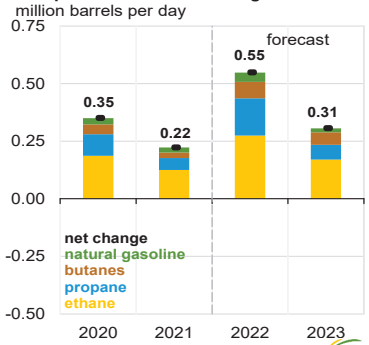


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

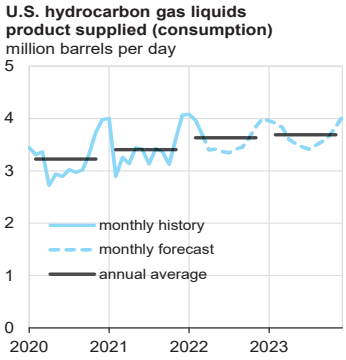
U.S. natural gas plant liquids production
million barrels per day

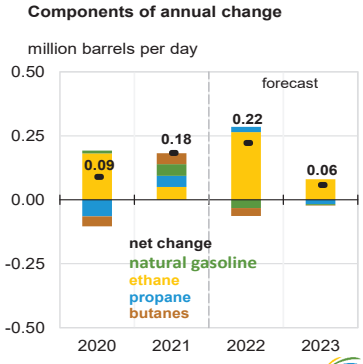


Components of annual change
million barrels per day

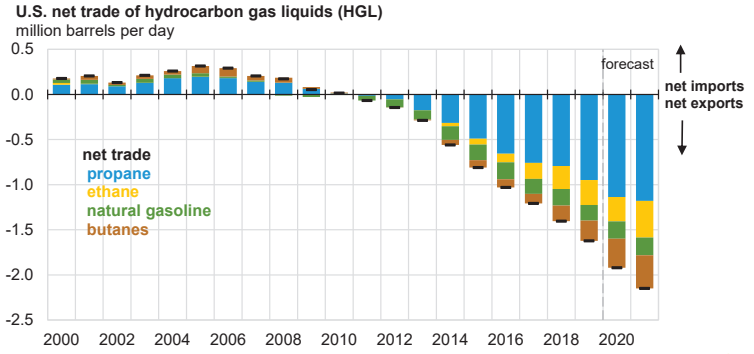


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

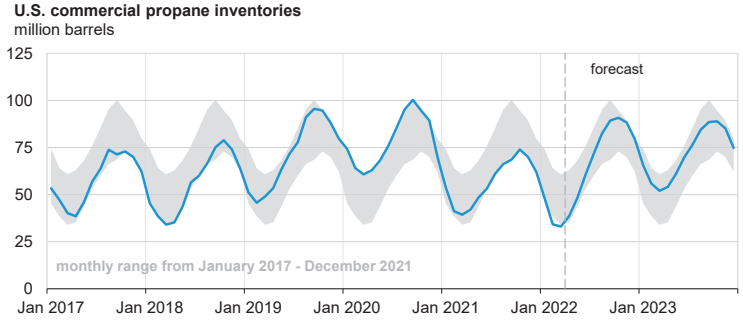




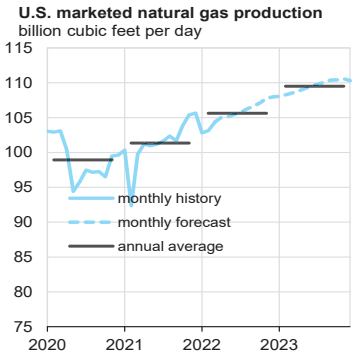
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

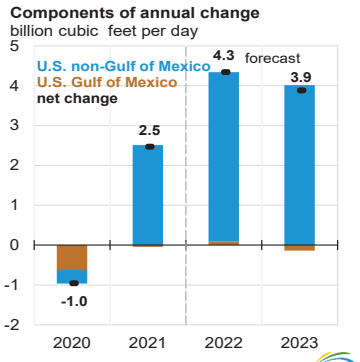


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

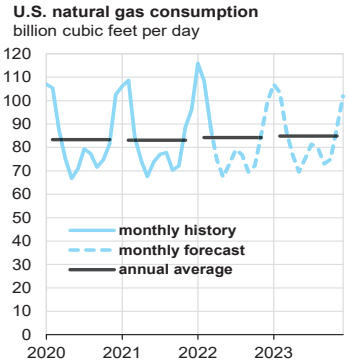


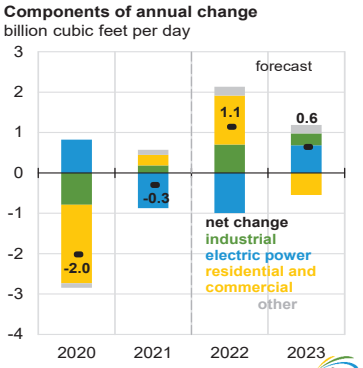
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



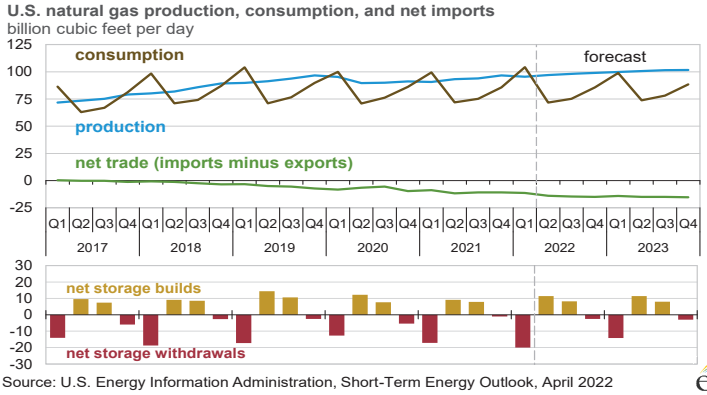


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

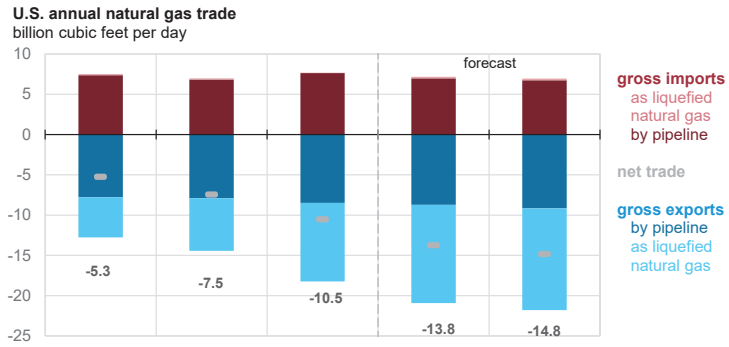




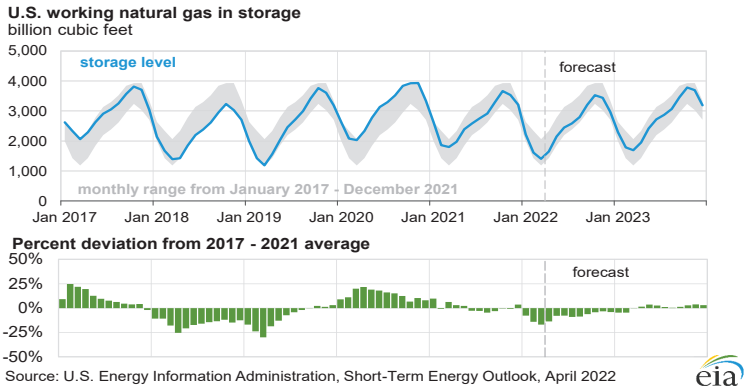
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



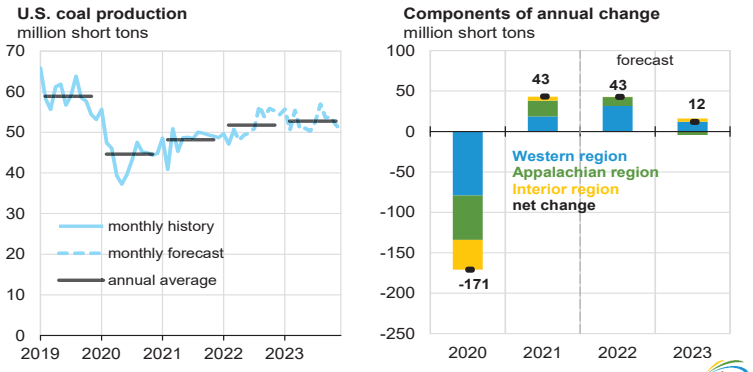
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



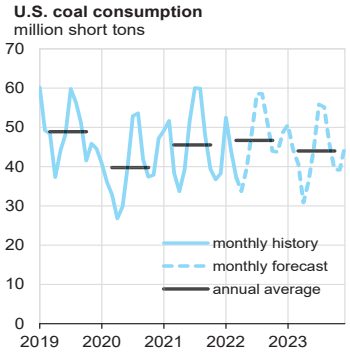
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

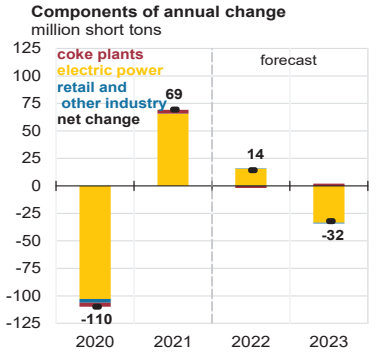


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

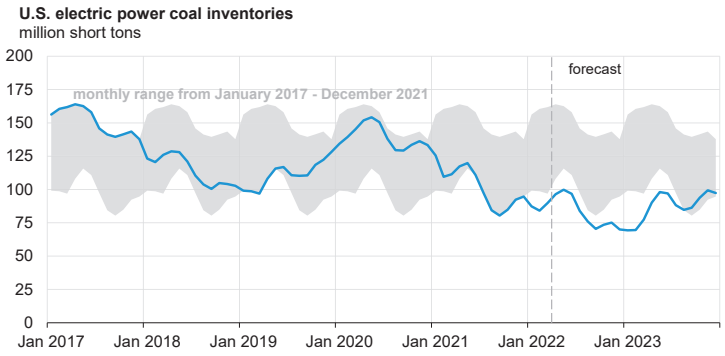


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

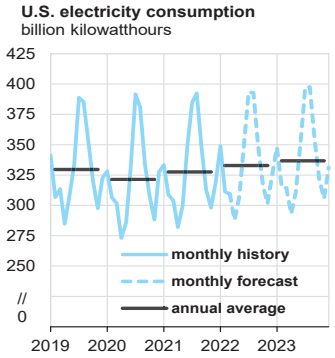


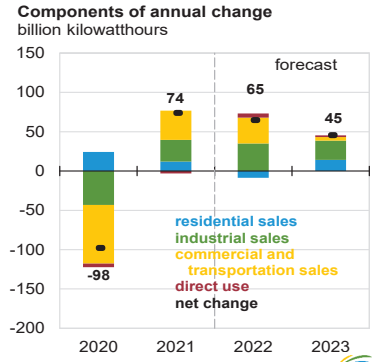


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

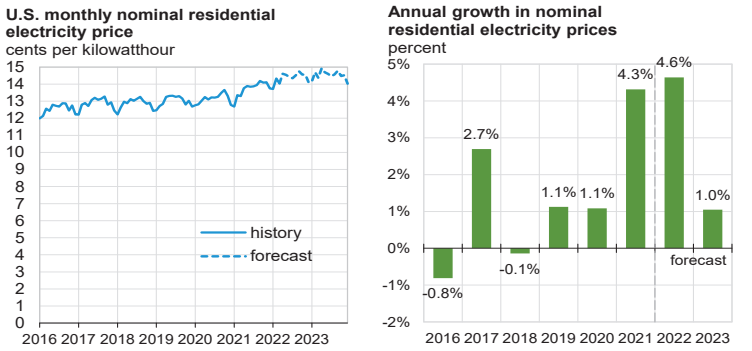


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

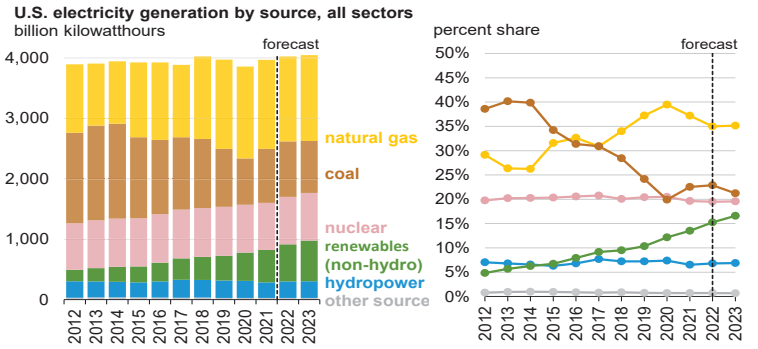




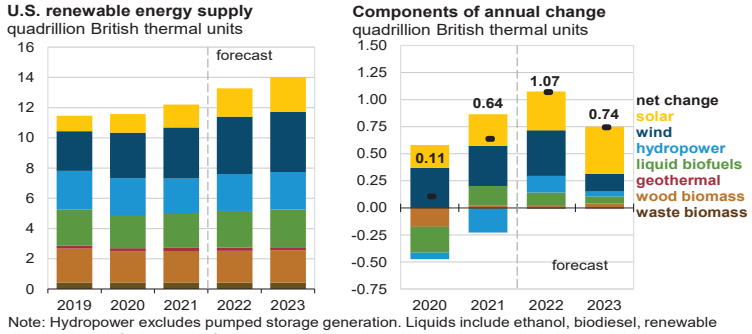
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



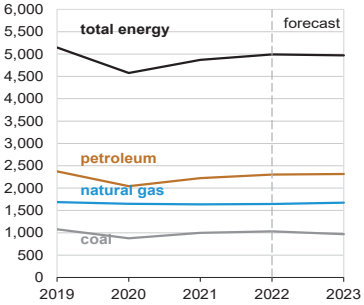
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



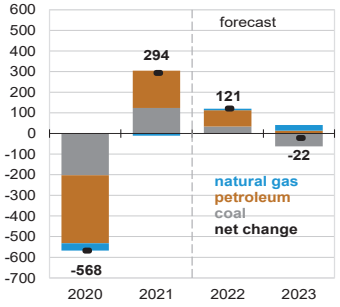
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biommas includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. annual CO2 emissions by source
million metric tons

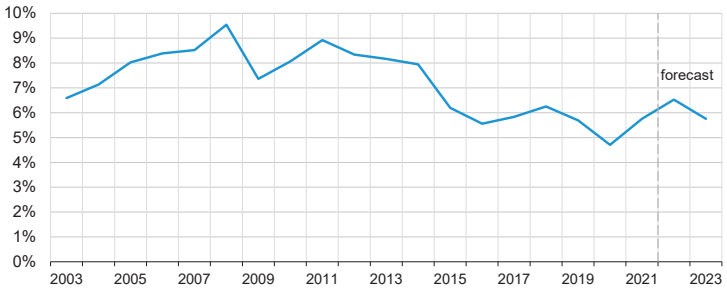


Components of annual change
million metric tons



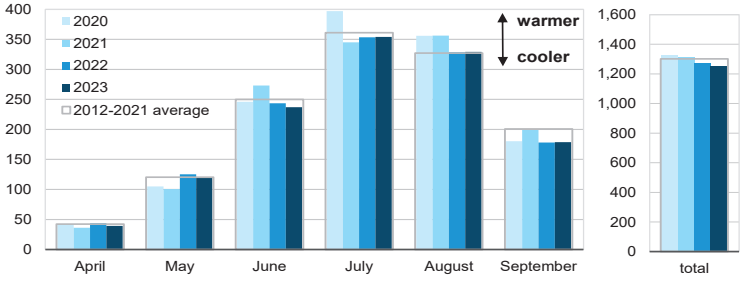
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. annual energy expenditures
share of gross domestic product



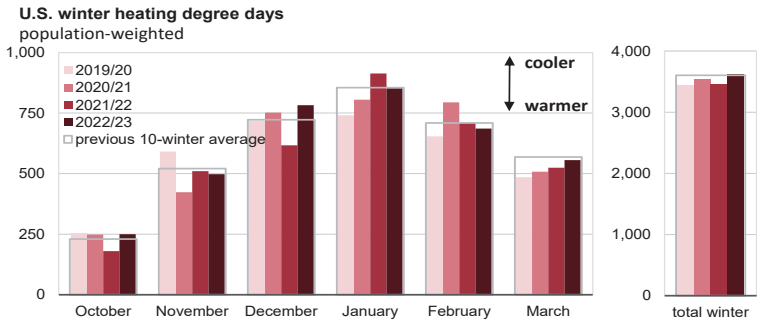
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. summer cooling degree days
population-weighted



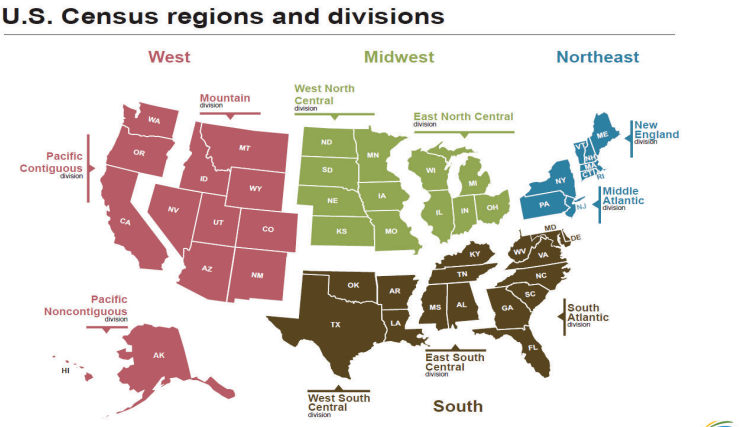
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table SF01. U.S. Motor Gasoline Summer Outlook

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021			2022			Year-over-year Change (percent)		
	Q2	Q3	Season	Q2	Q3	Season	Q2	Q3	Season
Nominal Prices (dollars per gallon)									
WTI Crude Oil (Spot) [a]	**1.58**	**1.68**	**1.63**	**2.42**	*2.35*	*2.39*	*53.8*	*40.0*	*46.6*
Brent Crude Oil Price (Spot)	**1.64**	**1.75**	**1.70**	**2.56**	*2.48*	*2.52*	*56.2*	*41.6*	*48.6*
U.S. Refiner Average Crude Oil Cost	**1.57**	**1.67**	**1.62**	**2.39**	*2.32*	*2.35*	*51.8*	*38.4*	*44.8*
Wholesale Gasoline Price [b]	**2.16**	**2.32**	**2.24**	**3.08**	*2.90*	*2.99*	*42.5*	*25.1*	*33.4*
Wholesale Diesel Fuel Price [b]	**2.04**	**2.19**	**2.12**	**3.49**	*3.18*	*3.34*	*70.7*	*45.4*	*57.6*
Regular Gasoline Retail Price [c]	**2.97**	**3.16**	**3.06**	**3.97**	*3.72*	*3.84*	*33.5*	*17.9*	*25.4*
Diesel Fuel Retail Price [c]	**3.21**	**3.36**	**3.28**	**4.82**	*4.32*	*4.57*	*50.0*	*28.5*	*39.0*
Gasoline Consumption/Supply (million barrels per day)									
Total Consumption	**9.068**	**9.132**	**9.100**	**9.129**	*9.221*	*9.175*	*0.7*	*1.0*	*0.8*
Total Refinery and Blender Net Supply [d]	**7.992**	**8.101**	**8.047**	**8.106**	*8.265*	*8.186*	*1.4*	*2.0*	*1.7*
Fuel Ethanol Blending	**0.934**	**0.937**	**0.935**	**0.927**	*0.931*	*0.929*	*-0.7*	*-0.7*	*-0.7*
Total Stock Withdrawal [e]	**0.004**	**0.111**	**0.058**	**-0.094**	*0.127*	*0.017*			
Net Imports [e]	**0.138**	**-0.017**	**0.060**	**0.190**	*-0.102*	*0.043*			
Refinery Utilization (percent)	**89.2**	**89.5**	**89.3**	**94.2**	*95.2*	*94.7*			
Total Gasoline Stocks (million barrels)									
Beginning	**237.6**	**237.2**	**237.6**	**236.8**	*245.3*	*236.8*			
Ending	**237.2**	**227.0**	**227.0**	**245.3**	*233.6*	*233.6*			
Economic Indicators									
Real GDP (annualized billion 2012 dollars)	**19,368**	**19,479**	**19,424**	**20,012**	*20,158*	*20,085*	*3.3*	*3.5*	*3.4*
Real Income (annualized billion 2012 dollars)	**15,807**	**15,641**	**15,724**	**15,241**	*15,357*	*15,299*	*-3.6*	*-1.8*	*-2.7*
Non-Farm Employment (million jobs)	**145.2**	**146.9**	**146.0**	**151.6**	*152.4*	*152.0*	*4.4*	*3.8*	*4.1*

[a] Spot Price of West Texas Intermediate (WTI) crude oil.

[b] Price product sold by refiners to resellers.

[c] Average retail price including taxes.

[d] Finished gasoline net production minus gasoline blend components net inputs minus fuel ethanol blending and supply adjustment.

[e] Total stock withdrawal and net imports includes both finished gasoline and gasoline blend components.

GDP = gross domestic product.

Notes: Minor discrepancies with other Energy Information Administration (EIA) published historical data are due to rounding. Historical data are printed in bold. Forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: latest data available from: EIA, *Petroleum Supply Monthly* , DOE/EIA-0109; Monthly Energy Review, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis (GDP and income); Refinitiv (WTI and Brent crude oil spot prices). Macroeconomic projections are based onthe S&P Global Macroeconomic Forecast Model.

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.13**	**11.63**	**11.52**	*11.90*	*12.15*	*12.46*	*12.73*	*12.88*	*13.02*	*13.17*	**11.19**	*12.01*	*12.95*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.63**	**95.41**	*97.01*	*97.94*	*99.23*	*99.72*	*100.56*	*101.41*	*101.72*	**93.57**	*97.41*	*100.86*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**147**	*147*	*161*	*165*	*162*	*152*	*163*	*156*	**578**	*621*	*633*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
Natural Gas															
(billion cubic feet per day)	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	*122*	*168*	*136*	*136*	*112*	*157*	*124*	**546**	*560*	*528*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.77**	*10.38*	*12.35*	*10.27*	*10.86*	*10.50*	*12.49*	*10.41*	**10.77**	*10.94*	*11.07*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.16**	**2.95**	**3.14**	**3.23**	*3.52*	*3.20*	*3.28*	*3.44*	*3.73*	*3.40*	*3.46*	**12.21**	*13.23*	*14.02*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.04**	**23.15**	**24.53**	**24.57**	**26.08**	*23.72*	*25.05*	*25.31*	*26.09*	*24.01*	*25.42*	*25.65*	**97.30**	*100.15*	*101.18*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*101.83*	*98.83*	*95.99*	*93.30*	*89.95*	*87.00*	*84.03*	**68.21**	*97.96*	*88.57*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*5.68*	*5.50*	*5.06*	*4.72*	*3.65*	*3.79*	*3.89*	**3.91**	*5.23*	*4.01*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,811**	**19,853**	*20,012*	*20,158*	*20,326*	*20,469*	*20,634*	*20,802*	*20,973*	**19,428**	*20,087*	*20,719*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.6**	**4.2**	*3.3*	*3.5*	*2.6*	*3.1*	*3.1*	*3.2*	*3.2*	**5.7**	*3.4*	*3.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**122.7**	*123.9*	*125.0*	*126.0*	*126.8*	*127.6*	*128.5*	*129.4*	**118.5**	*124.4*	*128.1*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**5.9**	*5.4*	*4.8*	*3.9*	*3.4*	*3.0*	*2.8*	*2.6*	**4.2**	*5.0*	*2.9*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,417**	**15,254**	*15,241*	*15,357*	*15,464*	*15,668*	*15,857*	*16,029*	*16,219*	**16,021**	*15,329*	*15,944*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**-0.2**	**-11.4**	*-3.6*	*-1.8*	*0.3*	*2.7*	*4.0*	*4.4*	*4.9*	**2.2**	*-4.3*	*4.0*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**99.7**	**101.1**	**101.9**	*103.7*	*104.8*	*106.1*	*107.2*	*108.5*	*109.8*	*110.9*	**99.2**	*104.1*	*109.1*
Percent change from prior year	**-0.2**	**17.2**	**5.8**	**4.6**	**4.7**	*5.0*	*5.1*	*5.0*	*5.2*	*4.7*	*4.8*	*4.5*	**6.5**	*5.0*	*4.8*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,307**	**2,148**	*479*	*73*	*1,531*	*2,094*	*485*	*73*	*1,529*	**3,937**	*4,230*	*4,181*
U.S. Cooling Degree-Days	**49**	**410**	**900**	**128**	**43**	*412*	*861*	*94*	*43*	*395*	*862*	*95*	**1,487**	*1,409*	*1,395*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*101.83*	*98.83*	*95.99*	*93.30*	*89.95*	*87.00*	*84.03*	**68.21**	*97.96*	*88.57*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	*107.65*	*103.98*	*100.66*	*97.30*	*93.95*	*91.00*	*88.03*	**70.89**	*103.37*	*92.57*
U.S. Imported Average	**55.27**	**64.80**	**68.38**	**73.52**	**90.95**	*99.35*	*96.29*	*93.11*	*90.68*	*87.23*	*84.29*	*81.25*	**65.85**	*95.22*	*85.91*
U.S. Refiner Average Acquisition Cost	**57.12**	**66.11**	**70.30**	**76.35**	**92.57**	*100.33*	*97.27*	*94.23*	*91.61*	*88.23*	*85.27*	*82.23*	**67.82**	*96.20*	*86.75*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**286**	*308*	*290*	*269*	*261*	*271*	*262*	*241*	**219**	*288*	*258*
Diesel Fuel	**178**	**204**	**219**	**241**	**305**	*349*	*318*	*295*	*277*	*269*	*263*	*258*	**211**	*317*	*267*
Fuel Oil	**162**	**180**	**197**	**222**	**298**	*340*	*302*	*284*	*273*	*256*	*246*	*249*	**188**	*304*	*263*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**292**	*342*	*316*	*294*	*277*	*266*	*260*	*256*	**195**	*311*	*265*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**226**	*241*	*233*	*225*	*234*	*225*	*219*	*213*	**190**	*231*	*222*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**370**	*397*	*372*	*356*	*342*	*352*	*344*	*323*	**302**	*374*	*340*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	*408*	*384*	*370*	*356*	*365*	*358*	*337*	**311**	*386*	*354*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**430**	*482*	*432*	*406*	*401*	*393*	*385*	*382*	**329**	*438*	*390*
Heating Oil	**272**	**283**	**297**	**346**	**410**	*444*	*401*	*386*	*377*	*354*	*337*	*342*	**300**	*407*	*359*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*5.90*	*5.72*	*5.26*	*4.90*	*3.79*	*3.93*	*4.04*	**4.06**	*5.43*	*4.17*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*5.68*	*5.50*	*5.06*	*4.72*	*3.65*	*3.79*	*3.89*	**3.91**	*5.23*	*4.01*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.11**	**6.86**	**6.40**	*6.66*	*6.64*	*6.63*	*6.51*	*5.09*	*4.84*	*5.22*	**5.50**	*6.57*	*5.44*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	**9.74**	*10.36*	*11.10*	*10.09*	*9.73*	*9.78*	*9.71*	*8.64*	**8.82**	*10.09*	*9.42*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.81**	**12.06**	*15.03*	*19.91*	*13.03*	*11.88*	*14.43*	*18.63*	*11.67*	**12.27**	*13.36*	*12.71*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.58**	*5.85*	*5.63*	*5.39*	*5.26*	*3.79*	*3.86*	*4.17*	**4.97**	*5.62*	*4.21*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.20**	*20.83*	*19.49*	*18.28*	*17.89*	*17.78*	*16.60*	*15.95*	**13.66**	*18.31*	*17.05*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.14**	*26.52*	*24.45*	*22.59*	*21.47*	*20.58*	*20.13*	*19.83*	**15.50**	*22.96*	*20.63*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.53**	*7.21*	*7.73*	*7.35*	*7.53*	*7.07*	*7.57*	*7.23*	**7.26**	*7.46*	*7.35*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.81**	*11.64*	*12.01*	*11.74*	*12.09*	*11.70*	*11.95*	*11.60*	**11.27**	*11.81*	*11.84*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**14.02**	*14.51*	*14.52*	*14.38*	*14.40*	*14.72*	*14.59*	*14.32*	**13.72**	*14.36*	*14.51*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.07**	**30.74**	**31.07**	**32.28**	**31.85**	*32.57*	*32.90*	*33.71*	*34.12*	*34.33*	*34.38*	*34.77*	**31.05**	*32.76*	*34.40*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.87**	**19.54**	*20.29*	*20.66*	*21.12*	*21.30*	*21.56*	*21.73*	*21.97*	**18.88**	*20.41*	*21.64*
Canada	**5.62**	**5.37**	**5.49**	**5.76**	**5.75**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.89*	*5.91*	**5.56**	*5.75*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.92**	*1.92*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.90*	*1.85*
Other OECD	**4.91**	**4.37**	**4.74**	**4.73**	**4.64**	*4.70*	*4.61*	*4.87*	*5.00*	*5.03*	*4.93*	*5.11*	**4.69**	*4.71*	*5.02*
Non-OECD	**62.51**	**63.91**	**65.52**	**66.02**	**67.14**	*66.91*	*68.01*	*67.72*	*67.49*	*67.93*	*68.14*	*67.67*	**64.50**	*67.45*	*67.81*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*34.03*	*34.58*	*34.85*	*34.97*	*34.82*	*34.81*	*34.80*	**31.66**	*34.30*	*34.85*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.66**	**28.19**	*28.59*	*29.10*	*29.33*	*29.43*	*29.41*	*29.35*	*29.30*	**26.28**	*28.81*	*29.37*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.29**	*13.02*	*13.11*	*13.03*	*13.03*	*12.85*	*12.78*	*12.80*	**13.70**	*13.36*	*12.86*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.12**	*5.05*	*5.05*	*5.09*	*5.08*	*5.10*	*5.10*	*5.14*	**4.99**	*5.08*	*5.10*
Other Non-OECD	**13.79**	**14.38**	**14.64**	**13.76**	**13.98**	*14.81*	*15.27*	*14.75*	*14.41*	*15.15*	*15.45*	*14.93*	**14.15**	*14.71*	*14.99*
Total World Production	**92.58**	**94.65**	**96.59**	**98.30**	**98.99**	*99.48*	*100.91*	*101.42*	*101.61*	*102.27*	*102.52*	*102.44*	**95.55**	*100.21*	*102.21*
Non-OPEC Production	**62.23**	**63.77**	**64.31**	**65.21**	**65.24**	*65.45*	*66.33*	*66.58*	*66.64*	*67.44*	*67.71*	*67.64*	**63.89**	*65.91*	*67.36*
Consumption (million barrels per day) (c)															
OECD	**42.45**	**44.08**	**45.82**	**46.74**	**45.82**	*45.49*	*46.24*	*46.48*	*46.12*	*45.90*	*46.61*	*46.85*	**44.79**	*46.01*	*46.37*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.21**	*0.19*	*0.20*	*0.21*	*0.21*	*0.19*	*0.19*	*0.20*	**0.20**	*0.20*	*0.20*
Canada	**2.26**	**2.24**	**2.50**	**2.38**	**2.43**	*2.40*	*2.52*	*2.50*	*2.48*	*2.42*	*2.53*	*2.50*	**2.35**	*2.47*	*2.48*
Europe	**11.91**	**12.62**	**13.83**	**13.87**	**13.21**	*13.14*	*13.46*	*13.17*	*13.17*	*13.18*	*13.58*	*13.35*	**13.06**	*13.25*	*13.32*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.84**	*3.14*	*3.19*	*3.50*	*3.78*	*3.14*	*3.16*	*3.46*	**3.42**	*3.42*	*3.38*
Other OECD	**5.89**	**5.92**	**5.90**	**6.21**	**6.15**	*6.01*	*6.04*	*6.20*	*6.19*	*6.04*	*6.06*	*6.20*	**5.98**	*6.10*	*6.12*
Non-OECD	**51.83**	**52.25**	**52.58**	**53.69**	**53.13**	*53.70*	*53.99*	*54.30*	*55.45*	*55.70*	*55.30*	*54.98*	**52.59**	*53.78*	*55.35*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.47**	*4.33*	*4.69*	*4.63*	*4.32*	*4.47*	*4.78*	*4.70*	**4.86**	*4.53*	*4.57*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.76**	*0.76*	*0.76*	*0.77*	*0.76*	*0.77*	*0.78*	*0.78*	**0.75**	*0.76*	*0.77*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.41**	*15.74*	*15.57*	*15.88*	*16.58*	*16.48*	*15.84*	*15.76*	**15.27**	*15.65*	*16.16*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.78**	*13.93*	*13.54*	*13.95*	*14.56*	*14.53*	*13.95*	*14.25*	**13.23**	*13.80*	*14.32*
Other Non-OECD	**17.73**	**18.32**	**18.92**	**18.96**	**18.72**	*18.95*	*19.44*	*19.07*	*19.23*	*19.44*	*19.96*	*19.49*	**18.49**	*19.05*	*19.53*
Total World Consumption	**94.28**	**96.33**	**98.40**	**100.43**	**98.95**	*99.19*	*100.23*	*100.78*	*101.56*	*101.59*	*101.91*	*101.83*	**97.38**	*99.80*	*101.73*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	**0.80**	*-0.11*	*0.73*	*0.60*	*0.02*	*-0.54*	*-0.21*	*0.56*	**0.53**	*0.51*	*-0.04*
Other OECD	**0.87**	**0.16**	**0.96**	**0.71**	**-0.28**	*-0.06*	*-0.45*	*-0.40*	*-0.02*	*-0.04*	*-0.12*	*-0.37*	**0.67**	*-0.30*	*-0.14*
Other Stock Draws and Balance	**0.37**	**1.02**	**0.48**	**0.64**	**-0.57**	*-0.12*	*-0.96*	*-0.85*	*-0.05*	*-0.09*	*-0.27*	*-0.79*	**0.63**	*-0.62*	*-0.30*
Total Stock Draw	**1.70**	**1.69**	**1.81**	**2.12**	**-0.04**	*-0.29*	*-0.68*	*-0.64*	*-0.04*	*-0.67*	*-0.61*	*-0.61*	**1.83**	*-0.41*	*-0.48*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	**1,151**	*1,242*	*1,265*	*1,247*	*1,249*	*1,306*	*1,328*	*1,287*	**1,194**	*1,247*	*1,287*
OECD Commercial Inventory	**2,908**	**2,864**	**2,745**	**2,633**	**2,614**	*2,710*	*2,775*	*2,794*	*2,798*	*2,858*	*2,892*	*2,885*	**2,633**	*2,794*	*2,885*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.33**	**27.55**	**27.22**	*27.87*	*28.29*	*28.83*	*29.12*	*29.31*	*29.45*	*29.66*	**26.36**	*28.06*	*29.39*
Canada	**5.62**	**5.37**	**5.49**	**5.76**	**5.75**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.89*	*5.91*	**5.56**	*5.75*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.92**	*1.92*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.90*	*1.85*
United States	**17.62**	**19.05**	**18.94**	**19.87**	**19.54**	*20.29*	*20.66*	*21.12*	*21.30*	*21.56*	*21.73*	*21.97*	**18.88**	*20.41*	*21.64*
Central and South America	**5.64**	**6.29**	**6.69**	**5.80**	**5.87**	*6.70*	*7.14*	*6.62*	*6.25*	*7.03*	*7.36*	*6.85*	**6.11**	*6.59*	*6.87*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.75**	*0.74*	*0.77*	*0.79*	*0.80*	*0.78*	*0.81*	*0.83*	**0.70**	*0.76*	*0.81*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.39**	*4.11*	*4.47*	*3.89*	*3.50*	*4.29*	*4.57*	*4.03*	**3.69**	*3.97*	*4.10*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.76**	*0.75*	*0.74*	*0.73*	*0.68*	*0.67*	*0.66*	*0.65*	**0.76**	*0.74*	*0.66*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.49**	*0.53*	*0.53*	*0.53*	*0.54*	*0.56*	*0.58*	*0.60*	**0.48**	*0.52*	*0.57*
Other Central and S. America	**0.49**	**0.46**	**0.49**	**0.46**	**0.48**	*0.57*	*0.64*	*0.69*	*0.73*	*0.73*	*0.73*	*0.73*	**0.48**	*0.59*	*0.73*
Europe	**4.32**	**3.83**	**4.13**	**4.14**	**4.08**	*4.12*	*4.02*	*4.29*	*4.42*	*4.45*	*4.36*	*4.54*	**4.10**	*4.13*	*4.44*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.99**	*2.05*	*2.05*	*2.21*	*2.32*	*2.33*	*2.32*	*2.43*	**2.03**	*2.07*	*2.35*
United Kingdom	**1.06**	**0.81**	**0.93**	**0.94**	**0.96**	*0.94*	*0.84*	*0.95*	*0.98*	*0.99*	*0.90*	*0.97*	**0.93**	*0.93*	*0.96*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.29**	*13.02*	*13.11*	*13.03*	*13.03*	*12.85*	*12.78*	*12.80*	**13.70**	*13.36*	*12.86*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	*0.71*	*0.73*	*0.72*	*0.71*	*0.70*	*0.69*	*0.71*	**0.72**	*0.71*	*0.70*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**1.95**	*1.54*	*1.94*	*1.99*	*2.07*	*1.98*	*1.98*	*2.05*	**1.87**	*1.85*	*2.02*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	*10.41*	*10.08*	*9.95*	*9.88*	*9.81*	*9.75*	*9.68*	**10.78**	*10.43*	*9.78*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.24**	**0.23**	*0.23*	*0.23*	*0.23*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.23*	*0.24*
Other Eurasia	**0.10**	**0.10**	**0.10**	**0.10**	**0.12**	*0.13*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	**0.10**	*0.13*	*0.13*
Middle East	**3.07**	**3.09**	**3.13**	**3.15**	**3.19**	*3.17*	*3.17*	*3.17*	*3.21*	*3.20*	*3.20*	*3.20*	**3.11**	*3.17*	*3.20*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.04**	*1.04*	*1.04*	*1.04*	*1.08*	*1.07*	*1.07*	*1.07*	**0.98**	*1.04*	*1.07*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.94**	**9.22**	*9.16*	*9.17*	*9.22*	*9.20*	*9.19*	*9.17*	*9.19*	**9.07**	*9.19*	*9.19*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.45**	*0.48*	*0.48*	*0.47*	*0.46*	*0.46*	*0.45*	*0.45*	**0.46**	*0.47*	*0.46*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.12**	*5.05*	*5.05*	*5.09*	*5.08*	*5.10*	*5.10*	*5.14*	**4.99**	*5.08*	*5.10*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.91**	*0.89*	*0.89*	*0.89*	*0.90*	*0.88*	*0.88*	*0.88*	**0.89**	*0.90*	*0.88*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.85**	*0.86*	*0.85*	*0.85*	*0.84*	*0.84*	*0.83*	*0.82*	**0.86**	*0.85*	*0.83*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.62**	*0.60*	*0.63*	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	**0.61**	*0.62*	*0.64*
Vietnam	**0.21**	**0.21**	**0.20**	**0.20**	**0.20**	*0.20*	*0.19*	*0.18*	*0.18*	*0.17*	*0.17*	*0.17*	**0.20**	*0.19*	*0.17*
Africa	**1.48**	**1.47**	**1.40**	**1.40**	**1.38**	*1.42*	*1.42*	*1.42*	*1.41*	*1.41*	*1.40*	*1.40*	**1.44**	*1.41*	*1.40*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.65**	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	*0.64*	*0.64*	**0.66**	*0.65*	*0.64*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	*0.18*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.17*	*0.19*
Total non-OPEC liquids	**62.23**	**63.77**	**64.31**	**65.21**	**65.24**	*65.45*	*66.33*	*66.58*	*66.64*	*67.44*	*67.71*	*67.64*	**63.89**	*65.91*	*67.36*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Non-OPEC + OPEC non-crude	**67.50**	**69.16**	**69.75**	**70.65**	**70.80**	*70.89*	*71.81*	*72.10*	*72.18*	*72.86*	*73.17*	*73.14*	**69.27**	*71.40*	*72.84*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.85**	**0.59**	-	-	-	-	-	-	-	**0.69**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.94**	**0.97**	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	-	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	-	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	-	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	-	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	-	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	-	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	-	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	-	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	-	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	-	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	-	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.66**	**28.19**	*28.59*	*29.10*	*29.33*	*29.43*	*29.41*	*29.35*	*29.30*	**26.28**	*28.81*	*29.37*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*34.03*	*34.58*	*34.85*	*34.97*	*34.82*	*34.81*	*34.80*	**31.66**	*34.30*	*34.85*
Crude Oil Production Capacity															
Middle East	**25.31**	**25.60**	**25.60**	**25.58**	**25.68**	*25.73*	*25.82*	*26.22*	*26.42*	*26.42*	*26.42*	*26.42*	**25.52**	*25.86*	*26.42*
Other	**6.18**	**6.19**	**6.16**	**6.25**	**6.14**	*6.48*	*6.46*	*6.45*	*6.46*	*6.46*	*6.43*	*6.40*	**6.19**	*6.38*	*6.44*
OPEC Total	**31.49**	**31.78**	**31.75**	**31.83**	**31.82**	*32.21*	*32.28*	*32.67*	*32.88*	*32.88*	*32.85*	*32.82*	**31.71**	*32.25*	*32.86*
Surplus Crude Oil Production Capacity															
Middle East	**5.76**	**5.62**	**4.31**	**3.63**	**3.20**	*3.37*	*2.99*	*3.15*	*3.25*	*3.25*	*3.25*	*3.25*	**4.82**	*3.18*	*3.25*
Other	**0.65**	**0.68**	**0.60**	**0.54**	**0.43**	*0.24*	*0.20*	*0.19*	*0.20*	*0.23*	*0.25*	*0.27*	**0.62**	*0.26*	*0.23*
OPEC Total	**6.41**	**6.29**	**4.91**	**4.17**	**3.63**	*3.62*	*3.19*	*3.34*	*3.45*	*3.48*	*3.50*	*3.52*	**5.44**	*3.44*	*3.49*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	-	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.34**	**23.92**	**24.31**	**24.52**	**24.05**	*24.67*	*25.00*	*25.05*	*24.39*	*24.99*	*25.25*	*25.30*	**23.78**	*24.69*	*24.99*
Canada	**2.26**	**2.24**	**2.50**	**2.38**	**2.43**	*2.40*	*2.52*	*2.50*	*2.48*	*2.42*	*2.53*	*2.50*	**2.35**	*2.47*	*2.48*
Mexico	**1.62**	**1.64**	**1.60**	**1.71**	**1.63**	*1.65*	*1.64*	*1.65*	*1.61*	*1.63*	*1.63*	*1.65*	**1.64**	*1.64*	*1.63*
United States	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
Central and South America	**5.91**	**6.05**	**6.27**	**6.37**	**6.17**	*6.25*	*6.36*	*6.37*	*6.23*	*6.36*	*6.47*	*6.41*	**6.15**	*6.29*	*6.37*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.92**	*2.92*	*3.00*	*3.01*	*2.91*	*2.96*	*3.04*	*3.02*	**2.96**	*2.96*	*2.98*
Europe	**12.65**	**13.36**	**14.57**	**14.62**	**13.96**	*13.90*	*14.22*	*13.95*	*13.93*	*13.96*	*14.36*	*14.13*	**13.81**	*14.01*	*14.10*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.47**	*4.33*	*4.69*	*4.63*	*4.32*	*4.47*	*4.78*	*4.70*	**4.86**	*4.53*	*4.57*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.25**	*3.17*	*3.45*	*3.37*	*3.14*	*3.22*	*3.50*	*3.36*	**3.61**	*3.31*	*3.31*
Middle East	**8.08**	**8.50**	**9.03**	**8.77**	**8.74**	*8.83*	*9.30*	*8.71*	*9.05*	*9.10*	*9.61*	*9.02*	**8.60**	*8.89*	*9.19*
Asia and Oceania	**36.27**	**35.38**	**34.83**	**36.71**	**37.08**	*36.68*	*36.20*	*37.43*	*39.02*	*38.07*	*36.89*	*37.56*	**35.80**	*36.85*	*37.88*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.41**	*15.74*	*15.57*	*15.88*	*16.58*	*16.48*	*15.84*	*15.76*	**15.27**	*15.65*	*16.16*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.84**	*3.14*	*3.19*	*3.50*	*3.78*	*3.14*	*3.16*	*3.46*	**3.42**	*3.42*	*3.38*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.01**	*5.10*	*4.76*	*5.06*	*5.26*	*5.33*	*4.97*	*5.30*	**4.65**	*4.98*	*5.22*
Africa	**4.37**	**4.39**	**4.30**	**4.48**	**4.48**	*4.54*	*4.46*	*4.65*	*4.62*	*4.64*	*4.55*	*4.72*	**4.39**	*4.53*	*4.63*
Total OECD Liquid Fuels Consumption	**42.45**	**44.08**	**45.82**	**46.74**	**45.82**	*45.49*	*46.24*	*46.48*	*46.12*	*45.90*	*46.61*	*46.85*	**44.79**	*46.01*	*46.37*
Total non-OECD Liquid Fuels Consumption	**51.83**	**52.25**	**52.58**	**53.69**	**53.13**	*53.70*	*53.99*	*54.30*	*55.45*	*55.70*	*55.30*	*54.98*	**52.59**	*53.78*	*55.35*
Total World Liquid Fuels Consumption	**94.28**	**96.33**	**98.40**	**100.43**	**98.95**	*99.19*	*100.23*	*100.78*	*101.56*	*101.59*	*101.91*	*101.83*	**97.38**	*99.80*	*101.73*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.3**	**117.5**	**118.9**	**120.5**	**120.9**	*122.4*	*123.7*	*124.8*	*125.7*	*127.0*	*128.1*	*129.2*	**118.3**	*123.0*	*127.5*
Percent change from prior year	**3.3**	**11.5**	**4.9**	**4.5**	**4.0**	*4.2*	*4.0*	*3.6*	*3.9*	*3.7*	*3.6*	*3.5*	**6.0**	*4.0*	*3.7*
OECD Index, 2015 = 100													**109.5**	*113.0*	*115.8*
Percent change from prior year													**5.5**	*3.2*	*2.4*
Non-OECD Index, 2015 = 100													**123.7**	*129.3*	*135.3*
Percent change from prior year													**6.3**	*4.5*	*4.7*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**110.2**	*111.1*	*110.9*	*110.8*	*110.5*	*109.9*	*109.4*	*108.9*	**107.3**	*110.8*	*109.7*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**3.5**	*4.7*	*3.2*	*1.6*	*0.3*	*-1.1*	*-1.4*	*-1.8*	**-3.9**	*3.2*	*-1.0*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.63**	**11.52**	*11.90*	*12.15*	*12.46*	*12.73*	*12.88*	*13.02*	*13.17*	**11.19**	*12.01*	*12.95*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.44**	*0.39*	*0.40*	*0.41*	*0.43*	*0.39*	*0.41*	*0.43*	**0.44**	*0.41*	*0.42*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.73**	**1.76**	*1.81*	*1.75*	*1.78*	*1.85*	*1.83*	*1.75*	*1.75*	**1.70**	*1.78*	*1.79*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.45**	**9.31**	*9.69*	*10.01*	*10.26*	*10.45*	*10.66*	*10.86*	*10.99*	**9.05**	*9.82*	*10.74*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	**3.14**	*3.91*	*3.33*	*3.07*	*2.64*	*3.51*	*3.35*	*2.46*	**3.13**	*3.36*	*2.99*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.32**	*0.89*	*0.98*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.65*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	**0.10**	*-0.20*	*0.15*	*-0.10*	*-0.38*	*-0.09*	*0.06*	*0.06*	**0.18**	*-0.01*	*-0.09*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.55**	**0.42**	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.53**	*0.26*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	**15.51**	*16.72*	*16.84*	*16.01*	*15.25*	*16.60*	*16.68*	*15.97*	**15.15**	*16.27*	*16.13*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.97**	*1.07*	*1.06*	*1.07*	*1.04*	*1.00*	*1.00*	*1.01*	**0.95**	*1.04*	*1.01*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	**5.64**	*5.93*	*6.04*	*6.16*	*6.15*	*6.26*	*6.29*	*6.31*	**5.40**	*5.95*	*6.25*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	**1.19**	*1.18*	*1.19*	*1.21*	*1.17*	*1.21*	*1.20*	*1.25*	**1.12**	*1.19*	*1.21*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.03**	*0.99*	*1.01*	*1.01*	*0.98*	*1.01*	*1.00*	*1.03*	**0.98**	*1.01*	*1.00*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	**0.21**	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	**-3.98**	*-3.70*	*-4.12*	*-4.07*	*-3.89*	*-3.83*	*-4.01*	*-4.01*	**-3.29**	*-3.97*	*-3.94*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	**-2.21**	*-2.29*	*-2.37*	*-2.43*	*-2.56*	*-2.56*	*-2.64*	*-2.59*	**-2.15**	*-2.32*	*-2.59*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	**0.17**	*0.31*	*0.31*	*0.20*	*0.18*	*0.22*	*0.29*	*0.21*	**0.17**	*0.25*	*0.23*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	**-0.06**	*-0.04*	*-0.06*	*-0.04*	*-0.05*	*-0.04*	*-0.04*	*-0.03*	**-0.05**	*-0.05*	*-0.04*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	**0.33**	*0.75*	*0.40*	*0.21*	*0.37*	*0.60*	*0.39*	*0.41*	**0.60**	*0.42*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	**-0.79**	*-0.56*	*-0.50*	*-0.54*	*-0.70*	*-0.57*	*-0.52*	*-0.75*	**-0.71**	*-0.60*	*-0.63*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	**-0.04**	*0.02*	*-0.04*	*-0.03*	*-0.02*	*0.03*	*0.06*	*0.07*	**0.05**	*-0.02*	*0.03*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	**-0.87**	*-1.26*	*-1.30*	*-0.99*	*-0.70*	*-1.02*	*-1.04*	*-0.93*	**-0.80**	*-1.11*	*-0.93*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	**0.11**	*0.05*	*0.01*	*0.08*	*-0.01*	*0.01*	*-0.02*	*0.08*	**0.09**	*0.06*	*0.02*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	**-0.62**	*-0.67*	*-0.59*	*-0.53*	*-0.40*	*-0.51*	*-0.49*	*-0.48*	**-0.49**	*-0.60*	*-0.47*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	**0.38**	*-0.80*	*-0.40*	*0.29*	*0.36*	*-0.53*	*-0.30*	*0.39*	**0.23**	*-0.13*	*-0.02*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	**19.92**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.56*	*20.86*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	**3.91**	*3.39*	*3.40*	*3.82*	*3.90*	*3.52*	*3.49*	*3.85*	**3.41**	*3.63*	*3.69*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	**0.15**	*0.18*	*0.16*	*0.21*	*0.20*	*0.19*	*0.18*	*0.24*	**0.13**	*0.17*	*0.20*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	**0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.00**	*0.01*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	**8.37**	*9.13*	*9.22*	*8.94*	*8.43*	*9.16*	*9.22*	*9.00*	**8.80**	*8.92*	*8.96*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	**0.89**	*0.93*	*0.93*	*0.92*	*0.86*	*0.94*	*0.94*	*0.94*	**0.91**	*0.92*	*0.92*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	**1.46**	*1.57*	*1.62*	*1.60*	*1.51*	*1.64*	*1.70*	*1.67*	**1.37**	*1.56*	*1.63*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	**4.09**	*4.03*	*3.96*	*4.10*	*4.18*	*4.09*	*4.03*	*4.12*	**3.94**	*4.04*	*4.10*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	**0.31**	*0.27*	*0.30*	*0.30*	*0.25*	*0.26*	*0.28*	*0.30*	**0.31**	*0.29*	*0.27*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	**1.67**	*2.04*	*2.16*	*1.93*	*1.82*	*2.07*	*2.20*	*1.96*	**1.82**	*1.95*	*2.01*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	**-0.84**	*0.21*	*-0.79*	*-1.00*	*-1.25*	*-0.32*	*-0.66*	*-1.55*	**-0.16**	*-0.61*	*-0.95*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	**412.4**	*430.3*	*416.4*	*425.5*	*460.0*	*468.3*	*463.0*	*457.7*	**421.4**	*425.5*	*457.7*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	**139.6**	*194.9*	*243.4*	*205.6*	*166.6*	*214.2*	*251.8*	*209.0*	**188.4**	*205.6*	*209.0*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	**87.8**	*89.8*	*89.7*	*82.9*	*92.3*	*90.1*	*89.6*	*82.5*	**80.3**	*82.9*	*82.5*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	**33.5**	*32.3*	*32.0*	*32.2*	*34.3*	*33.1*	*32.8*	*33.1*	**28.6**	*32.2*	*33.1*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	**236.8**	*245.3*	*233.6*	*249.1*	*247.1*	*246.5*	*238.4*	*250.5*	**232.2**	*249.1*	*250.5*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	**16.5**	*20.8*	*23.0*	*26.6*	*23.2*	*24.3*	*25.4*	*27.9*	**17.7**	*26.6*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	**220.3**	*224.5*	*210.5*	*222.5*	*223.9*	*222.2*	*213.0*	*222.6*	**214.5**	*222.5*	*222.6*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	**35.4**	*37.1*	*40.3*	*37.6*	*37.5*	*38.5*	*41.2*	*38.2*	**35.8**	*37.6*	*38.2*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	**114.3**	*121.4*	*129.4*	*131.1*	*119.4*	*124.5*	*131.4*	*133.3*	**129.9**	*131.1*	*133.3*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	**28.8**	*30.8*	*29.6*	*31.0*	*30.7*	*31.4*	*30.1*	*31.5*	**25.4**	*31.0*	*31.5*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	**62.2**	*59.9*	*50.6*	*52.0*	*61.1*	*59.0*	*49.7*	*51.0*	**51.8**	*52.0*	*51.0*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	**1150.7**	*1241.7*	*1264.8*	*1247.1*	*1248.8*	*1305.7*	*1327.9*	*1286.8*	**1193.8**	*1247.1*	*1286.8*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**564.6**	*483.4*	*393.4*	*355.6*	*351.8*	*344.0*	*341.4*	*330.9*	**593.7**	*355.6*	*330.9*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.32**	**2.28**	*2.38*	*2.44*	*2.56*	*2.56*	*2.61*	*2.57*	*2.61*	**2.14**	*2.42*	*2.59*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	**1.81**	*1.91*	*1.92*	*1.94*	*1.94*	*1.95*	*1.97*	*1.98*	**1.73**	*1.90*	*1.96*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	**0.96**	*0.99*	*1.00*	*1.01*	*1.02*	*1.04*	*1.05*	*1.06*	**0.92**	*0.99*	*1.04*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	**0.60**	*0.65*	*0.68*	*0.65*	*0.63*	*0.66*	*0.69*	*0.66*	**0.61**	*0.65*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.28**	*0.29*	*0.30*	*0.29*	*0.28*	*0.28*	*0.29*	*0.29*	**0.28**	*0.29*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	*0.28*	*0.28*	*0.28*	*0.27*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	*0.27*	*0.20*	*-0.19*	*-0.08*	*0.27*	*0.20*	*-0.20*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.47**	**-0.44**	*-0.38*	*-0.40*	*-0.44*	*-0.46*	*-0.46*	*-0.46*	*-0.46*	**-0.40**	*-0.41*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.20**	**-1.21**	*-1.21*	*-1.26*	*-1.34*	*-1.38*	*-1.33*	*-1.40*	*-1.44*	**-1.18**	*-1.26*	*-1.39*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.34**	**-0.36**	*-0.48*	*-0.48*	*-0.44*	*-0.46*	*-0.52*	*-0.53*	*-0.45*	**-0.37**	*-0.44*	*-0.49*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.21**	*-0.22*	*-0.23*	*-0.21*	*-0.26*	*-0.24*	*-0.25*	*-0.23*	**-0.20**	*-0.22*	*-0.25*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.52**	**0.42**	*0.28*	*0.31*	*0.50*	*0.42*	*0.29*	*0.31*	*0.51*	**0.38**	*0.38*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.18**	*0.18*	*0.19*	*0.19*	*0.18*	*0.18*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.90**	**2.00**	*1.98*	*2.04*	*2.10*	*2.09*	*2.11*	*2.11*	*2.14*	**1.77**	*2.03*	*2.11*
Propane	**1.09**	**0.65**	**0.66**	**0.96**	**1.20**	*0.67*	*0.63*	*0.99*	*1.13*	*0.68*	*0.64*	*0.96*	**0.84**	*0.87*	*0.85*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.29*	*0.30*	**0.31**	*0.29*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	**0.21**	*0.23*	*0.20*	*0.20*	*0.18*	*0.23*	*0.22*	*0.21*	**0.24**	*0.21*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.19**	*0.22*	*0.24*	*0.24*	*0.21*	*0.20*	*0.22*	*0.23*	**0.25**	*0.22*	*0.22*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**64.0**	**51.7**	*51.3*	*51.3*	*54.7*	*54.3*	*58.8*	*58.5*	*60.9*	**65.4**	*52.2*	*58.2*
Propane	**39.3**	**53.2**	**68.6**	**62.1**	**33.1**	*60.7*	*89.4*	*79.4*	*52.1*	*69.8*	*88.5*	*74.8*	**62.1**	*79.4*	*74.8*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.3**	*1.6*	*1.9*	*1.8*	*1.6*	*1.8*	*2.0*	*1.9*	**1.4**	*1.8*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**44.4**	**35.0**	*59.5*	*77.5*	*48.5*	*38.7*	*63.1*	*81.1*	*51.9*	**44.4**	*48.5*	*51.9*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**20.7**	**20.7**	*21.7*	*22.4*	*21.6*	*19.0*	*20.1*	*20.9*	*20.1*	**20.7**	*21.6*	*20.1*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	**15.51**	*16.72*	*16.84*	*16.01*	*15.25*	*16.60*	*16.68*	*15.97*	**15.15**	*16.27*	*16.13*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.75**	**0.60**	*0.46*	*0.50*	*0.68*	*0.59*	*0.47*	*0.50*	*0.69*	**0.54**	*0.56*	*0.56*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.18**	**1.12**	*1.18*	*1.19*	*1.15*	*1.09*	*1.19*	*1.19*	*1.17*	**1.15**	*1.16*	*1.16*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.20**	**0.06**	*0.28*	*0.31*	*0.27*	*0.08*	*0.28*	*0.31*	*0.27*	**0.16**	*0.23*	*0.24*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.28**	**0.35**	*0.80*	*0.65*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.91**	**17.63**	*19.45*	*19.49*	*18.42*	*17.49*	*19.26*	*19.27*	*18.63*	**17.69**	*18.75*	*18.66*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.97**	*1.07*	*1.06*	*1.07*	*1.04*	*1.00*	*1.00*	*1.01*	**0.95**	*1.04*	*1.01*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	*0.85*	*0.78*	*0.39*	*0.49*	*0.84*	*0.77*	*0.38*	**0.62**	*0.63*	*0.62*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.69**	**9.18**	*9.80*	*9.81*	*9.70*	*9.18*	*9.80*	*9.81*	*9.94*	**9.52**	*9.62*	*9.69*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.49**	*1.58*	*1.69*	*1.60*	*1.53*	*1.63*	*1.67*	*1.57*	**1.31**	*1.59*	*1.60*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.87**	**4.78**	*5.37*	*5.34*	*5.11*	*4.75*	*5.16*	*5.15*	*5.07*	**4.66**	*5.15*	*5.04*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.22**	**0.24**	*0.24*	*0.27*	*0.23*	*0.26*	*0.26*	*0.28*	*0.23*	**0.21**	*0.24*	*0.26*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.33**	**2.41**	*2.68*	*2.65*	*2.47*	*2.32*	*2.56*	*2.59*	*2.45*	**2.32**	*2.55*	*2.48*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.94**	**18.59**	*20.52*	*20.55*	*19.49*	*18.53*	*20.25*	*20.27*	*19.64*	**18.64**	*19.79*	*19.68*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.02**	**16.02**	*16.89*	*17.08*	*16.30*	*15.59*	*16.79*	*16.94*	*16.26*	**15.67**	*16.58*	*16.40*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.05**	**17.94**	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	**18.10**	*17.94*	*17.94*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.89**	*0.94*	*0.95*	*0.91*	*0.87*	*0.94*	*0.94*	*0.91*	**0.87**	*0.92*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**286**	*308*	*290*	*269*	*261*	*271*	*262*	*241*	**219**	*288*	*258*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	*384*	*365*	*350*	*335*	*344*	*336*	*319*	**294**	*366*	*333*
PADD 2	**247**	**288**	**304**	**315**	**350**	*377*	*355*	*337*	*326*	*340*	*333*	*309*	**290**	*355*	*327*
PADD 3	**228**	**267**	**282**	**298**	**339**	*360*	*337*	*318*	*304*	*313*	*307*	*286*	**271**	*338*	*302*
PADD 4	**247**	**311**	**360**	**351**	**358**	*401*	*381*	*357*	*340*	*356*	*351*	*328*	**319**	*375*	*344*
PADD 5	**312**	**366**	**391**	**410**	**452**	*489*	*445*	*440*	*420*	*422*	*414*	*390*	**372**	*457*	*411*
U.S. Average	**256**	**297**	**316**	**333**	**370**	*397*	*372*	*356*	*342*	*352*	*344*	*323*	**302**	*374*	*340*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	*408*	*384*	*370*	*356*	*365*	*358*	*337*	**311**	*386*	*354*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.4**	*66.1*	*62.6*	*68.7*	*67.1*	*67.6*	*62.9*	*68.5*	**61.8**	*68.7*	*68.5*
PADD 2	**50.7**	**50.6**	**46.9**	**50.9**	**56.7**	*52.9*	*50.3*	*50.6*	*52.9*	*51.8*	*51.2*	*50.0*	**50.9**	*50.6*	*50.0*
PADD 3	**81.9**	**81.6**	**82.9**	**81.7**	**86.1**	*89.0*	*83.8*	*90.1*	*89.2*	*90.1*	*87.5*	*91.1*	**81.7**	*90.1*	*91.1*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**7.9**	*7.9*	*7.5*	*8.1*	*8.0*	*8.0*	*7.6*	*8.4*	**8.1**	*8.1*	*8.4*
PADD 5	**31.4**	**29.0**	**30.6**	**29.6**	**29.7**	*29.4*	*29.4*	*31.6*	*29.8*	*29.0*	*29.2*	*32.5*	**29.6**	*31.6*	*32.5*
U.S. Total	**237.6**	**237.2**	**227.0**	**232.2**	**236.8**	*245.3*	*233.6*	*249.1*	*247.1*	*246.5*	*238.4*	*250.5*	**232.2**	*249.1*	*250.5*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.7**	**16.5**	*20.8*	*23.0*	*26.6*	*23.2*	*24.3*	*25.4*	*27.9*	**17.7**	*26.6*	*27.9*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**214.5**	**220.3**	*224.5*	*210.5*	*222.5*	*223.9*	*222.2*	*213.0*	*222.6*	**214.5**	*222.5*	*222.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.96**	**103.44**	*105.21*	*106.22*	*107.62*	*108.28*	*109.18*	*110.10*	*110.44*	**101.43**	*105.64*	*109.51*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**0.99**	*0.78*	*0.73*	*0.86*	*0.92*	*0.78*	*0.74*	*0.88*	**0.97**	*0.84*	*0.83*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.22**	*2.27*	*2.16*	*2.15*	*2.18*	*2.12*	*2.00*	*1.95*	**2.11**	*2.20*	*2.06*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.82**	**100.23**	*102.15*	*103.33*	*104.60*	*105.18*	*106.27*	*107.35*	*107.60*	**98.34**	*102.59*	*106.61*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.63**	**95.41**	*97.01*	*97.94*	*99.23*	*99.72*	*100.56*	*101.41*	*101.72*	**93.57**	*97.41*	*100.86*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.23**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.20*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.51**	*12.35*	*12.11*	*12.78*	*13.08*	*12.51*	*12.19*	*12.78*	**9.76**	*12.19*	*12.64*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.38**	*6.47*	*6.38*	*6.71*	*7.74*	*6.44*	*6.31*	*6.50*	**7.63**	*6.98*	*6.74*
Pipeline Gross Exports	**8.31**	**8.67**	**8.50**	**8.41**	**8.43**	*8.20*	*9.14*	*9.15*	*9.09*	*9.01*	*9.33*	*9.23*	**8.47**	*8.74*	*9.17*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.02**	*-11.43*	*-8.20*	*2.53*	*14.21*	*-11.36*	*-8.00*	*2.93*	**0.24**	*0.66*	*-0.60*
Total Supply	**99.18**	**72.53**	**75.31**	**86.96**	**104.27**	*71.84*	*75.22*	*86.91*	*99.99*	*74.47*	*78.57*	*89.51*	**83.44**	*84.48*	*85.59*
Balancing Item (b)	**0.26**	**-0.58**	**-0.21**	**-1.33**	**-0.09**	*-0.16*	*0.03*	*-1.28*	*-1.02*	*-0.67*	*-0.48*	*-1.18*	**-0.47**	*-0.38*	*-0.84*
Total Primary Supply	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.62**	**14.43**	**26.15**	*8.10*	*3.82*	*16.35*	*24.76*	*8.18*	*3.87*	*16.23*	**12.75**	*13.55*	*13.21*
Commercial	**14.87**	**6.23**	**4.68**	**10.08**	**15.67**	*6.66*	*4.87*	*10.32*	*14.85*	*6.70*	*4.85*	*10.28*	**8.94**	*9.35*	*9.14*
Industrial	**23.81**	**21.46**	**21.14**	**23.44**	**24.88**	*21.82*	*21.64*	*24.32*	*24.25*	*22.02*	*22.27*	*25.28*	**22.46**	*23.16*	*23.45*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.74**	*27.38*	*37.04*	*26.33*	*26.31*	*28.92*	*38.93*	*28.01*	**30.88**	*29.89*	*30.57*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.16**	*5.24*	*5.30*	*5.36*	*5.40*	*5.44*	*5.49*	*5.51*	**5.06**	*5.27*	*5.46*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.43**	*2.33*	*2.45*	*2.80*	*3.26*	*2.39*	*2.54*	*2.89*	**2.74**	*2.75*	*2.77*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,583**	**3,305**	**3,208**	**1,406**	*2,447*	*3,201*	*2,968*	*1,690*	*2,723*	*3,459*	*3,189*	**3,208**	*2,968*	*3,189*
East Region (d)	**313**	**515**	**804**	**766**	**245**	*506*	*792*	*694*	*307*	*613*	*873*	*768*	**766**	*694*	*768*
Midwest Region (d)	**395**	**630**	**966**	**887**	**299**	*566*	*900*	*807*	*367*	*645*	*961*	*850*	**887**	*807*	*850*
South Central Region (d)	**760**	**991**	**1,052**	**1,141**	**588**	*919*	*992*	*1,006*	*722*	*1,024*	*1,085*	*1,085*	**1,141**	*1,006*	*1,085*
Mountain Region (d)	**113**	**175**	**205**	**171**	**91**	*149*	*200*	*183*	*111*	*151*	*213*	*191*	**171**	*183*	*191*
Pacific Region (d)	**197**	**246**	**248**	**218**	**164**	*287*	*298*	*259*	*164*	*271*	*309*	*276*	**218**	*259*	*276*
Alaska	**23**	**27**	**30**	**25**	**19**	*19*	*19*	*19*	*19*	*19*	*19*	*19*	**25**	*19*	*19*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*5.90*	*5.72*	*5.26*	*4.90*	*3.79*	*3.93*	*4.04*	**4.06**	*5.43*	*4.17*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**16.89**	*17.07*	*19.89*	*15.76*	*15.22*	*15.88*	*18.36*	*14.28*	**16.12**	*16.79*	*15.26*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.65**	*14.81*	*19.57*	*13.41*	*12.14*	*13.90*	*17.89*	*11.73*	**12.55**	*13.63*	*12.69*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.70**	*13.18*	*18.96*	*10.63*	*9.73*	*12.34*	*17.69*	*9.41*	**10.19**	*10.95*	*10.52*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**10.81**	*13.42*	*19.64*	*11.66*	*10.19*	*12.81*	*18.38*	*10.27*	**10.23**	*11.84*	*11.06*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.28**	*18.58*	*25.05*	*14.88*	*13.33*	*18.13*	*23.79*	*13.45*	**15.24**	*15.34*	*14.81*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.59**	*16.57*	*24.70*	*15.83*	*13.53*	*18.38*	*24.14*	*15.03*	**11.99**	*13.89*	*15.51*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**11.81**	*16.13*	*22.98*	*13.79*	*10.62*	*16.06*	*21.38*	*12.40*	**13.22**	*13.92*	*12.88*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.02**	*11.65*	*15.87*	*10.71*	*10.05*	*11.55*	*14.82*	*9.40*	**9.77**	*10.87*	*10.44*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.15**	*17.16*	*17.88*	*16.56*	*16.39*	*16.52*	*16.75*	*15.47*	**15.25**	*17.06*	*16.17*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.81**	**12.06**	*15.03*	*19.91*	*13.03*	*11.88*	*14.43*	*18.63*	*11.67*	**12.27**	*13.36*	*12.71*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.40**	*12.54*	*12.61*	*12.32*	*12.41*	*12.06*	*11.22*	*10.80*	**11.33**	*12.42*	*11.75*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.21**	*10.01*	*9.64*	*9.98*	*10.07*	*9.37*	*8.41*	*8.62*	**8.56**	*10.03*	*9.32*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.08**	*9.40*	*11.16*	*8.98*	*8.71*	*9.25*	*9.86*	*7.62*	**7.60**	*8.75*	*8.52*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.05**	*10.20*	*11.52*	*9.39*	*9.01*	*9.05*	*9.86*	*7.91*	**7.91**	*9.97*	*8.73*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.01**	*11.44*	*12.22*	*11.09*	*10.60*	*11.03*	*10.94*	*9.82*	**9.76**	*10.83*	*10.47*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.39**	*11.50*	*12.44*	*11.22*	*10.46*	*11.00*	*11.05*	*9.73*	**9.89**	*11.03*	*10.37*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.24**	*9.58*	*10.54*	*9.71*	*8.81*	*9.08*	*9.08*	*8.21*	**8.62**	*9.61*	*8.74*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.71**	*9.11*	*10.26*	*9.16*	*8.88*	*9.04*	*9.53*	*8.16*	**7.75**	*9.06*	*8.74*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.51**	*11.86*	*12.28*	*11.74*	*11.18*	*10.39*	*10.18*	*9.49*	**11.09**	*12.12*	*10.35*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	**9.74**	*10.36*	*11.10*	*10.09*	*9.73*	*9.78*	*9.71*	*8.64*	**8.82**	*10.09*	*9.42*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**10.49**	*9.97*	*9.39*	*10.27*	*10.41*	*9.35*	*7.96*	*8.88*	**8.73**	*10.12*	*9.35*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.29**	*9.87*	*9.94*	*10.07*	*10.02*	*8.93*	*8.14*	*8.35*	**8.24**	*10.10*	*9.19*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.71**	*8.08*	*8.29*	*7.95*	*7.94*	*7.07*	*6.59*	*6.55*	**6.90**	*7.91*	*7.22*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**7.82**	*7.06*	*7.05*	*7.22*	*7.13*	*5.71*	*5.26*	*5.70*	**5.48**	*7.32*	*6.01*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.01**	*7.36*	*7.44*	*7.31*	*7.20*	*5.91*	*5.63*	*5.93*	**5.90**	*7.26*	*6.22*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.43**	*7.00*	*6.98*	*6.90*	*6.82*	*5.57*	*5.15*	*5.52*	**5.39**	*6.81*	*5.81*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**4.96**	*5.96*	*5.95*	*5.50*	*5.11*	*4.08*	*4.09*	*4.16*	**4.80**	*5.61*	*4.35*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.15**	*7.27*	*7.78*	*7.65*	*7.62*	*7.05*	*6.88*	*6.54*	**5.99**	*7.43*	*7.05*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.76**	*8.56*	*9.20*	*9.20*	*8.90*	*7.89*	*7.34*	*7.29*	**8.54**	*8.95*	*7.87*
U.S. Average	**5.73**	**4.09**	**5.11**	**6.86**	**6.40**	*6.66*	*6.64*	*6.63*	*6.51*	*5.09*	*4.84*	*5.22*	**5.50**	*6.57*	*5.44*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**147.1**	**147.4**	*147.1*	*161.3*	*165.5*	*161.7*	*152.1*	*163.0*	*156.3*	**578.4**	*621.2*	*633.0*
Appalachia	**40.8**	**39.5**	**36.6**	**41.3**	**42.9**	*41.9*	*40.6*	*43.6*	*44.9*	*42.2*	*40.1*	*37.6*	**158.2**	*169.0*	*164.8*
Interior	**25.0**	**23.3**	**22.7**	**24.7**	**24.5**	*22.3*	*24.0*	*25.1*	*26.5*	*24.0*	*25.1*	*24.4*	**95.7**	*96.0*	*99.9*
Western	**74.5**	**80.0**	**89.0**	**81.0**	**79.9**	*82.9*	*96.7*	*96.7*	*90.2*	*85.9*	*97.8*	*94.3*	**324.6**	*356.2*	*368.3*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	**-1.3**	*-2.2*	*-0.9*	*-5.2*	*-2.0*	*-1.2*	*1.6*	*-1.7*	**-1.7**	*-9.6*	*-3.3*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.1**	*1.0*	*1.2*	*1.1*	*1.0*	*1.2*	*1.6*	*1.4*	**5.4**	*4.4*	*5.2*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**21.2**	*18.8*	*21.4*	*27.7*	*20.5*	*22.0*	*21.6*	*23.1*	**85.2**	*89.0*	*87.2*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**12.1**	*11.2*	*12.9*	*14.4*	*12.1*	*13.1*	*12.7*	*13.4*	**45.3**	*50.6*	*51.3*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.1**	*7.6*	*8.5*	*13.2*	*8.4*	*8.9*	*8.9*	*9.7*	**39.9**	*38.4*	*35.9*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**125.2**	**126.0**	*127.1*	*140.2*	*133.7*	*140.2*	*130.1*	*144.6*	*132.9*	**496.9**	*527.0*	*547.7*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-15.1**	**4.9**	*-7.1*	*26.2*	*0.7*	*-6.5*	*-19.9*	*10.5*	*-11.0*	**37.9**	*24.8*	*-27.0*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	*1.9*	*1.9*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**140.6**	**126.2**	**163.7**	**112.1**	**132.9**	*121.9*	*168.3*	*136.3*	*135.5*	*111.9*	*156.8*	*123.6*	**542.7**	*559.4*	*527.9*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.6**	**4.4**	*3.8*	*3.6*	*4.2*	*4.3*	*4.4*	*4.6*	*4.7*	**17.8**	*16.0*	*18.0*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.4**	*111.5*	*158.0*	*125.2*	*124.2*	*101.5*	*146.1*	*111.9*	**501.4**	*517.1*	*483.7*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.8**	*6.7*	*6.6*	*6.9*	*7.0*	*6.1*	*6.2*	*7.0*	**26.7**	*27.1*	*26.2*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.2*	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	**0.8**	*0.7*	*0.9*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	*6.5*	*6.5*	*6.7*	*6.6*	*5.9*	*6.0*	*6.7*	**25.8**	*26.3*	*25.3*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.3**	**133.6**	*121.9*	*168.3*	*136.3*	*135.5*	*111.9*	*156.8*	*123.6*	**545.9**	*560.1*	*527.9*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-2.2**	**-0.7**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-3.3**	*-0.7*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	**26.6**	*28.8*	*29.7*	*34.8*	*36.8*	*38.0*	*36.4*	*38.1*	**25.3**	*34.8*	*38.1*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**100.2**	**95.3**	*102.4*	*76.1*	*75.4*	*81.9*	*101.8*	*91.3*	*102.4*	**100.2**	*75.4*	*102.4*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**89.9**	*96.8*	*70.5*	*70.0*	*77.3*	*97.1*	*86.4*	*97.4*	**94.7**	*70.0*	*97.4*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**3.4**	**3.6**	*3.5*	*3.4*	*3.3*	*2.7*	*2.8*	*3.0*	*3.0*	**3.4**	*3.3*	*3.0*
Coke Plants	**1.5**	**1.9**	**1.8**	**2.0**	**1.6**	*1.9*	*2.0*	*1.9*	*1.7*	*1.8*	*1.8*	*1.9*	**2.0**	*1.9*	*1.9*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	**6.30**	*6.30*	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.252*	*0.268*	*0.283*	*0.294*	*0.294*	*0.309*	*0.323*	**0.258**	*0.264*	*0.305*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,024**	*997*	*1,174*	*984*	*1,007*	*1,008*	*1,189*	*998*	**4,116**	*4,180*	*4,202*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**986**	*959*	*1,133*	*944*	*968*	*969*	*1,146*	*957*	**3,963**	*4,021*	*4,040*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**36**	*35*	*38*	*37*	*36*	*36*	*39*	*37*	**140**	*145*	*148*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**13**	*13*	*15*	*12*	*12*	*13*	*15*	*12*	**39**	*53*	*52*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,037**	*1,010*	*1,189*	*995*	*1,019*	*1,021*	*1,204*	*1,010*	**4,155**	*4,232*	*4,253*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**68**	*65*	*53*	*51*	*42*	*65*	*55*	*52*	**225**	*237*	*213*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**913**	**898**	**1,089**	**894**	**935**	*911*	*1,099*	*909*	*942*	*921*	*1,112*	*922*	**3,795**	*3,854*	*3,897*
Residential Sector	**379**	**329**	**446**	**324**	**373**	*324*	*442*	*328*	*372*	*328*	*447*	*335*	**1,477**	*1,468*	*1,482*
Commercial Sector	**304**	**321**	**377**	**322**	**319**	*331*	*383*	*325*	*320*	*332*	*384*	*326*	**1,325**	*1,358*	*1,362*
Industrial Sector	**229**	**247**	**264**	**247**	**241**	*254*	*272*	*254*	*248*	*261*	*279*	*259*	**987**	*1,022*	*1,046*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**35**	*34*	*37*	*36*	*35*	*35*	*38*	*36*	**136**	*141*	*143*
Total Consumption	**946**	**931**	**1,124**	**929**	**970**	*945*	*1,136*	*944*	*977*	*956*	*1,149*	*958*	**3,930**	*3,995*	*4,040*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,680**	*2,328*	*3,175*	*2,356*	*2,646*	*2,328*	*3,178*	*2,380*	**10,703**	*10,539*	*10,533*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**89.9**	*96.8*	*70.5*	*70.0*	*77.3*	*97.1*	*86.4*	*97.4*	**94.7**	*70.0*	*97.4*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**6.5**	*6.6*	*6.7*	*7.0*	*4.9*	*4.8*	*3.0*	*3.7*	**7.0**	*7.0*	*3.7*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**14.9**	*14.8*	*14.8*	*15.1*	*15.0*	*14.9*	*14.8*	*15.1*	**16.0**	*15.1*	*15.1*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.58**	*5.85*	*5.63*	*5.39*	*5.26*	*3.79*	*3.86*	*4.17*	**4.97**	*5.62*	*4.21*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.20**	*20.83*	*19.49*	*18.28*	*17.89*	*17.78*	*16.60*	*15.95*	**13.66**	*18.31*	*17.05*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.14**	*26.52*	*24.45*	*22.59*	*21.47*	*20.58*	*20.13*	*19.83*	**15.50**	*22.96*	*20.63*
Retail Prices (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**14.02**	*14.51*	*14.52*	*14.38*	*14.40*	*14.72*	*14.59*	*14.32*	**13.72**	*14.36*	*14.51*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.81**	*11.64*	*12.01*	*11.74*	*12.09*	*11.70*	*11.95*	*11.60*	**11.27**	*11.81*	*11.84*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.53**	*7.21*	*7.73*	*7.35*	*7.53*	*7.07*	*7.57*	*7.23*	**7.26**	*7.46*	*7.35*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	*53.47*	*62.01*	*44.34*	*41.84*	*33.50*	*40.40*	*34.60*	**189.54**	*50.63*	*37.59*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	*44.42*	*62.06*	*47.77*	*42.50*	*34.88*	*44.57*	*38.46*	**53.53**	*49.86*	*40.10*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	*84.37*	*82.42*	*38.15*	*71.07*	*74.91*	*76.94*	*39.28*	**51.81**	*80.36*	*65.55*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	*76.01*	*73.58*	*32.86*	*64.57*	*68.04*	*68.71*	*34.37*	**46.14**	*70.64*	*58.92*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	*62.78*	*75.70*	*59.72*	*57.79*	*49.39*	*57.72*	*49.98*	**45.67**	*64.13*	*53.72*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	*60.60*	*69.90*	*55.23*	*52.58*	*45.32*	*53.62*	*44.52*	**46.47**	*58.40*	*49.01*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	*52.36*	*60.61*	*43.44*	*40.55*	*37.78*	*45.75*	*35.73*	**93.88**	*48.41*	*39.95*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	*53.57*	*59.73*	*50.10*	*47.57*	*40.47*	*46.00*	*39.84*	**42.39**	*51.46*	*43.47*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	*50.04*	*52.15*	*46.58*	*44.17*	*37.52*	*39.43*	*38.38*	**37.92**	*47.47*	*39.87*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	*37.54*	*49.06*	*40.64*	*41.30*	*28.97*	*37.34*	*35.31*	**59.53**	*41.77*	*35.73*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	*37.37*	*47.03*	*36.41*	*32.99*	*28.63*	*34.57*	*29.88*	**55.44**	*39.96*	*31.52*

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**12.9**	*10.0*	*13.6*	*11.1*	*12.8*	*10.0*	*13.7*	*11.2*	**48.7**	*47.6*	*47.6*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**35.9**	*28.6*	*40.3*	*30.5*	*35.6*	*29.0*	*40.7*	*30.7*	**138.7**	*135.4*	*136.0*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.2**	*41.1*	*54.1*	*43.9*	*49.0*	*41.4*	*54.7*	*44.6*	**192.6**	*189.2*	*189.7*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**31.0**	*24.1*	*31.3*	*26.0*	*30.7*	*25.1*	*32.3*	*26.7*	**108.6**	*112.3*	*114.7*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**93.4**	*85.1*	*112.8*	*83.6*	*93.8*	*86.5*	*113.9*	*85.6*	**374.9**	*374.8*	*379.7*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**31.7**	*25.7*	*36.2*	*26.5*	*32.2*	*26.0*	*36.3*	*26.9*	**120.5**	*120.2*	*121.4*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**54.5**	*52.4*	*78.1*	*48.8*	*54.0*	*52.0*	*78.9*	*50.7*	**230.5**	*233.8*	*235.5*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**23.7**	*25.2*	*34.9*	*22.9*	*23.8*	*25.5*	*35.7*	*23.3*	**108.1**	*106.7*	*108.3*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.8**	*30.8*	*39.7*	*33.8*	*39.3*	*31.1*	*40.0*	*34.0*	**149.0**	*143.1*	*144.4*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**373.3**	*324.3*	*442.2*	*328.1*	*372.4*	*327.6*	*447.3*	*335.0*	**1,476.6**	*1,468.0*	*1,482.3*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	*11.8*	*13.6*	*11.6*	*12.2*	*11.8*	*13.5*	*11.6*	**48.5**	*49.1*	*49.0*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	*33.8*	*39.7*	*34.5*	*36.2*	*33.8*	*39.5*	*34.3*	**141.9**	*144.1*	*143.8*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**42.8**	*42.8*	*49.0*	*42.5*	*42.8*	*42.8*	*49.0*	*42.4*	**174.8**	*177.1*	*177.0*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.2**	*24.4*	*28.5*	*24.8*	*25.5*	*24.7*	*28.8*	*25.1*	**99.3**	*103.0*	*104.0*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**74.0**	*79.5*	*91.1*	*75.8*	*74.2*	*79.8*	*91.5*	*76.2*	**313.1**	*320.3*	*321.8*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.3**	*22.5*	*26.9*	*21.1*	*21.7*	*22.6*	*27.0*	*21.3*	**89.0**	*91.8*	*92.5*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**45.3**	*53.7*	*61.3*	*50.0*	*45.6*	*53.8*	*61.9*	*50.5*	**201.0**	*210.3*	*211.8*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**22.8**	*24.9*	*29.0*	*23.6*	*23.0*	*24.9*	*29.2*	*23.7*	**98.7**	*100.3*	*100.8*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.6**	*36.1*	*42.5*	*39.8*	*37.9*	*36.0*	*42.2*	*39.5*	**153.2**	*156.0*	*155.6*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	*1.3*	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	*1.4*	**5.3**	*5.5*	*5.6*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**318.6**	*330.8*	*382.9*	*325.2*	*320.3*	*331.5*	*384.1*	*326.1*	**1,324.8**	*1,357.5*	*1,362.1*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	*4.0*	*4.2*	*3.9*	*3.9*	*4.0*	*4.2*	*3.9*	**15.8**	*15.9*	*16.0*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**18.5**	*18.6*	*20.0*	*18.4*	*18.8*	*18.8*	*20.2*	*18.6*	**73.1**	*75.5*	*76.4*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**46.6**	*47.3*	*50.1*	*47.5*	*48.2*	*48.8*	*51.6*	*48.7*	**185.5**	*191.5*	*197.3*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.2**	*25.6*	*27.5*	*25.8*	*25.1*	*26.5*	*28.3*	*26.5*	**97.9**	*103.0*	*106.4*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.4**	*37.1*	*39.4*	*37.1*	*37.4*	*37.9*	*40.2*	*37.8*	**143.7**	*150.0*	*153.3*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**25.0**	*25.6*	*26.6*	*25.5*	*25.5*	*26.0*	*27.0*	*25.8*	**99.7**	*102.7*	*104.2*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**47.1**	*52.7*	*57.4*	*54.4*	*49.5*	*55.5*	*60.4*	*57.0*	**199.7**	*211.7*	*222.5*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.8**	*21.6*	*23.4*	*20.7*	*20.1*	*22.0*	*23.9*	*21.1*	**84.4**	*85.6*	*87.1*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**18.7**	*20.6*	*22.4*	*19.7*	*18.2*	*19.9*	*21.6*	*18.9*	**82.5**	*81.5*	*78.6*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**241.4**	*254.2*	*272.3*	*254.1*	*247.9*	*260.5*	*278.6*	*259.4*	**986.8**	*1,022.0*	*1,046.4*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.1**	*25.9*	*31.4*	*26.7*	*28.9*	*25.9*	*31.5*	*26.7*	**113.4**	*113.1*	*113.0*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**91.2**	*81.8*	*100.9*	*84.2*	*91.4*	*82.4*	*101.3*	*84.4*	**356.9**	*358.1*	*359.4*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**139.7**	*131.3*	*153.3*	*133.9*	*140.2*	*133.1*	*155.4*	*135.8*	**553.4**	*558.3*	*564.5*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**80.4**	*74.2*	*87.3*	*76.6*	*81.3*	*76.2*	*89.4*	*78.2*	**305.8**	*318.4*	*325.2*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**204.0**	*201.9*	*243.6*	*196.7*	*205.7*	*204.5*	*245.9*	*199.9*	**832.7**	*846.2*	*856.0*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.1**	*73.8*	*89.7*	*73.1*	*79.3*	*74.5*	*90.3*	*74.0*	**309.2**	*314.7*	*318.1*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**147.0**	*158.9*	*196.9*	*153.2*	*149.1*	*161.4*	*201.3*	*158.3*	**631.4**	*656.0*	*670.0*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**66.4**	*71.7*	*87.4*	*67.2*	*67.0*	*72.5*	*88.8*	*68.1*	**291.4**	*292.7*	*296.4*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.3**	*87.7*	*104.8*	*93.5*	*95.6*	*87.2*	*104.0*	*92.6*	**385.5**	*381.2*	*379.3*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*15.0*	*15.1*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**935.0**	*910.8*	*1,099.1*	*908.9*	*942.3*	*921.2*	*1,111.6*	*922.0*	**3,794.5**	*3,853.8*	*3,897.1*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.57**	*24.39*	*24.90*	*25.51*	*26.80*	*26.94*	*26.69*	*26.61*	**21.51**	*24.57*	*26.75*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.01**	*17.86*	*18.16*	*17.69*	*17.41*	*17.76*	*17.87*	*17.45*	**16.49**	*17.68*	*17.63*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.17**	*15.30*	*14.86*	*15.04*	*14.66*	*15.65*	*15.07*	*15.12*	**14.10**	*14.81*	*15.10*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.06**	*12.37*	*12.44*	*11.10*	*10.64*	*11.74*	*12.23*	*10.99*	**12.21**	*11.73*	*11.41*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.65**	*13.17*	*13.15*	*12.92*	*12.82*	*13.14*	*13.03*	*12.73*	**12.24**	*12.98*	*12.94*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**12.17**	*12.79*	*12.31*	*12.19*	*12.29*	*12.92*	*12.41*	*12.18*	**11.83**	*12.35*	*12.44*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**12.82**	*12.05*	*11.99*	*12.38*	*13.14*	*12.30*	*12.01*	*12.17*	**11.89**	*12.28*	*12.37*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.16**	*12.65*	*12.72*	*12.49*	*12.24*	*12.64*	*12.69*	*12.45*	**12.08**	*12.53*	*12.53*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**17.29**	*19.01*	*20.41*	*18.35*	*18.22*	*20.18*	*21.10*	*18.62*	**18.01**	*18.78*	*19.54*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**14.02**	*14.51*	*14.52*	*14.38*	*14.40*	*14.72*	*14.59*	*14.32*	**13.72**	*14.36*	*14.51*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.47**	*17.89*	*18.69*	*18.57*	*19.86*	*18.71*	*19.11*	*18.71*	**16.49**	*18.42*	*19.10*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**13.91**	*14.27*	*15.12*	*14.10*	*14.04*	*13.89*	*14.57*	*13.56*	**13.43**	*14.37*	*14.04*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.09**	*11.36*	*11.23*	*11.34*	*11.39*	*11.49*	*11.23*	*11.25*	**10.67**	*11.25*	*11.34*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.36**	*9.65*	*9.81*	*8.80*	*8.83*	*9.11*	*9.57*	*8.67*	**9.97**	*9.42*	*9.06*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.16**	*9.75*	*9.97*	*10.28*	*10.34*	*9.82*	*9.95*	*10.09*	**9.49**	*10.03*	*10.04*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.80**	*11.75*	*11.63*	*11.60*	*12.07*	*11.91*	*11.71*	*11.60*	**11.19**	*11.69*	*11.82*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**10.33**	*8.86*	*8.58*	*8.80*	*10.57*	*8.90*	*8.63*	*8.88*	**9.04**	*9.08*	*9.18*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.61**	*10.13*	*10.40*	*9.63*	*9.58*	*10.01*	*10.27*	*9.55*	**9.70**	*9.97*	*9.88*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**15.92**	*17.52*	*19.45*	*17.20*	*16.88*	*18.13*	*19.63*	*17.11*	**16.27**	*17.58*	*17.97*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.81**	*11.64*	*12.01*	*11.74*	*12.09*	*11.70*	*11.95*	*11.60*	**11.27**	*11.81*	*11.84*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.31**	*13.99*	*14.51*	*14.77*	*15.76*	*14.20*	*14.58*	*14.81*	**13.58**	*14.64*	*14.83*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.29**	*6.88*	*7.19*	*7.02*	*7.04*	*6.60*	*6.88*	*6.79*	**6.89**	*7.09*	*6.83*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.55**	*7.36*	*7.62*	*7.73*	*7.63*	*7.28*	*7.54*	*7.68*	**7.26**	*7.57*	*7.53*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	*7.55*	*8.18*	*7.14*	*7.28*	*7.56*	*8.21*	*7.18*	**7.35**	*7.52*	*7.57*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.63**	*6.57*	*7.19*	*6.87*	*6.68*	*6.41*	*7.02*	*6.75*	**6.64**	*6.82*	*6.72*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.48**	*6.20*	*6.42*	*6.25*	*6.51*	*6.08*	*6.31*	*6.15*	**6.04**	*6.34*	*6.26*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**7.27**	*5.71*	*5.98*	*5.93*	*7.05*	*5.33*	*5.60*	*5.63*	**6.17**	*6.19*	*5.86*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.66**	*6.76*	*7.39*	*6.53*	*6.68*	*6.77*	*7.38*	*6.54*	**6.74**	*6.85*	*6.86*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.02**	*11.01*	*12.85*	*11.28*	*10.28*	*11.28*	*13.12*	*11.55*	**11.10**	*11.35*	*11.62*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.53**	*7.21*	*7.73*	*7.35*	*7.53*	*7.07*	*7.57*	*7.23*	**7.26**	*7.46*	*7.35*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.29**	*19.77*	*20.79*	*20.86*	*22.34*	*21.16*	*21.77*	*21.40*	**18.21**	*20.45*	*21.69*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**13.77**	*13.84*	*14.75*	*13.84*	*13.90*	*13.58*	*14.36*	*13.48*	**13.26**	*14.08*	*13.86*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.01**	*11.15*	*11.33*	*11.27*	*11.24*	*11.24*	*11.36*	*11.24*	**10.72**	*11.19*	*11.27*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.35**	*9.81*	*10.24*	*9.02*	*9.03*	*9.44*	*10.10*	*8.96*	**9.92**	*9.62*	*9.40*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.67**	*10.61*	*10.99*	*10.76*	*10.80*	*10.59*	*10.90*	*10.59*	**10.23**	*10.77*	*10.73*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.24**	*10.19*	*10.36*	*9.95*	*10.37*	*10.23*	*10.38*	*9.91*	**9.78**	*10.19*	*10.23*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**10.27**	*8.87*	*9.18*	*8.92*	*10.33*	*8.77*	*9.04*	*8.76*	**9.17**	*9.29*	*9.20*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.64**	*10.00*	*10.52*	*9.65*	*9.65*	*9.95*	*10.47*	*9.61*	**9.73**	*9.99*	*9.96*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.30**	*16.50*	*18.38*	*16.35*	*16.16*	*17.27*	*18.83*	*16.51*	**15.83**	*16.68*	*17.23*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.58**	*11.43*	*11.96*	*11.47*	*11.80*	*11.46*	*11.92*	*11.36*	**11.18**	*11.63*	*11.65*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**336.6**	*320.3*	*437.0*	*313.2*	*305.2*	*333.9*	*453.1*	*328.6*	**1,473.6**	*1,407.2*	*1,420.8*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**218.6**	*200.3*	*282.9*	*217.7*	*221.5*	*182.3*	*260.2*	*194.1*	**892.8**	*919.5*	*858.1*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.8**	*192.0*	*204.4*	*192.1*	*195.7*	*188.1*	*207.4*	*198.8*	**778.2**	*784.2*	*790.0*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**226.3**	*241.2*	*203.2*	*215.3*	*238.4*	*259.6*	*220.4*	*230.2*	**795.2**	*885.9*	*948.7*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**72.6**	*79.0*	*63.6*	*57.9*	*70.3*	*81.4*	*65.7*	*60.0*	**259.0**	*273.2*	*277.3*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**115.3**	*108.0*	*84.9*	*117.7*	*121.6*	*112.3*	*88.4*	*122.1*	**378.6**	*425.9*	*444.4*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**27.9**	*44.0*	*43.9*	*29.3*	*36.0*	*56.2*	*55.6*	*37.8*	**113.9**	*145.2*	*185.6*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.4**	*6.2*	*6.8*	*6.4*	*6.6*	*6.3*	*6.8*	*6.4*	**27.9**	*25.8*	*26.0*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**4.0**	*3.9*	*4.0*	*4.0*	*3.9*	*3.5*	*4.0*	*4.0*	**15.7**	*15.9*	*15.3*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.0**	*-1.1*	*-1.9*	*-1.1*	*-0.9*	*-1.0*	*-1.8*	*-1.1*	**-5.1**	*-5.1*	*-4.7*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	*3.7*	*4.4*	*3.9*	*5.2*	*3.6*	*4.4*	*4.1*	**17.8**	*18.6*	*17.2*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.9**	*0.8*	*0.9*	*0.8*	*0.9*	*0.7*	*0.9*	*0.8*	**3.2**	*3.4*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.7**	*1.7*	*1.7*	*1.8*	*1.7*	*1.8*	*1.8*	*1.8*	**7.2**	*7.0*	*7.1*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**985.5**	*958.9*	*1,132.6*	*943.7*	*967.6*	*969.0*	*1,146.4*	*957.4*	**3,962.8**	*4,020.7*	*4,040.4*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**13.1**	*12.2*	*15.4*	*12.7*	*14.9*	*12.9*	*15.5*	*14.1*	**51.5**	*53.4*	*57.4*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.2**	*0.1*	*0.1*	*0.0*	*0.2*	*0.4*	*0.1*	*0.2*	**0.6**	*0.4*	*0.8*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.2**	*6.2*	*7.3*	*7.3*	*7.1*	*5.7*	*7.3*	*6.3*	**27.1**	*27.9*	*26.3*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.8**	*2.2*	*1.2*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*6.9*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.0**	*3.0*	*2.7*	*2.9*	*3.1*	*3.1*	*2.8*	*2.9*	**11.2**	*11.6*	*11.9*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.3**	*0.3*	*0.3*	*0.4*	*0.7*	*0.4*	*0.3*	*0.4*	**1.5**	*2.4*	*1.8*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**26.5**	*24.0*	*26.9*	*25.1*	*27.9*	*24.6*	*27.1*	*25.7*	**98.2**	*102.5*	*105.4*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.1**	*27.1*	*32.4*	*28.2*	*29.8*	*27.5*	*32.8*	*28.6*	**116.4**	*117.8*	*118.7*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.1**	*14.2*	*21.5*	*15.7*	*12.1*	*14.1*	*20.9*	*14.3*	**61.9**	*65.6*	*61.4*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	*6.9*	*6.6*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.7*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**6.9**	*6.9*	*6.9*	*7.1*	*7.3*	*7.3*	*7.3*	*7.5*	**27.9**	*27.9*	*29.5*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.1**	*2.0*	*1.7*	*2.1*	*2.3*	*2.5*	*2.1*	*2.6*	**7.1**	*7.9*	*9.5*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	*0.1*	*0.2*	*0.1*	*0.7*	*0.2*	*0.3*	*0.1*	**1.3**	*1.9*	*1.3*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**30.9**	*30.2*	*36.9*	*31.9*	*29.0*	*30.5*	*37.6*	*31.6*	**129.3**	*129.9*	*128.8*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.5**	*35.3*	*43.3*	*36.0*	*37.4*	*36.0*	*43.9*	*36.6*	**149.0**	*152.1*	*153.8*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**73.7**	*65.3*	*81.2*	*67.0*	*71.0*	*73.1*	*95.3*	*76.4*	**310.9**	*287.2*	*315.7*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**47.6**	*35.8*	*53.7*	*40.9*	*46.6*	*34.7*	*45.8*	*33.7*	**175.4**	*178.0*	*160.8*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**68.7**	*67.9*	*72.3*	*66.8*	*67.9*	*67.2*	*72.1*	*69.6*	**271.7**	*275.6*	*276.8*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.4**	*2.6*	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*8.8*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**12.6**	*12.1*	*10.2*	*12.3*	*13.9*	*13.6*	*11.8*	*13.5*	**42.4**	*47.1*	*52.8*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.9**	*0.5*	*0.4*	*0.6*	*0.8*	*0.5*	*0.4*	*0.6*	**2.5**	*2.3*	*2.3*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**205.8**	*184.2*	*219.3*	*189.8*	*202.8*	*191.7*	*227.1*	*195.9*	**812.1**	*799.1*	*817.4*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**197.9**	*175.9*	*209.5*	*182.1*	*196.2*	*179.9*	*213.3*	*185.9*	**770.2**	*765.4*	*775.2*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**63.7**	*56.0*	*71.3*	*56.3*	*57.0*	*59.6*	*73.2*	*58.9*	**252.3**	*247.2*	*248.7*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**33.9**	*39.1*	*52.8*	*35.3*	*36.1*	*33.9*	*48.8*	*31.3*	**137.7**	*161.0*	*150.1*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.8**	*53.0*	*56.1*	*53.3*	*54.4*	*54.2*	*58.4*	*58.5*	**212.2**	*214.1*	*225.5*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**10.7**	*8.0*	*7.2*	*8.1*	*10.9*	*8.3*	*7.4*	*8.4*	**43.9**	*34.0*	*35.0*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**4.5**	*6.7*	*6.4*	*4.7*	*5.2*	*7.9*	*7.4*	*5.2*	**19.1**	*22.3*	*25.6*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.1**	*-0.2*	*-0.4*	*-0.2*	*-0.1*	*-0.2*	*-0.5*	*-0.2*	**-0.9**	*-1.0*	*-1.1*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.5**	*162.6*	*193.2*	*157.4*	*163.4*	*163.7*	*194.7*	*162.1*	**664.2**	*677.7*	*683.9*
Net energy for load (f)	**163.7**	**162.3**	**186.4**	**155.7**	**168.7**	*161.8*	*192.1*	*158.2*	*166.7*	*164.6*	*195.3*	*161.9*	**668.0**	*680.8*	*688.5*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**37.7**	*45.2*	*50.7*	*39.0*	*35.9*	*47.5*	*52.1*	*39.6*	**171.8**	*172.6*	*175.1*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**2.8**	*3.1*	*4.1*	*2.9*	*2.6*	*2.9*	*4.0*	*2.8*	**18.3**	*13.0*	*12.4*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	*7.6*	*8.0*	*7.1*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.0*	*29.1*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**3.0**	*3.7*	*3.5*	*2.9*	*3.8*	*4.8*	*4.4*	*3.5*	**11.0**	*13.1*	*16.6*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.8**	*0.8*	*0.8*	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**2.8**	*3.0*	*3.0*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**51.6**	*60.4*	*67.1*	*52.6*	*50.2*	*63.0*	*68.9*	*54.3*	**232.2**	*231.8*	*236.4*
Net energy for load (f)	**50.6**	**55.0**	**71.1**	**55.1**	**51.8**	*58.1*	*67.3*	*52.1*	*48.7*	*59.0*	*68.2*	*53.0*	**231.8**	*229.4*	*228.9*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**43.7**	*36.6*	*47.5*	*31.7*	*35.2*	*42.9*	*55.5*	*38.0*	**169.7**	*159.5*	*171.6*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**65.1**	*65.2*	*85.3*	*65.4*	*68.2*	*58.5*	*76.2*	*60.5*	**267.7**	*280.9*	*263.4*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	*22.3*	*24.1*	*23.5*	*22.3*	*21.0*	*24.3*	*21.3*	**95.7**	*93.8*	*88.9*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.0**	*3.0*	*2.4*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*10.6*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**28.7**	*25.1*	*20.2*	*29.2*	*30.4*	*26.6*	*21.7*	*30.3*	**93.1**	*103.2*	*109.0*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.5**	*1.4*	*1.5*	*1.2*	*1.6*	*1.4*	*1.5*	*1.4*	**6.4**	*5.7*	*5.8*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**165.8**	*153.6*	*181.0*	*153.2*	*160.1*	*153.2*	*181.6*	*153.9*	**643.3**	*653.7*	*648.9*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**163.6**	*157.9*	*182.4*	*157.8*	*160.2*	*160.0*	*185.7*	*161.3*	**647.3**	*661.7*	*667.1*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.2**	*13.2*	*20.7*	*10.8*	*9.5*	*14.8*	*23.0*	*11.7*	**56.3**	*55.9*	*59.0*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.3**	*17.3*	*29.8*	*22.2*	*22.2*	*16.1*	*28.0*	*20.1*	**92.0**	*91.6*	*86.5*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	*4.3*	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.2*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.4**	*4.5*	*3.8*	*3.1*	*3.9*	*4.7*	*4.2*	*3.5*	**15.5**	*15.7*	*16.3*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**29.2**	*26.6*	*23.3*	*29.3*	*31.4*	*27.8*	*24.4*	*30.1*	**93.6**	*108.5*	*113.7*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.7**	*0.7*	*0.7*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.6**	*66.0*	*81.9*	*68.2*	*71.5*	*67.9*	*84.1*	*69.9*	**273.6**	*287.6*	*293.4*
Net energy for load (f)	**65.0**	**66.7**	**77.2**	**61.4**	**67.2**	*64.9*	*79.3*	*63.7*	*66.1*	*67.7*	*82.1*	*66.1*	**270.3**	*275.2*	*282.0*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**31.9**	*34.0*	*52.7*	*28.0*	*23.9*	*26.9*	*46.0*	*24.3*	**164.2**	*146.6*	*121.1*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**16.4**	*20.2*	*23.6*	*18.8*	*17.1*	*19.5*	*23.4*	*18.0*	**74.5**	*78.9*	*78.1*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	*10.0*	*10.6*	*10.8*	*10.7*	*9.0*	*11.0*	*10.2*	**40.2**	*42.5*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.8**	*37.3*	*30.2*	*33.9*	*36.1*	*42.6*	*34.7*	*37.2*	**106.3**	*133.3*	*150.6*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.4**	*1.4*	*1.4*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**91.6**	*102.0*	*117.6*	*92.0*	*88.3*	*98.5*	*115.7*	*90.2*	**387.1**	*403.2*	*392.6*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**91.6**	*102.0*	*117.6*	*92.0*	*88.3*	*98.5*	*115.7*	*90.2*	**387.1**	*403.2*	*392.6*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**22.2**	*17.2*	*29.7*	*21.6*	*21.2*	*18.2*	*28.0*	*23.0*	**90.2**	*90.7*	*90.4*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**23.2**	*14.0*	*24.3*	*24.6*	*23.8*	*11.6*	*24.5*	*19.6*	**90.5**	*86.0*	*79.5*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	*2.4*	*2.4*	*2.4*	*2.3*	*1.2*	*2.4*	*2.4*	**8.5**	*9.7*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**37.1**	*41.0*	*30.4*	*27.7*	*33.4*	*41.2*	*30.2*	*27.7*	**121.0**	*136.1*	*132.5*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**17.2**	*17.5*	*16.1*	*18.3*	*18.6*	*18.8*	*17.1*	*20.0*	**65.5**	*69.2*	*74.5*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.8*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.4**	*92.2*	*103.1*	*94.7*	*99.5*	*91.2*	*102.5*	*92.9*	**376.4**	*392.5*	*386.1*
Net energy for load (f)	**89.6**	**84.8**	**97.6**	**90.1**	**91.7**	*85.0*	*96.1*	*88.2*	*91.4*	*85.2*	*96.5*	*88.4*	**362.0**	*361.1*	*361.6*
Southwest															
Natural Gas	**10.9**	**15.7**	**20.1**	**12.1**	**8.3**	*12.5*	*19.4*	*9.1*	*9.3*	*12.0*	*18.3*	*9.2*	**58.7**	*49.3*	*48.9*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**5.2**	*4.0*	*6.7*	*5.3*	*2.7*	*3.1*	*6.7*	*5.4*	**26.8**	*21.3*	*17.9*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	*7.4*	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.7*	*32.0*
Conventional hydropower	**2.5**	**3.2**	**3.2**	**2.0**	**2.6**	*3.8*	*3.8*	*2.5*	*2.8*	*4.0*	*3.9*	*2.6*	**10.9**	*12.7*	*13.2*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	*5.5*	*4.4*	*5.1*	*5.0*	*5.8*	*4.6*	*5.4*	**14.0**	*19.5*	*20.8*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.1**	*0.2*	*0.1*
Total generation	**30.4**	**35.7**	**43.4**	**32.6**	**29.0**	*33.3*	*42.9*	*29.4*	*28.2*	*32.4*	*42.1*	*30.2*	**142.1**	*134.6*	*132.9*
Net energy for load (f)	**19.8**	**25.9**	**32.1**	**20.9**	**20.9**	*25.9*	*33.5*	*21.8*	*21.1*	*25.6*	*33.6*	*21.7*	**98.7**	*102.1*	*102.1*
California															
Natural Gas	**16.5**	**17.5**	**28.8**	**21.0**	**16.4**	*13.2*	*26.5*	*20.5*	*14.4*	*11.4*	*24.6*	*18.3*	**83.8**	*76.5*	*68.7*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**1.6**	*1.2*	*2.1*	*1.8*	*1.7*	*1.1*	*2.2*	*1.8*	**7.6**	*6.7*	*6.8*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.7**	*4.0*	*4.4*	*4.0*	*4.6*	*4.7*	*4.6*	*4.0*	**16.5**	*17.1*	*17.9*
Conventional hydropower	**2.0**	**3.2**	**3.7**	**2.4**	**3.0**	*6.4*	*5.8*	*3.0*	*4.1*	*7.5*	*6.7*	*3.6*	**11.2**	*18.2*	*22.0*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.6**	*22.1*	*20.3*	*16.2*	*18.1*	*24.2*	*23.2*	*18.9*	**71.1**	*75.3*	*84.4*
Other energy sources (e)	**0.0**	**-0.1**	**0.0**	**-0.1**	**0.0**	*-0.2*	*-0.2*	*0.1*	*0.1*	*-0.1*	*-0.1*	*0.1*	**-0.2**	*-0.3*	*0.0*
Total generation	**38.7**	**47.4**	**59.6**	**44.3**	**42.3**	*46.7*	*59.0*	*45.5*	*43.1*	*48.7*	*61.1*	*46.8*	**190.0**	*193.5*	*199.8*
Net energy for load (f)	**56.4**	**63.9**	**77.7**	**60.4**	**59.0**	*61.4*	*75.4*	*59.6*	*58.2*	*61.5*	*75.7*	*59.7*	**258.4**	*255.4*	*255.1*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.035**	*0.034*	*0.035*	*0.035*	*0.034*	*0.031*	*0.035*	*0.035*	**0.138**	*0.139*	*0.135*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.639**	*0.704*	*0.567*	*0.516*	*0.626*	*0.725*	*0.585*	*0.534*	**2.272**	*2.425*	*2.470*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.249**	*0.392*	*0.391*	*0.261*	*0.320*	*0.500*	*0.495*	*0.337*	**1.014**	*1.293*	*1.653*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.057**	*0.057*	*0.058*	*0.057*	*0.058*	*0.057*	*0.057*	*0.056*	**0.236**	*0.228*	*0.227*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.045**	*0.039*	*0.048*	*0.043*	*0.046*	*0.041*	*0.049*	*0.044*	**0.199**	*0.176*	*0.180*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.026**	*0.962*	*0.756*	*1.048*	*1.083*	*1.000*	*0.787*	*1.088*	**3.372**	*3.793*	*3.958*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.051**	*2.189*	*1.855*	*1.960*	*2.167*	*2.354*	*2.008*	*2.093*	**7.231**	*8.054*	*8.621*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.201**	*0.199*	*0.205*	*0.207*	*0.195*	*0.203*	*0.204*	*0.209*	**0.789**	*0.812*	*0.811*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.009*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.013*	*0.009*	**0.036**	*0.038*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.040**	*0.039*	*0.039*	*0.042*	*0.040*	*0.040*	*0.039*	*0.041*	**0.160**	*0.160*	*0.161*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.328**	*0.339*	*0.356*	*0.359*	*0.349*	*0.347*	*0.360*	*0.362*	**1.342**	*1.383*	*1.419*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.585**	*0.598*	*0.620*	*0.624*	*0.601*	*0.611*	*0.624*	*0.630*	**2.361**	*2.427*	*2.466*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	*0.047*	*0.047*	*0.032*	*0.037*	*0.054*	*0.054*	*0.038*	**0.140**	*0.159*	*0.182*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.009**	*0.008*	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.035**	*0.035*	*0.035*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.075**	*0.090*	*0.091*	*0.076*	*0.080*	*0.096*	*0.098*	*0.082*	**0.313**	*0.332*	*0.356*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.078**	*0.118*	*0.116*	*0.080*	*0.087*	*0.130*	*0.130*	*0.089*	**0.329**	*0.391*	*0.435*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.114**	*0.116*	*0.117*	*0.117*	*0.114*	*0.116*	*0.117*	*0.117*	**0.464**	*0.464*	*0.464*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.202**	*0.243*	*0.243*	*0.207*	*0.211*	*0.256*	*0.257*	*0.216*	**0.832**	*0.895*	*0.939*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.101**	*0.119*	*0.110*	*0.132*	*0.125*	*0.128*	*0.122*	*0.149*	**0.372**	*0.462*	*0.523*
Ethanol (g)	**0.243**	**0.281**	**0.285**	**0.288**	**0.265**	*0.280*	*0.284*	*0.281*	*0.256*	*0.284*	*0.286*	*0.287*	**1.097**	*1.110*	*1.113*
Subtotal	**0.322**	**0.376**	**0.374**	**0.397**	**0.366**	*0.399*	*0.393*	*0.413*	*0.381*	*0.411*	*0.408*	*0.436*	**1.469**	*1.572*	*1.636*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.101**	*0.119*	*0.110*	*0.132*	*0.125*	*0.128*	*0.122*	*0.149*	**0.372**	*0.462*	*0.523*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.201**	*0.199*	*0.205*	*0.207*	*0.195*	*0.203*	*0.204*	*0.209*	**0.789**	*0.812*	*0.811*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.301**	**0.277**	*0.292*	*0.296*	*0.294*	*0.268*	*0.296*	*0.299*	*0.300*	**1.146**	*1.159*	*1.163*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.053**	*0.051*	*0.052*	*0.052*	*0.051*	*0.048*	*0.052*	*0.052*	**0.206**	*0.208*	*0.203*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.642**	*0.707*	*0.569*	*0.519*	*0.629*	*0.727*	*0.587*	*0.537*	**2.283**	*2.436*	*2.480*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.363**	*0.568*	*0.565*	*0.381*	*0.452*	*0.696*	*0.692*	*0.472*	**1.519**	*1.878*	*2.312*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	*0.105*	*0.106*	*0.107*	*0.107*	*0.105*	*0.105*	*0.106*	**0.431**	*0.425*	*0.423*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.506**	*0.515*	*0.542*	*0.540*	*0.530*	*0.524*	*0.547*	*0.544*	**2.087**	*2.104*	*2.145*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.026**	*0.962*	*0.756*	*1.048*	*1.083*	*1.000*	*0.787*	*1.088*	**3.372**	*3.793*	*3.958*
Total Consumption	**2.950**	**3.162**	**2.953**	**3.141**	**3.232**	*3.519*	*3.202*	*3.279*	*3.439*	*3.728*	*3.395*	*3.456*	**12.206**	*13.232*	*14.018*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,161**	**5,997**	**5,980**	**5,977**	**5,971**	*6,007*	*6,009*	*6,010*	*5,986*	*5,986*	*5,928*	*5,928*	**5,977**	*6,010*	*5,928*
Waste	**3,700**	**3,680**	**3,677**	**3,674**	**3,668**	*3,704*	*3,706*	*3,708*	*3,684*	*3,684*	*3,625*	*3,625*	**3,674**	*3,708*	*3,625*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,736**	**78,796**	**78,798**	**78,798**	**78,807**	*78,842*	*78,883*	*78,887*	*78,882*	*78,894*	*78,915*	*78,925*	**78,798**	*78,887*	*78,925*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,500**	*2,500*	*2,500*	*2,525*	*2,525*	*2,525*	*2,525*	*2,525*	**2,483**	*2,525*	*2,525*
Large-Scale Solar (b)	**50,368**	**52,359**	**55,609**	**60,671**	**64,871**	*69,165*	*71,596*	*80,809*	*84,843*	*89,713*	*92,084*	*104,764*	**60,671**	*80,809*	*104,764*
Wind	**121,201**	**124,742**	**126,696**	**132,243**	**136,225**	*139,039*	*139,264*	*142,442*	*142,592*	*143,743*	*143,743*	*146,793*	**132,243**	*142,442*	*146,793*
Other Sectors (c)															
Biomass	**6,206**	**6,210**	**6,214**	**6,214**	**6,204**	*6,204*	*6,197*	*6,197*	*6,197*	*6,200*	*6,200*	*6,200*	**6,214**	*6,197*	*6,200*
Waste	**827**	**830**	**829**	**829**	**829**	*829*	*829*	*829*	*829*	*829*	*829*	*829*	**829**	*829*	*829*
Wood	**5,380**	**5,380**	**5,385**	**5,385**	**5,375**	*5,375*	*5,367*	*5,367*	*5,367*	*5,371*	*5,371*	*5,371*	**5,385**	*5,367*	*5,371*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	*291*	*291*	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**473**	**475**	**511**	**529**	**546**	*558*	*560*	*580*	*583*	*628*	*628*	*628*	**529**	*580*	*628*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**33,832**	*34,783*	*35,799*	*36,981*	*38,214*	*39,531*	*40,972*	*42,508*	**32,972**	*36,981*	*42,508*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**21,668**	*22,324*	*23,001*	*23,768*	*24,562*	*25,381*	*26,306*	*27,264*	**21,022**	*23,768*	*27,264*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**9,911**	*10,153*	*10,439*	*10,795*	*11,175*	*11,611*	*12,063*	*12,575*	**9,728**	*10,795*	*12,575*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,254**	*2,305*	*2,359*	*2,417*	*2,477*	*2,539*	*2,603*	*2,670*	**2,223**	*2,417*	*2,670*
Wind	**121**	**121**	**121**	**121**	**121**	*121*	*121*	*121*	*121*	*121*	*121*	*121*	**121**	*121*	*121*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.4**	*6.2*	*6.8*	*6.4*	*6.6*	*6.3*	*6.8*	*6.4*	**27.9**	*25.8*	*26.0*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.7**	*3.7*	*3.8*	*3.7*	*3.8*	*3.7*	*3.7*	*3.6*	**15.5**	*14.9*	*14.9*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**2.7**	*2.4*	*3.0*	*2.6*	*2.8*	*2.5*	*3.0*	*2.7*	**12.4**	*10.8*	*11.1*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**72.6**	*79.0*	*63.6*	*57.9*	*70.3*	*81.4*	*65.7*	*60.0*	**259.0**	*273.2*	*277.3*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**4.0**	*3.9*	*4.0*	*4.0*	*3.9*	*3.5*	*4.0*	*4.0*	**15.7**	*15.9*	*15.3*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**27.9**	*44.0*	*43.9*	*29.3*	*36.0*	*56.2*	*55.6*	*37.8*	**113.9**	*145.2*	*185.6*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**115.3**	*108.0*	*84.9*	*117.7*	*121.6*	*112.3*	*88.4*	*122.1*	**378.6**	*425.9*	*444.4*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.8**	*6.8*	*7.1*	*6.8*	*6.8*	*6.8*	*7.1*	*6.8*	**27.6**	*27.5*	*27.5*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**6.1**	*6.1*	*6.4*	*6.1*	*6.1*	*6.1*	*6.4*	*6.1*	**24.8**	*24.7*	*24.7*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*1.0*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**11.8**	*17.3*	*17.2*	*11.7*	*13.2*	*19.5*	*19.6*	*13.4*	**49.0**	*58.0*	*65.7*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.5**	*11.0*	*10.9*	*7.4*	*8.3*	*12.4*	*12.4*	*8.5*	**30.1**	*36.8*	*41.5*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.5**	*5.1*	*5.1*	*3.5*	*4.0*	*5.8*	*5.8*	*4.0*	**15.1**	*17.1*	*19.6*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	*1.2*	*1.2*	*0.9*	*0.9*	*1.4*	*1.4*	*1.0*	**3.8**	*4.2*	*4.6*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,811**	**19,853**	*20,012*	*20,158*	*20,326*	*20,469*	*20,634*	*20,802*	*20,973*	**19,428**	*20,087*	*20,719*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,837**	**13,935**	*14,016*	*14,053*	*14,129*	*14,214*	*14,328*	*14,448*	*14,577*	**13,629**	*14,034*	*14,391*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,608**	**3,681**	*3,742*	*3,775*	*3,788*	*3,803*	*3,826*	*3,852*	*3,884*	**3,587**	*3,747*	*3,841*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**225**	**126**	*118*	*151*	*177*	*171*	*166*	*169*	*172*	**-26**	*143*	*170*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,360**	**3,362**	*3,374*	*3,383*	*3,390*	*3,401*	*3,412*	*3,420*	*3,429*	**3,376**	*3,378*	*3,416*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,397**	**2,408**	*2,463*	*2,505*	*2,545*	*2,586*	*2,624*	*2,660*	*2,693*	**2,309**	*2,480*	*2,641*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,738**	**3,821**	*3,873*	*3,870*	*3,851*	*3,851*	*3,864*	*3,885*	*3,920*	**3,591**	*3,854*	*3,880*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,417**	**15,254**	*15,241*	*15,357*	*15,464*	*15,668*	*15,857*	*16,029*	*16,219*	**16,021**	*15,329*	*15,944*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.3**	*151.6*	*152.4*	*153.1*	*153.7*	*154.1*	*154.6*	*155.0*	**146.1**	*151.9*	*154.3*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	*3.6*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	**5.4**	*3.6*	*3.4*
Housing Starts															
(millions - SAAR)	**1.60**	**1.59**	**1.56**	**1.65**	**1.66**	*1.65*	*1.58*	*1.53*	*1.54*	*1.51*	*1.51*	*1.50*	**1.60**	*1.61*	*1.51*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.7**	**101.8**	**103.8**	*105.8*	*106.9*	*108.1*	*108.8*	*109.7*	*110.7*	*111.4*	**100.2**	*106.2*	*110.2*
Manufacturing	**97.3**	**98.7**	**99.7**	**101.1**	**101.9**	*103.7*	*104.8*	*106.1*	*107.2*	*108.5*	*109.8*	*110.9*	**99.2**	*104.1*	*109.1*
Food	**101.2**	**100.5**	**99.7**	**101.7**	**103.1**	*103.5*	*103.8*	*104.0*	*104.3*	*104.5*	*104.9*	*105.3*	**100.8**	*103.6*	*104.8*
Paper	**93.9**	**95.0**	**95.2**	**93.9**	**95.3**	*95.7*	*96.1*	*96.6*	*96.9*	*97.4*	*97.9*	*98.4*	**94.5**	*95.9*	*97.6*
Petroleum and Coal Products	**90.5**	**95.9**	**95.0**	**96.0**	**94.4**	*96.5*	*97.5*	*98.2*	*98.5*	*98.8*	*99.0*	*99.2*	**94.3**	*96.7*	*98.9*
Chemicals	**91.8**	**99.3**	**99.6**	**100.6**	**101.6**	*102.7*	*103.6*	*104.7*	*105.5*	*106.4*	*107.4*	*108.2*	**97.8**	*103.1*	*106.9*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.8**	**99.7**	**101.5**	*101.7*	*101.9*	*102.1*	*102.5*	*103.2*	*104.2*	*105.2*	**97.3**	*101.8*	*103.8*
Primary Metals	**92.4**	**96.7**	**98.0**	**99.4**	**98.8**	*99.1*	*100.7*	*103.1*	*103.5*	*105.3*	*107.1*	*108.3*	**96.6**	*100.4*	*106.0*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.4**	**97.5**	**97.7**	*98.5*	*99.5*	*100.8*	*101.3*	*102.3*	*103.4*	*104.2*	**95.6**	*99.1*	*102.8*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.8**	**104.5**	**105.4**	*106.4*	*107.2*	*108.1*	*108.5*	*109.2*	*109.9*	*110.7*	**102.7**	*106.8*	*109.6*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.7**	**98.7**	**99.3**	*100.5*	*101.5*	*102.9*	*103.7*	*104.7*	*105.8*	*106.7*	**97.0**	*101.1*	*105.2*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.9**	**96.4**	**97.0**	*98.3*	*99.2*	*100.6*	*101.4*	*102.4*	*103.4*	*104.1*	**95.0**	*98.8*	*102.8*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.84**	*2.87*	*2.89*	*2.91*	*2.93*	*2.94*	*2.96*	*2.98*	**2.71**	*2.88*	*2.95*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.43**	*2.48*	*2.48*	*2.48*	*2.49*	*2.49*	*2.50*	*2.51*	**2.27**	*2.47*	*2.50*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.73**	**3.06**	*3.18*	*2.99*	*2.81*	*2.74*	*2.75*	*2.68*	*2.55*	**2.41**	*3.01*	*2.68*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**122.7**	*123.9*	*125.0*	*126.0*	*126.8*	*127.6*	*128.5*	*129.4*	**118.5**	*124.4*	*128.1*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,138**	**9,368**	**8,934**	**8,220**	*9,383*	*9,576*	*9,091*	*8,524*	*9,507*	*9,683*	*9,260*	**8,846**	*9,072*	*9,247*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**553**	**596**	**659**	**667**	**650**	*720*	*724*	*692*	*687*	*701*	*728*	*708*	**619**	*697*	*706*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**258**	**340**	**372**	**376**	**370**	*410*	*414*	*388*	*377*	*421*	*423*	*398*	**337**	*396*	*405*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**213.7**	*235.3*	*230.3*	*243.9*	*212.8*	*243.5*	*247.0*	*259.2*	**217.5**	*230.8*	*240.6*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.252*	*0.268*	*0.283*	*0.294*	*0.294*	*0.309*	*0.323*	**0.258**	*0.264*	*0.305*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**569**	**578**	**558**	*575*	*585*	*585*	*561*	*579*	*588*	*589*	**2,223**	*2,303*	*2,317*
Natural Gas	**485**	**353**	**373**	**426**	**493**	*352*	*374*	*426*	*482*	*362*	*388*	*439*	**1,637**	*1,645*	*1,671*
Coal	**255**	**228**	**306**	**209**	**253**	*223*	*306*	*249*	*249*	*206*	*287*	*227*	**999**	*1,032*	*969*
Total Energy (c)	**1,260**	**1,143**	**1,251**	**1,216**	**1,307**	*1,152*	*1,268*	*1,263*	*1,295*	*1,150*	*1,266*	*1,258*	**4,870**	*4,991*	*4,969*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,001**	**1,008**	**1,026**	**1,025**	*1,033*	*1,039*	*1,046*	*1,052*	*1,059*	*1,066*	*1,074*	**1,004**	*1,036*	*1,063*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,812**	**2,825**	*2,838*	*2,861*	*2,886*	*2,903*	*2,925*	*2,947*	*2,970*	**2,765**	*2,852*	*2,936*
E. N. Central	**2,485**	**2,514**	**2,520**	**2,564**	**2,566**	*2,588*	*2,607*	*2,627*	*2,643*	*2,662*	*2,682*	*2,701*	**2,521**	*2,597*	*2,672*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,231**	**1,232**	*1,242*	*1,251*	*1,260*	*1,268*	*1,278*	*1,288*	*1,298*	**1,214**	*1,246*	*1,283*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,521**	**3,528**	*3,556*	*3,581*	*3,608*	*3,633*	*3,662*	*3,691*	*3,722*	**3,450**	*3,568*	*3,677*
E. S. Central	**836**	**842**	**846**	**860**	**861**	*868*	*873*	*879*	*884*	*890*	*896*	*902*	**846**	*870*	*893*
W. S. Central	**2,320**	**2,362**	**2,378**	**2,428**	**2,435**	*2,464*	*2,488*	*2,514*	*2,540*	*2,567*	*2,593*	*2,620*	**2,372**	*2,475*	*2,580*
Mountain	**1,274**	**1,296**	**1,303**	**1,327**	**1,331**	*1,343*	*1,353*	*1,366*	*1,378*	*1,392*	*1,406*	*1,420*	**1,300**	*1,348*	*1,399*
Pacific	**3,692**	**3,774**	**3,800**	**3,863**	**3,870**	*3,899*	*3,924*	*3,958*	*3,985*	*4,015*	*4,046*	*4,077*	**3,782**	*3,913*	*4,031*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.4**	**96.8**	**98.0**	**99.4**	**100.1**	*101.8*	*102.7*	*104.1*	*105.1*	*106.4*	*107.7*	*108.6*	**97.4**	*102.2*	*107.0*
Middle Atlantic	**93.3**	**94.7**	**96.0**	**97.5**	**98.4**	*100.3*	*101.3*	*102.4*	*103.5*	*104.5*	*105.6*	*106.5*	**95.4**	*100.6*	*105.0*
E. N. Central	**95.3**	**96.1**	**97.0**	**98.5**	**99.2**	*100.9*	*102.1*	*103.6*	*104.7*	*106.1*	*107.3*	*108.4*	**96.8**	*101.5*	*106.6*
W. N. Central	**98.4**	**99.6**	**101.1**	**102.3**	**103.0**	*104.5*	*105.7*	*106.9*	*107.9*	*109.2*	*110.4*	*111.5*	**100.3**	*105.0*	*109.8*
S. Atlantic	**99.2**	**100.6**	**101.5**	**102.8**	**103.6**	*105.4*	*106.4*	*107.6*	*108.6*	*109.8*	*111.0*	*112.1*	**101.0**	*105.7*	*110.4*
E. S. Central	**98.1**	**99.3**	**100.2**	**101.4**	**102.0**	*103.6*	*104.6*	*105.9*	*106.8*	*108.0*	*109.3*	*110.4*	**99.8**	*104.0*	*108.6*
W. S. Central	**99.1**	**100.7**	**101.6**	**102.9**	**104.1**	*106.2*	*107.4*	*108.7*	*109.7*	*111.2*	*112.6*	*113.8*	**101.1**	*106.6*	*111.8*
Mountain	**105.6**	**107.9**	**108.3**	**109.8**	**110.5**	*112.1*	*113.3*	*114.8*	*116.0*	*117.5*	*118.9*	*120.1*	**107.9**	*112.7*	*118.1*
Pacific	**93.8**	**95.0**	**95.4**	**97.0**	**98.1**	*100.2*	*101.5*	*103.0*	*104.5*	*105.8*	*107.1*	*108.2*	**95.3**	*100.7*	*106.4*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**940**	**930**	**921**	*922*	*929*	*935*	*944*	*952*	*960*	*967*	**954**	*927*	*956*
Middle Atlantic	**2,614**	**2,449**	**2,436**	**2,403**	**2,388**	*2,379*	*2,398*	*2,415*	*2,441*	*2,462*	*2,481*	*2,501*	**2,475**	*2,395*	*2,471*
E. N. Central	**2,744**	**2,523**	**2,504**	**2,465**	**2,438**	*2,441*	*2,459*	*2,476*	*2,502*	*2,524*	*2,545*	*2,565*	**2,559**	*2,454*	*2,534*
W. N. Central	**1,275**	**1,194**	**1,181**	**1,166**	**1,157**	*1,156*	*1,164*	*1,170*	*1,183*	*1,194*	*1,205*	*1,217*	**1,204**	*1,162*	*1,200*
S. Atlantic	**3,720**	**3,441**	**3,425**	**3,405**	**3,374**	*3,376*	*3,404*	*3,429*	*3,470*	*3,506*	*3,540*	*3,573*	**3,498**	*3,396*	*3,522*
E. S. Central	**1,025**	**927**	**923**	**915**	**905**	*905*	*911*	*916*	*926*	*934*	*942*	*949*	**947**	*909*	*938*
W. S. Central	**2,238**	**2,077**	**2,070**	**2,067**	**2,051**	*2,058*	*2,077*	*2,095*	*2,122*	*2,146*	*2,168*	*2,190*	**2,113**	*2,070*	*2,157*
Mountain	**1,381**	**1,281**	**1,278**	**1,267**	**1,255**	*1,257*	*1,267*	*1,278*	*1,292*	*1,308*	*1,321*	*1,335*	**1,302**	*1,264*	*1,314*
Pacific	**3,269**	**3,089**	**3,073**	**3,041**	**3,004**	*3,005*	*3,024*	*3,045*	*3,075*	*3,105*	*3,130*	*3,155*	**3,118**	*3,019*	*3,117*
Households (Thousands)															
New England	**6,054**	**6,061**	**6,057**	**6,067**	**6,076**	*6,085*	*6,096*	*6,106*	*6,116*	*6,127*	*6,136*	*6,146*	**6,067**	*6,106*	*6,146*
Middle Atlantic	**16,405**	**16,405**	**16,387**	**16,404**	**16,419**	*16,440*	*16,461*	*16,487*	*16,517*	*16,544*	*16,570*	*16,594*	**16,404**	*16,487*	*16,594*
E. N. Central	**19,076**	**19,090**	**19,095**	**19,140**	**19,176**	*19,203*	*19,229*	*19,259*	*19,291*	*19,322*	*19,352*	*19,382*	**19,140**	*19,259*	*19,382*
W. N. Central	**8,717**	**8,729**	**8,736**	**8,763**	**8,784**	*8,809*	*8,832*	*8,852*	*8,873*	*8,894*	*8,914*	*8,934*	**8,763**	*8,852*	*8,934*
S. Atlantic	**26,284**	**26,358**	**26,405**	**26,516**	**26,617**	*26,722*	*26,823*	*26,921*	*27,021*	*27,117*	*27,210*	*27,305*	**26,516**	*26,921*	*27,305*
E. S. Central	**7,816**	**7,830**	**7,840**	**7,866**	**7,888**	*7,911*	*7,933*	*7,953*	*7,973*	*7,993*	*8,013*	*8,032*	**7,866**	*7,953*	*8,032*
W. S. Central	**15,332**	**15,379**	**15,414**	**15,482**	**15,545**	*15,608*	*15,670*	*15,727*	*15,785*	*15,842*	*15,899*	*15,955*	**15,482**	*15,727*	*15,955*
Mountain	**9,612**	**9,653**	**9,688**	**9,744**	**9,794**	*9,842*	*9,889*	*9,932*	*9,975*	*10,020*	*10,062*	*10,105*	**9,744**	*9,932*	*10,105*
Pacific	**19,002**	**18,992**	**18,979**	**19,010**	**19,043**	*19,074*	*19,107*	*19,131*	*19,158*	*19,185*	*19,212*	*19,243*	**19,010**	*19,131*	*19,243*
Total Non-farm Employment (Millions)															
New England	**7.0**	**7.1**	**7.2**	**7.3**	**7.3**	*7.4*	*7.4*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.1**	*7.4*	*7.5*
Middle Atlantic	**18.4**	**18.5**	**18.7**	**19.0**	**19.2**	*19.4*	*19.5*	*19.6*	*19.7*	*19.7*	*19.8*	*19.8*	**18.6**	*19.4*	*19.8*
E. N. Central	**21.0**	**21.1**	**21.3**	**21.6**	**21.8**	*22.0*	*22.1*	*22.2*	*22.2*	*22.3*	*22.3*	*22.4*	**21.3**	*22.0*	*22.3*
W. N. Central	**10.3**	**10.4**	**10.5**	**10.6**	**10.7**	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	*10.9*	*10.9*	**10.5**	*10.8*	*10.9*
S. Atlantic	**28.0**	**28.2**	**28.6**	**28.9**	**29.3**	*29.5*	*29.7*	*29.8*	*29.9*	*30.0*	*30.1*	*30.2*	**28.4**	*29.6*	*30.0*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.2**	**8.3**	*8.4*	*8.4*	*8.4*	*8.5*	*8.5*	*8.5*	*8.5*	**8.1**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.8**	**18.0**	*18.2*	*18.3*	*18.4*	*18.4*	*18.5*	*18.6*	*18.7*	**17.5**	*18.2*	*18.6*
Mountain	**10.8**	**10.9**	**11.1**	**11.2**	**11.3**	*11.4*	*11.4*	*11.5*	*11.6*	*11.6*	*11.7*	*11.7*	**11.0**	*11.4*	*11.6*
Pacific	**22.0**	**22.5**	**22.8**	**23.1**	**23.4**	*23.7*	*23.8*	*24.0*	*24.0*	*24.1*	*24.2*	*24.2*	**22.6**	*23.7*	*24.1*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,017**	**779**	**85**	**1,926**	**3,125**	*864*	*128*	*2,144*	*3,087*	*848*	*128*	*2,144*	**5,808**	*6,261*	*6,208*
Middle Atlantic	**2,820**	**668**	**57**	**1,726**	**2,909**	*683*	*76*	*1,961*	*2,834*	*668*	*76*	*1,961*	**5,270**	*5,629*	*5,539*
E. N. Central	**3,086**	**708**	**70**	**1,889**	**3,273**	*700*	*120*	*2,245*	*3,071*	*707*	*120*	*2,245*	**5,752**	*6,338*	*6,142*
W. N. Central	**3,228**	**718**	**88**	**2,027**	**3,503**	*663*	*157*	*2,467*	*3,238*	*712*	*157*	*2,467*	**6,061**	*6,790*	*6,574*
South Atlantic	**1,346**	**211**	**10**	**798**	**1,340**	*191*	*13*	*951*	*1,373*	*189*	*13*	*949*	**2,366**	*2,495*	*2,525*
E. S. Central	**1,789**	**312**	**19**	**1,032**	**1,840**	*237*	*20*	*1,303*	*1,789*	*248*	*20*	*1,303*	**3,151**	*3,399*	*3,361*
W. S. Central	**1,296**	**121**	**1**	**495**	**1,366**	*67*	*4*	*816*	*1,205*	*90*	*4*	*815*	**1,913**	*2,253*	*2,114*
Mountain	**2,309**	**662**	**110**	**1,636**	**2,322**	*660*	*143*	*1,866*	*2,258*	*713*	*142*	*1,865*	**4,716**	*4,990*	*4,978*
Pacific	**1,562**	**487**	**77**	**1,205**	**1,376**	*625*	*94*	*1,219*	*1,544*	*612*	*95*	*1,220*	**3,331**	*3,313*	*3,470*
U.S. Average	**2,107**	**472**	**51**	**1,307**	**2,148**	*479*	*73*	*1,531*	*2,094*	*485*	*73*	*1,529*	**3,937**	*4,230*	*4,181*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,101**	*852*	*107*	*2,104*	*3,150*	*866*	*107*	*2,111*	**6,195**	*6,165*	*6,234*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	*684*	*71*	*1,908*	*2,941*	*693*	*70*	*1,911*	**5,572**	*5,550*	*5,616*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	*727*	*97*	*2,162*	*3,215*	*736*	*95*	*2,171*	**6,161**	*6,119*	*6,217*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	*726*	*125*	*2,357*	*3,319*	*741*	*125*	*2,368*	**6,477**	*6,427*	*6,554*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	*187*	*11*	*905*	*1,401*	*190*	*10*	*901*	**2,503**	*2,483*	*2,503*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	*243*	*15*	*1,227*	*1,811*	*249*	*14*	*1,226*	**3,267**	*3,248*	*3,300*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	*93*	*3*	*754*	*1,191*	*96*	*3*	*764*	**2,015**	*1,994*	*2,055*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	*685*	*132*	*1,818*	*2,203*	*693*	*135*	*1,826*	**4,877**	*4,816*	*4,857*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,455**	*523*	*79*	*1,136*	*1,437*	*525*	*80*	*1,141*	**3,242**	*3,193*	*3,183*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,096**	*479*	*62*	*1,473*	*2,133*	*485*	*62*	*1,476*	**4,147**	*4,110*	*4,155*
Cooling Degree Days															
New England	**0**	**143**	**454**	**6**	**0**	*84*	*422*	*2*	*0*	*84*	*422*	*2*	**604**	*508*	*508*
Middle Atlantic	**0**	**181**	**628**	**24**	**0**	*154*	*553*	*5*	*0*	*156*	*553*	*5*	**833**	*712*	*714*
E. N. Central	**2**	**250**	**627**	**30**	**0**	*228*	*549*	*6*	*0*	*220*	*549*	*6*	**909**	*784*	*776*
W. N. Central	**8**	**312**	**746**	**23**	**0**	*288*	*688*	*10*	*3*	*256*	*687*	*10*	**1,089**	*985*	*956*
South Atlantic	**151**	**616**	**1,170**	**285**	**148**	*652*	*1,162*	*236*	*126*	*652*	*1,163*	*237*	**2,222**	*2,198*	*2,177*
E. S. Central	**40**	**436**	**1,017**	**127**	**11**	*527*	*1,056*	*65*	*28*	*506*	*1,056*	*65*	**1,620**	*1,659*	*1,655*
W. S. Central	**90**	**768**	**1,471**	**316**	**56**	*932*	*1,531*	*200*	*83*	*835*	*1,531*	*200*	**2,645**	*2,719*	*2,650*
Mountain	**10**	**528**	**963**	**67**	**13**	*436*	*928*	*75*	*17*	*414*	*929*	*75*	**1,567**	*1,453*	*1,435*
Pacific	**24**	**249**	**696**	**58**	**26**	*162*	*564*	*60*	*27*	*163*	*563*	*60*	**1,027**	*812*	*814*
U.S. Average	**49**	**410**	**900**	**128**	**43**	*412*	*861*	*94*	*43*	*395*	*862*	*95*	**1,487**	*1,409*	*1,395*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	*87*	*471*	*2*	*0*	*88*	*465*	*2*	**555**	*560*	*555*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	*162*	*608*	*8*	*0*	*159*	*601*	*8*	**779**	*779*	*769*
E. N. Central	**3**	**234**	**572**	**7**	**3**	*238*	*571*	*9*	*1*	*231*	*560*	*10*	**816**	*821*	*802*
W. N. Central	**7**	**294**	**686**	**10**	**7**	*299*	*681*	*11*	*4*	*290*	*669*	*12*	**997**	*999*	*975*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	*668*	*1,188*	*269*	*143*	*669*	*1,189*	*274*	**2,276**	*2,272*	*2,275*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	*518*	*1,057*	*84*	*34*	*514*	*1,058*	*86*	**1,713**	*1,703*	*1,692*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	*853*	*1,536*	*224*	*101*	*845*	*1,535*	*226*	**2,772**	*2,726*	*2,706*
Mountain	**24**	**441**	**949**	**85**	**23**	*459*	*945*	*84*	*23*	*452*	*942*	*82*	**1,499**	*1,511*	*1,499*
Pacific	**31**	**193**	**648**	**86**	**31**	*208*	*664*	*85*	*31*	*208*	*655*	*84*	**959**	*988*	*977*
U.S. Average	**52**	**413**	**892**	**104**	**53**	*412*	*889*	*109*	*50*	*410*	*885*	*110*	**1,461**	*1,463*	*1,455*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the April 2022 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Feb 2022	Mar 2022	Feb 2022 – Mar 2022 Average	Feb 2021 – Mar 2021 Average	2019 – 2021 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	99.4	99.3	99.3	92.0	96.5
Global Petroleum and Other Liquids Consumption (b)	100.5	98.3	99.4	95.1	96.7
Biofuels Production (c)	2.3	2.3	2.3	2.2	2.7
Biofuels Consumption (c)	2.5	2.5	2.5	2.5	2.6
Iran Liquid Fuels Production	3.7	3.7	3.7	3.3	3.2
Iran Liquid Fuels Consumption	2.2	1.9	2.1	1.8	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	93.4	93.3	93.3	86.5	90.6
Consumption (d)	95.8	93.9	94.8	90.7	92.3
Production minus Consumption	-2.4	-0.6	-1.5	-4.2	-1.7
World Inventory Net Withdrawals Including Iran	1.2	-1.0	0.0	3.1	0.2
Estimated OECD Inventory Level (e) (million barrels)	2,601	2,614	2,608	2,934	2,943
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	3.4	3.6	3.5	6.7	4.4

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Feb 2022	Mar 2022	Feb 2022 – Mar 2022 Average	Feb 2021 – Mar 2021 Average	2019 – 2021 Average
Brent Front Month Futures Price ($ per barrel)	94.10	112.46	104.15	64.15	59.44
WTI Front Month Futures Price ($ per barrel)	91.63	108.26	100.74	60.87	54.82
Dubai Front Month Futures Price ($ per barrel)	92.02	110.18	101.96	62.91	58.86
Brent 1st - 13th Month Futures Spread ($ per barrel)	12.01	21.83	17.39	5.18	1.80
WTI 1st - 13th Month Futures Spread ($ per barrel)	13.07	22.74	18.37	5.23	1.37
RBOB Front Month Futures Price ($ per gallon)	2.69	3.30	3.02	1.89	1.67
Heating Oil Front Month Futures Price ($ per gallon)	2.85	3.65	3.29	1.82	1.75
RBOB - Brent Futures Crack Spread ($ per gallon)	0.45	0.62	0.54	0.36	0.25
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.61	0.97	0.81	0.30	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

May 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The May *Short-Term Energy Outlook* (STEO) is subject to heightened levels of uncertainty resulting from a variety of factors, including Russia's full-scale invasion of Ukraine. This STEO assumes U.S. GDP will grow by 3.1% in both 2022 and 2023, following growth of 5.7% in 2021. We use the S&P Global macroeconomic model to generate our U.S. economic assumptions. Global macroeconomic assumptions in our forecast are from Oxford Economics and include global GDP growth of 3.4% in 2022 and 3.5% in 2023, compared with growth of 6.0% in 2021. A wide range of potential macroeconomic outcomes could significantly affect energy markets during the forecast period. Major factors driving energy supply uncertainty include how sanctions affect Russia's oil production, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- The Brent crude oil spot price averaged $105 per barrel (b) in April, a $13/b decrease from March. Although down from March, crude oil prices remain above $100/b following Russia's full-scale invasion of Ukraine. Sanctions on Russia and other independent corporate actions contributed to falling oil production in Russia and continue to create significant market uncertainties about the potential for further oil supply disruptions. These events occurred against a backdrop of low oil inventories and persistent upward oil price pressures. Global oil inventory draws averaged 1.7 million barrels per day (b/d) from the third quarter of 2020 (3Q20) through the end of 2021. We estimate that commercial oil inventories in the OECD ended 1Q22 at 2.63 billion barrels, up slightly from February, which was the lowest level since April 2014.

- We expect the Brent price will average $107/b in 2Q22 and $103/b in the second half of 2022 (2H22). We expect the average price to fall to $97/b in 2023. However, this price forecast is highly uncertain. Actual price outcomes will largely depend on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market. We completed this outlook on May 5, therefore it does not include an EU ban on oil imports from Russia. However, the bans being reported at the time of writing would likely contribute to tighter oil balances and higher oil prices than our current forecast. In addition, the degree to which other oil producers respond to current oil prices and the effects macroeconomic developments might have on global oil

demand will be important for oil price formation in the coming months. We reduced Russia's oil production in this month's forecast compared with our April forecast, and we now expect oil markets to be mostly balanced from 2Q22 through the end of 2023. Because oil inventories are currently low, we expect downward oil price pressures will be limited and market conditions will exist for significant price volatility.

- We estimate that 97.4 million b/d of petroleum and liquid fuels was consumed globally in April 2022, an increase of 2.1 million b/d from April 2021. We forecast that global consumption of petroleum and liquid fuels will average 99.6 million b/d for all of 2022, which is a 2.2 million b/d increase from 2021. We revised down our forecast for 2022 global consumption of petroleum and liquid fuels by 0.2 million b/d from the April STEO, primarily as a result of downward revisions to consumption growth in China and the United States. We forecast that global consumption of petroleum and liquid fuels will increase by 1.9 million b/d in 2023 to average 101.5 million b/d.

- U.S. crude oil production in the forecast averages 11.9 million b/d in 2022, up 0.7 million b/d from 2021. We forecast that production will increase to more than 12.8 million b/d in 2023, surpassing the previous annual average record of 12.3 million b/d set in 2019.

Natural gas

- In April, the Henry Hub natural gas spot price averaged $6.59 per million British thermal units (MMBtu), which was up from the March average of $4.90/MMBtu and higher than the April 2021 average of $2.66/MMBtu. We expect the Henry Hub price to average $7.83/MMBtu in 2Q22 and average $8.59/MMBtu in 2H22. High forecast natural gas prices reflect our expectation that natural gas storage levels will remain less than the five-year (2017−2021) average this summer. Lower-than-average storage levels partly result from limited opportunities for natural gas-to-coal switching for power generation, which we forecast will keep the demand for natural gas for power generation high despite high prices. Natural gas prices could rise significantly above forecast levels if summer temperatures are hotter than assumed in this forecast and electricity demand is higher. In addition, we expect that U.S. liquefied natural gas exports (LNG) will remain high during the summer. We expect the Henry Hub spot price will average $4.74/MMBtu in 2023. The forecast drop in prices for 2023 reflects our expectation that the rate of natural gas production will increase next year while LNG export and demand growth slow, contributing to higher storage levels in 2023 than in 2022.

- We estimate that natural gas inventories ended April at 1.6 trillion cubic feet (Tcf), which is 17% below the five-year average. Inventories at the end of April were 190 billion cubic feet (Bcf) higher than at the end of March. This increase was below the five-year average as a result of below-normal temperatures that raised demand for natural gas for heating amid relatively flat production. We expect natural gas inventories to increase by 418 Bcf in May, ending the month at 2.0 Tcf, which would be 14% below the

five-year average for this time of year. We forecast that natural gas inventories will end the 2022 injection season (end of October) at almost 3.4 Tcf, which is 9% below the five-year average. However, summer temperatures will be key to storage, and a hotter-than-normal summer that results in high electricity demand could cause inventories to be lower than forecast and result in prices that are higher than forecast.

- In April, U.S. LNG exports averaged 11.6 billion cubic feet per day (Bcf/d), slightly below an all-time peak of almost 12.0 Bcf/d set in March. We forecast that U.S. LNG exports will average 12.1 Bcf/d from May through August, which is slightly lower than our previous forecast. This forecast reflects our assumption of slightly lower LNG demand in Asia and Europe this summer compared with our previous assumption, in part because of sustained high natural gas prices. We expect U.S. LNG exports to average 12.0 Bcf/d this year, a 23% increase from 2021. Growth in LNG exports in recent years has been driven by capacity expansions. However, we do not expect any new export facilities to come online in the forecast period, and as a result, forecast growth in LNG exports slows to 5% in 2023, with LNG exports averaging 12.6 Bcf/d for the year.

- We expect that U.S. consumption of natural gas will average 85.7 Bcf/d in 2022, up 3% from 2021. The increase in U.S. natural gas consumption is a result of colder temperatures and related higher consumption in the residential and commercial sectors in 2022 compared with 2021. We also expect the industrial sector to consume more natural gas in 2022 in response to expanding economic activity. In addition, forecast natural gas consumption in the electric power sector increases in 2022 because of limited natural gas-to-coal switching despite high natural gas prices. For 2023, we forecast natural gas consumption will average 85.3 Bcf/d, down 1%, mostly as a result of assumed milder winter temperatures (based on forecasts from the National Oceanic and Atmospheric Administration) that will reduce residential and commercial consumption.

- We estimate dry natural gas production averaged 95.5 Bcf/d in the United States in April, up 0.4 Bcf/d from March. Although production in April was lower than the recent peak in December 2021, it increased in each of the past two months. Periods of below-normal temperatures and snow in some producing regions, along with seasonal maintenance on pipelines, limited the production increases in April compared with March. We forecast dry natural gas production to average 95.8 Bcf/d in May. For all of 2022, we expect that dry natural gas production will average 96.7 Bcf/d, which would be 3.2 Bcf/d more than in 2021. We expect dry natural gas production to average 101.7 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- We forecast that the annual share of U.S. electricity generation from renewable energy sources will rise from 20% in 2021 to 22% in 2022 and to 23% in 2023 because of continuing increases in solar and wind generating capacity. We forecast that natural gas

will provide almost 37% of generation in 2022, which is similar to the level in 2021, and we forecast natural gas generation will provide 36% of generation in 2023. Despite significantly higher natural gas fuel costs this year compared with last year, we do not expect an increase in electricity generation from coal-fired power plants, which have in the past acted as a primary substitute for natural gas in the power industry. Along with the continued retirement of coal-fired generating capacity, the remaining coal fleet has been facing constraints in regard to fuel delivery and coal stocks. We forecast coal will provide 21% of total U.S. generation 2022 and 20% in 2023, compared with a share of 23% last year. Nuclear generation remains relatively constant in the forecast at an average share between 19% and 20%. One nuclear reactor will retire during 2022, and two reactors at the Vogtle nuclear power plant are scheduled to come online in 2023, the first new nuclear units to open in the United States since 2016.

- Planned additions to U.S. wind capacity increase wind electricity generation in our forecast. We estimate that the U.S. electric power sector added 14 GW of wind capacity in 2021. Wind capacity additions in the forecast total 10 GW in 2022 and 4 GW in 2023. The electric power sector added 13 GW of utility-scale solar capacity in 2021, and forecast solar capacity additions in the power sector total 20 GW for 2022 and 23 GW for 2023. We expect additions to solar capacity and batteries to account for more than half of new electric sector capacity in 2022 and 2023. In addition, in 2021 small-scale solar (systems less than 1 megawatt) rose by 5 GW to 33 GW. We expect that small-scale solar capacity will grow by 5 GW in 2022 and 6 GW in 2023.

- U.S. coal production in the forecast increases by 20 million short tons (MMst) (3%) in 2022 to 598 MMst and by 7 MMst (1%) in 2023. We expect production in the Western region to drive the forecast increases. The forecast increase occurs despite our expectation that coal use in the power sector will decline. We expect rising coal production will replenish electric power sector inventories in 2023 that were depleted during 2021. We also expect coal exports will remain at high levels during the forecast period as a result of high global coal prices. Although exports and inventory builds contribute to rising coal production in the forecast, labor shortages, rail congestion, and challenges obtaining equipment are expected to limit production gains.

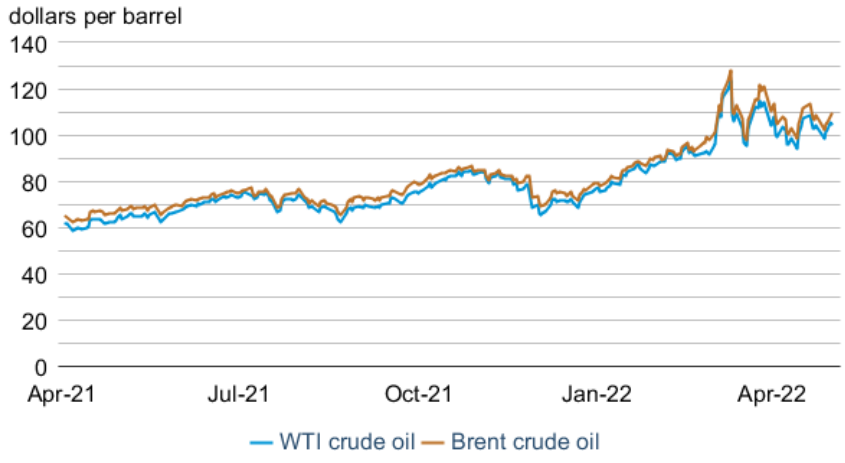
- U.S. energy-related carbon dioxide (CO_2) emissions increased by more than 6% in 2021 as a result of rising energy use. We expect a 2% increase in energy-related CO_2 emissions in 2022, primarily from growing transportation-related petroleum consumption. Forecast energy-related CO_2 emissions remain relatively unchanged in 2023. We expect petroleum emissions to increase by 3% in 2022 compared with 2021 before growth slows to 1% in 2023. Natural gas emissions rise by 3% in our forecast for 2022, then remain unchanged in 2023. We forecast that coal-related CO_2 emissions will fall by 2% in 2022 and by 5% in 2023.

Petroleum and Natural Gas Markets Review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $110.90 per barrel (b) on May 5, 2022, an increase of $6.51/b from the April 1, 2022, price of $104.39/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $8.99/b during the same period, settling at $108.26/b on May 5 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia Source: Based on CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

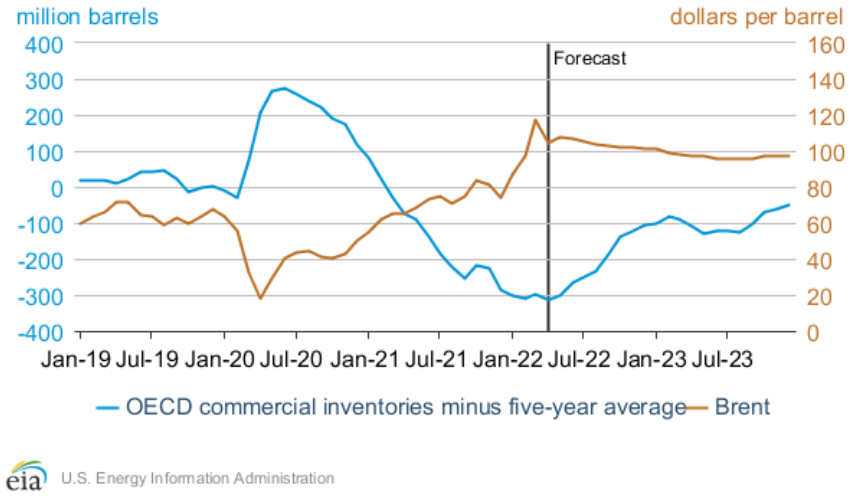
The April monthly average front-month Brent crude oil price was $106/b, $7/b less than the March 2022 average but $41/b more than April 2021. The monthly average WTI crude oil price was $102/b, similarly $7/b less than March 2021 and $40/b more than April 2021. Monthly average crude oil prices in April decreased slightly from March levels but remained near the highest prices since 2014 on an inflation-adjusted basis. The possibility of oil supply disruptions resulting from Russia's full-scale invasion of Ukraine and associated sanctions on Russia continue to contribute to the Brent crude oil price remaining above $100/b. This uncertainty is occurring amid low inventory levels globally. Relatively slow increases in global oil production amid more rapid increases in consumption contributed to global inventories declining for six consecutive quarters from the third quarter of 2020 to the fourth quarter of 2021 (3Q20 through 4Q21). Global inventories increased in 1Q22 as a result of reduced January consumption related to COVID-19 measures, reduced March consumption related to COVID-19 responses in China, and relatively steady global production increases; declines in Russia's oil production were not substantial until April. At the same time, potential decreases in demand from factors including the ongoing severe COVID-19 containment measures in China, particularly in Shanghai, as well as a decrease in the reported first-quarter U.S. GDP estimate contributed to lower crude oil prices relative to March.

In addition to the decrease in monthly average prices in April, crude oil price volatility declined compared with the high level of volatility in March. The Brent crude oil price range in April was $17/b, down from a $42/b range in March. Although narrower than in March, the range in prices remains wider than in any month during 2021. Many of the key uncertainties that we noted in last month's STEO remain, including:

- The impact of sanctions on Russia in relation to its full-scale invasion of Ukraine and the ongoing effect of current sanctions and private sector actions
- The potential for new sanctions on Russia, including the discussion of an EU-wide ban on energy imports from Russia, and the pace of its implementation
- The pace of petroleum demand growth through the summer and the potential for demand destruction because of high retail fuel prices
- The volume of new crude oil production that will come online at price levels near or above $100/b
- The potential for renewed resurgences in COVID-19 cases and the nature of government responses
- The ongoing impact of the coordinated release of petroleum supplies from strategic reserves in the United States and in Europe
- Other geopolitical uncertainties related to Libya, the ceasefire in Yemen, or potential new developments on an Iran deal

In this month's STEO, we expect lower global crude oil and other liquid fuels production in the forecast compared with last month's outlook, contributing to relatively balanced oil markets through the end of 2023. We estimate that OECD commercial liquid inventories in April were 315 million barrels below their five-year (2017–2021) April average, the lowest amount relative to the five-year average in our data going back to 2004. We expect some builds in global oil inventories will allow OECD inventories to move closer to the five-year average, particularly in the second half of 2022, which could contribute to limited downward pressure on crude oil prices. We expect the monthly average Brent price to remain above $100/b for the rest of 2022, but we forecast the Brent crude oil spot price will decrease to an average of $102/b in 4Q22 and $97/b by 4Q23 **(Figure 2)**. Although we forecast some price declines, the possibility for significant crude oil price increases and high volatility remains, given low inventory levels and the wide range of possible outcomes for oil supply, particularly from Russia.

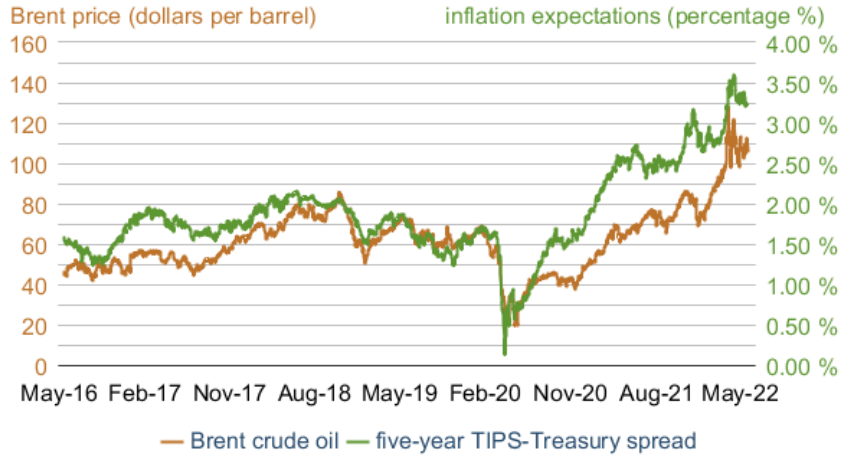
Figure 2. OECD commercial liquid inventories minus five-year average and Brent price



Our Brent crude oil price forecast of $97/b in 2023 is up $5/b compared with our forecast from the April 2022 *Short-Term Energy Outlook*. The higher forecast price reflects our expectation that oil markets will be relatively balanced in the forecast compared with our expectation of inventory builds last month, and we now forecast OECD commercial inventories to remain below their five-year average throughout the forecast period. This downward revision in OECD inventories is a result of our forecast for lower supply growth because we expect production declines in Russia to persist throughout the forecast period. Our forecast for total liquid fuels production in Russia from 2Q22 through the end of 2023 is 0.6 million b/d lower in this month's outlook compared with last month. This forecast assumes existing sanctions as of May 5. Actual price outcomes will be affected by the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market. We expect this supply reduction to only partially be offset by lower consumption expectations in China as well as the effect of lower global economic growth on global oil consumption.

Crude oil and inflation expectations: The spread between five-year treasury bonds and Treasury Inflation-Protected Securities (TIPS) is one indicator of financial market expectations of inflation because it measures the difference in yields between Treasury bonds that adjust their yield with the Consumer Price Index (CPI) and those that do not. In March 2022, the spread reached 3.6%, its highest level since at least 2003, and averaged 3.4% throughout the month **(Figure 3)**.

Figure 3. Crude oil and inflation expectations



Source: Based on data from Bloomberg L.P. and Federal Reserve Bank of St. Louis
Note: TIPS=Treasury Inflation Protected Securities

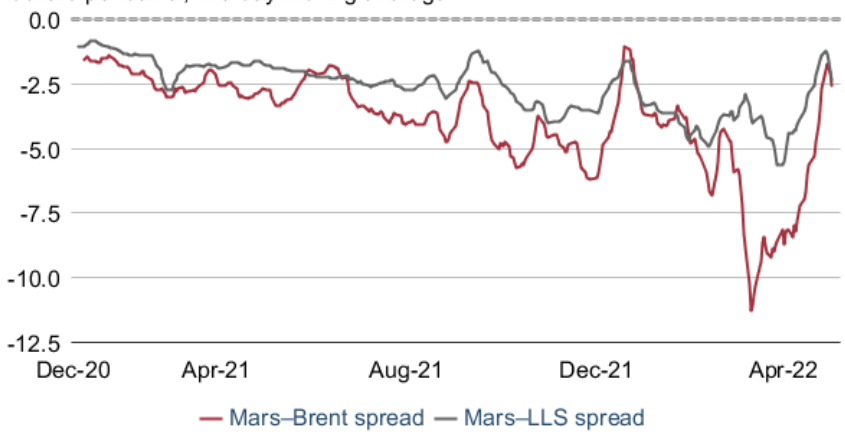
The spread decreased sharply during the onset of the COVID-19 pandemic in 2020 but has increased since mid-2020 and had risen above pre-COVID levels by the end 1Q21. Inflationary concerns can encourage market participants to invest in commodities and commodity-derived assets, such as crude oil or precious metals, which tend to increase in value in highly inflationary environments. As a result, higher inflationary expectations can contribute to increased demand for crude oil-backed contracts, which can contribute to higher commodity prices and associated securities. At the same time, higher energy prices can contribute to increased inflation and inflationary concerns, either directly—through increased consumer fuel prices—or indirectly—through higher transportation costs for finished goods. These interrelated effects tend to result in a high correlation between crude oil prices and the TIPS-Treasury spread.

The March TIPS-Treasury spread increased by 0.5 percentage points compared with the February monthly average, and like crude oil prices, the TIPS-Treasury spread decreased slightly in April, falling 0.1 percentage points from March to average 3.3%. The April average spread was 0.8 percentage points higher than the April 2021 level and still 0.4 percentage points higher than February 2022. Sustained higher crude oil prices as a result of market fundamentals discussed previously are likely to continue contributing to inflationary concerns. At the same time, the TIPS-Treasury spread and inflationary concerns can also result from other macroeconomic indicators as well as the prices of other staple commodities that comprise a significant share of the CPI.

Crude oil price differentials: In April, the differential between crude oil grades with high API gravity and low sulfur content (sweet) and those with medium API gravity and higher sulfur contents (sour) narrowed compared with March **(Figure 4)**. In the crude oil markets review in last month's STEO, we noted the widening of the spread between Houston-based Mars medium sour crude oil prices and the price of Brent and Light Louisiana Sweet (LLS) crude oil grades, despite the impact of sanctions on the availability of Russia's medium sour Urals grade crude oil.

Mars crude oil has an API gravity of 28 and a sulfur content of 1.93%, making it more comparable to Russia's Urals grade (API gravity of 30.6, sulfur content of 1.48%) than LLS (API gravity of 38.5, sulfur content of 0.39) or Brent (API gravity of 37.9, sulfur content of 0.45%). In April, both the Mars-Brent and Mars-LLS spreads have contracted sharply, suggesting that the effect of sanctions and self-sanctioning by many crude oil buyers has contributed to less availability of medium sour crude oil, contributing to higher prices for medium sour grades such as Mars relative to lighter grades such as Brent or LLS.

Figure 4. Mars crude oil price spreads



Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: LLS=Light Louisiana Sweet.

In April, the five-day moving average of the Mars-Brent spread narrowed by $3.87/b from April 1 to May 5, while the Mars-LLS spread narrowed by $1.17/b compared with April 1. Both spreads are still wider than they were around the same time last year; the Mars-Brent spread widened by $1.14/b and the Mars-LLS spread widened by $1.34/b compared with May 5, 2021. Although trade press reports indicate Russia's medium sour crude oil grades have been selling at a substantial discount to other benchmark grades because of sanctions and private company boycotts, the increasing shipping prices and associated insurance prices needed to take possession of Russia's crude oil are likely contributing to increased end-user prices for buyers still willing to purchase Russia's crude oil. These increased delivered prices may be mitigating the value of the wholesale discount that is captured by potential buyers. Given the narrowing of light-medium crude oil quality spreads in April, it is unlikely that discounts on Russia's crude oil are effectively pulling down medium sour crude oil prices globally, while higher prices associated with less availability of medium sour crude grades from outside of Russia—such as Mars—are now becoming apparent.

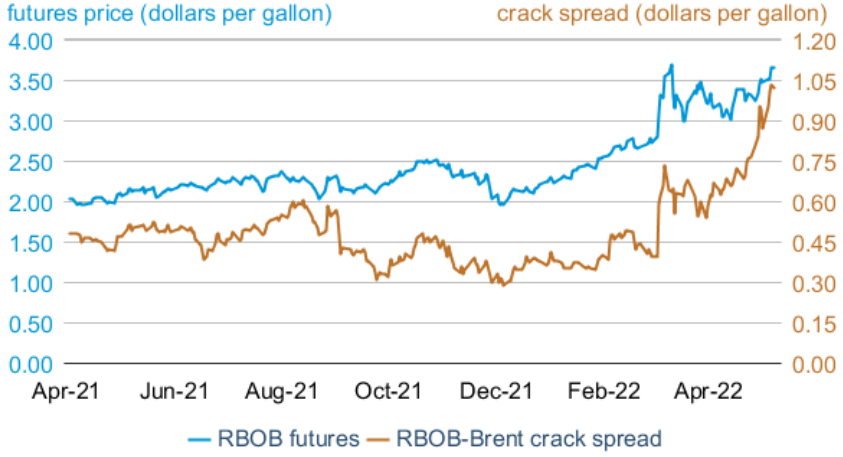
The narrowing Mars-Brent spread also reflects regional effects, primarily a narrowing spread between crude oils from Europe such as Brent with U.S.-based crude oils such as WTI, Mars, and LLS. Although the impact of sanctions on Russia initially manifested predominately in the Brent price—a global benchmark linked geographically to Europe—the call on global crude oil supplies

by European refiners has begun to affect other regional markets as global refiners make crude oil purchases and reroute ships. As a result, the difference between the Mars-LLS spread and the Mars-Brent spread, which incorporates this global dynamic, has decreased considerably. As of May 5, the difference between the Mars-Brent spread and the Mars-LLS spread decreased to $1.06/b, compared with a monthly average of $4.67/b in March.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $3.66 per gallon (gal) on May 5, up 51 cents/gal from April 1 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at $1.02/gal on May 5, up 35 cents/gal during the same period. The RBOB–Brent crack spread increased by 11 cents/gal (13%) on April 27, the third-highest daily percentage increase in 2022 (March 1 marked the highest increase when the RBOB futures contract rolled to a new month reflecting more expensive summer grade gasoline).

Figure 5. Historical RBOB front-month futures prices and crack spreads



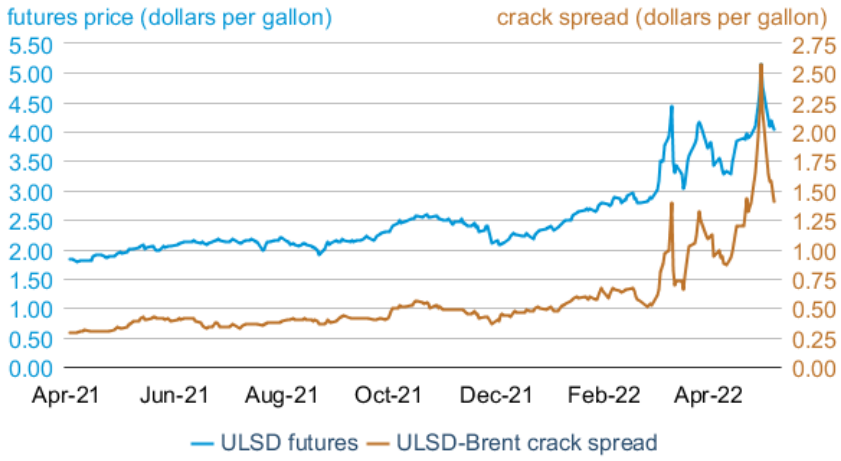
Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

April's increasing RBOB–Brent crack spread was likely due to decreasing gasoline inventories. We estimate that U.S. gasoline inventories decreased from March to April by 8.2 million barrels (3.5%). One reason for this inventory decrease was increased driving. We estimate that gasoline consumption increased to 8.7 million barrels per day (b/d) in April, a 0.1 million b/d (1%) increase from March. Gasoline inventories have been particularly low on the East Coast where, according to our *Weekly Petroleum Status Report* (WPSR), inventories on April 22 were at their lowest levels since November 2014. The RBOB futures contract is for delivery in New York Harbor (NYH), and particularly low inventories in that region could be contributing to higher RBOB-Brent crack spreads. Gasoline inventories in the Northeast (PADD 1A and 1B) were 28 million barrels on April 22, according to WPSR data, the lowest level for April since 2011. Low inventories and high RBOB prices likely supported imports from international markets in late

April. Gasoline imports to the East Coast in the week ending April 29 were 812,000 b/d, the highest since the week ending October 1, 2021, according to WPSR data.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $4.04/gal on May 5, a 62 cents/gal increase from April 1 **(Figure 6)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased by 46 cents/gal during the same period and settled at $1.40/gal on May 5. The ULSD-Brent average crack spread in April was the highest recorded in real terms in data going back to July 1988. The ULSD front-month futures average price in April was the highest in real terms since February 2013.

Figure 6. Historical ULSD front-month futures prices and crack spreads



Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

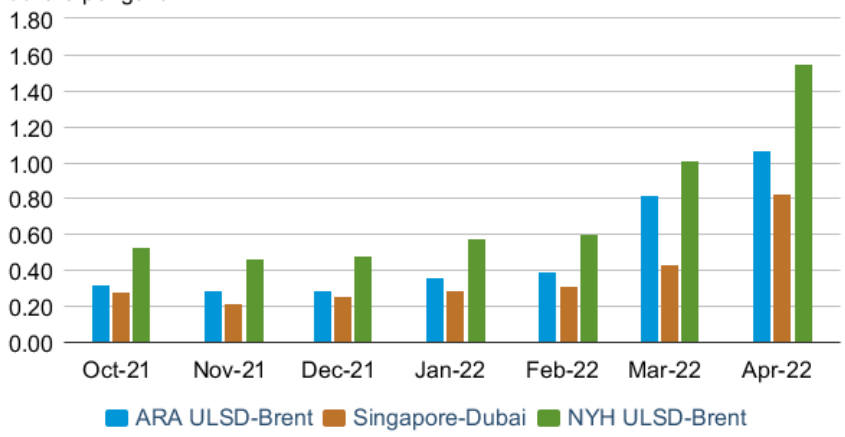
High global demand and low inventories continued to support higher distillate prices and crack spreads in April. Distillate exports from Russia have declined as a result of sanctions. This drop in global supply combined with refinery closures over the past few years has produced a tight U.S. distillate market. U.S. distillate stocks declined by 9.4 million barrels (8%) from March, falling to 24% below the five-year average. Increased trucking activity and increased distillate demand for oil and natural gas drilling could be contributing to higher domestic diesel demand and supporting ULSD prices. In addition, distillate exports are contributing to lower stock levels. Our estimate for April net distillate exports of 1.3 million b/d, if confirmed in monthly data, would be the highest amount of net distillate exports since September 2019.

Front-month ULSD prices increased significantly in the last week of April and may have been the result of reduced liquidity in the expiring May ULSD futures contract. Liquidity in financial markets refers to the ease of buyers and sellers to make trades at stable, transparent prices. During periods of low liquidity, market participants may need to bid at price levels higher or lower than during periods of ample liquidity to transact in the market. From April 25 to April 28, the May ULSD futures contract increased $1.04/gal (26%), and the June ULSD futures contract

increased 35 cents/gal (10%), suggesting low liquidity ahead of expiration may have added price volatility. This volatility was also evident when comparing the May ULSD futures price with Brent crude oil. ULSD futures prices usually follow movements in the underlying price of crude oil because it makes up the largest part of the overall cost to produce diesel fuel. However, between April 25 and April 28 when ULSD futures prices increased by 26%, Brent crude oil futures prices increased by just 5%.

International distillate crack spreads: Global spot distillate crack spreads at the major global trading hubs in Amsterdam, Rotterdam, and Antwerp (ARA); Singapore; and NYH increased substantially in April. The ARA ULSD-Brent crack spread averaged $1.07/gal, the Singapore-Dubai crack spread averaged 83 cents/gal, and the NYH ULSD-Brent crack spread averaged $1.55/gal **(Figure 7)**. On average, inventories in all three trading hubs have been more than 30% below the five-year average since the beginning of the year. However, crack spreads increased more at the Singapore and NYH trading hubs as new dynamics interacted with the already tight global distillate market. In Singapore, lower refinery runs in China as a result of mobility restrictions in response to increased COVID-19 cases as well as lower export quotas constrained regional petroleum trade, leading the crack spread to nearly double from 43 cents/gal in March. In NYH, increasing distillate exports in the U.S. Gulf Coast, fewer imports from Europe, and lower refining capacity in PADD 1 pushed the crack spread to reach its highest level on record. Meanwhile, concerns about replacing Russia's distillate exports to Europe continued to drive ARA crack spreads higher, rising by 25 cents/gal over March.

Figure 7. International ULSD crack spreads



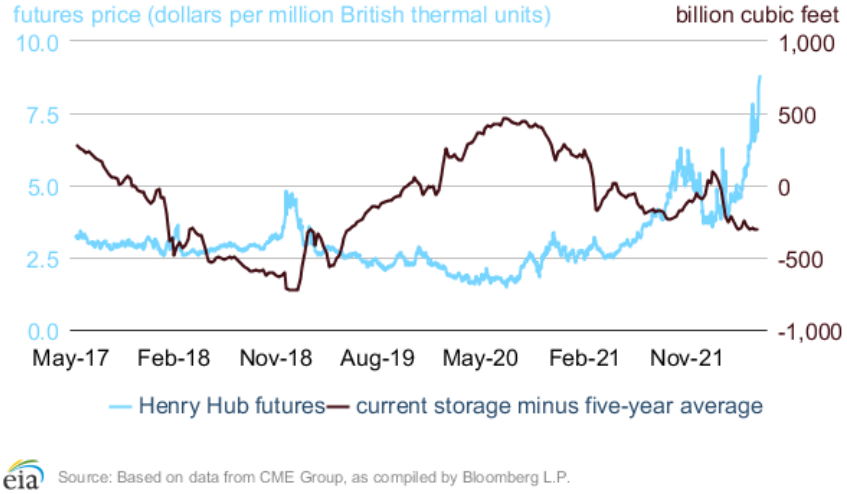
Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ARA=Amsterdam, Rotterdam, and Antwerp; ULSD=ultra-low sulfur diesel; NYH=New York Harbor

Natural gas

***Prices*:** On May 5, 2022, the front-month natural gas futures contract for delivery at the Henry Hub settled at $8.78 per million British thermal units (MMBtu), which was up $3.06/MMBtu

from April 1, 2022 **(Figure 8)**. The average closing price for front-month natural gas futures contracts in April was $6.70/MMBtu, the highest April monthly average in real terms since 2008.

Figure 8. U.S. natural gas front-month futures prices and current storage deviation from five-year average



eia Source: Based on data from CME Group, as compiled by Bloomberg L.P.

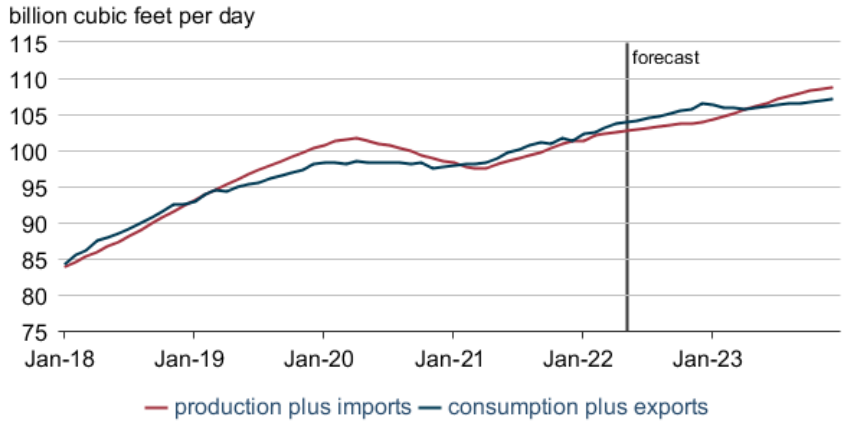
The average front-month natural gas futures price for the month of April increased $1.73/MMBtu from its monthly average in March. Several factors have contributed to the rapid increase in natural gas futures prices:

- Storage inventories below the five-year average
- Steady demand, driven by the high levels of U.S. liquefied natural gas (LNG) exports, a cooler-than-normal spring that contributed to higher levels of residential and commercial demand, and high demand in the electric power sector
- Lower-than-expected increases in dry natural gas production

April's natural gas stock builds were lower than the five-year (2017−2021) average by 33 billion cubic feet (Bcf). At the end of the month, natural gas inventories were at 1,597 Bcf, which is 320 Bcf (17%) below the five-year average. U.S. LNG exports reached a record-high level in March at just under 12.0 Bcf/d, and averaged 11.6 Bcf/d in the first quarter of 2022 (1Q22). We estimate LNG exports averaged 11.6 Bcf/d in April. High export levels are supported by high international LNG prices, as well by additional export capacity created by a new U.S. LNG export facility, Calcasieu Pass LNG, which exported its first LNG cargo on March 1 and continues to ramp up production. U.S. dry natural gas production reached 97.0 Bcf/d in December 2021 before declining to 94.1 Bcf/d in February, partially as a result of freeze-offs in key producing regions. Dry natural gas production has yet to return to its December level and averaged 95.5 Bcf/d in April, partly because of cost increases for key input materials as well as labor shortages that are limiting the ability of producers to use more rigs for increased production.

***Supply and demand balance*:** Comparing overall U.S. production and consumption balances is a helpful indicator in determining the trajectory of natural gas prices. When natural gas supply (production plus imports) is lower than natural gas demand (consumption plus exports), natural gas prices increase because more natural gas is pulled from storage to meet demand. Natural gas demand has exceeded supply since February 2021. We expect this trend to continue through 2022, and we expect the Henry Hub spot price will remain elevated, averaging $8.34/MMBtu from 2Q22 through 4Q22. Limited opportunities for natural gas-to-coal switching for power generation keep the use of natural gas for power generation high in our forecast despite high natural gas prices. This dynamic creates conditions for natural gas prices to rise significantly above forecast levels, particularly if summer temperatures are hotter than assumed in this forecast and lead to higher-than-expected levels of electricity demand. However, we forecast supply to begin outpacing demand by early 2023 as producers steadily increase production in response to higher natural gas prices as well as higher oil prices, and demand stays relatively constant given close to normal weather conditions forecast in 2023 **(Figure 9)**.

Figure 9. Natural gas production plus imports and consumption plus exports, 12-month moving average

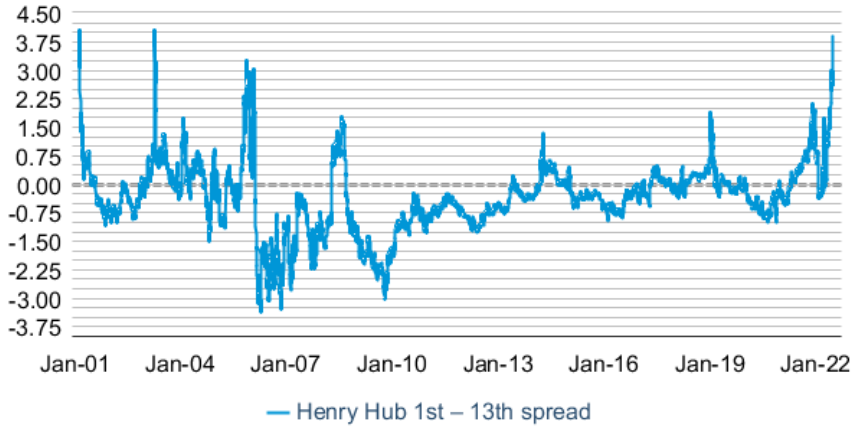


Source: U.S. Energy Information Administration

***Futures price spreads*:** The natural gas 1st–13th price spread averaged $2.36/MMBtu in April, the highest backwardation (where near-term contract prices are higher than longer-dated contract prices) since October 2005, when it averaged $2.50/MMBtu **(Figure 10)**. Often, the 1st–13th price spread increases when natural gas inventories are below the five-year range, and the price spread often decreases when inventories are above the five-year range. With inventories starting the injection season below the five-year average, high demand for natural gas is pushing prices up in the short term. The combination of low storage inventories to start the injection season, high demand for U.S. LNG exports, and lower-than-expected production levels are all contributing to near-term natural gas prices being much higher now compared with natural gas for delivery next year. We expect natural gas prices to remain high throughout the summer because opportunities for natural gas-to-coal switching for power generation are limited,

production increases will take several months to emerge, and continued high levels of LNG exports will contribute to high demand.

Figure 10. Natural gas 1st – 13th futures price spread



eia Source: CME Group, as compiled by Bloomberg L.P.

Notable forecast changes

- Russia's liquid fuels production in the May STEO averages 10.0 million barrels per day (b/d) in 2022, which is 0.4 million b/d less than we forecast in the April STEO. Our forecast for Russia's production averages 9.1 million b/d in 2023, which is 0.6 million b/d less than we forecast in the April STEO. The updated forecast reflects a larger drop in production during April than we had expected, lowering the starting point for our forecast.

- We have reevaluated our modeling of electricity generation to better account for the current constraints on the deliveries of coal and inventories at coal-fired power plants. Coal-fired power plants have been running more selectively in recent months as a result of low coal inventory levels and reduced abilities to replenish those inventories because of mine closures, rail capacity constraints, and labor market tightness. Coal plants have been running at high levels during peak demand periods in the winter and summer, but scaling-back operations during the shoulder months to conserve coal supply. These changes contributed to a shift toward natural gas generation and away from coal compared with our forecast in the April STEO, despite higher natural gas prices in this forecast. We now forecast coal generation in 2022 will decline by 30 billion kilowatthours (kWh) (3%) compared with a forecast increase of 27 billion (3%) kWh in the last STEO. Conversely, forecast natural gas generation rises by 13 billion kWh (1%) in this STEO compared with a forecast decline of 66 billion kWh (5%) in last month's outlook.

- The Henry Hub spot price in our forecast averages $7.42 million British thermal units (MMBtu) in 2022, which is $2.19/MMBtu higher than our forecast in the April STEO. The higher forecast is mostly the result of updates to our power generation model to better account for coal market constraints.
- We expect natural gas inventories will end October at almost 3.4 trillion cubic feet, which is 9% below the five-year average, compared with our forecast of 4% below the five-year average in last month's STEO. The lower storage levels largely reflect higher expected power generation this summer compared with last month's forecast.
- U.S. coal production in our forecast totals 598 million short tons in 2022, up 3% from 2021. In last month's forecast, we expected coal production to rise 7% from 2021. The updated forecast reflects adjustments to our power generation model that resulted in lower coal demand than previously forecast.
- You can find more information in the detailed table of forecast changes.

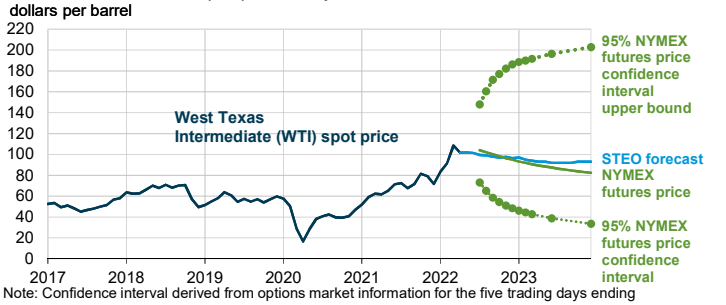
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

May 10, 2022

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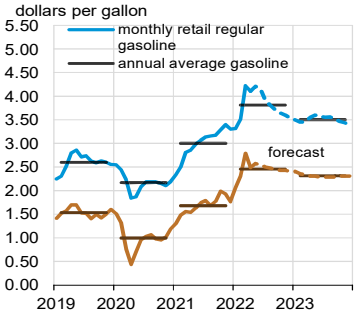
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



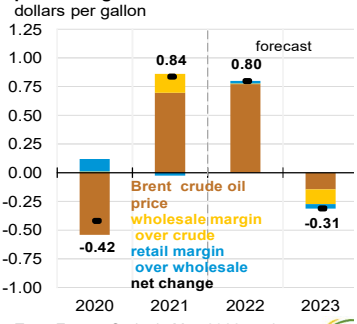
Note: Confidence interval derived from options market information for the five trading days ending May 5, 2022. Intervals not calculated for months with sparse trading in near-the-money options

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

U.S. gasoline and crude oil prices
dollars per gallon

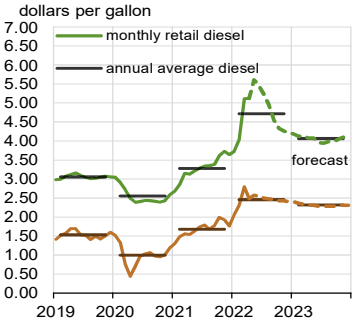


Components of annual gasoline price changes
dollars per gallon

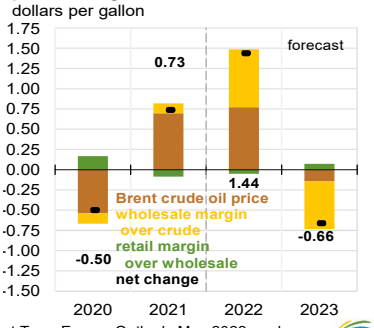


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022, and Refinitiv an LSEG Business

U.S. diesel and crude oil prices



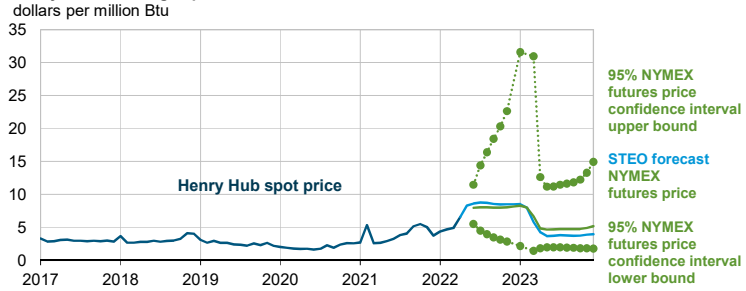
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

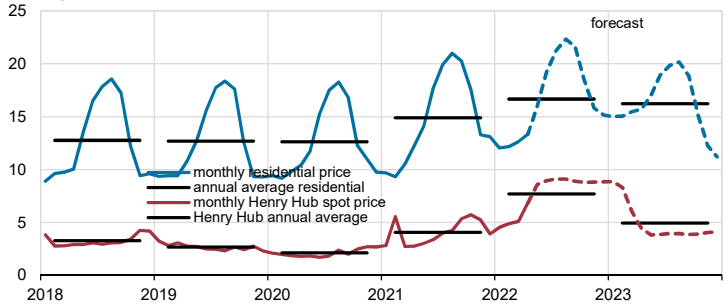


Note: Confidence interval derived from options market information for the five trading days ending May 5, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

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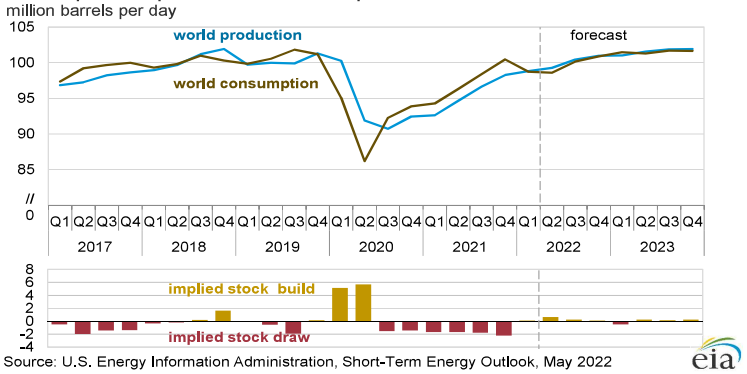
U.S. natural gas prices

dollars per thousand cubic feet



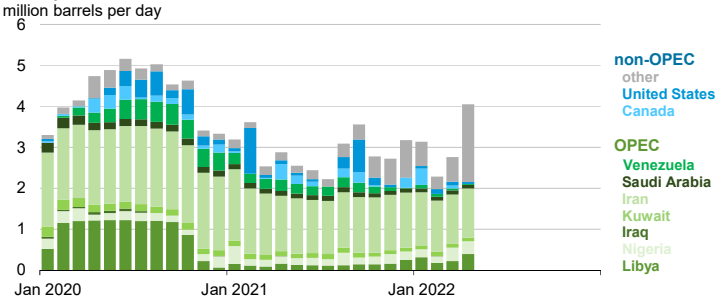
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022, and Refinitiv an LSEG Business

World liquid fuels production and consumption balance
million barrels per day



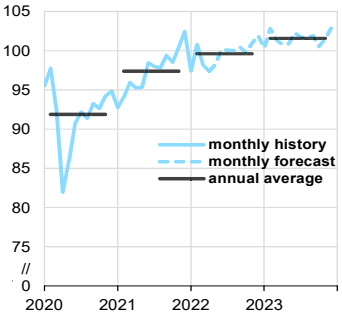
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day

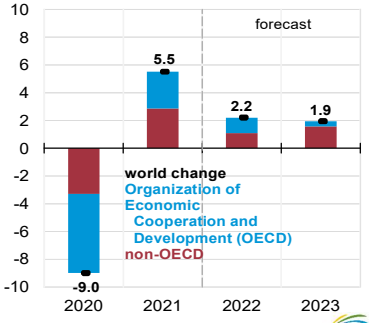


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

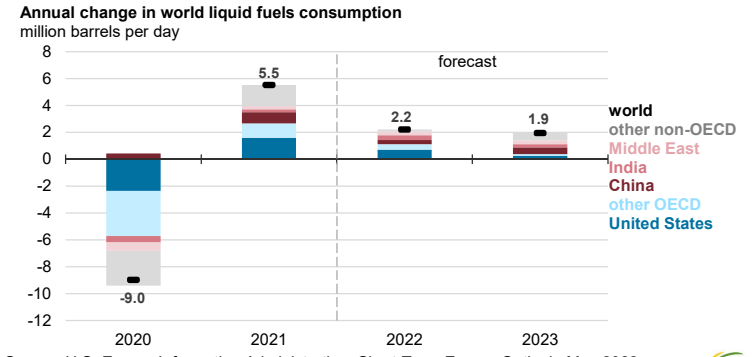
World liquid fuels consumption
million barrels per day



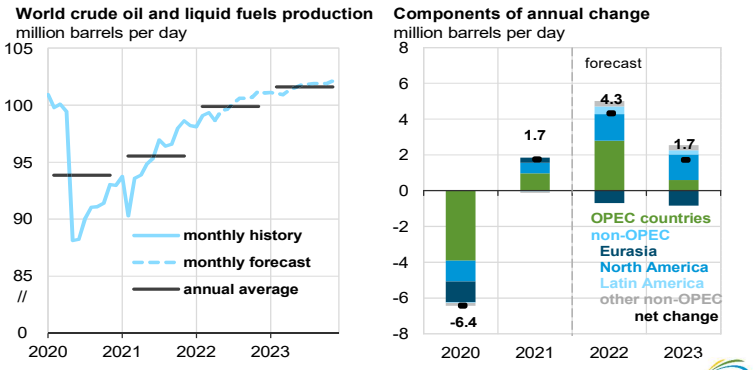
Components of annual change
million barrels per day



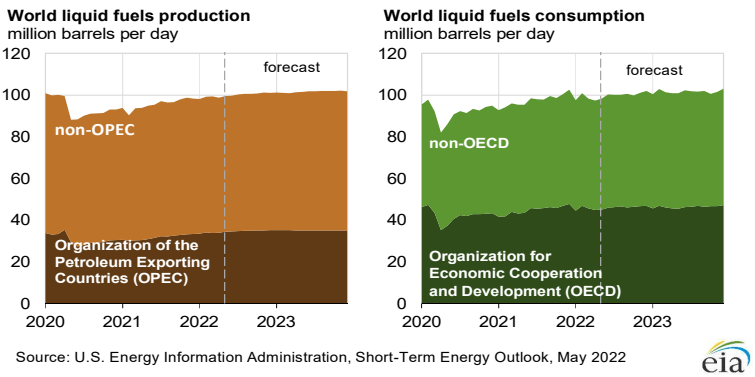
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

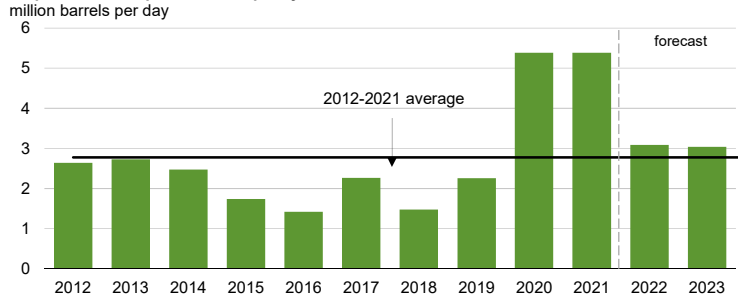


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



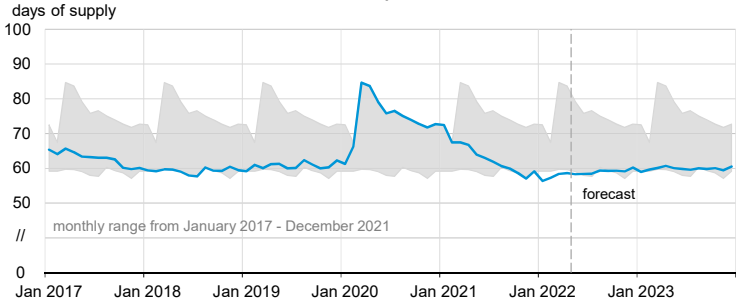
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day



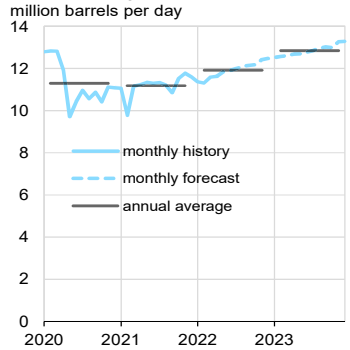
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply

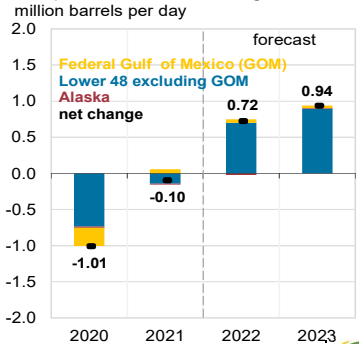


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. crude oil production
million barrels per day

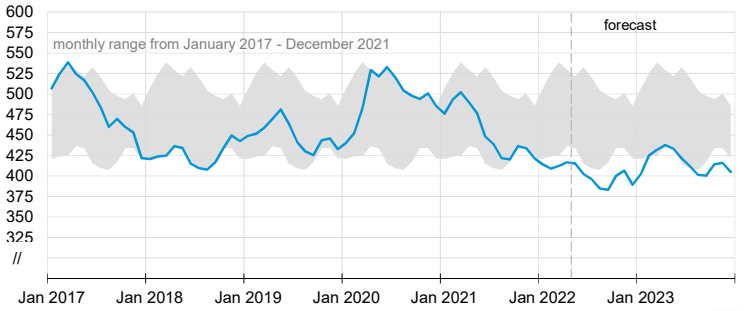


Components of annual change
million barrels per day



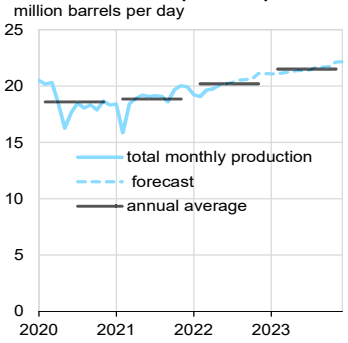
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. commercial crude oil inventories
million barrels

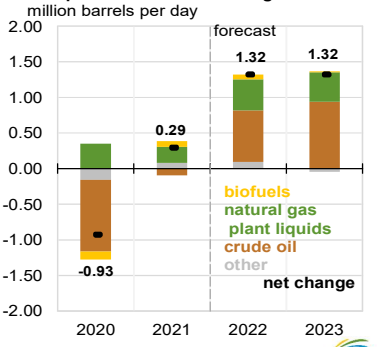


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. crude oil and liquid fuels production
million barrels per day

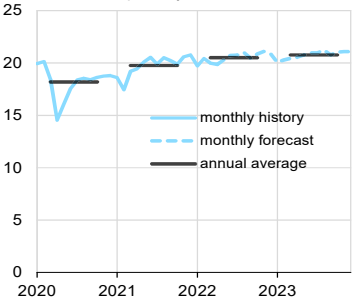


Components of annual change
million barrels per day

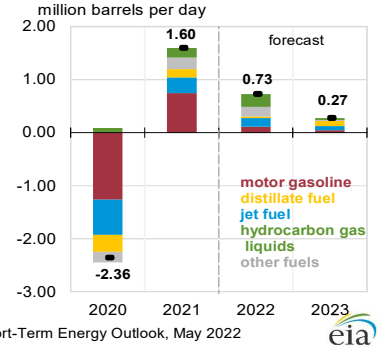


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. liquid fuels product supplied (consumption)
million barrels per day

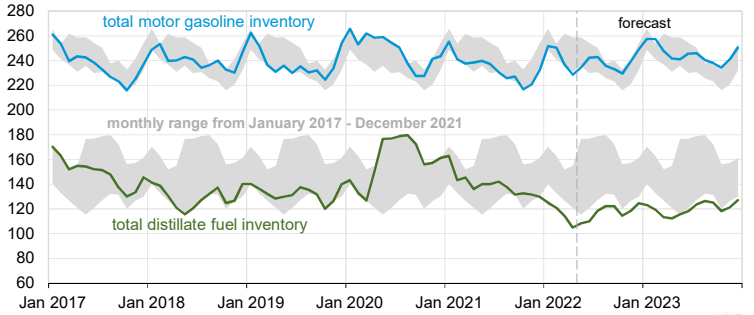


Components of annual change
million barrels per day



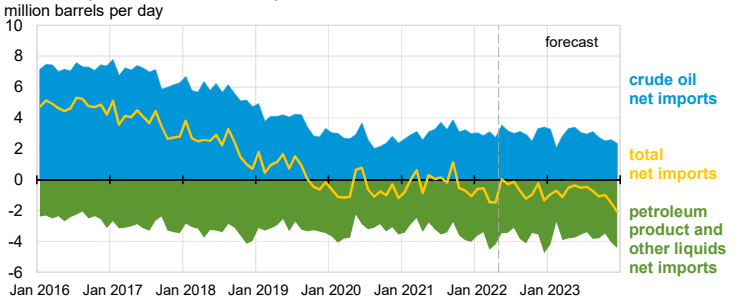
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. gasoline and distillate inventories
million barrels



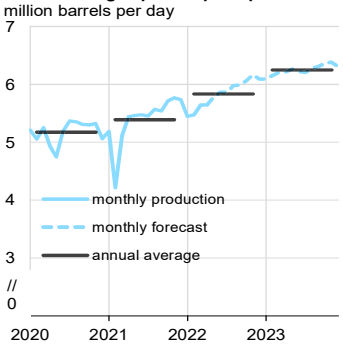
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

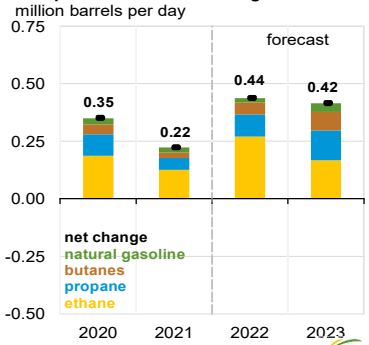


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

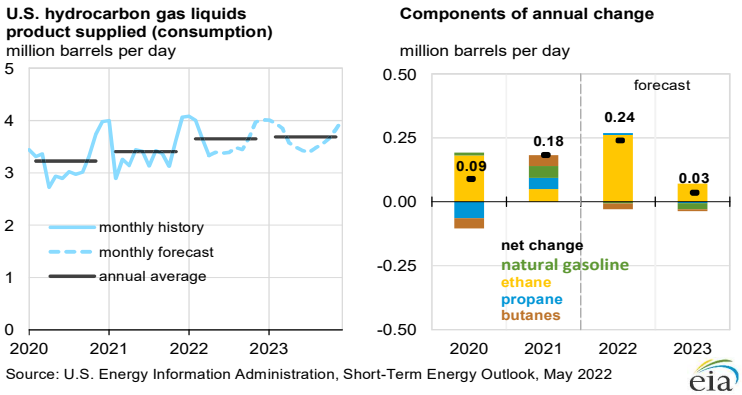
U.S. natural gas plant liquids production
million barrels per day



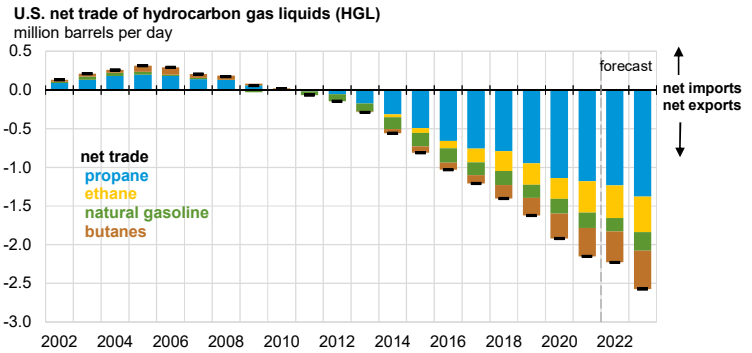
Components of annual change
million barrels per day



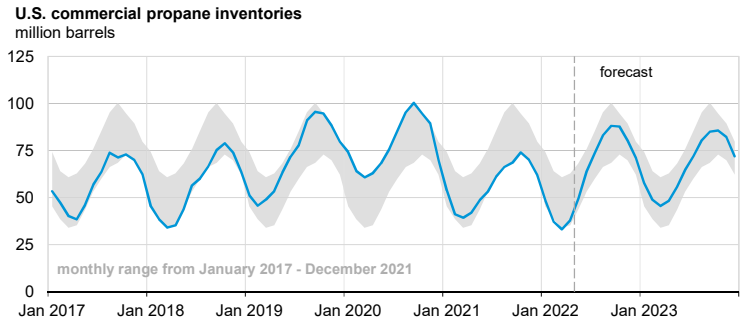
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



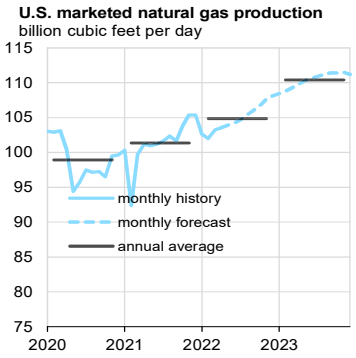
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

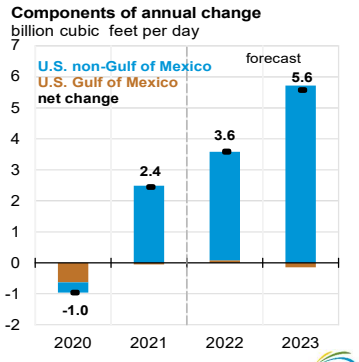


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

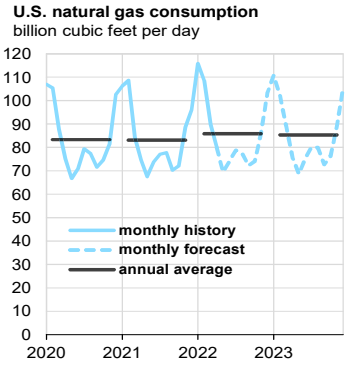


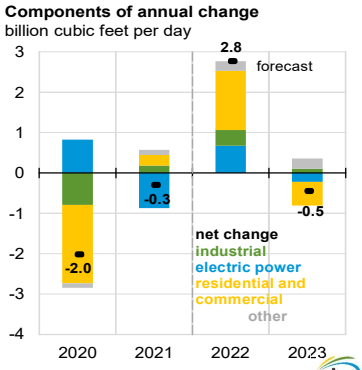
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



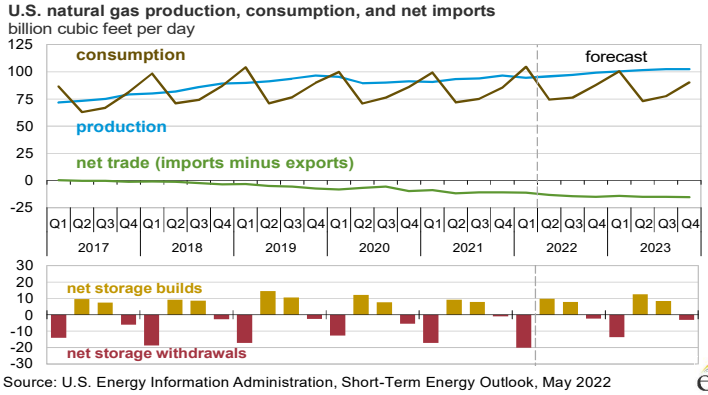


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



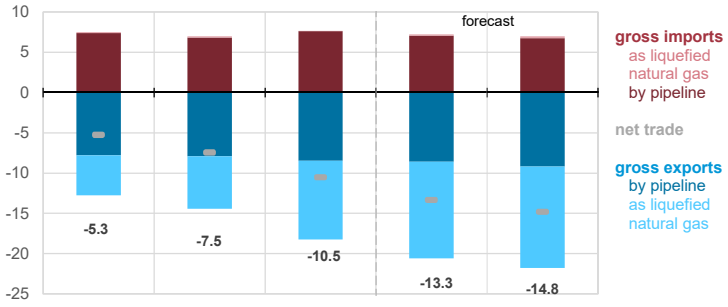


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



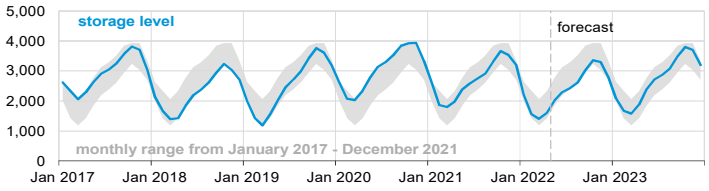
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. annual natural gas trade
billion cubic feet per day

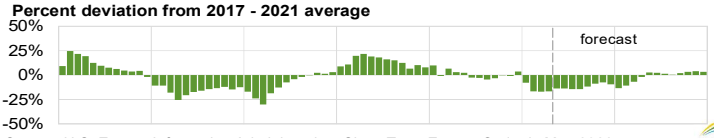


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. working natural gas in storage
billion cubic feet

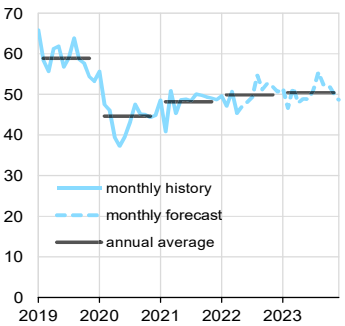


Percent deviation from 2017 - 2021 average

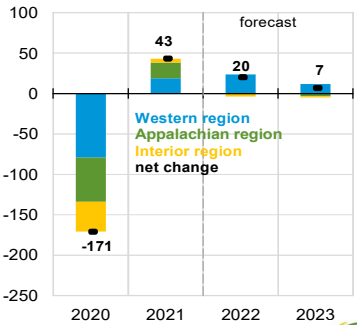


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

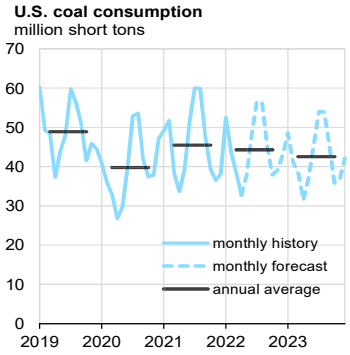
U.S. coal production
million short tons

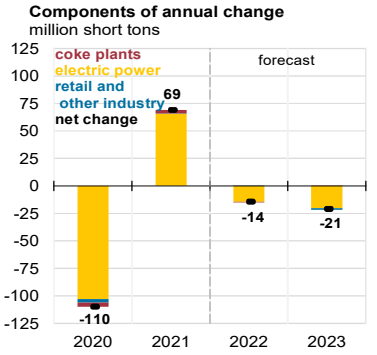


Components of annual change
million short tons

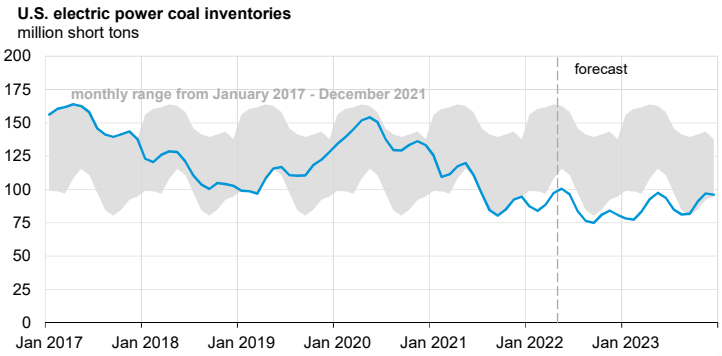


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

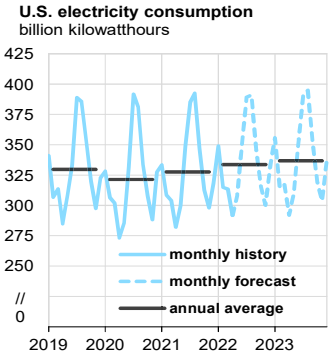


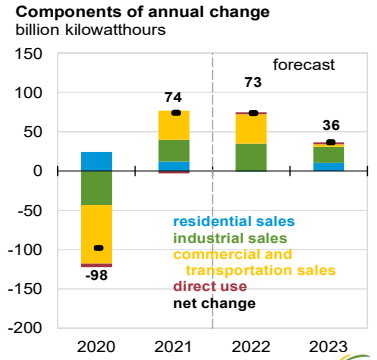


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



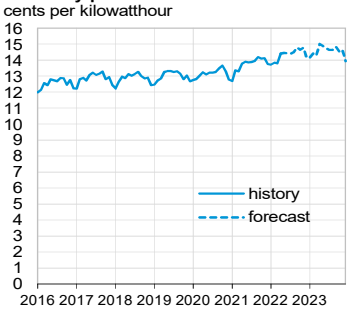
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



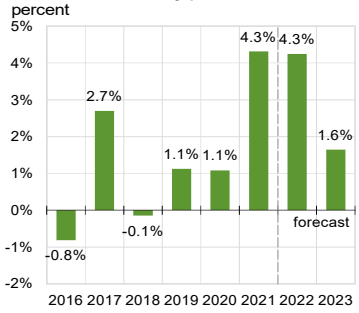


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. monthly nominal residential electricity price
cents per kilowatthour

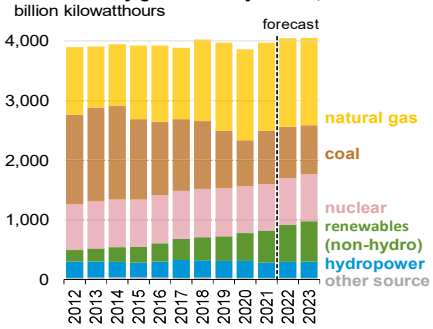


Annual growth in nominal residential electricity prices
percent

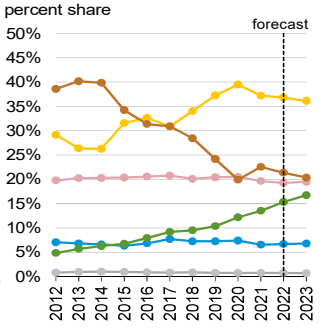


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

U.S. electricity generation by source, all sectors
billion kilowatthours

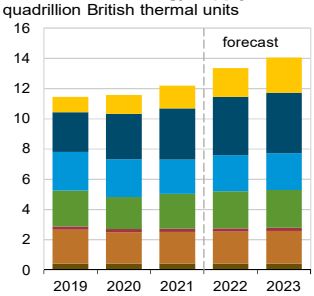


percent share

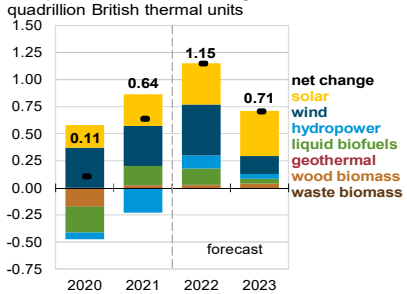


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

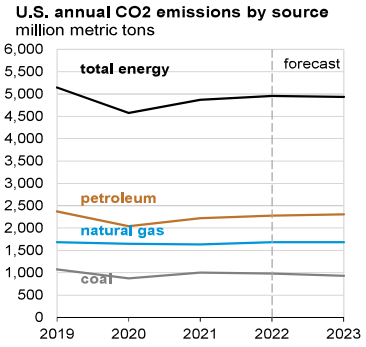
U.S. renewable energy supply
quadrillion British thermal units

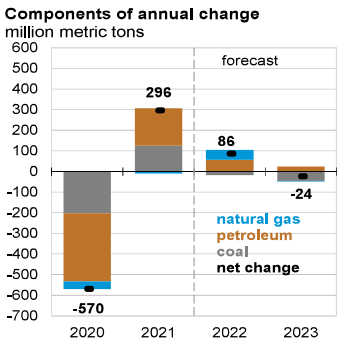


Components of annual change
quadrillion British thermal units

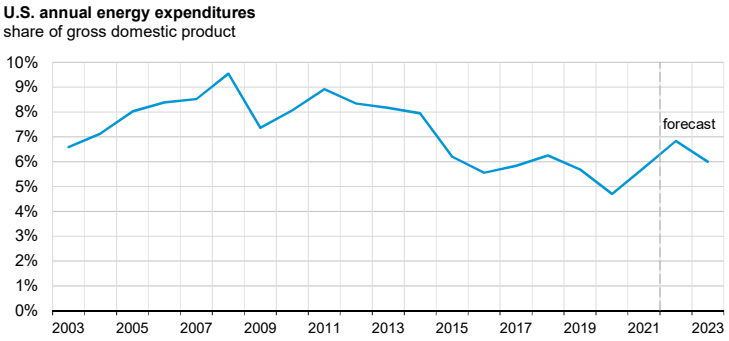


Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biommas includes municipal waste from biogenic sources, landfill gas, and non-wood waste.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

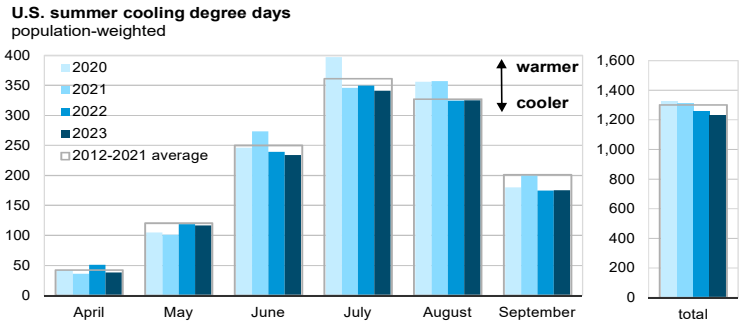




Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022

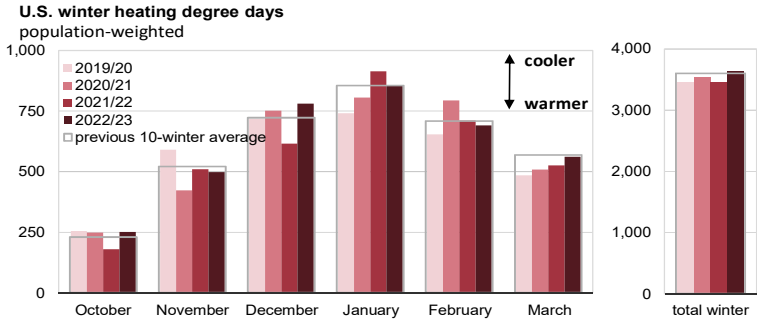


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



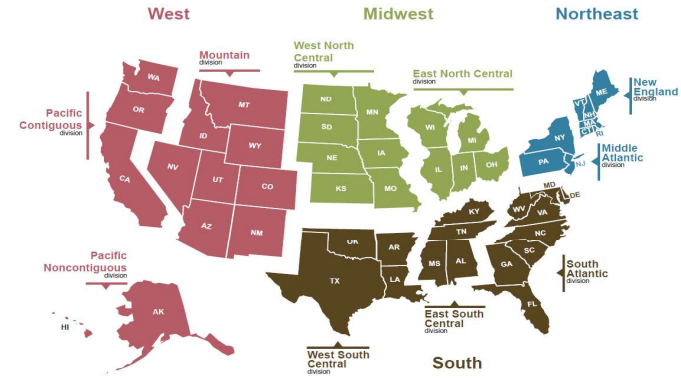
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2022



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.13**	**11.63**	**11.42**	*11.78*	*12.07*	*12.35*	*12.56*	*12.71*	*12.94*	*13.18*	**11.19**	*11.91*	*12.85*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.53**	**94.66**	*95.82*	*97.17*	*99.14*	*100.25*	*101.55*	*102.42*	*102.59*	**93.55**	*96.71*	*101.71*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**147**	*140*	*155*	*155*	*150*	*146*	*159*	*151*	**578**	*598*	*605*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.41**	**20.03**	*20.30*	*20.74*	*20.94*	*20.28*	*20.76*	*21.00*	*21.08*	**19.78**	*20.51*	*20.78*
Natural Gas															
(billion cubic feet per day)	**99.44**	**71.95**	**75.10**	**85.62**	**104.61**	*74.42*	*76.24*	*87.95*	*100.48*	*73.07*	*77.62*	*90.15*	**82.97**	*85.73*	*85.28*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	*119*	*158*	*120*	*128*	*114*	*153*	*115*	**546**	*531*	*510*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.86**	*10.45*	*12.25*	*10.31*	*10.98*	*10.49*	*12.36*	*10.43*	**10.77**	*10.97*	*11.07*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.16**	**2.95**	**3.14**	**3.33**	*3.53*	*3.21*	*3.28*	*3.48*	*3.73*	*3.39*	*3.45*	**12.21**	*13.35*	*14.06*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.05**	**23.16**	**24.54**	**24.57**	**26.18**	*23.73*	*24.88*	*25.21*	*26.09*	*23.90*	*25.25*	*25.61*	**97.33**	*100.00*	*100.84*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*101.76*	*98.83*	*96.99*	*95.30*	*92.65*	*92.00*	*93.00*	**68.21**	*98.20*	*93.24*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*7.83*	*8.69*	*8.48*	*7.44*	*3.89*	*3.77*	*3.86*	**3.91**	*7.42*	*4.74*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.15**	*2.02*	*1.89*	*1.88*	*1.95*	*1.97*	*1.96*	*1.93*	**1.98**	*1.98*	*1.95*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,809**	*19,931*	*20,084*	*20,257*	*20,409*	*20,568*	*20,725*	*20,870*	**19,427**	*20,020*	*20,643*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	**4.0**	*2.9*	*3.1*	*2.3*	*3.0*	*3.2*	*3.2*	*3.0*	**5.7**	*3.1*	*3.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.1**	*124.5*	*125.5*	*126.4*	*127.2*	*128.0*	*128.9*	*129.7*	**118.5**	*124.9*	*128.5*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**6.3**	*5.9*	*5.2*	*4.2*	*3.4*	*2.9*	*2.8*	*2.6*	**4.2**	*5.4*	*2.9*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,418**	**15,285**	*15,254*	*15,344*	*15,433*	*15,568*	*15,761*	*15,954*	*16,171*	**16,021**	*15,329*	*15,864*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**-0.2**	**-11.2**	*-3.5*	*-1.9*	*0.1*	*1.8*	*3.3*	*4.0*	*4.8*	**2.2**	*-4.3*	*3.5*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**99.7**	**101.0**	**102.4**	*104.6*	*105.8*	*107.3*	*108.5*	*109.9*	*111.3*	*112.2*	**99.2**	*105.0*	*110.5*
Percent change from prior year	**-0.2**	**17.2**	**5.8**	**4.5**	**5.2**	*6.0*	*6.2*	*6.2*	*6.0*	*5.1*	*5.2*	*4.6*	**6.5**	*5.9*	*5.2*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,306**	**2,150**	*516*	*75*	*1,530*	*2,108*	*491*	*76*	*1,528*	**3,936**	*4,271*	*4,203*
U.S. Cooling Degree-Days	**49**	**410**	**903**	**128**	**47**	*409*	*849*	*93*	*43*	*389*	*842*	*93*	**1,490**	*1,398*	*1,367*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*101.76*	*98.83*	*96.99*	*95.30*	*92.65*	*92.00*	*93.00*	**68.21**	*98.20*	*93.24*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	*106.57*	*103.98*	*101.66*	*99.30*	*96.65*	*96.00*	*97.00*	**70.89**	*103.35*	*97.24*
U.S. Imported Average	**55.27**	**64.80**	**68.38**	**73.62**	**89.95**	*99.27*	*96.27*	*94.24*	*92.72*	*89.94*	*89.25*	*90.25*	**65.88**	*94.99*	*90.48*
U.S. Refiner Average Acquisition Cost	**57.12**	**66.11**	**70.30**	**76.36**	**92.37**	*100.26*	*97.26*	*95.23*	*93.61*	*90.92*	*90.25*	*91.25*	**67.82**	*96.35*	*91.46*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**281**	*335*	*298*	*271*	*265*	*277*	*273*	*261*	**219**	*297*	*269*
Diesel Fuel	**178**	**204**	**219**	**241**	**305**	*434*	*378*	*322*	*296*	*281*	*281*	*289*	**211**	*360*	*286*
Fuel Oil	**162**	**180**	**197**	**222**	**299**	*421*	*358*	*309*	*286*	*267*	*266*	*278*	**188**	*342*	*278*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**289**	*422*	*373*	*317*	*293*	*274*	*275*	*284*	**195**	*351*	*281*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**235**	*242*	*233*	*227*	*238*	*231*	*230*	*232*	**190**	*234*	*233*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**370**	*416*	*381*	*359*	*347*	*357*	*355*	*343*	**302**	*382*	*351*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	*427*	*394*	*372*	*360*	*370*	*368*	*357*	**311**	*393*	*364*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**431**	*540*	*491*	*427*	*415*	*404*	*397*	*409*	**329**	*472*	*406*
Heating Oil	**272**	**283**	**297**	**346**	**416**	*524*	*464*	*420*	*399*	*372*	*359*	*370*	**300**	*438*	*382*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*8.13*	*9.03*	*8.81*	*7.73*	*4.04*	*3.92*	*4.01*	**4.06**	*7.70*	*4.93*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*7.83*	*8.69*	*8.48*	*7.44*	*3.89*	*3.77*	*3.86*	**3.91**	*7.42*	*4.74*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.11**	**6.86**	**6.80**	*8.06*	*9.69*	*9.98*	*9.82*	*5.92*	*4.99*	*5.29*	**5.50**	*8.55*	*6.54*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	**9.93**	*10.78*	*12.95*	*12.80*	*12.84*	*12.06*	*10.76*	*9.12*	**8.82**	*11.22*	*11.38*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.81**	**12.24**	*15.23*	*21.71*	*15.85*	*15.14*	*16.75*	*19.61*	*12.15*	**12.27**	*14.50*	*14.80*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.15**	*2.02*	*1.89*	*1.88*	*1.95*	*1.97*	*1.96*	*1.93*	**1.98**	*1.98*	*1.95*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.80**	*8.10*	*8.81*	*8.76*	*8.00*	*4.02*	*3.88*	*4.15*	**4.97**	*7.95*	*4.90*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.45**	*22.11*	*20.96*	*19.00*	*18.50*	*18.31*	*17.31*	*17.24*	**13.66**	*19.12*	*17.84*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**20.98**	*32.29*	*29.40*	*24.68*	*22.97*	*21.54*	*21.34*	*22.01*	**15.50**	*25.26*	*22.12*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.35**	*7.21*	*7.81*	*7.46*	*7.44*	*6.96*	*7.43*	*7.12*	**7.26**	*7.46*	*7.24*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.72**	*11.67*	*12.08*	*11.86*	*12.15*	*11.78*	*11.94*	*11.46*	**11.27**	*11.84*	*11.84*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.78**	*14.43*	*14.54*	*14.49*	*14.27*	*14.85*	*14.69*	*14.35*	**13.72**	*14.31*	*14.54*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.08**	**30.74**	**31.06**	**32.20**	**31.58**	*32.32*	*32.75*	*33.52*	*33.88*	*34.05*	*34.20*	*34.78*	**31.02**	*32.55*	*34.23*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.87**	**19.33**	*20.02*	*20.47*	*20.95*	*21.11*	*21.34*	*21.60*	*22.00*	**18.88**	*20.20*	*21.52*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.69**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.90*	*5.91*	**5.54**	*5.74*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	*1.92*	*1.90*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.90*	*1.85*
Other OECD	**4.92**	**4.37**	**4.73**	**4.72**	**4.65**	*4.72*	*4.63*	*4.86*	*4.94*	*4.96*	*4.88*	*5.07*	**4.68**	*4.72*	*4.96*
Non-OECD	**62.53**	**63.95**	**65.58**	**66.08**	**67.25**	*66.95*	*67.70*	*67.46*	*67.13*	*67.50*	*67.67*	*67.16*	**64.55**	*67.34*	*67.37*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*34.27*	*34.75*	*35.02*	*35.16*	*35.01*	*35.00*	*34.99*	**31.66**	*34.45*	*35.04*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	*28.83*	*29.27*	*29.50*	*29.60*	*29.58*	*29.52*	*29.47*	**26.28**	*28.95*	*29.54*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.34**	*12.75*	*12.55*	*12.52*	*12.43*	*12.19*	*12.08*	*12.06*	**13.70**	*13.03*	*12.19*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.19**	*5.05*	*5.05*	*5.09*	*5.07*	*5.10*	*5.09*	*5.14*	**4.99**	*5.09*	*5.10*
Other Non-OECD	**13.82**	**14.42**	**14.70**	**13.82**	**13.97**	*14.88*	*15.35*	*14.83*	*14.47*	*15.20*	*15.49*	*14.97*	**14.19**	*14.76*	*15.04*
Total World Production	**92.62**	**94.68**	**96.63**	**98.28**	**98.83**	*99.27*	*100.45*	*100.98*	*101.01*	*101.55*	*101.87*	*101.94*	**95.57**	*99.89*	*101.60*
Non-OPEC Production	**62.27**	**63.81**	**64.35**	**65.17**	**65.08**	*65.00*	*65.70*	*65.96*	*65.85*	*66.54*	*66.87*	*66.95*	**63.91**	*65.44*	*66.56*
Consumption (million barrels per day) (c)															
OECD	**42.45**	**44.08**	**45.82**	**46.80**	**45.64**	*45.23*	*46.22*	*46.61*	*46.13*	*45.73*	*46.52*	*46.81*	**44.80**	*45.93*	*46.30*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	**20.03**	*20.30*	*20.74*	*20.94*	*20.28*	*20.76*	*21.00*	*21.08*	**19.78**	*20.51*	*20.78*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	*0.20*	*0.20*	*0.21*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.36**	*2.38*	*2.51*	*2.48*	*2.47*	*2.41*	*2.52*	*2.49*	**2.35**	*2.43*	*2.47*
Europe	**11.91**	**12.62**	**13.83**	**13.88**	**13.02**	*13.22*	*13.55*	*13.26*	*13.16*	*13.18*	*13.58*	*13.34*	**13.07**	*13.26*	*13.32*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.83**	*3.13*	*3.19*	*3.52*	*3.80*	*3.13*	*3.16*	*3.47*	**3.42**	*3.41*	*3.39*
Other OECD	**5.89**	**5.92**	**5.90**	**6.23**	**6.18**	*6.00*	*6.03*	*6.19*	*6.20*	*6.04*	*6.06*	*6.21*	**5.99**	*6.10*	*6.13*
Non-OECD	**51.83**	**52.25**	**52.58**	**53.69**	**53.09**	*53.37*	*53.96*	*54.28*	*55.35*	*55.58*	*55.21*	*54.87*	**52.59**	*53.68*	*55.25*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.44**	*4.30*	*4.67*	*4.60*	*4.29*	*4.44*	*4.75*	*4.67*	**4.86**	*4.50*	*4.54*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.75**	*0.75*	*0.76*	*0.76*	*0.75*	*0.77*	*0.77*	*0.77*	**0.75**	*0.75*	*0.77*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.34**	*15.46*	*15.56*	*15.88*	*16.47*	*16.37*	*15.73*	*15.65*	**15.27**	*15.56*	*16.05*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.83**	*13.90*	*13.52*	*13.94*	*14.57*	*14.55*	*13.96*	*14.26*	**13.23**	*13.80*	*14.33*
Other Non-OECD	**17.73**	**18.32**	**18.92**	**18.96**	**18.73**	*18.97*	*19.46*	*19.09*	*19.26*	*19.46*	*19.99*	*19.52*	**18.49**	*19.06*	*19.56*
Total World Consumption	**94.28**	**96.33**	**98.40**	**100.48**	**98.73**	*98.60*	*100.18*	*100.88*	*101.47*	*101.31*	*101.73*	*101.68*	**97.39**	*99.61*	*101.55*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	**0.82**	*0.38*	*0.73*	*0.69*	*-0.11*	*-0.33*	*-0.07*	*0.43*	**0.53**	*0.66*	*-0.02*
Other OECD	**0.87**	**0.16**	**0.96**	**0.69**	**-0.32**	*-0.34*	*-0.32*	*-0.26*	*0.18*	*0.03*	*-0.02*	*-0.22*	**0.67**	*-0.31*	*-0.01*
Other Stock Draws and Balance	**0.33**	**0.98**	**0.44**	**0.75**	**-0.60**	*-0.71*	*-0.68*	*-0.54*	*0.39*	*0.06*	*-0.05*	*-0.47*	**0.62**	*-0.63*	*-0.02*
Total Stock Draw	**1.66**	**1.65**	**1.77**	**2.21**	**-0.10**	*-0.67*	*-0.27*	*-0.10*	*0.47*	*-0.24*	*-0.14*	*-0.27*	**1.82**	*-0.28*	*-0.05*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	**1,149**	*1,194*	*1,216*	*1,190*	*1,204*	*1,241*	*1,250*	*1,221*	**1,194**	*1,190*	*1,221*
OECD Commercial Inventory	**2,908**	**2,864**	**2,745**	**2,634**	**2,619**	*2,694*	*2,746*	*2,744*	*2,740*	*2,776*	*2,787*	*2,778*	**2,634**	*2,744*	*2,778*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.33**	**27.48**	**26.94**	*27.60*	*28.11*	*28.66*	*28.94*	*29.09*	*29.33*	*29.71*	**26.34**	*27.83*	*29.27*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.69**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.90*	*5.91*	**5.54**	*5.74*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	*1.92*	*1.90*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.90*	*1.85*
United States	**17.62**	**19.05**	**18.94**	**19.87**	**19.33**	*20.02*	*20.47*	*20.95*	*21.11*	*21.34*	*21.60*	*22.00*	**18.88**	*20.20*	*21.52*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.85**	*6.69*	*7.14*	*6.61*	*6.25*	*7.03*	*7.35*	*6.84*	**6.10**	*6.58*	*6.87*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.75**	*0.74*	*0.77*	*0.79*	*0.80*	*0.78*	*0.81*	*0.83*	**0.70**	*0.76*	*0.81*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.36**	*4.10*	*4.47*	*3.89*	*3.49*	*4.28*	*4.57*	*4.02*	**3.69**	*3.96*	*4.09*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	*0.75*	*0.74*	*0.73*	*0.69*	*0.67*	*0.66*	*0.65*	**0.76**	*0.75*	*0.67*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	*0.53*	*0.53*	*0.53*	*0.54*	*0.56*	*0.58*	*0.60*	**0.48**	*0.52*	*0.57*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.48**	*0.57*	*0.63*	*0.68*	*0.73*	*0.73*	*0.73*	*0.73*	**0.47**	*0.59*	*0.73*
Europe	**4.34**	**3.83**	**4.12**	**4.13**	**4.09**	*4.13*	*4.05*	*4.28*	*4.36*	*4.38*	*4.30*	*4.51*	**4.10**	*4.14*	*4.39*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.98**	*2.04*	*2.05*	*2.20*	*2.31*	*2.32*	*2.32*	*2.42*	**2.03**	*2.07*	*2.34*
United Kingdom	**1.08**	**0.81**	**0.92**	**0.93**	**0.98**	*0.97*	*0.86*	*0.94*	*0.93*	*0.92*	*0.84*	*0.94*	**0.94**	*0.94*	*0.91*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.34**	*12.75*	*12.55*	*12.52*	*12.43*	*12.19*	*12.08*	*12.06*	**13.70**	*13.03*	*12.19*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	*0.72*	*0.73*	*0.72*	*0.72*	*0.69*	*0.68*	*0.70*	**0.72**	*0.72*	*0.70*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	*1.75*	*1.91*	*2.01*	*2.03*	*1.93*	*1.94*	*2.01*	**1.87**	*1.92*	*1.98*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	*9.92*	*9.54*	*9.43*	*9.31*	*9.20*	*9.09*	*8.99*	**10.78**	*10.04*	*9.15*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.24**	**0.23**	*0.23*	*0.23*	*0.23*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.23*	*0.24*
Other Eurasia	**0.10**	**0.10**	**0.10**	**0.10**	**0.12**	*0.13*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	**0.10**	*0.13*	*0.13*
Middle East	**3.10**	**3.13**	**3.17**	**3.18**	**3.22**	*3.25*	*3.24*	*3.24*	*3.23*	*3.23*	*3.23*	*3.22*	**3.15**	*3.24*	*3.23*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.04**	*1.05*	*1.05*	*1.05*	*1.04*	*1.04*	*1.04*	*1.04*	**0.98**	*1.05*	*1.04*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.95**	**9.25**	*9.16*	*9.18*	*9.22*	*9.20*	*9.19*	*9.17*	*9.19*	**9.07**	*9.20*	*9.19*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.45**	*0.48*	*0.48*	*0.48*	*0.47*	*0.46*	*0.45*	*0.45*	**0.46**	*0.47*	*0.46*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.19**	*5.05*	*5.05*	*5.09*	*5.07*	*5.10*	*5.09*	*5.14*	**4.99**	*5.09*	*5.10*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.90**	*0.89*	*0.90*	*0.90*	*0.90*	*0.88*	*0.88*	*0.88*	**0.89**	*0.90*	*0.89*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.85**	*0.86*	*0.85*	*0.85*	*0.84*	*0.84*	*0.83*	*0.82*	**0.86**	*0.85*	*0.83*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.62**	*0.60*	*0.63*	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	**0.61**	*0.62*	*0.64*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.20**	*0.20*	*0.19*	*0.18*	*0.18*	*0.18*	*0.17*	*0.17*	**0.21**	*0.19*	*0.18*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.39**	*1.42*	*1.43*	*1.43*	*1.43*	*1.43*	*1.42*	*1.42*	**1.44**	*1.42*	*1.42*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.66**	*0.66*	*0.66*	*0.66*	*0.66*	*0.66*	*0.66*	*0.66*	**0.66**	*0.66*	*0.66*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	*0.17*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.17*	*0.19*
Total non-OPEC liquids	**62.27**	**63.81**	**64.35**	**65.17**	**65.08**	*65.00*	*65.70*	*65.96*	*65.85*	*66.54*	*66.87*	*66.95*	**63.91**	*65.44*	*66.56*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Non-OPEC + OPEC non-crude	**67.54**	**69.19**	**69.79**	**70.61**	**70.64**	*70.43*	*71.18*	*71.48*	*71.41*	*71.98*	*72.35*	*72.47*	**69.29**	*70.94*	*72.06*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	-	-	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.95**	**0.97**	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	-	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	-	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	-	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	-	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	-	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	-	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	-	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	-	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	-	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	-	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	-	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	*28.83*	*29.27*	*29.50*	*29.60*	*29.58*	*29.52*	*29.47*	**26.28**	*28.95*	*29.54*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*34.27*	*34.75*	*35.02*	*35.16*	*35.01*	*35.00*	*34.99*	**31.66**	*34.45*	*35.04*
Crude Oil Production Capacity															
Middle East	**25.26**	**25.55**	**25.55**	**25.53**	**25.58**	*25.63*	*25.72*	*25.82*	*26.02*	*26.12*	*26.17*	*26.17*	**25.47**	*25.69*	*26.12*
Other	**6.18**	**6.19**	**6.16**	**6.25**	**6.14**	*6.28*	*6.49*	*6.47*	*6.48*	*6.48*	*6.45*	*6.42*	**6.19**	*6.34*	*6.46*
OPEC Total	**31.44**	**31.73**	**31.70**	**31.78**	**31.72**	*31.91*	*32.21*	*32.29*	*32.50*	*32.60*	*32.62*	*32.59*	**31.66**	*32.03*	*32.58*
Surplus Crude Oil Production Capacity															
Middle East	**5.71**	**5.57**	**4.26**	**3.58**	**3.10**	*2.79*	*2.74*	*2.60*	*2.70*	*2.80*	*2.85*	*2.85*	**4.77**	*2.81*	*2.80*
Other	**0.65**	**0.68**	**0.60**	**0.54**	**0.43**	*0.28*	*0.20*	*0.19*	*0.20*	*0.23*	*0.25*	*0.27*	**0.62**	*0.27*	*0.23*
OPEC Total	**6.36**	**6.24**	**4.86**	**4.11**	**3.53**	*3.07*	*2.94*	*2.79*	*2.90*	*3.03*	*3.10*	*3.12*	**5.39**	*3.08*	*3.04*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	-	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.34**	**23.92**	**24.31**	**24.54**	**24.04**	*24.34*	*24.90*	*25.08*	*24.38*	*24.83*	*25.17*	*25.24*	**23.78**	*24.59*	*24.91*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.36**	*2.38*	*2.51*	*2.48*	*2.47*	*2.41*	*2.52*	*2.49*	**2.35**	*2.43*	*2.47*
Mexico	**1.62**	**1.64**	**1.60**	**1.71**	**1.64**	*1.65*	*1.64*	*1.65*	*1.62*	*1.64*	*1.64*	*1.66*	**1.64**	*1.64*	*1.64*
United States	**18.45**	**20.03**	**20.21**	**20.41**	**20.03**	*20.30*	*20.74*	*20.94*	*20.28*	*20.76*	*21.00*	*21.08*	**19.78**	*20.51*	*20.78*
Central and South America	**5.91**	**6.05**	**6.27**	**6.39**	**6.16**	*6.24*	*6.35*	*6.36*	*6.24*	*6.37*	*6.48*	*6.41*	**6.16**	*6.28*	*6.37*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.92**	*2.93*	*3.01*	*3.01*	*2.93*	*2.99*	*3.06*	*3.04*	**2.96**	*2.97*	*3.01*
Europe	**12.65**	**13.36**	**14.57**	**14.64**	**13.77**	*13.97*	*14.30*	*14.02*	*13.91*	*13.94*	*14.35*	*14.12*	**13.81**	*14.02*	*14.08*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.44**	*4.30*	*4.67*	*4.60*	*4.29*	*4.44*	*4.75*	*4.67*	**4.86**	*4.50*	*4.54*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.25**	*3.17*	*3.45*	*3.37*	*3.14*	*3.22*	*3.50*	*3.36*	**3.61**	*3.31*	*3.31*
Middle East	**8.08**	**8.50**	**9.03**	**8.77**	**8.76**	*8.85*	*9.32*	*8.73*	*9.06*	*9.10*	*9.62*	*9.03*	**8.60**	*8.91*	*9.20*
Asia and Oceania	**36.27**	**35.38**	**34.83**	**36.71**	**37.09**	*36.37*	*36.18*	*37.44*	*38.98*	*37.99*	*36.81*	*37.49*	**35.80**	*36.77*	*37.81*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.34**	*15.46*	*15.56*	*15.88*	*16.47*	*16.37*	*15.73*	*15.65*	**15.27**	*15.56*	*16.05*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.83**	*3.13*	*3.19*	*3.52*	*3.80*	*3.13*	*3.16*	*3.47*	**3.42**	*3.41*	*3.39*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	*5.09*	*4.77*	*5.06*	*5.29*	*5.36*	*5.01*	*5.32*	**4.65**	*5.00*	*5.25*
Africa	**4.37**	**4.39**	**4.30**	**4.48**	**4.48**	*4.53*	*4.45*	*4.65*	*4.63*	*4.64*	*4.56*	*4.72*	**4.39**	*4.53*	*4.64*
Total OECD Liquid Fuels Consumption	**42.45**	**44.08**	**45.82**	**46.80**	**45.64**	*45.23*	*46.22*	*46.61*	*46.13*	*45.73*	*46.52*	*46.81*	**44.80**	*45.93*	*46.30*
Total non-OECD Liquid Fuels Consumption	**51.83**	**52.25**	**52.58**	**53.69**	**53.09**	*53.37*	*53.96*	*54.28*	*55.35*	*55.58*	*55.21*	*54.87*	**52.59**	*53.68*	*55.25*
Total World Liquid Fuels Consumption	**94.28**	**96.33**	**98.40**	**100.48**	**98.73**	*98.60*	*100.18*	*100.88*	*101.47*	*101.31*	*101.73*	*101.68*	**97.39**	*99.61*	*101.55*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.3**	**117.5**	**118.9**	**120.6**	**120.8**	*121.8*	*122.8*	*123.9*	*124.9*	*126.1*	*127.3*	*128.4*	**118.3**	*122.3*	*126.6*
Percent change from prior year	**3.3**	**11.6**	**4.9**	**4.6**	**3.9**	*3.7*	*3.3*	*2.8*	*3.4*	*3.5*	*3.7*	*3.6*	**6.0**	*3.4*	*3.5*
OECD Index, 2015 = 100													**109.5**	*112.8*	*115.4*
Percent change from prior year													**5.5**	*3.0*	*2.4*
Non-OECD Index, 2015 = 100													**123.7**	*128.3*	*134.0*
Percent change from prior year													**6.4**	*3.7*	*4.5*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	*110.1*	*110.6*	*110.8*	*110.6*	*110.3*	*110.0*	*109.6*	**107.3**	*110.3*	*110.1*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	*3.8*	*2.9*	*1.6*	*1.0*	*0.2*	*-0.6*	*-1.1*	**-3.9**	*2.8*	*-0.1*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.63**	**11.42**	*11.78*	*12.07*	*12.35*	*12.56*	*12.71*	*12.94*	*13.18*	**11.19**	*11.91*	*12.85*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	*0.38*	*0.40*	*0.42*	*0.44*	*0.39*	*0.41*	*0.45*	**0.44**	*0.41*	*0.42*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.73**	**1.69**	*1.79*	*1.74*	*1.77*	*1.84*	*1.82*	*1.74*	*1.73*	**1.70**	*1.75*	*1.78*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.46**	**9.29**	*9.61*	*9.94*	*10.16*	*10.29*	*10.51*	*10.78*	*11.00*	**9.05**	*9.75*	*10.65*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	**2.99**	*3.12*	*3.00*	*3.06*	*2.72*	*3.24*	*2.93*	*2.47*	**3.13**	*3.04*	*2.84*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.32**	*0.88*	*0.98*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.65*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	**0.10**	*0.11*	*0.21*	*-0.07*	*-0.47*	*0.12*	*0.23*	*-0.05*	**0.18**	*0.09*	*-0.04*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.54**	**0.70**	*0.48*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.53**	*0.39*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	**15.54**	*16.37*	*16.49*	*15.91*	*15.07*	*16.37*	*16.34*	*15.87*	**15.15**	*16.08*	*15.92*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.98**	*1.08*	*1.06*	*1.06*	*1.03*	*0.98*	*0.99*	*1.01*	**0.95**	*1.04*	*1.00*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	**5.52**	*5.76*	*5.94*	*6.10*	*6.15*	*6.23*	*6.26*	*6.35*	**5.40**	*5.83*	*6.25*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	**1.19**	*1.17*	*1.18*	*1.21*	*1.16*	*1.20*	*1.19*	*1.25*	**1.12**	*1.19*	*1.20*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.03**	*0.98*	*1.00*	*1.01*	*0.97*	*0.99*	*0.99*	*1.02*	**0.98**	*1.01*	*0.99*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	**0.21**	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.21*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	**-3.87**	*-3.69*	*-3.69*	*-3.92*	*-3.66*	*-3.71*	*-3.68*	*-3.98*	**-3.29**	*-3.79*	*-3.76*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	**-2.09**	*-2.16*	*-2.26*	*-2.40*	*-2.51*	*-2.54*	*-2.62*	*-2.63*	**-2.15**	*-2.23*	*-2.57*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	**0.13**	*0.34*	*0.36*	*0.21*	*0.19*	*0.22*	*0.36*	*0.22*	**0.17**	*0.26*	*0.24*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	**-0.08**	*-0.02*	*-0.04*	*-0.02*	*-0.03*	*-0.02*	*-0.02*	*-0.01*	**-0.05**	*-0.04*	*-0.02*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	**0.33**	*0.79*	*0.43*	*0.21*	*0.38*	*0.58*	*0.39*	*0.41*	**0.60**	*0.44*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	**-0.81**	*-0.77*	*-0.67*	*-0.52*	*-0.63*	*-0.52*	*-0.44*	*-0.68*	**-0.71**	*-0.69*	*-0.57*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	**-0.05**	*-0.09*	*-0.01*	*-0.04*	*-0.03*	*0.04*	*0.08*	*0.05*	**0.05**	*-0.05*	*0.04*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	**-0.88**	*-1.25*	*-1.03*	*-0.94*	*-0.63*	*-1.02*	*-0.96*	*-0.94*	**-0.80**	*-1.03*	*-0.89*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	**0.13**	*0.11*	*0.03*	*0.09*	*-0.01*	*0.02*	*-0.01*	*0.08*	**0.09**	*0.09*	*0.02*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	**-0.55**	*-0.63*	*-0.50*	*-0.51*	*-0.39*	*-0.47*	*-0.45*	*-0.48*	**-0.49**	*-0.55*	*-0.45*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	**0.40**	*-0.60*	*-0.46*	*0.35*	*0.32*	*-0.53*	*-0.32*	*0.37*	**0.23**	*-0.08*	*-0.04*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	**19.98**	*20.30*	*20.74*	*20.94*	*20.28*	*20.76*	*21.00*	*21.08*	**19.78**	*20.49*	*20.78*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	**3.91**	*3.37*	*3.44*	*3.88*	*3.93*	*3.50*	*3.47*	*3.83*	**3.41**	*3.65*	*3.68*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	**0.14**	*0.18*	*0.17*	*0.22*	*0.21*	*0.21*	*0.19*	*0.25*	**0.13**	*0.18*	*0.21*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	**0.08**	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.00**	*0.02*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	**8.38**	*9.04*	*9.20*	*9.01*	*8.47*	*9.12*	*9.21*	*9.02*	**8.80**	*8.91*	*8.95*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	**0.88**	*0.94*	*0.93*	*0.93*	*0.86*	*0.94*	*0.94*	*0.94*	**0.91**	*0.92*	*0.92*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	**1.44**	*1.53*	*1.58*	*1.57*	*1.49*	*1.63*	*1.68*	*1.64*	**1.37**	*1.53*	*1.61*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	**4.08**	*3.85*	*3.91*	*4.06*	*4.14*	*4.04*	*4.01*	*4.10*	**3.94**	*3.97*	*4.07*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	**0.33**	*0.31*	*0.30*	*0.30*	*0.25*	*0.26*	*0.27*	*0.29*	**0.31**	*0.31*	*0.27*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	**1.67**	*2.03*	*2.14*	*1.90*	*1.79*	*2.06*	*2.18*	*1.94*	**1.82**	*1.94*	*1.99*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	**20.03**	*20.30*	*20.74*	*20.94*	*20.28*	*20.76*	*21.00*	*21.08*	**19.78**	*20.51*	*20.78*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	**-0.88**	*-0.57*	*-0.69*	*-0.86*	*-0.94*	*-0.46*	*-0.76*	*-1.52*	**-0.16**	*-0.75*	*-0.92*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	**412.4**	*402.4*	*383.1*	*389.4*	*432.0*	*421.2*	*400.3*	*405.0*	**421.4**	*389.4*	*405.0*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	**138.1**	*192.5*	*238.3*	*193.6*	*156.9*	*206.7*	*245.8*	*204.2*	**188.4**	*193.6*	*204.2*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	**87.8**	*88.7*	*89.4*	*82.9*	*92.3*	*89.8*	*89.4*	*82.5*	**80.3**	*82.9*	*82.5*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	**33.4**	*30.6*	*30.3*	*30.6*	*32.7*	*31.4*	*31.2*	*31.4*	**28.6**	*30.6*	*31.4*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	**236.8**	*242.4*	*233.1*	*249.0*	*247.7*	*245.5*	*237.9*	*250.4*	**232.2**	*249.0*	*250.4*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	**16.5**	*21.8*	*23.7*	*27.0*	*23.5*	*24.3*	*25.4*	*27.9*	**17.7**	*27.0*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	**220.3**	*220.5*	*209.4*	*222.0*	*224.2*	*221.2*	*212.5*	*222.5*	**214.5**	*222.0*	*222.5*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	**35.4**	*37.0*	*40.2*	*37.5*	*37.4*	*38.5*	*41.1*	*38.1*	**35.8**	*37.5*	*38.1*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	**114.3**	*110.0*	*122.2*	*124.5*	*113.2*	*118.2*	*125.1*	*127.1*	**129.9**	*124.5*	*127.1*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	**28.8**	*30.4*	*29.4*	*30.9*	*30.5*	*31.3*	*29.9*	*31.4*	**25.4**	*30.9*	*31.4*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	**62.0**	*59.7*	*50.4*	*51.8*	*61.0*	*58.8*	*49.6*	*50.9*	**51.8**	*51.8*	*50.9*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	**1148.9**	*1193.7*	*1216.4*	*1190.2*	*1203.7*	*1241.4*	*1250.2*	*1220.9*	**1193.8**	*1190.2*	*1220.9*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**564.6**	*484.9*	*394.9*	*357.1*	*353.3*	*345.5*	*342.9*	*332.4*	**593.7**	*357.1*	*332.4*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor) STF 3-12

U.S. Energy Information Administration

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.32**	**2.27**	*2.38*	*2.45*	*2.54*	*2.57*	*2.59*	*2.55*	*2.60*	**2.14**	*2.41*	*2.58*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	**1.75**	*1.80*	*1.85*	*1.91*	*1.94*	*1.94*	*1.96*	*2.00*	**1.73**	*1.83*	*1.96*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	**0.92**	*0.96*	*0.99*	*1.01*	*1.02*	*1.04*	*1.06*	*1.08*	**0.92**	*0.97*	*1.05*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	**0.58**	*0.62*	*0.66*	*0.64*	*0.63*	*0.66*	*0.69*	*0.67*	**0.61**	*0.63*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.28**	*0.29*	*0.31*	*0.30*	*0.29*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	*0.29*	*0.28*	*0.28*	*0.27*	*0.28*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.06**	*0.26*	*0.19*	*-0.19*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.47**	**-0.45**	*-0.40*	*-0.40*	*-0.44*	*-0.46*	*-0.46*	*-0.46*	*-0.46*	**-0.40**	*-0.42*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.20**	**-1.14**	*-1.15*	*-1.26*	*-1.38*	*-1.38*	*-1.31*	*-1.37*	*-1.44*	**-1.18**	*-1.23*	*-1.38*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.34**	**-0.31**	*-0.43*	*-0.44*	*-0.41*	*-0.44*	*-0.53*	*-0.54*	*-0.48*	**-0.37**	*-0.40*	*-0.50*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.19**	*-0.18*	*-0.17*	*-0.16*	*-0.22*	*-0.24*	*-0.25*	*-0.24*	**-0.20**	*-0.18*	*-0.24*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.52**	**0.44**	*0.29*	*0.32*	*0.50*	*0.41*	*0.28*	*0.31*	*0.51*	**0.38**	*0.39*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.18**	*0.18*	*0.19*	*0.19*	*0.18*	*0.19*	*0.19*	*0.18*	**0.17**	*0.18*	*0.19*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.90**	**2.00**	*2.01*	*2.03*	*2.08*	*2.10*	*2.08*	*2.10*	*2.13*	**1.77**	*2.03*	*2.10*
Propane	**1.09**	**0.65**	**0.66**	**0.96**	**1.21**	*0.59*	*0.62*	*1.00*	*1.11*	*0.68*	*0.65*	*0.97*	**0.84**	*0.86*	*0.85*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.29*	*0.29*	**0.31**	*0.30*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	**0.20**	*0.23*	*0.23*	*0.22*	*0.20*	*0.23*	*0.21*	*0.21*	**0.24**	*0.22*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.20**	*0.23*	*0.27*	*0.28*	*0.24*	*0.21*	*0.22*	*0.23*	**0.25**	*0.25*	*0.22*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**64.0**	**50.4**	*45.1*	*46.5*	*50.6*	*50.4*	*55.6*	*55.4*	*58.0*	**65.4**	*48.1*	*54.9*
Propane	**39.3**	**53.2**	**68.6**	**62.1**	**33.2**	*63.9*	*88.1*	*70.9*	*45.6*	*64.9*	*84.9*	*72.0*	**62.1**	*70.9*	*72.0*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.2**	*1.5*	*1.8*	*1.8*	*1.6*	*1.8*	*2.0*	*1.9*	**1.4**	*1.8*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**44.4**	**36.4**	*60.7*	*78.6*	*49.6*	*39.8*	*64.4*	*82.4*	*53.3*	**44.4**	*49.6*	*53.3*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**20.7**	**19.8**	*20.9*	*21.6*	*20.9*	*18.3*	*19.5*	*20.3*	*19.6*	**20.7**	*20.9*	*19.6*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	**15.54**	*16.37*	*16.49*	*15.91*	*15.07*	*16.37*	*16.34*	*15.87*	**15.15**	*16.08*	*15.92*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.75**	**0.62**	*0.46*	*0.51*	*0.68*	*0.59*	*0.47*	*0.50*	*0.69*	**0.54**	*0.57*	*0.56*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.18**	**1.12**	*1.18*	*1.18*	*1.16*	*1.09*	*1.18*	*1.18*	*1.17*	**1.15**	*1.16*	*1.16*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.20**	**-0.03**	*0.33*	*0.35*	*0.28*	*0.08*	*0.28*	*0.37*	*0.28*	**0.16**	*0.23*	*0.25*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.28**	**0.33**	*0.86*	*0.65*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.91**	**17.57**	*19.20*	*19.18*	*18.33*	*17.31*	*19.02*	*18.99*	*18.54*	**17.69**	*18.57*	*18.47*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.98**	*1.08*	*1.06*	*1.06*	*1.03*	*0.98*	*0.99*	*1.01*	**0.95**	*1.04*	*1.00*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.50**	*0.85*	*0.79*	*0.39*	*0.49*	*0.84*	*0.77*	*0.37*	**0.62**	*0.63*	*0.62*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.69**	**9.20**	*9.88*	*9.96*	*9.73*	*9.14*	*9.71*	*9.72*	*9.90*	**9.52**	*9.70*	*9.62*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.49**	*1.64*	*1.62*	*1.58*	*1.52*	*1.60*	*1.64*	*1.56*	**1.31**	*1.58*	*1.58*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.87**	**4.79**	*5.05*	*5.07*	*5.03*	*4.65*	*5.11*	*5.05*	*5.06*	**4.66**	*4.98*	*4.97*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.22**	**0.24**	*0.22*	*0.26*	*0.22*	*0.25*	*0.25*	*0.27*	*0.22*	**0.21**	*0.23*	*0.25*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.33**	**2.33**	*2.64*	*2.54*	*2.43*	*2.28*	*2.51*	*2.53*	*2.44*	**2.32**	*2.48*	*2.44*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.94**	**18.54**	*20.28*	*20.24*	*19.39*	*18.34*	*20.00*	*19.98*	*19.55*	**18.64**	*19.62*	*19.47*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.02**	**16.05**	*16.66*	*16.78*	*16.22*	*15.43*	*16.59*	*16.65*	*16.18*	**15.67**	*16.43*	*16.22*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.05**	**17.94**	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	**18.10**	*17.94*	*17.94*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.89**	*0.93*	*0.94*	*0.90*	*0.86*	*0.92*	*0.93*	*0.90*	**0.87**	*0.92*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**281**	*335*	*298*	*271*	*265*	*277*	*273*	*261*	**219**	*297*	*269*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	*405*	*374*	*353*	*340*	*349*	*346*	*339*	**294**	*374*	*343*
PADD 2	**247**	**288**	**304**	**315**	**350**	*396*	*363*	*340*	*331*	*345*	*343*	*330*	**290**	*362*	*338*
PADD 3	**228**	**267**	**282**	**298**	**340**	*382*	*347*	*320*	*308*	*320*	*318*	*307*	**271**	*347*	*313*
PADD 4	**247**	**311**	**360**	**351**	**358**	*419*	*397*	*360*	*344*	*362*	*362*	*346*	**319**	*384*	*354*
PADD 5	**312**	**366**	**391**	**410**	**452**	*505*	*455*	*442*	*424*	*428*	*424*	*409*	**372**	*464*	*421*
U.S. Average	**256**	**297**	**316**	**333**	**370**	*416*	*381*	*359*	*347*	*357*	*355*	*343*	**302**	*382*	*351*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	*427*	*394*	*372*	*360*	*370*	*368*	*357*	**311**	*393*	*364*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.4**	*63.7*	*62.1*	*68.5*	*67.3*	*66.8*	*62.4*	*68.4*	**61.8**	*68.5*	*68.4*
PADD 2	**50.7**	**50.6**	**46.9**	**50.9**	**56.7**	*51.5*	*50.0*	*50.5*	*53.0*	*51.3*	*50.9*	*49.9*	**50.9**	*50.5*	*49.9*
PADD 3	**81.9**	**81.6**	**82.9**	**81.7**	**86.1**	*89.0*	*83.8*	*90.1*	*89.6*	*90.2*	*87.5*	*91.1*	**81.7**	*90.1*	*91.1*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**7.9**	*8.0*	*7.5*	*8.2*	*8.0*	*8.1*	*7.7*	*8.4*	**8.1**	*8.2*	*8.4*
PADD 5	**31.4**	**29.0**	**30.6**	**29.6**	**29.7**	*30.3*	*29.8*	*31.7*	*29.8*	*29.2*	*29.3*	*32.6*	**29.6**	*31.7*	*32.6*
U.S. Total	**237.6**	**237.2**	**227.0**	**232.2**	**236.8**	*242.4*	*233.1*	*249.0*	*247.7*	*245.5*	*237.9*	*250.4*	**232.2**	*249.0*	*250.4*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.7**	**16.5**	*21.8*	*23.7*	*27.0*	*23.5*	*24.3*	*25.4*	*27.9*	**17.7**	*27.0*	*27.9*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**214.5**	**220.3**	*220.5*	*209.4*	*222.0*	*224.2*	*221.2*	*212.5*	*222.5*	**214.5**	*222.0*	*222.5*

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.86**	**102.63**	*103.90*	*105.37*	*107.50*	*108.85*	*110.24*	*111.18*	*111.37*	**101.40**	*104.87*	*110.42*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.03**	*0.78*	*0.73*	*0.87*	*0.93*	*0.78*	*0.74*	*0.89*	**0.97**	*0.85*	*0.84*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.16**	*2.30*	*2.17*	*2.16*	*2.18*	*2.11*	*1.99*	*1.93*	**2.11**	*2.19*	*2.05*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.73**	**99.44**	*100.82*	*102.47*	*104.48*	*105.75*	*107.35*	*108.45*	*108.54*	**98.32**	*101.82*	*107.53*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.53**	**94.66**	*95.82*	*97.17*	*99.14*	*100.25*	*101.55*	*102.42*	*102.59*	**93.55**	*96.71*	*101.71*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.17**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.18*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.57**	*11.86*	*11.74*	*12.78*	*13.08*	*12.51*	*12.19*	*12.78*	**9.76**	*11.99*	*12.63*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.59**	*6.62*	*6.40*	*6.71*	*7.77*	*6.47*	*6.32*	*6.50*	**7.63**	*7.07*	*6.76*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.23**	*8.02*	*9.05*	*9.11*	*9.07*	*9.00*	*9.32*	*9.23*	**8.47**	*8.61*	*9.15*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.18**	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.07**	*-9.72*	*-7.84*	*2.31*	*13.58*	*-12.48*	*-8.38*	*3.13*	**0.24**	*1.13*	*-1.09*
Total Supply	**99.18**	**72.53**	**75.31**	**86.87**	**103.87**	*73.18*	*75.30*	*86.64*	*99.95*	*74.39*	*79.21*	*90.59*	**83.42**	*84.68*	*85.99*
Balancing Item (b)	**0.26**	**-0.58**	**-0.21**	**-1.25**	**0.74**	*1.24*	*0.94*	*1.30*	*0.53*	*-1.32*	*-1.59*	*-0.44*	**-0.45**	*1.06*	*-0.71*
Total Primary Supply	**99.44**	**71.95**	**75.10**	**85.62**	**104.61**	*74.42*	*76.24*	*87.95*	*100.48*	*73.07*	*77.62*	*90.15*	**82.97**	*85.73*	*85.28*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.62**	**14.43**	**25.92**	*8.45*	*3.99*	*16.61*	*24.70*	*8.18*	*4.06*	*16.50*	**12.75**	*13.69*	*13.31*
Commercial	**14.87**	**6.23**	**4.68**	**10.08**	**15.63**	*6.84*	*4.96*	*10.52*	*14.90*	*6.71*	*4.98*	*10.53*	**8.94**	*9.46*	*9.25*
Industrial	**23.81**	**21.46**	**21.14**	**23.44**	**25.21**	*22.02*	*20.99*	*23.22*	*23.49*	*21.35*	*21.90*	*25.05*	**22.46**	*22.85*	*22.95*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**29.15**	*29.36*	*38.41*	*29.21*	*28.52*	*28.82*	*38.47*	*29.43*	**30.88**	*31.55*	*31.33*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.12**	*5.18*	*5.25*	*5.36*	*5.43*	*5.50*	*5.54*	*5.55*	**5.05**	*5.23*	*5.50*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.45**	*2.43*	*2.48*	*2.89*	*3.31*	*2.37*	*2.52*	*2.95*	**2.74**	*2.81*	*2.79*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**71.95**	**75.10**	**85.62**	**104.61**	*74.42*	*76.24*	*87.95*	*100.48*	*73.07*	*77.62*	*90.15*	**82.97**	*85.73*	*85.28*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,407**	*2,291*	*3,012*	*2,800*	*1,578*	*2,714*	*3,485*	*3,197*	**3,210**	*2,800*	*3,197*
East Region (d)	**313**	**515**	**804**	**766**	**245**	*459*	*738*	*644*	*280*	*612*	*888*	*774*	**766**	*644*	*774*
Midwest Region (d)	**395**	**630**	**966**	**887**	**299**	*528*	*856*	*772*	*343*	*650*	*981*	*860*	**887**	*772*	*860*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**588**	*881*	*926*	*941*	*672*	*1,019*	*1,083*	*1,081*	**1,143**	*941*	*1,081*
Mountain Region (d)	**113**	**175**	**205**	**171**	**91**	*138*	*189*	*174*	*105*	*147*	*210*	*189*	**171**	*174*	*189*
Pacific Region (d)	**197**	**246**	**248**	**218**	**164**	*266*	*283*	*249*	*158*	*266*	*304*	*272*	**218**	*249*	*272*
Alaska	**23**	**27**	**30**	**25**	**20**	*20*	*20*	*20*	*20*	*20*	*20*	*20*	**25**	*20*	*20*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*8.13*	*9.03*	*8.81*	*7.73*	*4.04*	*3.92*	*4.01*	**4.06**	*7.70*	*4.93*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**17.38**	*17.74*	*21.64*	*18.33*	*18.21*	*18.37*	*19.64*	*14.91*	**16.12**	*17.94*	*17.38*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.64**	*14.99*	*21.57*	*16.41*	*15.42*	*16.20*	*18.75*	*11.98*	**12.55**	*14.37*	*14.60*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.73**	*13.46*	*20.87*	*13.33*	*12.59*	*14.39*	*18.71*	*9.96*	**10.19**	*11.74*	*12.28*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**11.23**	*13.72*	*21.28*	*14.23*	*13.15*	*15.50*	*19.70*	*10.96*	**10.23**	*12.78*	*13.03*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.59**	*18.86*	*26.82*	*17.63*	*16.37*	*20.65*	*24.95*	*13.94*	**15.24**	*16.31*	*16.75*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.55**	*16.27*	*26.97*	*19.59*	*17.04*	*21.11*	*24.59*	*15.10*	**11.99**	*13.96*	*17.48*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**12.42**	*16.30*	*25.44*	*17.15*	*14.21*	*18.39*	*21.70*	*12.44*	**13.22**	*15.17*	*14.85*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.25**	*11.85*	*17.26*	*13.06*	*12.94*	*14.22*	*16.24*	*10.15*	**9.77**	*11.64*	*12.42*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.03**	*17.38*	*19.52*	*19.16*	*19.42*	*18.79*	*17.83*	*15.95*	**15.25**	*18.00*	*18.04*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.81**	**12.24**	*15.23*	*21.71*	*15.85*	*15.14*	*16.75*	*19.61*	*12.15*	**12.27**	*14.50*	*14.80*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.44**	*12.87*	*14.44*	*15.09*	*15.58*	*14.47*	*12.30*	*11.24*	**11.33**	*13.59*	*13.82*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.39**	*10.56*	*11.31*	*12.46*	*12.91*	*11.56*	*9.66*	*9.30*	**8.56**	*11.16*	*11.23*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.13**	*9.62*	*13.22*	*11.89*	*12.05*	*11.77*	*10.75*	*7.94*	**7.60**	*9.83*	*10.60*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.17**	*10.67*	*13.86*	*12.50*	*12.34*	*11.10*	*10.48*	*8.10*	**7.91**	*11.20*	*10.71*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.43**	*12.15*	*14.45*	*14.06*	*13.84*	*13.06*	*11.66*	*10.06*	**9.76**	*12.26*	*12.28*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.36**	*11.71*	*14.28*	*14.00*	*13.66*	*13.32*	*12.03*	*10.09*	**9.89**	*12.12*	*12.32*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.73**	*10.10*	*12.61*	*12.65*	*12.20*	*11.49*	*9.93*	*8.48*	**8.62**	*10.99*	*10.79*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.78**	*9.28*	*11.32*	*11.00*	*11.22*	*11.25*	*11.04*	*9.17*	**7.75**	*9.77*	*10.55*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.68**	*12.33*	*13.82*	*14.10*	*14.02*	*12.75*	*11.55*	*10.27*	**11.09**	*13.21*	*12.19*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	**9.93**	*10.78*	*12.95*	*12.80*	*12.84*	*12.06*	*10.76*	*9.12*	**8.82**	*11.22*	*11.38*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**10.88**	*10.60*	*11.59*	*13.27*	*13.73*	*11.49*	*8.68*	*9.11*	**8.73**	*11.62*	*11.19*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.29**	*10.35*	*12.22*	*13.28*	*13.46*	*11.07*	*8.84*	*8.47*	**8.24**	*11.42*	*11.34*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.86**	*8.83*	*11.05*	*11.28*	*11.32*	*8.59*	*6.84*	*6.58*	**6.90**	*9.43*	*8.94*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**8.03**	*8.08*	*9.74*	*10.54*	*10.49*	*7.16*	*5.60*	*5.75*	**5.48**	*9.13*	*7.39*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.45**	*8.58*	*10.58*	*10.73*	*10.60*	*6.80*	*5.68*	*5.93*	**5.90**	*9.23*	*7.38*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.97**	*8.26*	*10.10*	*10.33*	*10.21*	*6.48*	*5.20*	*5.51*	**5.39**	*8.84*	*6.99*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**5.39**	*7.69*	*9.24*	*9.01*	*8.35*	*4.51*	*4.09*	*4.14*	**4.80**	*7.95*	*5.26*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.07**	*7.58*	*9.20*	*9.88*	*10.28*	*9.13*	*8.15*	*7.29*	**5.99**	*8.39*	*8.78*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.91**	*9.07*	*11.18*	*12.02*	*12.13*	*10.12*	*8.29*	*7.66*	**8.54**	*10.39*	*9.59*
U.S. Average	**5.73**	**4.09**	**5.11**	**6.86**	**6.80**	*8.06*	*9.69*	*9.98*	*9.82*	*5.92*	*4.99*	*5.29*	**5.50**	*8.55*	*6.54*

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**147.1**	**147.4**	*140.4*	*155.1*	*155.3*	*149.9*	*145.5*	*158.7*	*151.1*	**578.4**	*598.3*	*605.2*
Appalachia	**40.8**	**39.5**	**36.6**	**41.3**	**42.9**	*38.4*	*37.2*	*38.9*	*40.6*	*39.4*	*38.3*	*35.9*	**158.2**	*157.5*	*154.2*
Interior	**25.0**	**23.3**	**22.7**	**24.7**	**24.5**	*21.7*	*23.1*	*23.3*	*21.9*	*21.3*	*24.1*	*23.9*	**95.7**	*92.7*	*91.1*
Western	**74.5**	**80.0**	**89.0**	**81.0**	**80.0**	*80.3*	*94.8*	*93.1*	*87.4*	*84.8*	*96.4*	*91.3*	**324.6**	*348.1*	*359.9*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	**-1.2**	*-2.3*	*-1.0*	*-5.4*	*-2.3*	*-1.4*	*1.5*	*-1.8*	**-1.7**	*-9.9*	*-4.1*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	*1.4*	*1.3*	*1.2*	*1.1*	*1.2*	*1.6*	*1.4*	**5.4**	*5.2*	*5.3*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**20.2**	*18.0*	*20.9*	*26.7*	*20.9*	*22.4*	*22.0*	*23.6*	**85.2**	*85.7*	*88.8*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**10.5**	*9.5*	*12.5*	*14.1*	*11.8*	*12.7*	*12.3*	*12.9*	**45.3**	*46.7*	*49.7*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.7**	*8.5*	*8.4*	*12.5*	*9.0*	*9.7*	*9.7*	*10.7*	**39.9**	*39.1*	*39.2*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**125.2**	**127.4**	*121.5*	*134.5*	*124.4*	*127.8*	*122.9*	*139.7*	*127.1*	**496.9**	*507.8*	*517.6*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-14.0**	**5.1**	*-7.8*	*21.3*	*-6.0*	*-1.8*	*-10.3*	*11.7*	*-14.3*	**39.0**	*12.6*	*-14.6*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	*1.9*	*1.9*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**140.6**	**126.2**	**163.7**	**113.2**	**134.4**	*115.6*	*157.7*	*120.3*	*127.8*	*114.5*	*153.3*	*114.6*	**543.8**	*528.0*	*510.2*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.4**	*4.1*	*4.0*	*4.6*	*4.2*	*4.3*	*4.5*	*4.6*	**17.6**	*17.1*	*17.7*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**123.2**	*108.0*	*147.0*	*108.7*	*116.6*	*104.2*	*142.7*	*103.2*	**501.4**	*486.9*	*466.7*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.8**	*6.7*	*6.7*	*7.0*	*7.0*	*5.9*	*6.0*	*6.8*	**26.7**	*27.2*	*25.8*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.4*	*0.2*	*0.1*	*0.2*	**0.8**	*0.7*	*0.9*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.6**	*6.6*	*6.5*	*6.7*	*6.6*	*5.8*	*5.9*	*6.6*	**25.8**	*26.4*	*24.9*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.1**	**134.4**	*118.8*	*157.7*	*120.3*	*127.8*	*114.5*	*153.3*	*114.6*	**545.7**	*531.2*	*510.2*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-0.8**	**0.0**	*-3.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-1.9**	*-3.2*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	**26.5**	*28.8*	*29.8*	*35.2*	*37.5*	*38.9*	*37.5*	*39.3*	**25.3**	*35.2*	*39.3*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**99.1**	**94.0**	*101.9*	*80.6*	*86.5*	*88.3*	*98.5*	*86.8*	*101.1*	**99.1**	*86.5*	*101.1*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**88.7**	*96.3*	*74.9*	*81.1*	*83.7*	*93.7*	*81.8*	*96.1*	**94.7**	*81.1*	*96.1*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**2.6**	**3.6**	*3.5*	*3.4*	*3.3*	*2.7*	*2.8*	*3.0*	*3.0*	**2.6**	*3.3*	*3.0*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	*1.9*	*2.0*	*2.0*	*1.8*	*1.9*	*1.9*	*1.9*	**1.7**	*2.0*	*1.9*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	**6.30**	*6.30*	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.253*	*0.273*	*0.288*	*0.295*	*0.292*	*0.312*	*0.324*	**0.258**	*0.267*	*0.306*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.15**	*2.02*	*1.89*	*1.88*	*1.95*	*1.97*	*1.96*	*1.93*	**1.98**	*1.98*	*1.95*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,035**	*1,004*	*1,169*	*989*	*1,019*	*1,007*	*1,176*	*1,000*	**4,116**	*4,197*	*4,202*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**997**	*967*	*1,128*	*950*	*981*	*969*	*1,135*	*960*	**3,963**	*4,042*	*4,044*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**35**	*34*	*37*	*36*	*35*	*35*	*38*	*37*	**140**	*142*	*145*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**11**	*11*	*14*	*11*	*12*	*13*	*15*	*12*	**39**	*48*	*51*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,046**	*1,016*	*1,183*	*1,000*	*1,031*	*1,019*	*1,191*	*1,012*	**4,155**	*4,245*	*4,254*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**69**	*65*	*56*	*51*	*43*	*64*	*54*	*52*	**225**	*241*	*213*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**913**	**898**	**1,089**	**894**	**943**	*917*	*1,091*	*914*	*954*	*921*	*1,100*	*924*	**3,795**	*3,866*	*3,900*
Residential Sector	**379**	**329**	**446**	**324**	**380**	*330*	*435*	*330*	*382*	*328*	*439*	*337*	**1,477**	*1,475*	*1,486*
Commercial Sector	**304**	**321**	**377**	**322**	**321**	*332*	*382*	*328*	*323*	*332*	*383*	*328*	**1,325**	*1,362*	*1,366*
Industrial Sector	**229**	**247**	**264**	**247**	**240**	*254*	*272*	*255*	*247*	*260*	*277*	*258*	**987**	*1,022*	*1,042*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**34**	*33*	*36*	*34*	*34*	*34*	*37*	*36*	**136**	*138*	*140*
Total Consumption	**946**	**931**	**1,124**	**929**	**977**	*951*	*1,127*	*949*	*988*	*955*	*1,137*	*960*	**3,930**	*4,004*	*4,040*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,728**	*2,369*	*3,126*	*2,373*	*2,719*	*2,332*	*3,118*	*2,392*	**10,703**	*10,595*	*10,560*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**88.7**	*96.3*	*74.9*	*81.1*	*83.7*	*93.7*	*81.8*	*96.1*	**94.7**	*81.1*	*96.1*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**6.5**	*6.5*	*6.7*	*7.2*	*5.0*	*4.9*	*3.0*	*3.6*	**7.0**	*7.2*	*3.6*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**15.2**	*15.0*	*14.9*	*15.3*	*15.1*	*15.0*	*14.9*	*15.2*	**16.0**	*15.3*	*15.2*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.15**	*2.02*	*1.89*	*1.88*	*1.95*	*1.97*	*1.96*	*1.93*	**1.98**	*1.98*	*1.95*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.80**	*8.10*	*8.81*	*8.76*	*8.00*	*4.02*	*3.88*	*4.15*	**4.97**	*7.95*	*4.90*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.45**	*22.11*	*20.96*	*19.00*	*18.50*	*18.31*	*17.31*	*17.24*	**13.66**	*19.12*	*17.84*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**20.98**	*32.29*	*29.40*	*24.68*	*22.97*	*21.54*	*21.34*	*22.01*	**15.50**	*25.26*	*22.12*
Retail Prices (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.78**	*14.43*	*14.54*	*14.49*	*14.27*	*14.85*	*14.69*	*14.35*	**13.72**	*14.31*	*14.54*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.72**	*11.67*	*12.08*	*11.86*	*12.15*	*11.78*	*11.94*	*11.46*	**11.27**	*11.84*	*11.84*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.35**	*7.21*	*7.81*	*7.46*	*7.44*	*6.96*	*7.43*	*7.12*	**7.26**	*7.46*	*7.24*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	*77.22*	*91.74*	*67.41*	*53.83*	*74.57*	*37.67*	*32.16*	**189.54**	*69.77*	*49.56*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	*46.19*	*59.53*	*46.80*	*46.20*	*25.04*	*28.44*	*25.08*	**53.53**	*49.43*	*31.19*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	*74.95*	*130.58*	*51.61*	*59.61*	*154.06*	*177.94*	*36.23*	**51.81**	*93.41*	*106.96*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	*71.87*	*109.00*	*47.09*	*58.19*	*137.57*	*138.05*	*20.06*	**46.14**	*82.01*	*88.47*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	*83.39*	*106.91*	*79.06*	*73.37*	*44.79*	*46.99*	*41.58*	**45.67**	*81.92*	*51.68*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	*82.63*	*93.84*	*72.41*	*65.35*	*38.27*	*38.57*	*34.14*	**46.47**	*74.19*	*44.08*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	*64.84*	*77.79*	*55.83*	*49.95*	*28.80*	*29.60*	*23.39*	**93.88**	*58.93*	*32.93*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	*70.53*	*77.97*	*65.77*	*59.30*	*34.75*	*35.32*	*31.62*	**42.39**	*64.18*	*40.24*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	*64.96*	*68.83*	*63.67*	*56.87*	*34.31*	*34.64*	*33.42*	**37.92**	*59.64*	*39.81*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	*52.39*	*60.97*	*45.30*	*45.00*	*21.72*	*25.96*	*25.14*	**59.53**	*49.63*	*29.45*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	*44.02*	*55.70*	*39.76*	*37.23*	*21.09*	*24.24*	*20.80*	**55.44**	*44.63*	*25.84*

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**12.9**	*10.3*	*13.2*	*10.8*	*12.5*	*10.1*	*12.9*	*10.8*	**48.7**	*47.2*	*46.3*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**35.8**	*29.7*	*39.4*	*30.7*	*35.5*	*29.7*	*39.3*	*31.0*	**138.7**	*135.6*	*135.4*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.3**	*42.6*	*53.3*	*44.4*	*49.5*	*42.2*	*53.6*	*45.3*	**192.6**	*190.5*	*190.7*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**30.7**	*24.2*	*31.1*	*24.5*	*31.3*	*24.6*	*31.8*	*24.6*	**108.6**	*110.6*	*112.3*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**95.8**	*86.4*	*109.8*	*84.7*	*97.9*	*86.3*	*111.9*	*87.1*	**374.9**	*376.7*	*383.2*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**32.7**	*26.0*	*36.1*	*27.0*	*34.1*	*26.1*	*36.5*	*27.4*	**120.5**	*121.8*	*124.1*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**57.5**	*53.4*	*78.6*	*49.8*	*57.0*	*51.5*	*78.6*	*51.4*	**230.5**	*239.3*	*238.4*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**24.0**	*25.5*	*34.5*	*23.2*	*24.2*	*25.6*	*34.6*	*23.6*	**108.1**	*107.2*	*107.9*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.7**	*30.7*	*38.2*	*34.1*	*39.1*	*30.8*	*38.4*	*34.2*	**149.0**	*141.7*	*142.5*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**379.9**	*329.9*	*435.3*	*330.4*	*382.5*	*328.1*	*438.6*	*336.5*	**1,476.6**	*1,475.5*	*1,485.7*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	*11.9*	*13.6*	*11.7*	*12.1*	*11.8*	*13.4*	*11.6*	**48.5**	*49.2*	*48.9*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**35.7**	*34.0*	*39.8*	*34.7*	*35.9*	*33.9*	*39.5*	*34.5*	**141.9**	*144.2*	*143.7*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**43.4**	*42.9*	*48.8*	*43.0*	*43.6*	*43.0*	*48.7*	*42.7*	**174.8**	*178.1*	*178.0*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.1**	*24.1*	*27.7*	*24.3*	*25.2*	*24.1*	*27.8*	*24.3*	**99.3**	*101.3*	*101.3*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**75.2**	*79.6*	*90.8*	*76.6*	*75.3*	*79.6*	*91.3*	*77.2*	**313.1**	*322.3*	*323.3*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.1**	*22.6*	*26.8*	*21.3*	*21.3*	*22.7*	*27.0*	*21.6*	**89.0**	*91.8*	*92.5*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**45.8**	*53.8*	*61.3*	*51.0*	*46.3*	*53.9*	*62.2*	*51.9*	**201.0**	*211.9*	*214.3*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**23.1**	*25.2*	*29.1*	*23.7*	*23.3*	*25.3*	*29.1*	*23.8*	**98.7**	*101.1*	*101.5*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**38.4**	*36.3*	*42.4*	*39.9*	*38.7*	*36.2*	*42.2*	*39.5*	**153.2**	*157.0*	*156.6*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	*1.3*	*1.4*	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.5*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**321.4**	*331.7*	*381.8*	*327.5*	*323.0*	*331.7*	*382.6*	*328.4*	**1,324.8**	*1,362.4*	*1,365.7*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	*4.0*	*4.2*	*3.9*	*3.9*	*4.0*	*4.2*	*3.9*	**15.8**	*16.0*	*16.0*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**18.1**	*18.7*	*20.3*	*18.7*	*18.7*	*19.0*	*20.3*	*18.5*	**73.1**	*75.8*	*76.5*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**46.4**	*47.8*	*50.3*	*47.7*	*48.0*	*49.1*	*51.6*	*48.6*	**185.5**	*192.2*	*197.4*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.0**	*25.1*	*26.9*	*25.5*	*25.2*	*25.4*	*26.9*	*25.3*	**97.9**	*101.5*	*102.8*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**35.9**	*37.3*	*39.9*	*37.5*	*37.2*	*38.0*	*40.3*	*37.8*	**143.7**	*150.5*	*153.2*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**24.7**	*25.5*	*26.6*	*25.5*	*25.0*	*25.8*	*27.0*	*25.7*	**99.7**	*102.2*	*103.6*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**47.4**	*52.1*	*57.1*	*54.1*	*49.7*	*54.7*	*60.4*	*57.0*	**199.7**	*210.8*	*221.7*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.7**	*21.8*	*23.3*	*20.5*	*19.8*	*22.0*	*23.7*	*21.0*	**84.4**	*85.4*	*86.4*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**18.9**	*21.0*	*22.7*	*20.0*	*18.6*	*20.4*	*21.7*	*18.9*	**82.5**	*82.5*	*79.7*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**240.1**	*254.4*	*272.4*	*254.6*	*247.1*	*259.6*	*277.3*	*258.0*	**986.8**	*1,021.5*	*1,042.0*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.0**	*26.3*	*31.1*	*26.5*	*28.6*	*26.0*	*30.6*	*26.4*	**113.4**	*112.8*	*111.6*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**90.5**	*83.2*	*100.2*	*84.9*	*90.9*	*83.4*	*99.8*	*84.7*	**356.9**	*358.8*	*358.8*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**140.3**	*133.4*	*152.5*	*135.2*	*141.3*	*134.4*	*154.0*	*136.8*	**553.4**	*561.4*	*566.6*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**79.9**	*73.4*	*85.8*	*74.3*	*81.7*	*74.1*	*86.5*	*74.2*	**305.8**	*313.4*	*316.5*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**207.2**	*203.6*	*240.8*	*199.1*	*210.6*	*204.2*	*243.7*	*202.3*	**832.7**	*850.6*	*860.8*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.5**	*74.1*	*89.5*	*73.7*	*80.4*	*74.6*	*90.5*	*74.7*	**309.2**	*315.9*	*320.2*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**150.8**	*159.4*	*197.0*	*155.0*	*153.1*	*160.1*	*201.2*	*160.3*	**631.4**	*662.2*	*674.7*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**66.9**	*72.5*	*87.0*	*67.4*	*67.3*	*72.8*	*87.5*	*68.4*	**291.4**	*293.8*	*296.0*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**96.2**	*88.2*	*103.5*	*94.1*	*96.6*	*87.6*	*102.5*	*92.8*	**385.5**	*381.9*	*379.5*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*14.9*	*15.0*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**943.0**	*917.5*	*1,091.1*	*914.1*	*954.3*	*920.9*	*1,100.1*	*924.4*	**3,794.5**	*3,865.7*	*3,899.7*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**24.04**	*24.66*	*25.03*	*25.71*	*27.66*	*27.78*	*27.69*	*27.93*	**21.51**	*24.83*	*27.76*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.11**	*17.92*	*18.32*	*18.01*	*17.92*	*18.16*	*18.21*	*17.58*	**16.49**	*17.84*	*17.98*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.28**	*15.31*	*14.95*	*15.15*	*14.96*	*15.88*	*15.25*	*15.08*	**14.10**	*14.90*	*15.27*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.20**	*12.40*	*12.52*	*11.28*	*10.67*	*11.47*	*11.82*	*10.70*	**12.21**	*11.85*	*11.18*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.58**	*13.15*	*13.28*	*13.04*	*12.92*	*13.35*	*13.20*	*12.70*	**12.24**	*13.02*	*13.05*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**11.93**	*12.62*	*12.27*	*12.17*	*12.07*	*12.83*	*12.34*	*12.02*	**11.83**	*12.23*	*12.30*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**11.14**	*11.57*	*11.99*	*12.55*	*11.74*	*12.32*	*12.35*	*12.32*	**11.89**	*11.81*	*12.19*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.10**	*12.60*	*12.70*	*12.49*	*12.23*	*12.62*	*12.66*	*12.38*	**12.08**	*12.50*	*12.49*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**17.64**	*18.92*	*20.17*	*18.19*	*18.43*	*20.06*	*20.96*	*18.61*	**18.01**	*18.73*	*19.51*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**13.78**	*14.43*	*14.54*	*14.49*	*14.27*	*14.85*	*14.69*	*14.35*	**13.72**	*14.31*	*14.54*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.80**	*18.11*	*18.81*	*18.73*	*20.45*	*19.27*	*19.76*	*19.46*	**16.49**	*18.62*	*19.74*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**14.17**	*14.38*	*15.21*	*14.29*	*14.51*	*14.12*	*14.84*	*13.88*	**13.43**	*14.53*	*14.36*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.14**	*11.40*	*11.36*	*11.59*	*11.76*	*11.72*	*11.27*	*11.09*	**10.67**	*11.37*	*11.46*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.51**	*9.71*	*9.93*	*8.91*	*8.95*	*8.87*	*9.18*	*8.23*	**9.97**	*9.53*	*8.82*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.18**	*9.78*	*10.09*	*10.50*	*10.66*	*10.05*	*10.04*	*9.96*	**9.49**	*10.13*	*10.17*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.63**	*11.60*	*11.65*	*11.69*	*12.08*	*11.86*	*11.65*	*11.42*	**11.19**	*11.64*	*11.75*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**9.30**	*8.84*	*8.56*	*8.76*	*9.40*	*8.67*	*8.32*	*8.47*	**9.04**	*8.84*	*8.68*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.54**	*10.07*	*10.40*	*9.66*	*9.56*	*10.00*	*10.25*	*9.47*	**9.70**	*9.95*	*9.85*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**16.07**	*17.57*	*19.48*	*17.24*	*17.11*	*18.25*	*19.58*	*16.86*	**16.27**	*17.63*	*17.97*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.72**	*11.67*	*12.08*	*11.86*	*12.15*	*11.78*	*11.94*	*11.46*	**11.27**	*11.84*	*11.84*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.04**	*13.81*	*14.43*	*14.79*	*15.56*	*14.13*	*14.69*	*15.01*	**13.58**	*14.51*	*14.84*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.71**	*7.06*	*7.41*	*7.21*	*7.54*	*6.73*	*6.91*	*6.62*	**6.89**	*7.35*	*6.95*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.65**	*7.54*	*7.79*	*7.87*	*7.83*	*7.25*	*7.41*	*7.57*	**7.26**	*7.71*	*7.51*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.10**	*7.66*	*8.30*	*7.23*	*7.27*	*7.54*	*8.16*	*7.14*	**7.35**	*7.59*	*7.54*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.68**	*6.72*	*7.37*	*7.06*	*6.88*	*6.35*	*6.92*	*6.66*	**6.64**	*6.97*	*6.71*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.30**	*6.22*	*6.50*	*6.35*	*6.41*	*5.94*	*6.18*	*6.05*	**6.04**	*6.34*	*6.15*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**6.24**	*5.26*	*5.90*	*6.01*	*6.12*	*4.96*	*5.29*	*5.45*	**6.17**	*5.84*	*5.43*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.53**	*6.70*	*7.37*	*6.52*	*6.54*	*6.62*	*7.27*	*6.46*	**6.74**	*6.80*	*6.74*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.09**	*11.09*	*12.91*	*11.30*	*10.40*	*11.22*	*12.99*	*11.43*	**11.10**	*11.41*	*11.56*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.35**	*7.21*	*7.81*	*7.46*	*7.44*	*6.96*	*7.43*	*7.12*	**7.26**	*7.46*	*7.24*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.60**	*19.99*	*20.83*	*20.97*	*22.91*	*21.75*	*22.37*	*22.23*	**18.21**	*20.61*	*22.33*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**14.02**	*13.99*	*14.84*	*14.07*	*14.40*	*13.87*	*14.55*	*13.64*	**13.26**	*14.25*	*14.14*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.11**	*11.26*	*11.44*	*11.44*	*11.54*	*11.39*	*11.36*	*11.16*	**10.72**	*11.31*	*11.36*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.44**	*9.89*	*10.36*	*9.12*	*9.09*	*9.28*	*9.83*	*8.68*	**9.92**	*9.72*	*9.24*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.68**	*10.65*	*11.09*	*10.93*	*11.04*	*10.75*	*10.98*	*10.52*	**10.23**	*10.85*	*10.83*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.08**	*10.11*	*10.37*	*10.02*	*10.31*	*10.15*	*10.30*	*9.79*	**9.78**	*10.15*	*10.15*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**9.04**	*8.58*	*9.16*	*9.01*	*9.21*	*8.57*	*8.98*	*8.63*	**9.17**	*8.96*	*8.85*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.57**	*9.95*	*10.50*	*9.68*	*9.63*	*9.90*	*10.39*	*9.55*	**9.73**	*9.96*	*9.91*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.52**	*16.48*	*18.28*	*16.31*	*16.33*	*17.22*	*18.68*	*16.38*	**15.83**	*16.68*	*17.19*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.44**	*11.42*	*12.00*	*11.58*	*11.78*	*11.52*	*11.90*	*11.30*	**11.18**	*11.63*	*11.64*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**341.7**	*343.4*	*453.7*	*348.2*	*331.8*	*333.1*	*449.4*	*346.6*	**1,473.6**	*1,487.0*	*1,460.9*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**217.8**	*191.3*	*262.3*	*191.2*	*206.3*	*183.1*	*253.4*	*180.1*	**892.8**	*862.7*	*822.9*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.7**	*186.8*	*204.4*	*191.3*	*194.1*	*188.2*	*207.5*	*199.2*	**778.2**	*778.2*	*789.0*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**233.6**	*240.3*	*202.4*	*214.2*	*241.9*	*259.3*	*219.0*	*229.1*	**795.2**	*890.4*	*949.4*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**75.5**	*76.3*	*62.2*	*56.8*	*69.5*	*79.9*	*64.7*	*59.4*	**259.0**	*270.8*	*273.5*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**118.8**	*109.7*	*85.3*	*117.6*	*125.5*	*113.8*	*88.5*	*122.3*	**378.6**	*431.5*	*450.0*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**28.8**	*44.0*	*44.0*	*29.3*	*36.4*	*55.6*	*55.0*	*37.1*	**113.9**	*146.0*	*184.1*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	*6.3*	*6.9*	*6.5*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.2*	*26.1*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.8**	*4.0*	*4.1*	*4.0*	*3.8*	*3.8*	*4.1*	*4.0*	**15.7**	*15.9*	*15.7*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.1**	*-1.0*	*-1.7*	*-1.2*	*-1.0*	*-1.1*	*-1.7*	*-1.1*	**-5.1**	*-5.0*	*-4.8*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.5**	*3.6*	*4.3*	*3.8*	*5.1*	*3.6*	*4.3*	*4.0*	**17.8**	*18.2*	*16.9*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.8**	*0.8*	*0.9*	*0.8*	*0.8*	*0.7*	*0.9*	*0.8*	**3.2**	*3.3*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.7**	*1.8*	*1.8*	*1.7*	*1.6*	*1.7*	*1.7*	*1.7*	**7.2**	*6.9*	*6.7*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**996.7**	*966.9*	*1,128.2*	*950.1*	*980.8*	*968.5*	*1,134.5*	*960.4*	**3,962.8**	*4,041.8*	*4,044.2*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**12.0**	*13.0*	*17.0*	*13.4*	*14.6*	*11.9*	*15.3*	*13.4*	**51.5**	*55.3*	*55.3*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.4**	*0.2*	*0.1*	*0.1*	*0.4*	*0.1*	*0.1*	*0.1*	**0.6**	*0.8*	*0.8*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	*6.2*	*7.3*	*7.3*	*7.1*	*5.7*	*7.3*	*6.2*	**27.1**	*27.8*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.7**	*2.2*	*1.2*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*6.9*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.2**	*3.1*	*2.8*	*2.9*	*3.3*	*3.2*	*2.8*	*2.9*	**11.2**	*11.9*	*12.1*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	*0.4*	*0.3*	*0.4*	*0.8*	*0.3*	*0.3*	*0.4*	**1.5**	*2.5*	*1.7*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**25.8**	*24.9*	*28.7*	*25.9*	*28.2*	*23.3*	*27.0*	*24.9*	**98.2**	*105.3*	*103.4*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.1**	*27.0*	*32.6*	*28.6*	*30.2*	*27.8*	*32.8*	*29.1*	**116.4**	*118.3*	*119.9*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.2**	*12.6*	*19.1*	*12.3*	*10.5*	*14.5*	*19.6*	*13.8*	**61.9**	*58.2*	*58.3*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	*6.9*	*6.6*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.7*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**7.1**	*7.1*	*7.0*	*7.1*	*7.4*	*7.4*	*7.4*	*7.5*	**27.9**	*28.3*	*29.7*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.2**	*2.0*	*1.7*	*2.2*	*2.6*	*2.7*	*2.2*	*2.8*	**7.1**	*8.1*	*10.3*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.3**	*0.1*	*0.2*	*0.1*	*0.7*	*0.2*	*0.3*	*0.1*	**1.3**	*1.8*	*1.2*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**31.2**	*28.6*	*34.6*	*28.7*	*27.8*	*31.1*	*36.4*	*31.2*	**129.3**	*123.1*	*126.5*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.5**	*34.6*	*42.3*	*35.3*	*36.4*	*35.0*	*42.2*	*35.6*	**149.0**	*149.7*	*149.2*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**75.0**	*69.9*	*89.8*	*79.4*	*78.3*	*74.2*	*98.4*	*82.1*	**310.9**	*314.0*	*333.0*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**47.9**	*34.4*	*45.8*	*32.3*	*41.8*	*33.5*	*43.4*	*29.8*	**175.4**	*160.3*	*148.5*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**68.8**	*66.2*	*72.3*	*66.8*	*67.9*	*67.2*	*72.1*	*69.3*	**271.7**	*274.2*	*276.5*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	*2.7*	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*9.0*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**13.4**	*12.1*	*10.3*	*12.3*	*14.6*	*13.5*	*11.8*	*13.5*	**42.4**	*48.1*	*53.4*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.8**	*0.5*	*0.3*	*0.4*	*0.6*	*0.5*	*0.3*	*0.5*	**2.5**	*1.9*	*1.9*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**208.3**	*185.7*	*220.1*	*193.4*	*205.8*	*191.5*	*227.7*	*197.4*	**812.1**	*807.5*	*822.4*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**200.4**	*179.7*	*211.2*	*185.5*	*199.3*	*181.7*	*212.3*	*187.9*	**770.2**	*776.8*	*781.2*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**65.7**	*66.9*	*78.2*	*66.9*	*68.7*	*64.4*	*74.4*	*64.9*	**252.3**	*277.7*	*272.4*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**33.6**	*34.3*	*45.8*	*29.6*	*35.0*	*32.9*	*47.3*	*29.7*	**137.7**	*143.3*	*144.9*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.6**	*51.2*	*56.1*	*52.5*	*52.8*	*54.3*	*58.4*	*58.4*	**212.2**	*211.4*	*223.8*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**11.3**	*8.4*	*7.3*	*8.2*	*10.9*	*8.3*	*7.4*	*8.4*	**43.9**	*35.2*	*35.1*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**4.8**	*6.8*	*6.4*	*4.7*	*5.5*	*7.9*	*7.5*	*5.2*	**19.1**	*22.8*	*26.2*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	*0.0*	*-0.4*	*-0.1*	*-0.1*	*-0.2*	*-0.4*	*-0.2*	**-0.9**	*-0.7*	*-0.8*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**166.8**	*167.5*	*193.5*	*161.8*	*172.8*	*167.5*	*194.7*	*166.5*	**664.2**	*689.7*	*701.6*
Net energy for load (f)	**161.3**	**154.7**	**183.9**	**154.5**	**167.2**	*160.2*	*186.3*	*157.2*	*168.8*	*162.0*	*191.8*	*162.5*	**654.4**	*670.9*	*685.0*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**37.6**	*42.3*	*49.6*	*39.1*	*34.6*	*40.4*	*49.7*	*37.8*	**171.8**	*168.6*	*162.5*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.4**	*4.0*	*4.3*	*3.0*	*3.1*	*3.9*	*4.3*	*3.1*	**18.3**	*14.8*	*14.4*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	*7.7*	*8.0*	*7.1*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.1*	*29.1*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**2.8**	*3.6*	*3.4*	*2.9*	*3.6*	*4.5*	*4.2*	*3.4*	**11.0**	*12.8*	*15.7*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.7**	*0.8*	*0.8*	*0.7*	*0.7*	*0.7*	*0.8*	*0.7*	**2.8**	*2.9*	*2.9*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**51.8**	*58.4*	*66.1*	*52.9*	*49.0*	*56.6*	*66.6*	*52.6*	**232.2**	*229.2*	*224.9*
Net energy for load (f)	**52.4**	**63.8**	**72.3**	**55.6**	**54.3**	*61.3*	*68.1*	*53.0*	*50.0*	*59.4*	*68.5*	*53.5*	**244.1**	*236.8*	*231.4*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**43.7**	*45.4*	*51.4*	*38.2*	*37.9*	*46.3*	*55.5*	*41.4*	**169.7**	*178.6*	*181.1*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**63.9**	*59.9*	*79.3*	*60.6*	*62.6*	*55.7*	*72.1*	*55.1*	**267.7**	*263.7*	*245.5*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	*20.4*	*24.2*	*23.5*	*22.3*	*21.0*	*24.3*	*22.1*	**95.7**	*91.9*	*89.7*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.1**	*3.1*	*2.4*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*10.7*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**31.3**	*25.2*	*20.2*	*29.3*	*33.0*	*26.7*	*21.7*	*30.5*	**93.1**	*106.0*	*111.8*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.5**	*1.3*	*1.6*	*1.2*	*1.5*	*1.3*	*1.5*	*1.3*	**6.4**	*5.6*	*5.6*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**167.4**	*155.2*	*179.0*	*154.9*	*159.9*	*154.0*	*177.4*	*152.6*	**643.3**	*656.5*	*643.8*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**164.7**	*159.2*	*183.3*	*160.0*	*162.8*	*160.5*	*184.3*	*162.3*	**647.3**	*667.1*	*669.9*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.8**	*14.5*	*20.2*	*11.0*	*10.4*	*14.0*	*20.0*	*11.2*	**56.3**	*57.4*	*55.6*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**21.4**	*17.4*	*28.9*	*18.4*	*20.5*	*16.7*	*28.3*	*19.0*	**92.0**	*86.2*	*84.6*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	*4.3*	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.2*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.5**	*4.6*	*3.9*	*3.1*	*3.9*	*4.7*	*4.2*	*3.5*	**15.5**	*16.0*	*16.3*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**29.0**	*27.1*	*23.4*	*29.2*	*31.6*	*28.4*	*24.4*	*30.1*	**93.6**	*108.6*	*114.5*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.2*	**0.7**	*0.6*	*0.6*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.2**	*68.0*	*80.5*	*64.4*	*70.9*	*68.2*	*81.5*	*68.4*	**273.6**	*284.1*	*289.1*
Net energy for load (f)	**65.5**	**65.5**	**78.5**	**62.0**	**68.3**	*66.5*	*78.7*	*62.4*	*67.1*	*65.9*	*79.4*	*62.7*	**271.6**	*275.9*	*275.1*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**34.6**	*34.7*	*54.2*	*30.5*	*27.1*	*29.0*	*48.7*	*27.3*	**164.2**	*154.0*	*132.2*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**17.9**	*17.7*	*22.4*	*17.9*	*16.6*	*18.3*	*22.3*	*17.7*	**74.5**	*76.0*	*75.0*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	*10.0*	*10.6*	*10.8*	*10.7*	*9.0*	*11.0*	*10.2*	**40.2**	*42.4*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.0**	*38.2*	*30.3*	*33.9*	*35.5*	*42.9*	*34.2*	*36.8*	**106.3**	*133.4*	*149.4*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.4**	*1.4*	*1.4*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**95.0**	*101.1*	*118.1*	*93.6*	*90.4*	*99.6*	*116.7*	*92.6*	**387.1**	*407.8*	*399.3*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**95.0**	*101.1*	*118.1*	*93.6*	*90.4*	*99.6*	*116.7*	*92.6*	**387.1**	*407.8*	*399.3*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**21.9**	*18.9*	*30.9*	*23.7*	*24.4*	*14.6*	*26.4*	*23.1*	**90.2**	*95.4*	*88.5*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**22.5**	*16.8*	*24.8*	*21.2*	*20.9*	*16.2*	*24.8*	*17.6*	**90.5**	*85.3*	*79.5*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	*2.4*	*2.4*	*2.4*	*2.3*	*1.2*	*2.4*	*2.4*	**8.5**	*9.7*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**39.3**	*40.0*	*31.2*	*27.8*	*33.5*	*40.6*	*30.2*	*27.8*	**121.0**	*138.3*	*132.2*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**18.5**	*17.7*	*16.2*	*18.2*	*19.6*	*18.9*	*17.2*	*19.8*	**65.5**	*70.6*	*75.6*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	**0.7**	*0.6*	*0.6*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**104.8**	*96.1*	*105.7*	*93.4*	*100.9*	*91.7*	*101.3*	*90.9*	**376.4**	*400.0*	*384.7*
Net energy for load (f)	**89.9**	**86.2**	**97.7**	**89.6**	**91.2**	*86.2*	*95.6*	*88.4*	*91.5*	*85.1*	*94.9*	*88.1*	**363.4**	*361.4*	*359.6*
Southwest															
Natural Gas	**10.7**	**15.2**	**19.4**	**11.5**	**8.8**	*11.5*	*17.0*	*9.8*	*10.0*	*10.8*	*14.9*	*9.2*	**56.8**	*47.2*	*45.0*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**5.6**	*5.1*	*7.9*	*5.7*	*3.8*	*4.1*	*7.8*	*5.5*	**26.8**	*24.3*	*21.2*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	*7.5*	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.7*	*32.0*
Conventional hydropower	**2.0**	**2.3**	**1.9**	**1.5**	**1.9**	*2.3*	*2.3*	*1.8*	*2.1*	*2.5*	*2.3*	*1.8*	**7.7**	*8.3*	*8.7*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**5.0**	*5.7*	*4.5*	*5.1*	*5.1*	*6.1*	*4.7*	*5.6*	**14.0**	*20.3*	*21.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**29.8**	**34.2**	**41.5**	**31.6**	**29.5**	*32.3*	*40.4*	*29.8*	*29.4*	*31.1*	*38.4*	*29.6*	**137.1**	*132.0*	*128.6*
Net energy for load (f)	**20.5**	**26.3**	**33.2**	**22.5**	**21.7**	*26.9*	*34.0*	*22.8*	*22.4*	*26.7*	*33.9*	*22.9*	**102.5**	*105.4*	*105.9*
California															
Natural Gas	**16.7**	**17.9**	**29.4**	**21.6**	**15.9**	*13.1*	*25.9*	*23.1*	*14.5*	*12.5*	*25.8*	*21.5*	**85.6**	*78.0*	*74.2*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.8**	*1.1*	*2.5*	*1.9*	*1.2*	*1.3*	*2.5*	*2.0*	**7.6**	*6.3*	*6.9*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	*4.0*	*4.4*	*4.0*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.1*	*18.0*
Conventional hydropower	**2.4**	**4.2**	**4.9**	**2.8**	**3.4**	*5.3*	*4.6*	*2.3*	*3.9*	*7.9*	*7.2*	*3.7*	**14.4**	*15.5*	*22.8*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.6**	*22.1*	*20.5*	*16.3*	*17.7*	*24.1*	*23.0*	*18.5*	**71.1**	*75.5*	*83.3*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	*-0.1*	*-0.1*	*0.0*	*0.1*	*-0.1*	*0.0*	*0.1*	**-0.2**	*-0.2*	*0.2*
Total generation	**39.3**	**48.9**	**61.5**	**45.3**	**41.4**	*45.5*	*57.8*	*47.5*	*42.0*	*50.4*	*63.1*	*49.9*	**195.0**	*192.2*	*205.3*
Net energy for load (f)	**55.6**	**62.5**	**77.4**	**59.5**	**56.3**	*60.8*	*74.3*	*59.6*	*58.3*	*61.3*	*74.0*	*59.3*	**255.0**	*250.9*	*253.0*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

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Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.034**	*0.035*	*0.036*	*0.035*	*0.033*	*0.034*	*0.036*	*0.035*	**0.138**	*0.140*	*0.138*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.653**	*0.680*	*0.554*	*0.506*	*0.619*	*0.711*	*0.576*	*0.529*	**2.272**	*2.392*	*2.435*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.256**	*0.392*	*0.392*	*0.261*	*0.324*	*0.495*	*0.490*	*0.330*	**1.014**	*1.300*	*1.639*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.057**	*0.057*	*0.058*	*0.057*	*0.058*	*0.058*	*0.057*	*0.056*	**0.236**	*0.230*	*0.229*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.049**	*0.040*	*0.050*	*0.044*	*0.047*	*0.041*	*0.050*	*0.044*	**0.199**	*0.184*	*0.183*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.058**	*0.977*	*0.760*	*1.047*	*1.118*	*1.013*	*0.788*	*1.089*	**3.372**	*3.842*	*4.007*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.108**	*2.181*	*1.849*	*1.951*	*2.199*	*2.352*	*1.997*	*2.083*	**7.231**	*8.089*	*8.631*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.208**	*0.202*	*0.203*	*0.206*	*0.193*	*0.200*	*0.202*	*0.207*	**0.789**	*0.819*	*0.803*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	*0.011*	*0.011*	*0.008*	*0.009*	*0.012*	*0.012*	*0.009*	**0.036**	*0.038*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.041**	*0.040*	*0.039*	*0.042*	*0.041*	*0.040*	*0.039*	*0.042*	**0.160**	*0.161*	*0.161*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.323**	*0.339*	*0.357*	*0.361*	*0.350*	*0.348*	*0.360*	*0.363*	**1.342**	*1.381*	*1.422*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.588**	*0.601*	*0.619*	*0.625*	*0.601*	*0.609*	*0.622*	*0.629*	**2.361**	*2.433*	*2.461*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	*0.048*	*0.048*	*0.033*	*0.038*	*0.055*	*0.056*	*0.039*	**0.140**	*0.163*	*0.187*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.009**	*0.008*	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.035**	*0.036*	*0.036*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.076**	*0.091*	*0.093*	*0.077*	*0.081*	*0.098*	*0.100*	*0.083*	**0.313**	*0.337*	*0.362*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.080**	*0.120*	*0.119*	*0.081*	*0.089*	*0.134*	*0.134*	*0.092*	**0.329**	*0.400*	*0.448*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.116**	*0.116*	*0.117*	*0.117*	*0.116*	*0.116*	*0.117*	*0.117*	**0.464**	*0.465*	*0.465*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.205**	*0.245*	*0.246*	*0.208*	*0.215*	*0.260*	*0.261*	*0.218*	**0.832**	*0.905*	*0.954*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.097**	*0.122*	*0.117*	*0.139*	*0.127*	*0.133*	*0.126*	*0.152*	**0.372**	*0.475*	*0.538*
Ethanol (g)	**0.243**	**0.281**	**0.285**	**0.288**	**0.263**	*0.284*	*0.283*	*0.283*	*0.257*	*0.282*	*0.286*	*0.287*	**1.097**	*1.113*	*1.113*
Subtotal	**0.322**	**0.376**	**0.374**	**0.397**	**0.356**	*0.407*	*0.401*	*0.422*	*0.385*	*0.416*	*0.412*	*0.439*	**1.469**	*1.586*	*1.651*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.097**	*0.122*	*0.117*	*0.139*	*0.127*	*0.133*	*0.126*	*0.152*	**0.372**	*0.475*	*0.538*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.208**	*0.202*	*0.203*	*0.206*	*0.193*	*0.200*	*0.202*	*0.207*	**0.789**	*0.819*	*0.803*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.301**	**0.275**	*0.297*	*0.296*	*0.296*	*0.269*	*0.295*	*0.299*	*0.300*	**1.146**	*1.163*	*1.163*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.052**	*0.052*	*0.053*	*0.053*	*0.050*	*0.051*	*0.053*	*0.052*	**0.206**	*0.210*	*0.206*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.656**	*0.682*	*0.556*	*0.508*	*0.622*	*0.714*	*0.579*	*0.531*	**2.283**	*2.403*	*2.446*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.377**	*0.571*	*0.570*	*0.383*	*0.460*	*0.697*	*0.692*	*0.469*	**1.519**	*1.901*	*2.317*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	*0.106*	*0.107*	*0.108*	*0.108*	*0.106*	*0.105*	*0.107*	**0.431**	*0.427*	*0.426*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.509**	*0.516*	*0.545*	*0.543*	*0.534*	*0.525*	*0.548*	*0.545*	**2.087**	*2.113*	*2.153*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.058**	*0.977*	*0.760*	*1.047*	*1.118*	*1.013*	*0.788*	*1.089*	**3.372**	*3.842*	*4.007*
Total Consumption	**2.950**	**3.162**	**2.953**	**3.141**	**3.333**	*3.526*	*3.207*	*3.284*	*3.481*	*3.734*	*3.391*	*3.453*	**12.206**	*13.350*	*14.059*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,161**	**5,997**	**5,980**	**5,977**	**5,969**	*6,006*	*6,008*	*6,009*	*5,985*	*5,985*	*5,926*	*5,926*	**5,977**	*6,009*	*5,926*
Waste	**3,700**	**3,680**	**3,677**	**3,674**	**3,667**	*3,703*	*3,705*	*3,706*	*3,682*	*3,682*	*3,623*	*3,623*	**3,674**	*3,706*	*3,623*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,736**	**78,796**	**78,798**	**78,798**	**78,808**	*78,825*	*78,868*	*78,891*	*78,891*	*78,899*	*78,926*	*78,936*	**78,798**	*78,891*	*78,936*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	*2,517*	*2,517*	*2,542*	*2,542*	*2,542*	*2,542*	*2,542*	**2,483**	*2,542*	*2,542*
Large-Scale Solar (b)	**50,368**	**52,359**	**55,609**	**60,671**	**64,657**	*69,038*	*71,484*	*80,955*	*84,324*	*88,980*	*91,626*	*103,793*	**60,671**	*80,955*	*103,793*
Wind	**121,201**	**124,742**	**126,696**	**132,243**	**135,798**	*139,072*	*139,409*	*142,508*	*142,658*	*143,808*	*143,808*	*146,974*	**132,243**	*142,508*	*146,974*
Other Sectors (c)															
Biomass	**6,206**	**6,210**	**6,214**	**6,214**	**6,204**	*6,204*	*6,197*	*6,197*	*6,197*	*6,200*	*6,200*	*6,200*	**6,214**	*6,197*	*6,200*
Waste	**827**	**830**	**829**	**829**	**829**	*829*	*829*	*829*	*829*	*829*	*829*	*829*	**829**	*829*	*829*
Wood	**5,380**	**5,380**	**5,385**	**5,385**	**5,375**	*5,375*	*5,367*	*5,367*	*5,367*	*5,371*	*5,371*	*5,371*	**5,385**	*5,367*	*5,371*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	*291*	*291*	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**473**	**475**	**511**	**529**	**549**	*562*	*564*	*584*	*586*	*631*	*632*	*632*	**529**	*584*	*632*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,387**	*35,565*	*36,783*	*38,043*	*39,387*	*40,822*	*42,309*	*43,898*	**32,972**	*38,043*	*43,898*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,018**	*22,820*	*23,652*	*24,514*	*25,406*	*26,332*	*27,291*	*28,286*	**21,022**	*24,514*	*28,286*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,121**	*10,442*	*10,773*	*11,116*	*11,510*	*11,958*	*12,425*	*12,955*	**9,728**	*11,116*	*12,955*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,249**	*2,303*	*2,358*	*2,413*	*2,471*	*2,531*	*2,593*	*2,657*	**2,223**	*2,413*	*2,657*
Wind	**121**	**121**	**121**	**121**	**122**	*122*	*122*	*122*	*122*	*122*	*122*	*122*	**121**	*122*	*122*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	*6.3*	*6.9*	*6.5*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.2*	*26.1*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.7**	*3.8*	*3.8*	*3.7*	*3.8*	*3.8*	*3.7*	*3.7*	**15.5**	*15.0*	*14.9*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**3.0**	*2.5*	*3.1*	*2.7*	*2.9*	*2.5*	*3.1*	*2.7*	**12.4**	*11.3*	*11.2*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**75.5**	*76.3*	*62.2*	*56.8*	*69.5*	*79.9*	*64.7*	*59.4*	**259.0**	*270.8*	*273.5*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.8**	*4.0*	*4.1*	*4.0*	*3.8*	*3.8*	*4.1*	*4.0*	**15.7**	*15.9*	*15.7*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**28.8**	*44.0*	*44.0*	*29.3*	*36.4*	*55.6*	*55.0*	*37.1*	**113.9**	*146.0*	*184.1*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**118.8**	*109.7*	*85.3*	*117.6*	*125.5*	*113.8*	*88.5*	*122.3*	**378.6**	*431.5*	*450.0*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.8**	*6.8*	*7.1*	*6.8*	*6.8*	*6.8*	*7.1*	*6.8*	**27.6**	*27.5*	*27.5*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**6.1**	*6.1*	*6.4*	*6.1*	*6.1*	*6.1*	*6.4*	*6.1*	**24.8**	*24.7*	*24.7*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*1.0*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**11.9**	*17.7*	*17.6*	*12.1*	*13.5*	*20.2*	*20.2*	*13.9*	**49.0**	*59.3*	*67.8*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.5**	*11.2*	*11.2*	*7.6*	*8.5*	*12.9*	*12.8*	*8.8*	**30.1**	*37.6*	*43.0*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	*5.2*	*5.2*	*3.6*	*4.1*	*5.9*	*6.0*	*4.1*	**15.1**	*17.5*	*20.2*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	*1.2*	*1.2*	*0.9*	*0.9*	*1.4*	*1.4*	*1.0*	**3.8**	*4.2*	*4.6*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,809**	*19,931*	*20,084*	*20,257*	*20,409*	*20,568*	*20,725*	*20,870*	**19,427**	*20,020*	*20,643*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,818**	**13,960**	*14,026*	*14,098*	*14,175*	*14,239*	*14,322*	*14,405*	*14,490*	**13,625**	*14,065*	*14,364*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,609**	**3,679**	*3,736*	*3,753*	*3,770*	*3,795*	*3,822*	*3,844*	*3,866*	**3,588**	*3,735*	*3,832*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**249**	**130**	*111*	*119*	*139*	*151*	*153*	*157*	*158*	**-20**	*125*	*155*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,359**	**3,356**	*3,361*	*3,374*	*3,388*	*3,402*	*3,417*	*3,429*	*3,440*	**3,376**	*3,370*	*3,422*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,391**	**2,343**	*2,393*	*2,446*	*2,502*	*2,555*	*2,605*	*2,652*	*2,696*	**2,308**	*2,421*	*2,627*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,741**	**3,813**	*3,869*	*3,872*	*3,874*	*3,885*	*3,899*	*3,905*	*3,920*	**3,592**	*3,857*	*3,902*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,418**	**15,285**	*15,254*	*15,344*	*15,433*	*15,568*	*15,761*	*15,954*	*16,171*	**16,021**	*15,329*	*15,864*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	*151.6*	*152.6*	*153.4*	*153.9*	*154.4*	*154.8*	*155.1*	**146.1**	*152.0*	*154.6*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	*3.5*	*3.4*	*3.4*	*3.4*	*3.4*	*3.5*	*3.5*	**5.4**	*3.5*	*3.4*
Housing Starts															
(millions - SAAR)	**1.60**	**1.59**	**1.56**	**1.67**	**1.75**	*1.72*	*1.61*	*1.58*	*1.59*	*1.56*	*1.54*	*1.51*	**1.60**	*1.66*	*1.55*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.7**	**101.6**	**103.6**	*106.1*	*107.2*	*108.3*	*109.3*	*110.4*	*111.5*	*112.2*	**100.1**	*106.3*	*110.9*
Manufacturing	**97.3**	**98.7**	**99.7**	**101.0**	**102.4**	*104.6*	*105.8*	*107.3*	*108.5*	*109.9*	*111.3*	*112.2*	**99.2**	*105.0*	*110.5*
Food	**101.2**	**100.5**	**99.7**	**101.4**	**103.5**	*104.0*	*104.4*	*104.6*	*104.8*	*105.1*	*105.5*	*105.8*	**100.7**	*104.1*	*105.3*
Paper	**93.9**	**95.0**	**95.2**	**93.9**	**96.3**	*97.1*	*97.1*	*97.5*	*97.5*	*97.9*	*98.3*	*98.5*	**94.5**	*97.0*	*98.0*
Petroleum and Coal Products	**90.5**	**95.9**	**95.0**	**96.1**	**95.6**	*97.6*	*98.2*	*98.8*	*99.1*	*99.4*	*99.5*	*99.5*	**94.4**	*97.6*	*99.4*
Chemicals	**91.8**	**99.3**	**99.6**	**100.5**	**100.9**	*101.7*	*101.9*	*103.0*	*103.9*	*104.9*	*106.1*	*106.7*	**97.8**	*101.9*	*105.4*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.7**	**99.2**	**104.3**	*105.4*	*105.6*	*105.7*	*105.9*	*106.3*	*107.0*	*107.8*	**97.2**	*105.3*	*106.7*
Primary Metals	**92.4**	**96.7**	**98.1**	**99.3**	**97.5**	*99.3*	*100.0*	*102.3*	*102.8*	*104.6*	*106.6*	*106.9*	**96.6**	*99.8*	*105.2*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.4**	**97.4**	**98.2**	*99.6*	*99.9*	*101.0*	*101.5*	*102.4*	*103.5*	*103.9*	**95.6**	*99.7*	*102.8*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.8**	**104.3**	**106.7**	*108.1*	*108.7*	*109.5*	*109.8*	*110.5*	*111.2*	*111.7*	**102.7**	*108.2*	*110.8*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.7**	**98.6**	**99.8**	*101.1*	*101.7*	*103.0*	*103.7*	*104.7*	*105.8*	*106.3*	**97.0**	*101.4*	*105.2*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.9**	**96.4**	**97.3**	*98.5*	*98.7*	*99.9*	*100.6*	*101.6*	*102.7*	*103.2*	**95.0**	*98.6*	*102.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	*2.88*	*2.91*	*2.93*	*2.95*	*2.96*	*2.98*	*3.00*	**2.71**	*2.89*	*2.97*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.49**	*2.50*	*2.46*	*2.42*	*2.38*	*2.35*	*2.35*	*2.34*	**2.27**	*2.47*	*2.36*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	*3.52*	*3.21*	*2.90*	*2.83*	*2.82*	*2.80*	*2.77*	**2.41**	*3.20*	*2.81*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.1**	*124.5*	*125.5*	*126.4*	*127.2*	*128.0*	*128.9*	*129.7*	**118.5**	*124.9*	*128.5*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,129**	**9,368**	**8,934**	**8,295**	*9,296*	*9,555*	*9,157*	*8,515*	*9,518*	*9,674*	*9,269*	**8,844**	*9,079*	*9,247*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**596**	**658**	**667**	**651**	*707*	*712*	*680*	*679*	*694*	*722*	*702*	**615**	*688*	*699*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**344**	*401*	*407*	*383*	*372*	*416*	*418*	*393*	**334**	*384*	*400*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	*253.6*	*247.5*	*260.8*	*234.6*	*262.2*	*261.6*	*271.9*	**217.5**	*246.9*	*257.6*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.253*	*0.273*	*0.288*	*0.295*	*0.292*	*0.312*	*0.324*	**0.258**	*0.267*	*0.306*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**570**	**578**	**549**	*565*	*581*	*585*	*559*	*573*	*586*	*587*	**2,224**	*2,281*	*2,305*
Natural Gas	**485**	**353**	**373**	**426**	**503**	*365*	*378*	*437*	*490*	*359*	*385*	*448*	**1,637**	*1,684*	*1,682*
Coal	**256**	**229**	**307**	**209**	**256**	*218*	*288*	*221*	*234*	*211*	*281*	*211*	**1,001**	*983*	*936*
Total Energy (c)	**1,260**	**1,144**	**1,252**	**1,216**	**1,311**	*1,151*	*1,250*	*1,246*	*1,286*	*1,145*	*1,254*	*1,249*	**4,872**	*4,959*	*4,935*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,001**	**1,008**	**1,026**	**1,023**	*1,028*	*1,035*	*1,041*	*1,047*	*1,054*	*1,060*	*1,067*	**1,004**	*1,032*	*1,057*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,813**	**2,821**	*2,836*	*2,855*	*2,878*	*2,895*	*2,915*	*2,934*	*2,953*	**2,765**	*2,847*	*2,924*
E. N. Central	**2,485**	**2,514**	**2,520**	**2,553**	**2,549**	*2,564*	*2,583*	*2,605*	*2,622*	*2,640*	*2,660*	*2,677*	**2,518**	*2,575*	*2,650*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,221**	**1,218**	*1,226*	*1,236*	*1,246*	*1,254*	*1,264*	*1,273*	*1,281*	**1,212**	*1,231*	*1,268*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,517**	**3,518**	*3,541*	*3,569*	*3,599*	*3,626*	*3,655*	*3,684*	*3,710*	**3,449**	*3,557*	*3,669*
E. S. Central	**836**	**842**	**846**	**861**	**861**	*865*	*871*	*876*	*881*	*887*	*893*	*898*	**846**	*868*	*890*
W. S. Central	**2,320**	**2,362**	**2,378**	**2,431**	**2,437**	*2,459*	*2,484*	*2,511*	*2,538*	*2,562*	*2,587*	*2,609*	**2,373**	*2,473*	*2,574*
Mountain	**1,274**	**1,296**	**1,303**	**1,324**	**1,325**	*1,333*	*1,344*	*1,357*	*1,370*	*1,384*	*1,397*	*1,410*	**1,299**	*1,340*	*1,390*
Pacific	**3,692**	**3,774**	**3,800**	**3,883**	**3,880**	*3,901*	*3,928*	*3,963*	*3,992*	*4,022*	*4,052*	*4,078*	**3,787**	*3,918*	*4,036*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.5**	**97.1**	**98.0**	**99.2**	**100.5**	*102.4*	*103.4*	*104.9*	*106.2*	*107.6*	*108.9*	*109.7*	**97.4**	*102.8*	*108.1*
Middle Atlantic	**93.3**	**94.6**	**95.3**	**96.5**	**97.8**	*100.0*	*101.2*	*102.5*	*103.7*	*104.8*	*105.9*	*106.6*	**94.9**	*100.4*	*105.2*
E. N. Central	**95.7**	**96.3**	**97.2**	**99.0**	**100.0**	*102.2*	*103.3*	*105.0*	*106.2*	*107.8*	*109.1*	*110.1*	**97.0**	*102.6*	*108.3*
W. N. Central	**98.5**	**99.7**	**100.7**	**101.4**	**103.3**	*105.3*	*106.3*	*107.7*	*108.9*	*110.4*	*111.8*	*112.8*	**100.1**	*105.6*	*111.0*
S. Atlantic	**99.6**	**100.8**	**102.0**	**103.4**	**104.4**	*106.6*	*107.7*	*109.0*	*110.1*	*111.4*	*112.7*	*113.6*	**101.5**	*106.9*	*111.9*
E. S. Central	**98.0**	**99.0**	**99.9**	**101.2**	**102.4**	*104.6*	*105.6*	*107.1*	*108.1*	*109.4*	*110.7*	*111.7*	**99.5**	*104.9*	*110.0*
W. S. Central	**98.8**	**100.4**	**101.3**	**102.9**	**104.7**	*107.3*	*108.6*	*110.1*	*111.2*	*112.8*	*114.3*	*115.2*	**100.8**	*107.6*	*113.4*
Mountain	**106.8**	**109.0**	**110.1**	**111.9**	**113.9**	*116.0*	*117.2*	*118.8*	*120.2*	*121.8*	*123.3*	*124.4*	**109.4**	*116.5*	*122.4*
Pacific	**94.4**	**96.0**	**96.6**	**97.7**	**98.9**	*101.6*	*103.1*	*104.8*	*106.3*	*107.7*	*109.1*	*110.0*	**96.2**	*102.1*	*108.3*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**942**	**933**	**924**	*921*	*926*	*930*	*937*	*946*	*954*	*962*	**955**	*925*	*950*
Middle Atlantic	**2,614**	**2,449**	**2,436**	**2,381**	**2,383**	*2,368*	*2,383*	*2,399*	*2,417*	*2,439*	*2,459*	*2,479*	**2,470**	*2,383*	*2,448*
E. N. Central	**2,744**	**2,524**	**2,493**	**2,460**	**2,425**	*2,424*	*2,440*	*2,457*	*2,475*	*2,499*	*2,521*	*2,542*	**2,555**	*2,436*	*2,509*
W. N. Central	**1,276**	**1,195**	**1,176**	**1,157**	**1,152**	*1,154*	*1,162*	*1,168*	*1,175*	*1,184*	*1,194*	*1,204*	**1,201**	*1,159*	*1,189*
S. Atlantic	**3,721**	**3,444**	**3,427**	**3,420**	**3,393**	*3,386*	*3,407*	*3,428*	*3,456*	*3,493*	*3,528*	*3,560*	**3,503**	*3,404*	*3,509*
E. S. Central	**1,025**	**927**	**924**	**921**	**911**	*908*	*913*	*917*	*922*	*931*	*939*	*946*	**949**	*912*	*935*
W. S. Central	**2,238**	**2,078**	**2,069**	**2,074**	**2,060**	*2,060*	*2,077*	*2,092*	*2,112*	*2,137*	*2,160*	*2,182*	**2,115**	*2,072*	*2,148*
Mountain	**1,381**	**1,281**	**1,277**	**1,273**	**1,263**	*1,261*	*1,269*	*1,278*	*1,289*	*1,304*	*1,318*	*1,332*	**1,303**	*1,268*	*1,311*
Pacific	**3,268**	**3,086**	**3,085**	**3,044**	**3,017**	*3,013*	*3,028*	*3,045*	*3,066*	*3,097*	*3,123*	*3,147*	**3,121**	*3,026*	*3,108*
Households (Thousands)															
New England	**6,054**	**6,061**	**6,057**	**6,067**	**6,075**	*6,084*	*6,095*	*6,104*	*6,115*	*6,125*	*6,134*	*6,144*	**6,067**	*6,104*	*6,144*
Middle Atlantic	**16,405**	**16,405**	**16,387**	**16,404**	**16,417**	*16,438*	*16,459*	*16,483*	*16,513*	*16,539*	*16,565*	*16,588*	**16,404**	*16,483*	*16,588*
E. N. Central	**19,076**	**19,090**	**19,095**	**19,140**	**19,173**	*19,200*	*19,226*	*19,253*	*19,285*	*19,316*	*19,345*	*19,374*	**19,140**	*19,253*	*19,374*
W. N. Central	**8,717**	**8,729**	**8,736**	**8,763**	**8,783**	*8,807*	*8,831*	*8,850*	*8,870*	*8,891*	*8,911*	*8,930*	**8,763**	*8,850*	*8,930*
S. Atlantic	**26,284**	**26,358**	**26,405**	**26,516**	**26,613**	*26,718*	*26,818*	*26,912*	*27,012*	*27,108*	*27,199*	*27,293*	**26,516**	*26,912*	*27,293*
E. S. Central	**7,816**	**7,830**	**7,840**	**7,866**	**7,886**	*7,910*	*7,932*	*7,950*	*7,971*	*7,991*	*8,010*	*8,029*	**7,866**	*7,950*	*8,029*
W. S. Central	**15,332**	**15,379**	**15,414**	**15,482**	**15,543**	*15,606*	*15,668*	*15,723*	*15,781*	*15,838*	*15,894*	*15,949*	**15,482**	*15,723*	*15,949*
Mountain	**9,612**	**9,653**	**9,688**	**9,744**	**9,792**	*9,840*	*9,887*	*9,929*	*9,972*	*10,017*	*10,058*	*10,100*	**9,744**	*9,929*	*10,100*
Pacific	**19,002**	**18,992**	**18,979**	**19,010**	**19,040**	*19,072*	*19,106*	*19,129*	*19,156*	*19,183*	*19,209*	*19,239*	**19,010**	*19,129*	*19,239*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	*7.4*	*7.5*	*7.5*	*7.5*	*7.5*	*7.6*	*7.6*	**7.2**	*7.4*	*7.5*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	*19.6*	*19.7*	*19.8*	*19.9*	*19.9*	*20.0*	*20.0*	**18.8**	*19.6*	*19.9*
E. N. Central	**21.1**	**21.2**	**21.4**	**21.6**	**21.8**	*22.0*	*22.2*	*22.3*	*22.3*	*22.4*	*22.4*	*22.5*	**21.3**	*22.1*	*22.4*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	*10.7*	*10.8*	*10.8*	*10.9*	*10.9*	*10.9*	*10.9*	**10.5**	*10.8*	*10.9*
S. Atlantic	**28.2**	**28.5**	**28.8**	**29.2**	**29.5**	*29.7*	*29.9*	*30.1*	*30.2*	*30.3*	*30.4*	*30.4*	**28.7**	*29.8*	*30.3*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	*8.4*	*8.5*	*8.5*	*8.5*	*8.5*	*8.6*	*8.6*	**8.2**	*8.4*	*8.6*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.9**	**18.1**	*18.2*	*18.4*	*18.5*	*18.6*	*18.6*	*18.7*	*18.8*	**17.5**	*18.3*	*18.7*
Mountain	**10.8**	**11.0**	**11.1**	**11.3**	**11.4**	*11.5*	*11.6*	*11.6*	*11.7*	*11.8*	*11.8*	*11.8*	**11.1**	*11.5*	*11.8*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.7**	*23.9*	*24.1*	*24.2*	*24.3*	*24.4*	*24.4*	*24.5*	**22.8**	*24.0*	*24.4*

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,014**	**778**	**85**	**1,924**	**3,144**	*843*	*129*	*2,138*	*3,089*	*867*	*131*	*2,138*	**5,800**	*6,253*	*6,225*
Middle Atlantic	**2,820**	**669**	**57**	**1,723**	**2,943**	*718*	*82*	*1,965*	*2,847*	*688*	*84*	*1,965*	**5,268**	*5,708*	*5,583*
E. N. Central	**3,085**	**707**	**69**	**1,887**	**3,267**	*821*	*126*	*2,248*	*3,130*	*735*	*128*	*2,248*	**5,749**	*6,462*	*6,242*
W. N. Central	**3,227**	**717**	**88**	**2,025**	**3,479**	*824*	*158*	*2,458*	*3,252*	*717*	*161*	*2,458*	**6,057**	*6,918*	*6,588*
South Atlantic	**1,346**	**211**	**10**	**799**	**1,344**	*225*	*14*	*959*	*1,383*	*192*	*14*	*957*	**2,367**	*2,541*	*2,546*
E. S. Central	**1,789**	**313**	**19**	**1,035**	**1,820**	*295*	*22*	*1,309*	*1,819*	*255*	*22*	*1,310*	**3,155**	*3,446*	*3,405*
W. S. Central	**1,295**	**121**	**1**	**493**	**1,339**	*77*	*4*	*813*	*1,211*	*94*	*4*	*812*	**1,911**	*2,233*	*2,121*
Mountain	**2,311**	**664**	**111**	**1,639**	**2,303**	*669*	*141*	*1,853*	*2,256*	*713*	*145*	*1,853*	**4,725**	*4,967*	*4,966*
Pacific	**1,561**	**484**	**77**	**1,205**	**1,407**	*588*	*93*	*1,211*	*1,535*	*591*	*95*	*1,212*	**3,328**	*3,299*	*3,433*
U.S. Average	**2,107**	**472**	**51**	**1,306**	**2,150**	*516*	*75*	*1,530*	*2,108*	*491*	*76*	*1,528*	**3,936**	*4,271*	*4,203*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	*852*	*107*	*2,104*	*3,152*	*864*	*107*	*2,110*	**6,195**	*6,164*	*6,233*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	*684*	*71*	*1,908*	*2,945*	*697*	*71*	*1,911*	**5,572**	*5,550*	*5,624*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	*727*	*97*	*2,162*	*3,215*	*748*	*96*	*2,171*	**6,161**	*6,119*	*6,229*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	*726*	*125*	*2,357*	*3,317*	*757*	*126*	*2,367*	**6,477**	*6,426*	*6,567*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	*187*	*11*	*906*	*1,401*	*194*	*11*	*902*	**2,503**	*2,483*	*2,507*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	*243*	*15*	*1,228*	*1,809*	*255*	*14*	*1,227*	**3,267**	*3,248*	*3,305*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	*93*	*3*	*754*	*1,189*	*97*	*3*	*764*	**2,015**	*1,994*	*2,053*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	*685*	*132*	*1,818*	*2,201*	*694*	*135*	*1,825*	**4,877**	*4,817*	*4,855*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,454**	*523*	*79*	*1,136*	*1,440*	*521*	*80*	*1,140*	**3,242**	*3,192*	*3,181*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,096**	*479*	*62*	*1,473*	*2,133*	*488*	*62*	*1,475*	**4,147**	*4,110*	*4,159*
Cooling Degree Days															
New England	**0**	**142**	**457**	**6**	**0**	*94*	*427*	*2*	*0*	*80*	*408*	*2*	**606**	*523*	*490*
Middle Atlantic	**0**	**181**	**628**	**23**	**0**	*158*	*548*	*5*	*0*	*150*	*536*	*5*	**833**	*710*	*691*
E. N. Central	**2**	**249**	**627**	**30**	**1**	*214*	*534*	*6*	*0*	*211*	*527*	*6*	**909**	*755*	*744*
W. N. Central	**8**	**313**	**748**	**23**	**3**	*278*	*685*	*9*	*3*	*255*	*665*	*9*	**1,092**	*975*	*932*
South Atlantic	**152**	**614**	**1,169**	**285**	**158**	*648*	*1,144*	*232*	*125*	*644*	*1,143*	*232*	**2,221**	*2,182*	*2,144*
E. S. Central	**40**	**435**	**1,018**	**126**	**29**	*492*	*1,025*	*62*	*27*	*496*	*1,022*	*62*	**1,620**	*1,609*	*1,607*
W. S. Central	**90**	**770**	**1,474**	**317**	**56**	*943*	*1,501*	*198*	*80*	*817*	*1,480*	*198*	**2,651**	*2,698*	*2,575*
Mountain	**10**	**527**	**960**	**68**	**16**	*438*	*930*	*75*	*17*	*412*	*911*	*76*	**1,564**	*1,460*	*1,415*
Pacific	**24**	**252**	**708**	**58**	**31**	*163*	*565*	*60*	*27*	*167*	*571*	*60*	**1,042**	*818*	*825*
U.S. Average	**49**	**410**	**903**	**128**	**47**	*409*	*849*	*93*	*43*	*389*	*842*	*93*	**1,490**	*1,398*	*1,367*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	*87*	*472*	*2*	*0*	*89*	*466*	*2*	**555**	*561*	*557*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	*162*	*608*	*8*	*0*	*160*	*600*	*8*	**779**	*779*	*768*
E. N. Central	**3**	**234**	**572**	**7**	**3**	*237*	*571*	*9*	*1*	*229*	*559*	*10*	**816**	*821*	*799*
W. N. Central	**7**	**294**	**686**	**10**	**7**	*299*	*681*	*11*	*4*	*289*	*669*	*12*	**997**	*999*	*974*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	*668*	*1,188*	*269*	*144*	*669*	*1,187*	*273*	**2,276**	*2,272*	*2,273*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	*518*	*1,057*	*84*	*36*	*510*	*1,055*	*86*	**1,713**	*1,703*	*1,687*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	*853*	*1,537*	*224*	*101*	*846*	*1,532*	*226*	**2,772**	*2,726*	*2,705*
Mountain	**24**	**441**	**949**	**85**	**23**	*458*	*945*	*84*	*23*	*452*	*941*	*83*	**1,499**	*1,511*	*1,500*
Pacific	**31**	**193**	**648**	**86**	**31**	*208*	*665*	*85*	*32*	*208*	*656*	*84*	**959**	*989*	*979*
U.S. Average	**52**	**413**	**892**	**104**	**53**	*412*	*889*	*109*	*50*	*410*	*884*	*110*	**1,461**	*1,463*	*1,454*

- = no data available

Notes: EIA completed modeling and analysis for this report on May 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

June 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The June *Short-Term Energy Outlook* (STEO) is subject to heightened levels of uncertainty resulting from a variety of factors, including Russia's full-scale invasion of Ukraine. Global macroeconomic assumptions in STEO are from Oxford Economics and include global GDP growth of 3.1% in 2022 and 3.4% in 2023, compared with growth of 6.0% in 2021. A range of potential macroeconomic outcomes could affect energy markets in the forecast period. Factors driving energy supply uncertainty include how sanctions affect Russia's oil production, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- The Brent crude oil spot price averaged $113 per barrel (b) in May. We expect the Brent price will average $108/b in the second half of 2022 (2H22) and then fall to $97/b in 2023. Current oil inventory levels are low, which amplifies the potential for oil price volatility. Actual price outcomes will largely depend on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market.

- We forecast Russia's production of total liquid fuels will decline from 11.3 million b/d in the first quarter of 2022 (1Q22) to 9.3 million b/d in 4Q23. This STEO incorporates the recently announced EU ban of seaborne crude oil and petroleum product imports from Russia. We assume the crude oil import ban will be imposed in six months and the petroleum product import ban in eight months. This forecast does not reflect restrictions on shipping insurance, as details regarding such restrictions were not available when we finalized this forecast on June 2. The possibility that these sanctions or other potential future sanctions reduce Russia's oil production by more than expected creates upward risks for crude oil prices during the forecast period.

- At its June 2 meeting, OPEC+ announced an upward adjustment of production targets for July and August. We updated our forecast to reflect these targets. We expect OPEC crude oil production to average 29.2 million b/d in 2H22, up 0.8 million b/d from 1H22.

- The U.S. average retail price for regular grade gasoline averaged $4.44 per gallon (gal) in May, and the average retail diesel price was $5.57/gal. Rising prices for gasoline and diesel reflect refining margins for those products that are at or near record highs amid

low inventory levels. We expect the gasoline wholesale margins (the difference between the wholesale gasoline price and Brent crude oil price) to fall from $1.17/gal in May to average 81 cents/gal in 3Q22, and we expect retail gasoline prices to average $4.27/gal in 3Q22. Diesel wholesale margins in the forecast fall from $1.53/gal in May to $1.07/gal in 3Q22, and retail diesel averages $4.78/gal in 3Q22.

- U.S. refinery utilization averages 94% in 3Q22 in our forecast, as a result of high wholesale product margins. Despite our expectation that refinery utilization will be at or near the highest levels in the past five years, operable refinery capacity is about 900,000 b/d less than at the end of 2019, and as a result, we do not expect total refinery output of products to reach its highest level in the past five years. Although we expect high refinery utilization will help bring wholesale margins down from record levels.

Natural gas

- We expect the Henry Hub spot price to average $8.69 per million British thermal units (MMBtu) in 3Q22, up from an average of $8.13/MMBtu in May. Natural gas prices are rising mainly because of three factors: natural gas inventories that are below the five-year average, steady demand for U.S. liquefied natural gas (LNG) exports, and high demand for natural gas from the electric power sector given limited opportunities for natural gas-to-coal switching. In 2023, we expect the Henry Hub price will average $4.74/MMBtu amid rising natural gas production.

- U.S. natural gas inventories ended May at 2.0 trillion cubic feet (Tcf), which is 15% below the five-year average. We forecast that natural gas inventories will end the 2022 injection season (end of October) at just over 3.3 Tcf, which would be 9% below the five-year average.

- We forecast that U.S. LNG exports will average 11.7 billion cubic feet per day (Bcf/d) during 2Q22 and 3Q22 and 11.9 Bcf/d for all of 2022, a 22% increase from 2021, as a result of additional U.S. LNG export capacity that has come online. Since the end of 2021, the EU and the UK imported record-high LNG volumes because of low natural gas inventories. Europe has become the main destination for U.S. LNG exports and accounted for 74% of total U.S. LNG exports during the first four months of 2022. We forecast LNG exports will average 12.6 Bcf/d in 2023. Expected growth in LNG exports in 2023 results from LNG export terminals that came online in mid-2022 being operational for the whole year in 2023.

- U.S. consumption of natural gas in our forecast averages 85.3 Bcf/d in 2022, up 3% from 2021. Rising U.S. natural gas consumption reflects increased consumption across all sectors. In the residential and commercial sectors, increasing consumption results from colder temperatures in 2022 than in 2021, and in the industrial sector, rising economic activity contributes to higher consumption. Limited natural gas-to-coal switching in the

electric power sector, despite high natural gas prices, results in increased consumption of natural gas for power generation. For 2023, we forecast that natural gas consumption will average 85.1 Bcf/d, about the same as 2022.

- We forecast U.S. dry natural gas production to average 95.7 Bcf/d in June and to average 97.9 Bcf/d in 2H22, which would be 2.7 Bcf/d (3%) more than in 2H21. We expect dry natural gas production to average 101.6 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- The largest increases in U.S. electricity generation in the next two years are likely to come from renewable energy sources, driven by expanded generating capacity from these sources. We expect renewable energy will provide 22% of U.S. generation in 2022 and 24% in 2023, up from a share of 20% last year. Solar capacity additions in the electric power sector total 20 gigawatts (GW) for 2022 and 22 GW for 2023. Solar PV installation delays from 2022 to 2023 account for about 1 GW of the expected installed solar capacity. We expect that small-scale (systems less than 1 GW) solar capacity will grow to a total of 39 GW by the end of 2022 and to 46 GW in 2023.We estimate that wind capacity additions in the U.S. electric power sector will total 11 GW in 2022 and 5 GW in 2023.

- The continued retirement of coal-fired generating capacity in the United States contributes to our forecast that the share of electricity generation from coal will decline from 23% in 2021 to 21% in 2022 and to 20% in 2023. The coal fleet has been facing constraints in raising its share of generation despite high natural gas prices. The constraints include limited rail capacity for fuel delivery, low coal stocks at power plants, reduced coal mining capacity, and rising generation from renewable sources.

- Although we expect annual U.S. natural gas fuel costs for electricity generators will increase 59% in 2022, we do not expect a significant decline in generation from natural gas-fired power plants because of the limited ability of coal power plants to act as an alternative source of generation. We forecast the U.S. natural gas generation share will average 37% in 2022, about the same as last year. The forecast natural gas share averages 36% in 2023 as the share of generation from renewable sources increases.

- We forecast the U.S. residential electricity price will average 14.6 cents/kWh between June and August 2022, up 4.8% from summer 2021. The forecast summer commercial sector price averages 12.0 cents/kWh (up 4.7%) and the forecast industrial sector price averages 7.7 cents/kWh (up 3.2%). Higher retail electricity prices largely reflect higher wholesale power prices and higher natural gas prices. We expect the summer increases in retail residential electricity prices will range from an increase of 2.4% in the West South Central region to a 16.1% increase in New England.

- U.S. coal production in the forecast increases by 23 million short tons (MMst) (3.9%) in 2022 to 601 MMst and then declines by 13 MMst (2.1%) to 588 MMst in 2023. The forecast increase occurs despite our expectation that coal use in the electric power sector will decline. We expect rising coal production will replenish electric power sector inventories and contribute to U.S. coal exports.

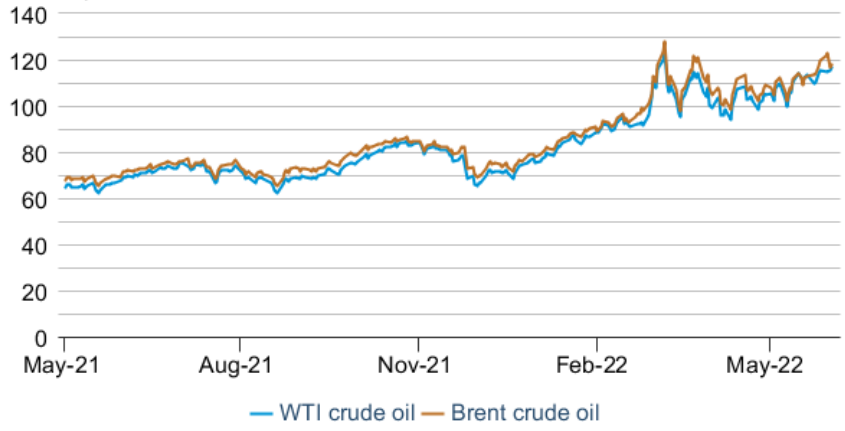
- We expect energy-related carbon dioxide (CO_2) emissions in the United States to increase 1.3% in 2022 and fall by 0.7% in 2023. Forecast emissions increases in 2022 primarily reflect growth in transportation demand.

Petroleum and Natural Gas Markets Review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $117.61 per barrel (b) on June 2, 2022, an increase of $10.03/b from the May 2, 2022 price of $107.58/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $11.70/b during the same period, settling at $116.87/b on June 2 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia Data source: CME Group, Intercontinental Exchange, and Bloomberg L.P.
Note: WTI=West Texas Intermediate

The average front-month Brent price in May was $112/b, which was higher than the April average of $106/b and about the same as the March average. Crude oil prices increased at the end of May as COVID-19 restrictions began to ease in Shanghai and Beijing and after the EU announced it will reduce crude oil imports from Russia by 90% by the end of the year. These factors contributed additional upward pressure on prices that have been high because of low inventory levels globally and uncertain supply from Russia following its full-scale invasion of Ukraine.

Many of the key uncertainties that we noted in last month's STEO remain, including:

- The impact of sanctions on Russia in relation to its full-scale invasion of Ukraine and the ongoing effects of current sanctions and private-sector actions
- The potential for new sanctions on Russia, and the pace that the EU implements its partial ban on energy imports from Russia
- The pace of petroleum demand growth through the summer and the potential for demand destruction because of high retail fuel prices
- The volume and timing of new crude oil production that will come online at price levels near or above $100/b
- Renewed concerns over potential resurgences in COVID-19 cases and the nature of individual, business, and government responses
- The ongoing impact of the coordinated release of petroleum supplies from strategic reserves in the United States and in Europe
- Other geopolitical uncertainties related to Libya, the ceasefire in Yemen, or potential new developments on an Iran deal

Although crude oil prices remain high because of low oil inventories and significant geopolitical uncertainty, we estimate that world production of petroleum and other liquids has returned to within 1% of its pre-pandemic level in March 2020. We estimate that U.S. production of crude oil and other liquids averaged 19.9 million b/d in May, which was within 3% of January 2020's record high production of 20.5 million b/d. We also estimate that OPEC crude oil and other liquids production has returned to pre-pandemic levels: May OPEC production was 33.7 million b/d, 1% higher than the first quarter of 2020 (1Q20) OPEC production of 33.4 million b/d. Furthermore, OPEC+ announced on June 2 that they will increase crude oil production targets for July and August. We forecast that OPEC crude oil and total liquid fuels production will increase to 34.6 million b/d in 3Q22, the highest since 2Q19.

After seven consecutive quarters of global oil inventory draws from 3Q20 to 1Q22, we forecast that oil stocks in OECD will generally increase but remain below their five-year average levels until 4Q23. However, in response to the EU ban on seaborne imports of crude oil from Russia and previous sanctions on Russia, we forecast that Russia's oil production will decrease from 11.3 million b/d in 1Q22 to 9.3 million b/d in 4Q23. Our forecast reflects the EU's announcement that that it will impose its crude oil import ban in six months. We assume that about 80% of the crude oil subject to the EU import ban will find alternative buyers, mainly in Asia. Our forecast does not reflect restrictions on shipping insurance, as details regarding such restrictions were not available when we finalized this forecast on June 2. The possibility that these sanctions or other potential future sanctions reduce Russia's oil production by more than expected creates upward risks for crude oil prices during the forecast period. We forecast the Brent crude oil price will average $111/b in 3Q22 and $97/b in 2023.

Ratio of S&P 500 to Brent crude oil: The value of the S&P 500, an equity index of widely traded U.S. public companies, has been decreasing both in nominal value and in terms of its ratio to the price of Brent crude oil. After peaking in April 2020 when the value of the S&P 500 index was 104 times the value of Brent crude oil, the ratio has decreased to 36 in May 2022 **(Figure 2)**.

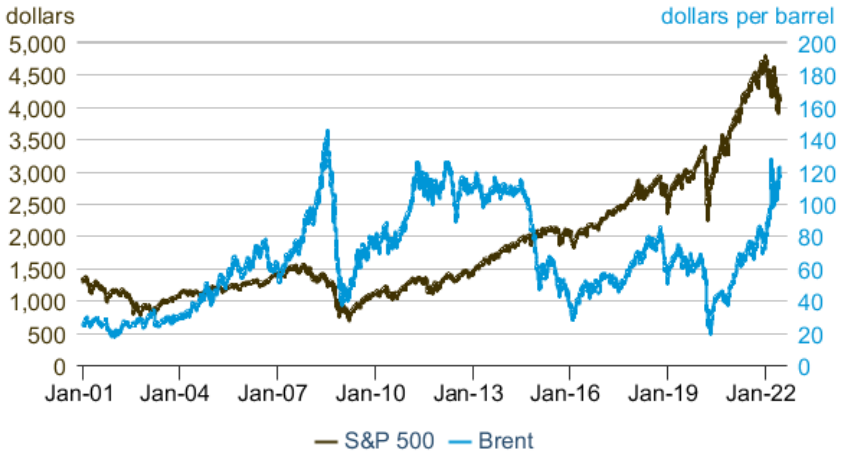
Figure 2. Ratio of S&P 500 to the price of Brent crude oil



eia Data source: CME Group, Intercontinental Exchange, and Bloomberg L.P.

Historically, the ratio between the S&P 500 and crude oil prices changes when factors specific to oil supply or demand affect oil prices more than general economic growth alone would. Most of the decrease in the ratio since April 2020 can be attributed to increasing crude oil prices. Front-month future prices for Brent crude oil averaged $27/b in April 2020 and averaged $112/b in May 2022 **(Figure 3)**. Although the S&P 500 index has also increased since April 2020, it has decreased in recent months from its December 2021 highs, and this decline explains much of the decrease in the ratio in 2022.

Figure 3. S&P 500 and Brent crude oil prices



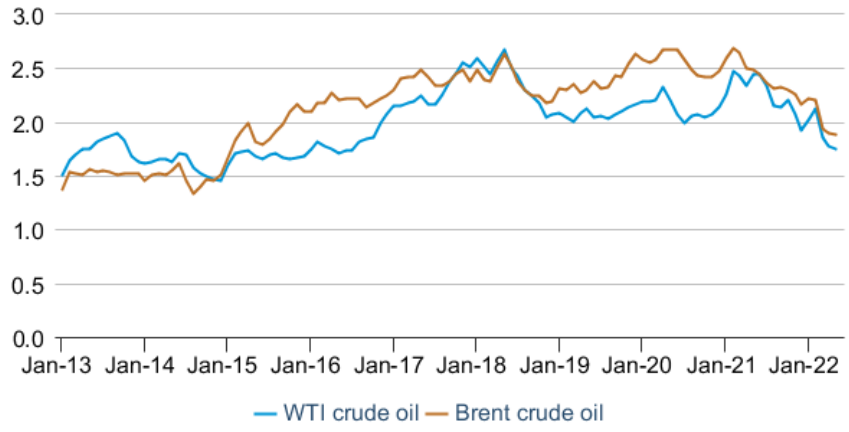
eia Data Source: CME Group, Intercontinental Exchange, and Bloomberg L.P

In the second half of 2020 (2H20) and much of 2021, the ratio between the S&P 500 and crude oil prices was stable because economic growth was reflected in rising profitability of companies as well as higher demand and prices for oil. However, recently, crude oil prices have been driven mostly by sector-specific, supply-side restraints that have lingered since the onset of the COVID-19 pandemic and that have become more prominent following Russia's full-scale invasion of Ukraine.

Rising oil prices have contributed to inflation and have increased input costs for companies. Inflation concerns have led the Federal Reserve to increase interest rates, which has further increased company borrowing costs. Higher input costs from inflation combined with increased borrowing costs could lead to lower net income for companies in the S&P 500, a factor that may be contributing to lower equity prices. Aside from some of the companies that produce and refine petroleum, which make up less than 3% of the S&P 500, companies in the S&P 500 have mostly experienced decreasing stock values while crude oil prices remain elevated. The S&P 500 decreased in value by 12% from the January average to May average although the Brent crude oil price has increased 31%.

Open interest: The average daily open interest of Brent and WTI oil futures markets have generally been declining since February 2021. Open interest is a measure of the total outstanding number of contracts for a commodity at a single point in time, and a decreasing open interest indicates that the number of unsettled contracts for the commodity is decreasing because either traders are not opening positions for the commodity or traders are closing positions. The average daily open interest for Brent was 1.88 million contracts in May, the lowest since July 2015, and for WTI was 1.74 million, the lowest since July 2016 **(Figure 4)**.

Figure 4. Average daily open interest in Brent and WTI futures contracts



eia Data source: CME Group, Intercontinental Exchange, and Bloomberg L.P.
Note: WTI=West Texas Intermediate

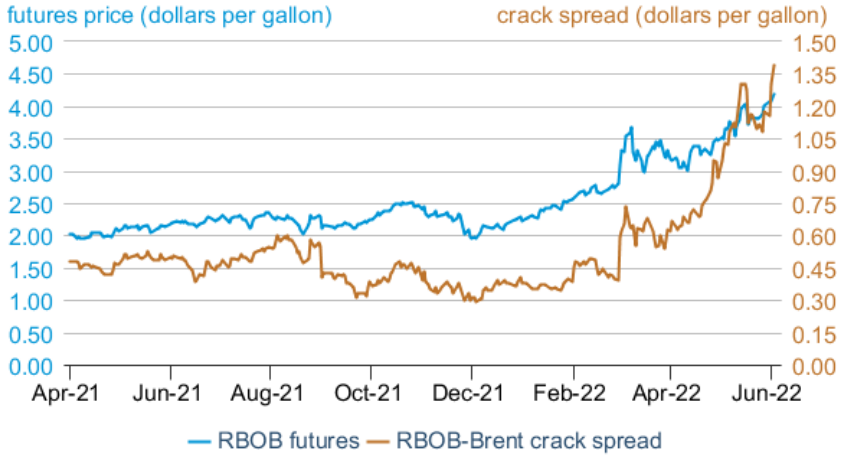
Based on the weekly U.S. Commodity Futures Trading Commission (CFTC) Commitments of Traders data, WTI futures open interest declined from the first week of 2022 to the week ending

May 24 as a result of the closure of long and short positions by Producers and Merchants as well as Swap Dealers. The Producers and Merchants category and Swap Dealers category typically represent participants in the futures market whose primary purpose is risk management in the production or processing of a commodity. Fewer futures contracts held by these traders suggest some producers or end users could be reducing their hedging activity, in part, because higher commodity prices and higher volatility are likely making it more expensive to hedge. In addition, higher interest rates may be increasing the costs of opening a futures position, such as higher margin rates.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $4.19 per gallon (gal) on June 2, up 68 cents/gal from May 2 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at $1.39/gal on June 2, up 44 cents/gal during the same period.

Figure 5. Historical RBOB front-month futures prices and crack spreads



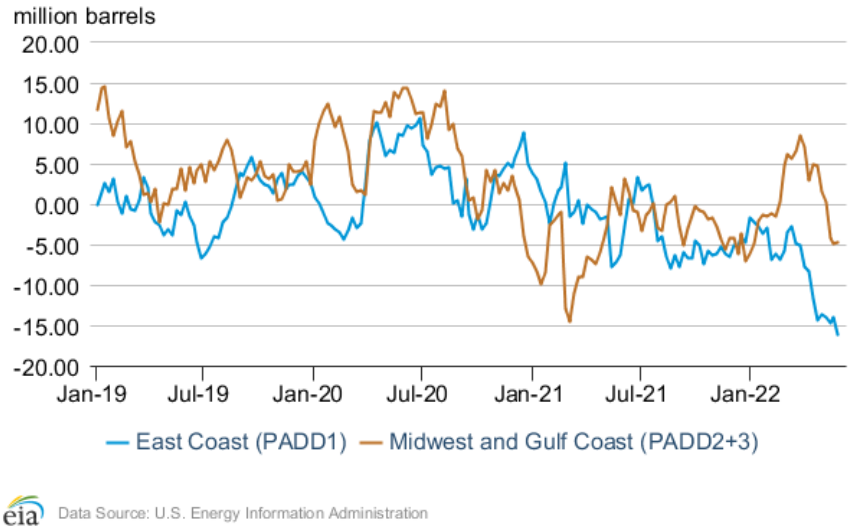
Data Source: CME Group, Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

Rising crude oil prices and the news of the EU's phasing out of crude oil and petroleum product imports from Russia contributed to a rising gasoline wholesale price and crack spread during the first trading days of June. High crack spreads in the middle of the month contributed to monthly average crack spreads of $1.13/gal during May, an increase from $0.73/gal in April. Relatively lower refinery production (compared with pre-COVID levels), lower imports in April, and increasing seasonal demand for gasoline moving into the summer have contributed to lower gasoline inventories in the United States. The low inventories are most pronounced along the East Coast, the highest demand region in the United States, which has in turn contributed to higher gasoline prices in the region, including at New York Harbor (NYH). Far more gasoline is

consumed in the East Coast than is produced, and imports and transfers from other regions in the United States help meet its consumption needs.

In April, low inventories along the East Coast were partially offset by higher inventories along the Gulf Coast and in the Midwest (although capacity to transfer gasoline from the Midwest to the East Coast is more limited than capacity to transfer from the Gulf Coast). By the end of April, gasoline inventories on the East Coast were 14 million barrels below their five-year (2017–2021) average levels **(Figure 6)**. At the same time, combined Gulf Coast and Midwest inventories were almost 2 million barrels above their five-year average level. In May, East Coast gasoline inventories remained low and did not decrease much further, while Midwest and Gulf Coast inventories drew down substantially. On May 27, combined Gulf Coast and Midwest inventories were down by 6 million barrels from their end-April levels while East Coast gasoline inventories were down by almost 1 million barrels. As a result, net inventories in the United States continued to decrease through the month, contributing to increased crack spreads to meet increased demand for gasoline.

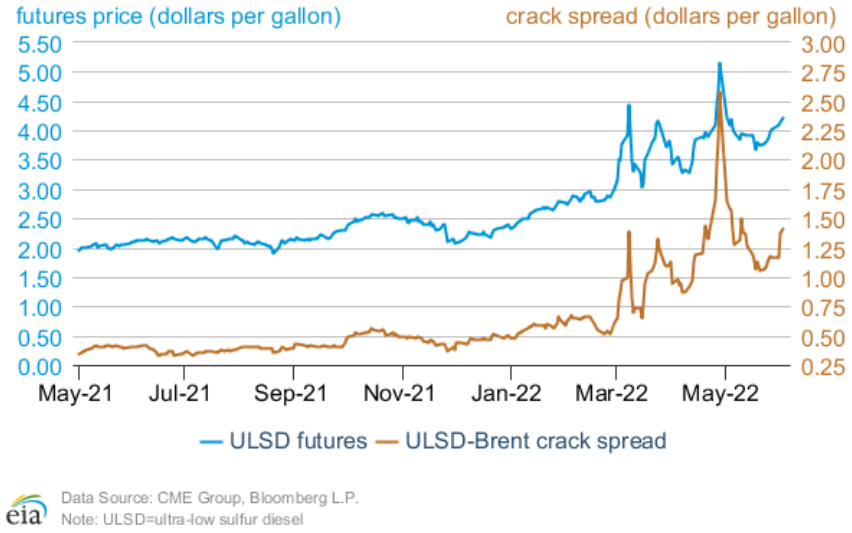
Figure 6. Weekly total gasoline inventory minus rolling 5-year average



eia Data Source: U.S. Energy Information Administration

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $4.21/gal on June 2, almost unchanged from May 2 **(Figure 7)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 24 cents/gal during the same period and settled at $1.41/gal on June 2.

Figure 7. Historical ULSD front-month futures prices and crack spreads



Data Source: CME Group, Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

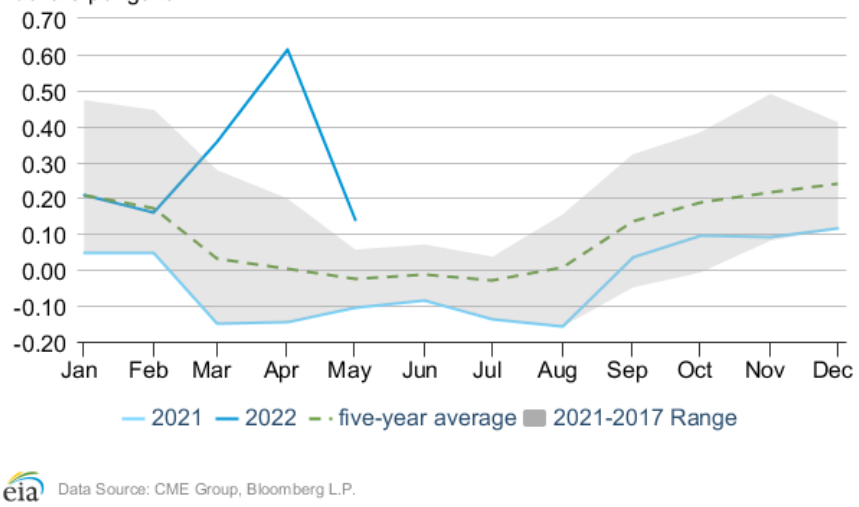
Front-month ULSD prices and crack spreads in May fell from recent record highs at the end of April, albeit to levels much higher than the historical norm. The ULSD-Brent crack spread averaged $1.27/gal during May, 8 cents/gal less than the all-time average high of $1.35/gal during April but still 30 cents/gal higher than the second-highest recorded monthly average of 97 cents/gal in March 2022. In real terms, the last time crack spreads were close to these levels was in May 2008, when the crack spread averaged 86 cents/gal when adjusted to 2022 dollars. The ULSD front-month futures price averaged $3.92/gal during May, 6 cents/gal higher than April.

Tight global distillate markets and low domestic inventories kept ULSD prices high in May. U.S. distillate inventories increased for the first time this year, building by 2.5 million barrels (2.3%) over April. However, inventories remained 25% below the five-year average. We estimate domestic consumption averaged 3.9 million b/d in May, a 2% increase over April and the first time consumption increased from April to May since 2018. We estimate distillate imports, which would normally increase to help rebuild low inventories and moderate prices, were below the five-year average at 145,000 b/d for the four weeks ending May 27. If confirmed in monthly data, this recent decrease in distillate imports would signal that global demand remains strong as markets continue to adjust to sanctions on Russia's exports, reduced export quotas in China, and overall lower global refinery capacity.

ULSD-RBOB future price spreads: Front-month ULSD and RBOB futures typically follow seasonal trends: RBOB trades at a premium in the summer months during the peak summer driving season and ULSD trades at a premium when heating fuel demand is highest in the winter **(Figure 8)**. Gasoline prices usually start trading at a premium to ULSD prices in March when the RBOB futures contract represents the more expensive summer grade of gasoline. However, global demand for distillate and reduced distillate exports from Russia, a major exporter of distillate fuel to Europe, have disrupted this trend. ULSD front-month futures traded at an average

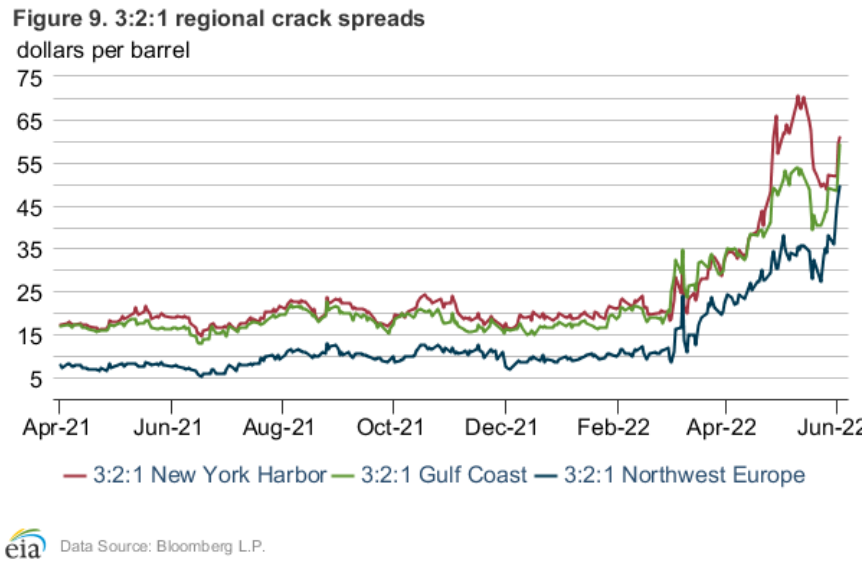
monthly premium to RBOB of 61 cents/gal in April, the highest April premium in real terms in data going back to 2006. Although ULSD has previously traded at a premium during the spring, typically with historically low gasoline prices, RBOB prices in real terms are currently at a nine-year high and RBOB crack spreads are higher than seasonal norms. The ULSD-RBOB spread decreased to 14 cents/gal in May but remains elevated compared with the historical average. ULSD futures prices were relatively flat in May while RBOB futures prices increased by 16% from the start of the month.

Figure 8. ULSD-RBOB front-month futures price spread



eia Data Source: CME Group, Bloomberg L.P.

Regional refinery crack spreads: Inventories for gasoline and diesel in the United States are low at the same time that they are similarly low in Europe and elsewhere in the Atlantic Basin, contributing to broad increases in crack spreads for both products. The reduction in refining capacity along the East Coast appears to have contributed to particularly high product price premiums. The 3:2:1 crack spread (reflecting the price of two barrels of gasoline and one barrel of diesel, minus three barrels of crude oil) at NYH increased far more than the same spread in Europe or along the U.S. Gulf Coast in April and May **(Figure 9)**. The Northwest Europe (NWE) 3:2:1 crack spread is often lower than the U.S. Gulf Coast or NYH crack spreads, which reflects the relatively higher demand for gasoline in the United States and the larger weighting that gasoline has in the 3:2:1 spread calculation. Higher U.S. crack spreads suggest greater market pressure to increase refinery production from U.S. markets than markets in Europe, based on the wholesale prices of gasoline, diesel, and crude oil (although the 3:2:1 crack spread does not account for other factors such as regulatory costs, electricity prices, variations in crude oil input costs, or the value of other refined products).

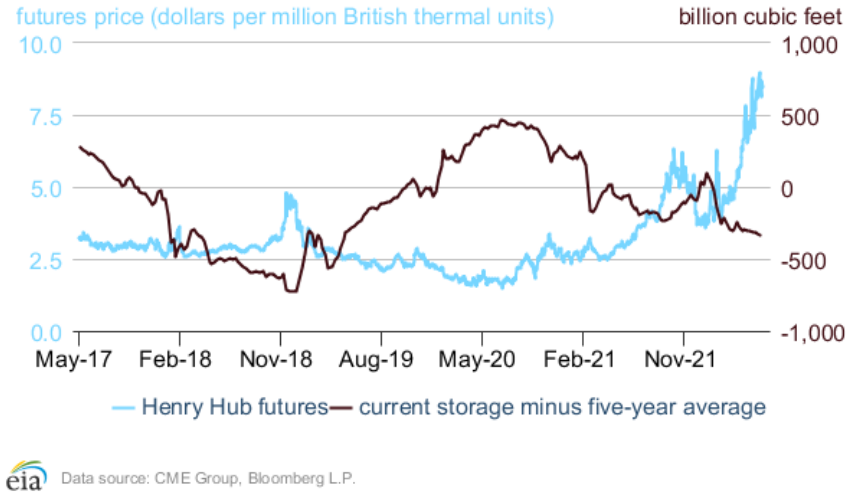


Initially, the impact of Russia's full-scale invasion of Ukraine coincided with a narrowing difference between North American and European crack spreads. In March 2022, the NYH monthly average 3:2:1 crack spread was 56% higher than NWE, reaching its narrowest point in percentage terms since before the onset of the COVID-19 pandemic. The narrowing likely reflected the impact of higher petroleum product prices in Europe related to concerns that European importers may stop taking gasoline and diesel volumes from Russia. However, the difference between the crack spreads has since widened to 74% in May, reflecting increasing demand and low inventories for diesel and for gasoline, particularly on the U.S. East Coast. We expect crack spreads for gasoline and distillate to decrease in 3Q22 as increasing refinery runs partially reduce prices compared with their current levels. However, the impact of capacity constraints—both in the United States and globally—will continue to limit increases in both production and inventories and will contribute to above-average crack spreads, on top of higher crude oil prices, through the end of 2022.

Natural gas

***Prices*:** On June 2, 2022, the front-month natural gas futures contract for delivery at the Henry Hub settled at $8.49 per million British thermal units (MMBtu), up $1.01/MMBtu from May 2, 2022 **(Figure 10)**. The average closing price for front-month natural gas futures contracts in May was $8.16/MMBtu, the highest May monthly average in real terms since May 2008.

Figure 10. U.S. natural gas front-month futures prices and current storage deviation from five-year average



High demand for natural gas in the electric power sector and for U.S. liquefied natural gas (LNG) exports amid relatively flat natural gas production thus far in 2022 has kept U.S. natural gas inventories below the five-year (2017–2021) average and has contributed to high natural gas prices. Natural gas stock builds in May were 386 billion cubic feet (Bcf), compared with the five-year average build of 417 Bcf. At the end of May, natural gas inventories were 1,983 Bcf, which was 351 Bcf (15%) lower than the five-year average. The below-average storage builds at the beginning of this injection season along with our forecast of average storage injections this summer mean that we expect natural gas inventories to begin the winter heating season below average.

Natural gas consumption in the electric power sector averaged 30.2 Bcf/d in May, which was 3.9 Bcf/d higher than last year and 4.2 Bcf/d higher than the five-year average. We estimate U.S. LNG exports averaged 11.6 Bcf/d in May, which was 1.5 Bcf/d higher than last year and 0.2 Bcf/d higher than the average from January through April 2022. High exports are being supported by high international LNG prices, as well as by additional export capacity created by a new U.S. LNG export facility, Calcasieu Pass LNG, which continues to ramp up exports.

***Futures price spreads*:** The natural gas 1st–13th price spread averaged $3.37/MMBtu in May, the highest average monthly backwardation (where near-term contract prices are higher than longer-dated contract prices) on record **(Figure 11)**. Natural gas futures prices have been increasingly backwardated since early March. The 1st–13th price spread averaged $1.28/MMBtu in March and $2.36/MMBtu in April. Often, the 1st–13th price spread increases when natural gas inventories are below the five-year range, and the price spread often decreases when inventories are above the five-year range. Low storage inventories to start the injection season, lower-than-expected production levels compared with late 2021 production levels, continued high demand for U.S. LNG exports, and high demand from the electric power sector are all

contributing to near-term natural gas prices being much higher now compared with natural gas futures prices for delivery next year.

Figure 11. Natural gas 1st – 13th futures price spread

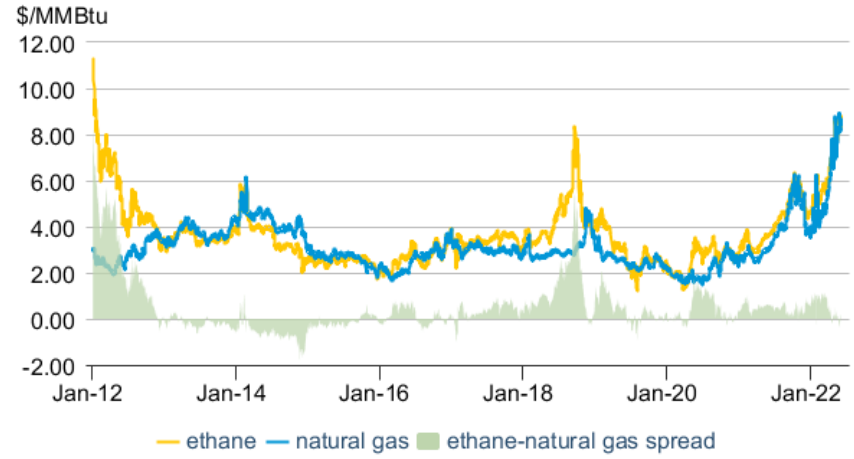


eia Data source: CME Group, Bloomberg L.P.

We expect Henry Hub natural gas prices to remain high throughout the summer, averaging $8.69/MMBtu in 3Q22, because opportunities for natural gas-to-coal switching for power generation have been limited by rail capacity for fuel delivery, low coal stocks in the electric power sector, reduced coal mining capacity, and rising generation form renewable sources. Additionally, we expect U.S. natural gas production increases will take several months to emerge, and continued high levels of LNG exports will contribute to high natural gas demand.

Ethane-natural gas price spread: U.S. production of ethane, a hydrocarbon gas liquid (HGL) produced primarily in natural gas processing plants, has grown rapidly since 2013. Ethane is primarily used in the petrochemical industry, where it is used as a feedstock at ethylene crackers. Ethane is typically priced at a premium to natural gas because it reflects the costs of extracting it from the natural gas production stream and transporting it to a petrochemical facility. The premium of ethane to natural gas averaged 47 cents/MMBtu in 2021 and 86 cents/MMBtu in 1Q22, but it decreased in April and May **(Figure 12)**.

Figure 12. Natural gas futures and ethane spot prices



eia Data source: CME Group, Bloomberg L.P.

The monthly premium averaged 17 cents/MMBtu in April, and the price of ethane fell to 1 cent/MMBtu below the price of natural gas in May, as the value of natural gas for use as energy increased. When the price of ethane decreases relative to the price of natural gas, it becomes less economical to extract ethane from natural gas production streams. This situation can lead to more ethane rejection, which is when natural gas processing plant operators choose to leave ethane in the processed natural gas (provided the processed natural gas meets pipeline specifications) and sell it into the natural gas market. More ethane rejection means more ethane will be sold as natural gas, increasing the supply of natural gas. Additionally, because ethane contains more energy than natural gas for the same volume, more ethane rejection increases the energy content of the natural gas stream. More ethane rejection also means a reduction in the amount of ethane supplied to petrochemical facilities or to export facilities. At the same time, rates of ethane rejection are determined by factors other than ethane's price spread with natural gas, such as ethylene margins in the petrochemical sector, individual contract specifications with producers and consumers, and the share of ethane allowed in the natural gas stream by pipeline specification.

Ethane consumption, both domestic and international, grew throughout 2021 We expect U.S. consumption to grow further in 2022 because of additions in U.S. petrochemical capacity, as three new crackers—Baystar and Gulf Coast Growth Ventures in Texas and Shell Chemical Appalachia in Pennsylvania—ramp up production. In addition, a cracker designed to use ethane imported from the United States as a feedstock is expected to come online in China, contributing to our expectation that U.S. ethane exports will increase.

Notable forecast changes

- This STEO incorporates the assumption that the EU will ban seaborne crude oil and petroleum product imports from Russia. We assume the crude oil import ban will be imposed in six months and the petroleum product import ban in eight months. This forecast does not reflect restrictions on shipping insurance, as details regarding such restrictions were not available when we finalized this forecast on June 2. Preliminary estimates for Russia's total liquid fuels production in May show growth of 0.1 million b/d in May compared with April. Our previous forecast was for a 0.5 million b/d month-over-month decline. This change in the May production results in a 0.6 million b/d net increase in Russia's production for May 2022 compared with last month's forecast. We now expect Russia's production to decline by 1.1 million b/d from May 2022 through the end of 2023. In the May STEO, we expected a decline of 0.8 million b/d over that period.
- You can find more information in the detailed table of forecast changes.

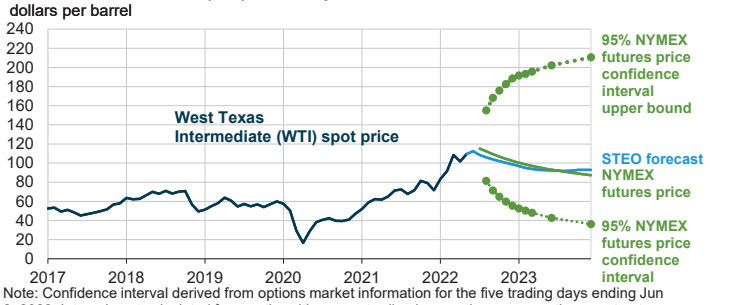
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

June 7, 2022

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

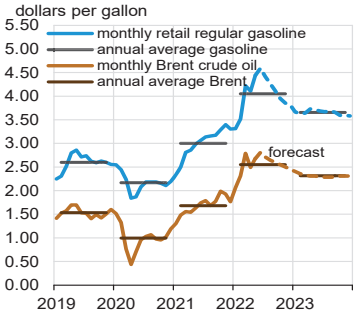


Note: Confidence interval derived from options market information for the five trading days ending Jun 2, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

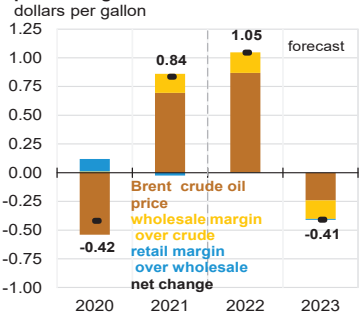
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon

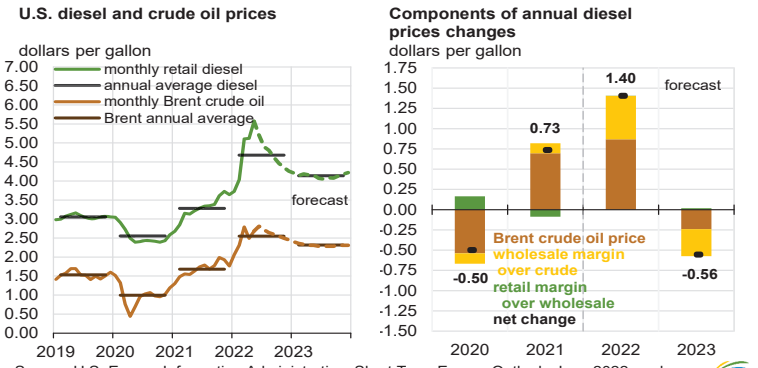


Components of annual gasoline price changes
dollars per gallon

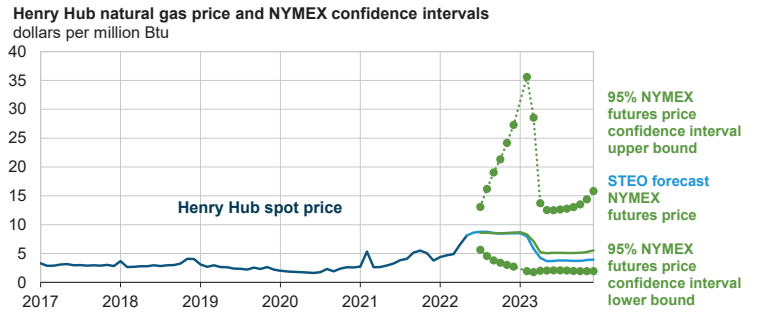


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022, and Refinitiv an LSEG Business

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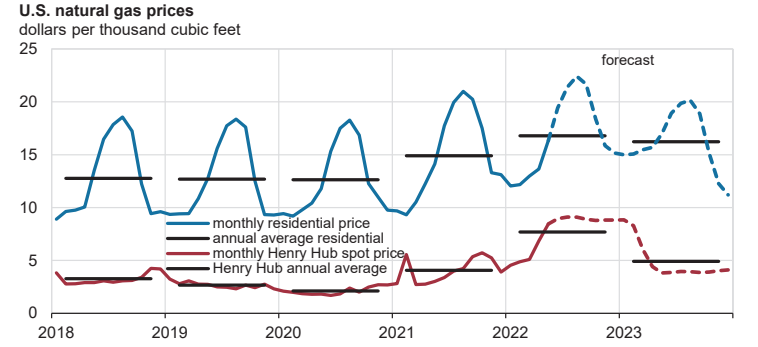


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022, and Refinitiv an LSEG Business

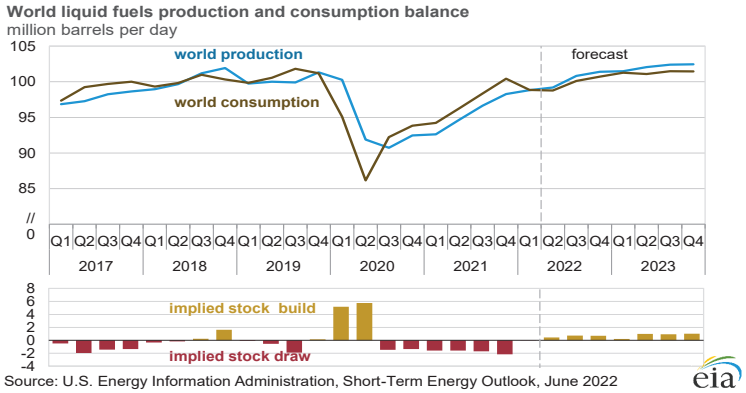


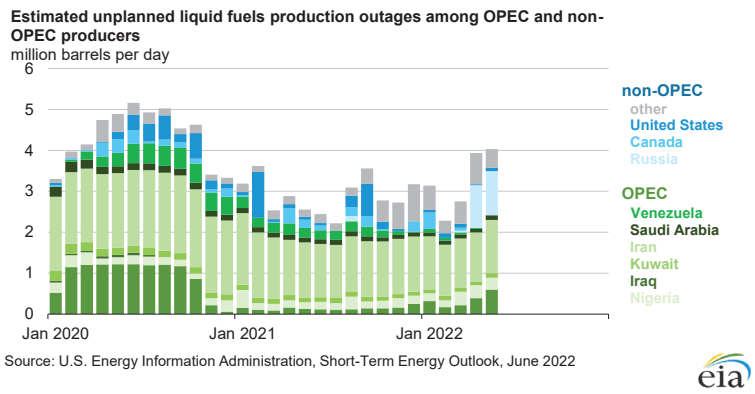
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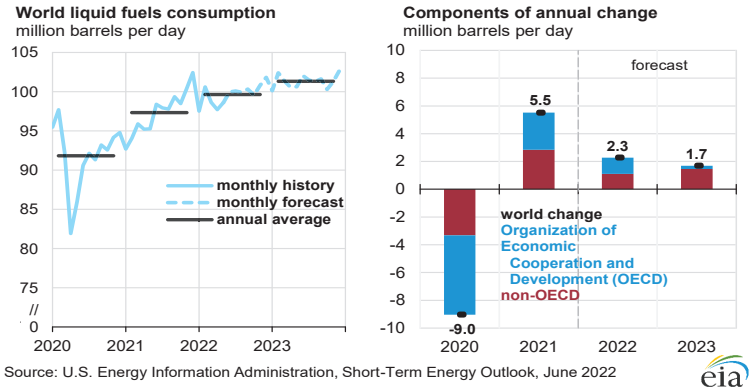
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022, CME Group, and Refinitiv an LSEG Business

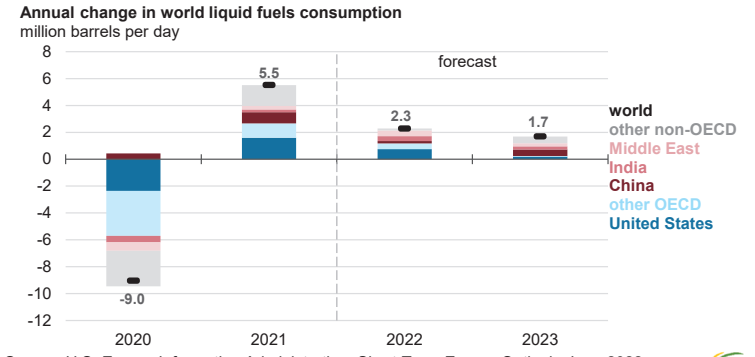


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022, and Refinitiv an LSEG Business

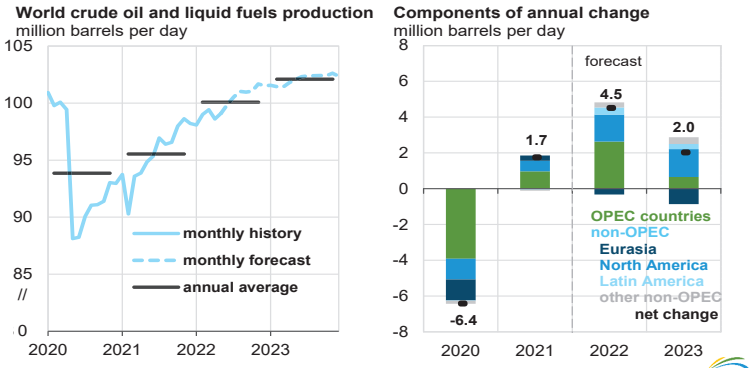

World liquid fuels production and consumption balance
million barrels per day
105
100
95
90
85
0
world production
world consumption
forecast
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2017 2018 2019 2020 2021 2022 2023
8
6
4
2
0
-2
-4
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6
5
4
3
2
1
0
Jan 2020
Jan 2021
Jan 2022
non-OPEC
other
United States
Canada
Russia
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022
eia

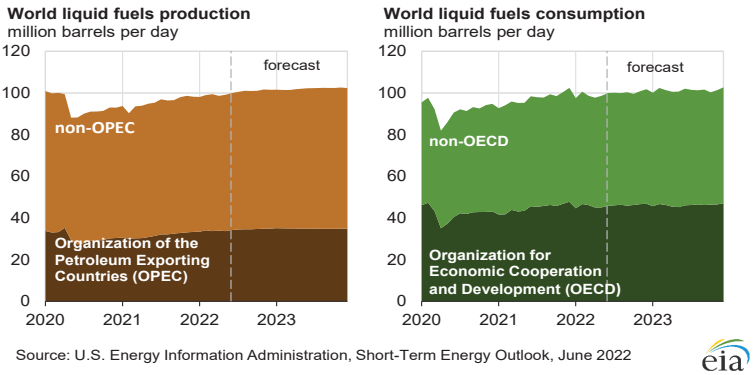

World liquid fuels consumption
million barrels per day
105
100
95
90
85
80
75
0
monthly history
monthly forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
10
8
6
4
2
0
-2
-4
-6
-8
-10
forecast
5.5
2.3
1.7
-9.0
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

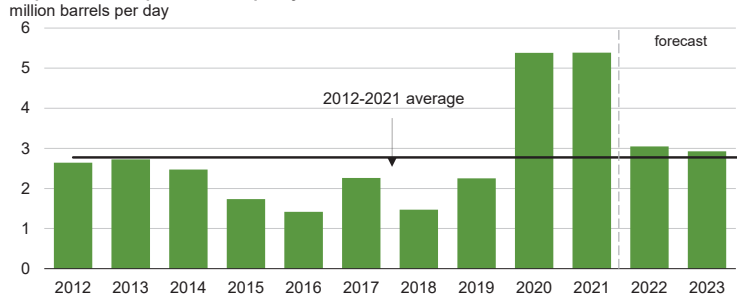


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



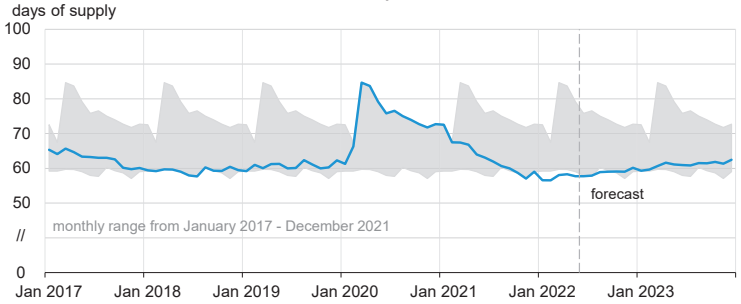
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



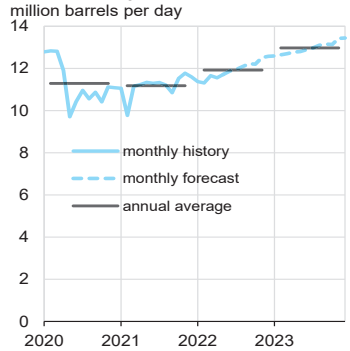
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

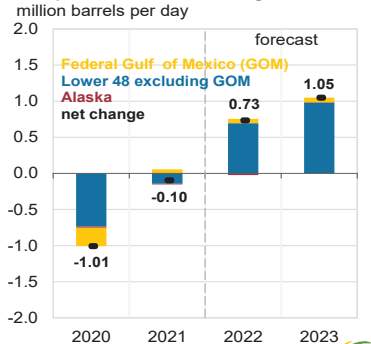


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. crude oil production
million barrels per day

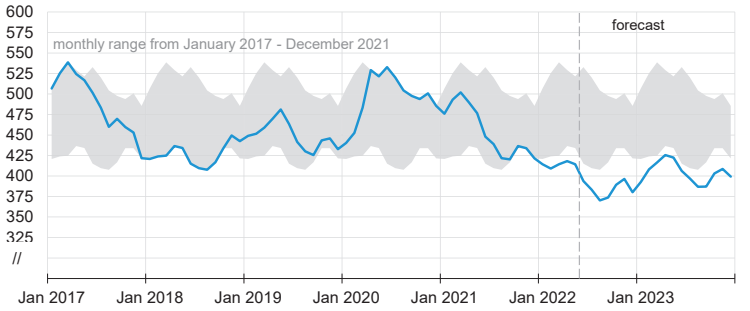


Components of annual change
million barrels per day



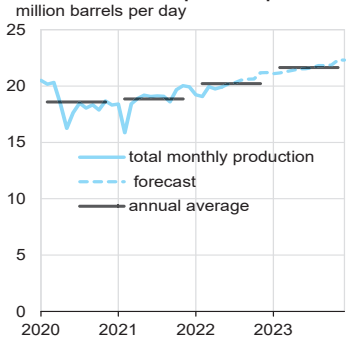
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. commercial crude oil inventories
million barrels

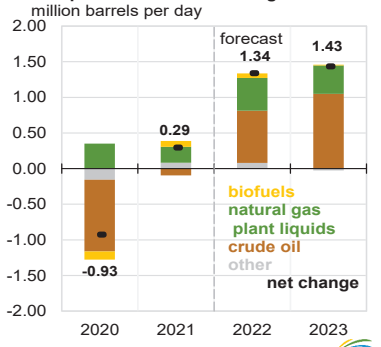


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. crude oil and liquid fuels production
million barrels per day

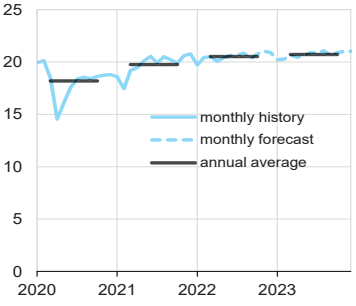


Components of annual change
million barrels per day

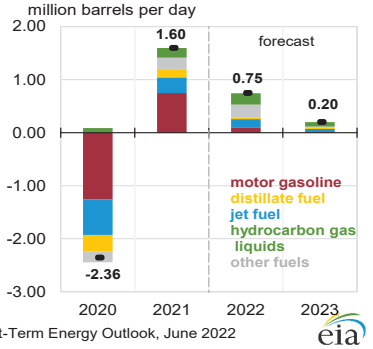


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. liquid fuels product supplied (consumption)
million barrels per day

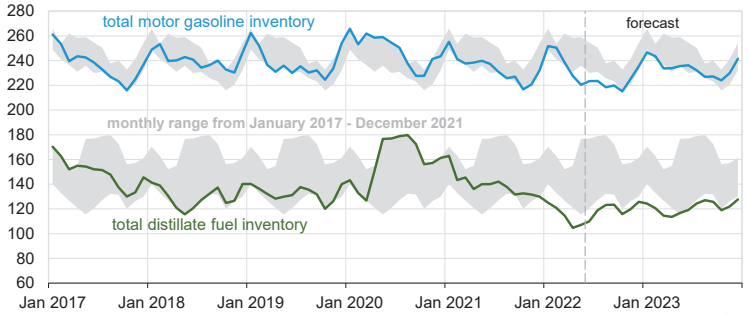


Components of annual change
million barrels per day



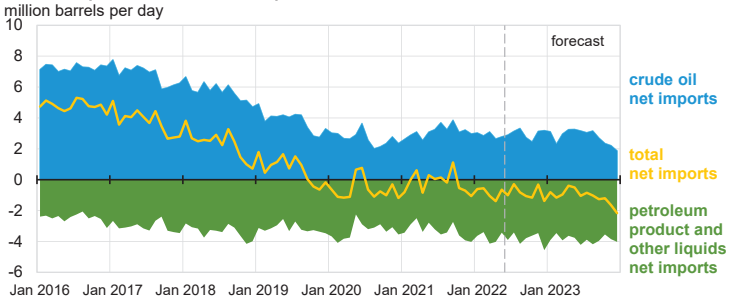
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. gasoline and distillate inventories
million barrels



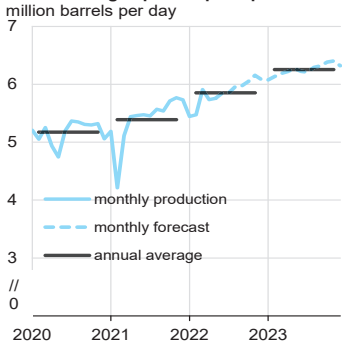
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

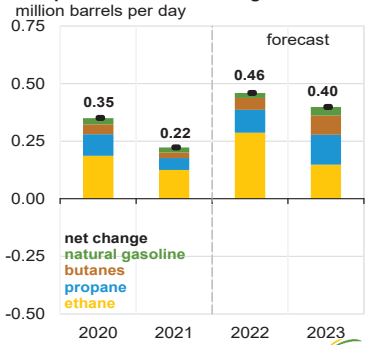


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

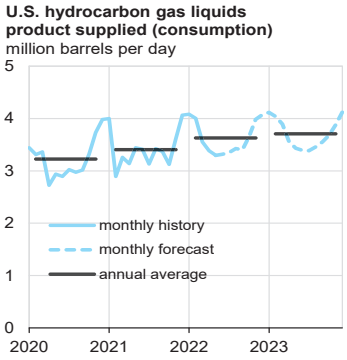
U.S. natural gas plant liquids production
million barrels per day

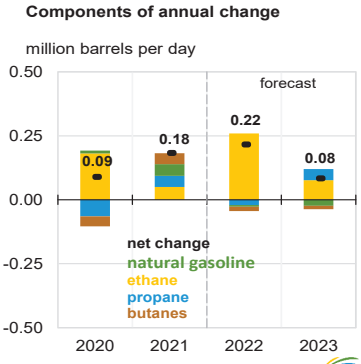


Components of annual change
million barrels per day

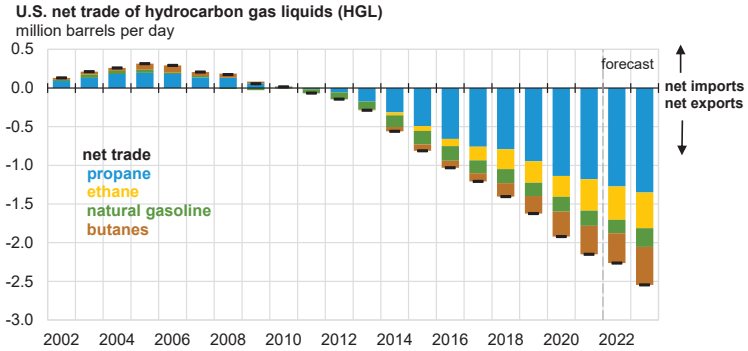


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

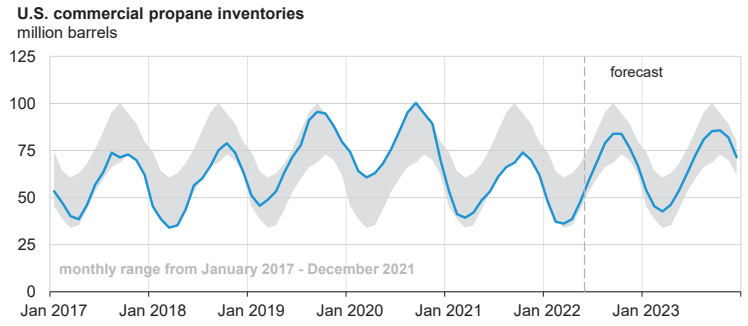




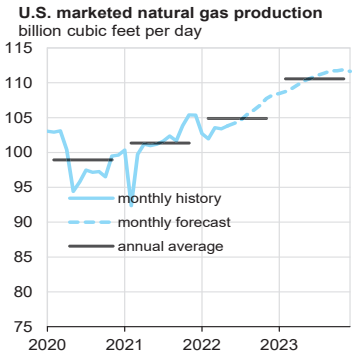
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

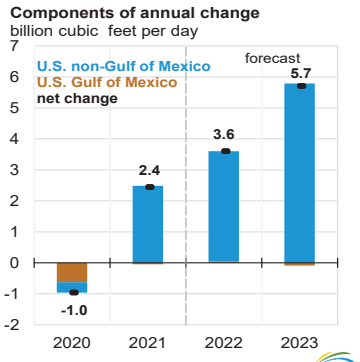


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

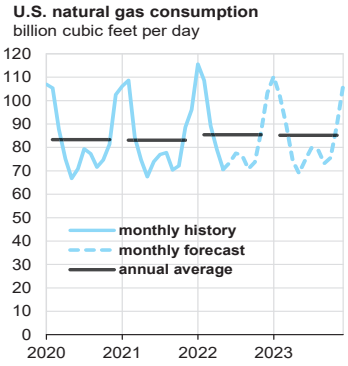


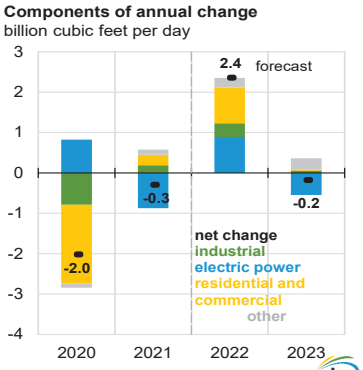
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



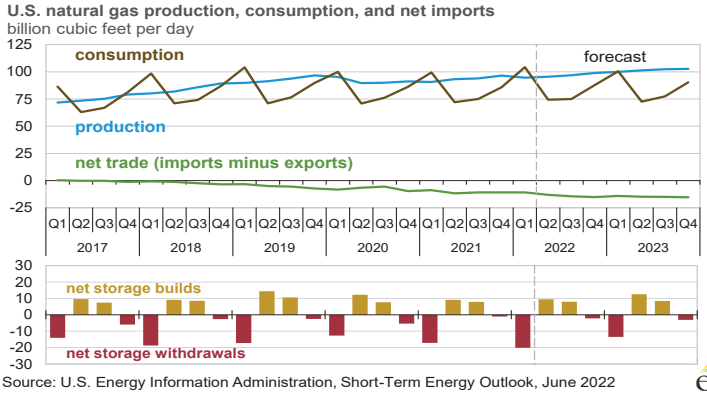


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

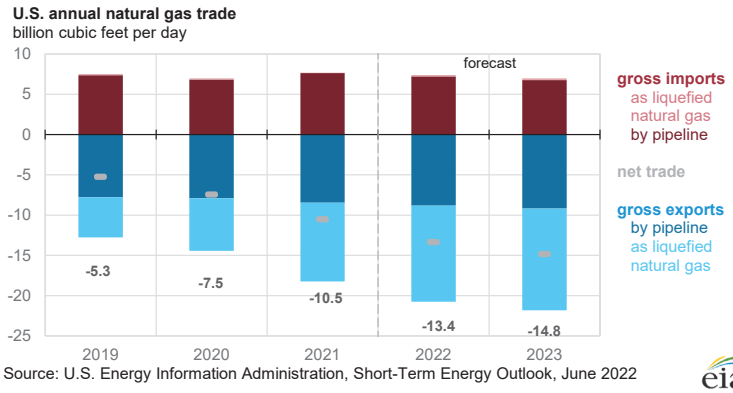




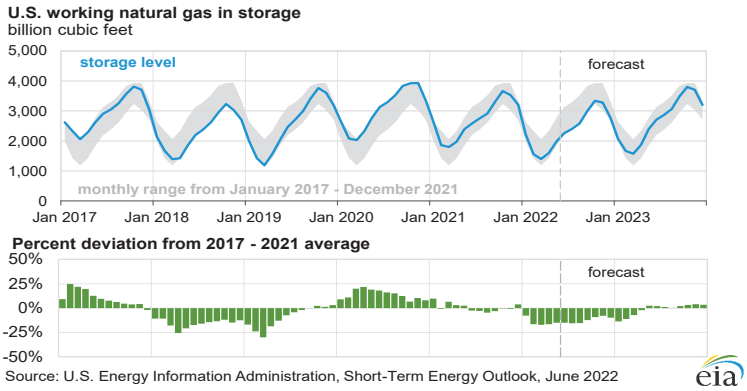
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



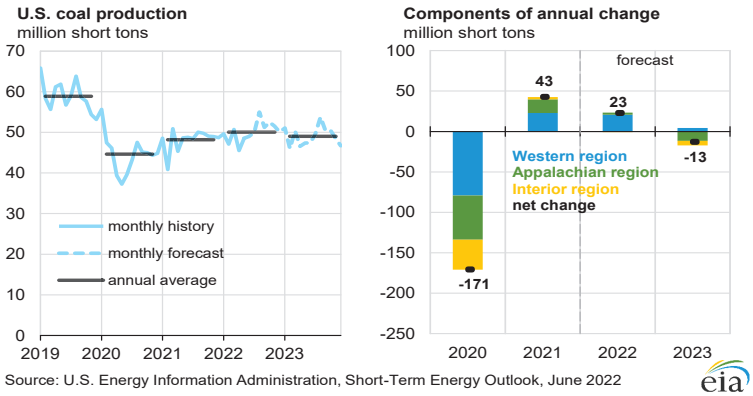
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



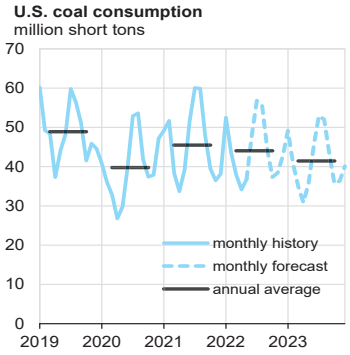
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

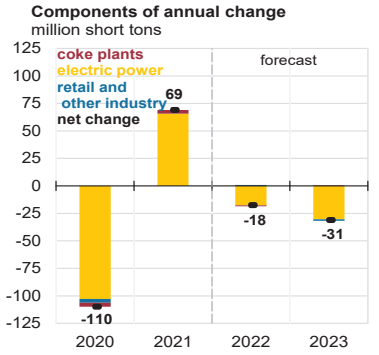


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

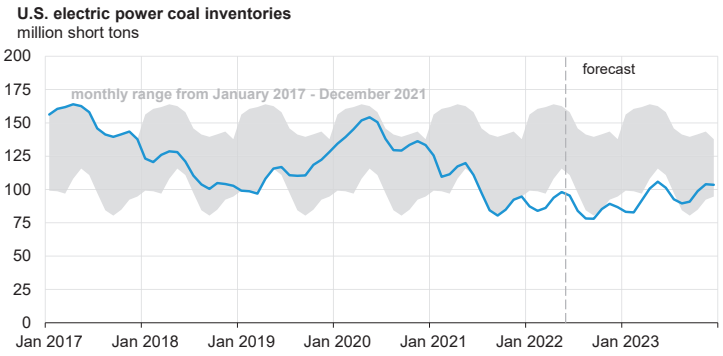


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

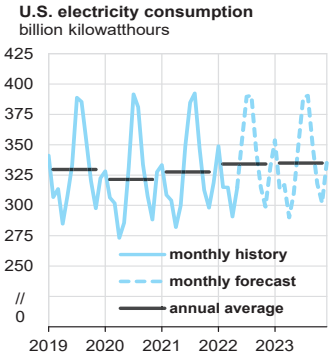


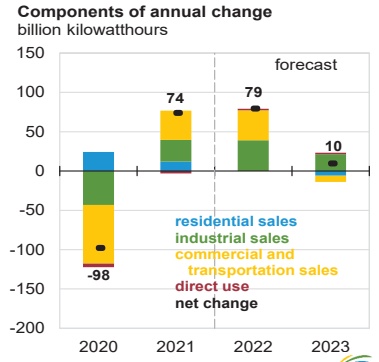


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



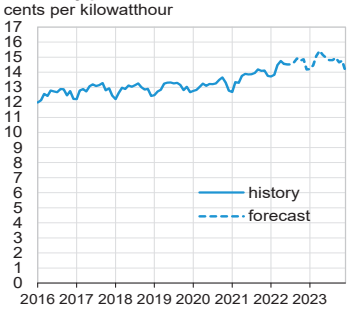
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



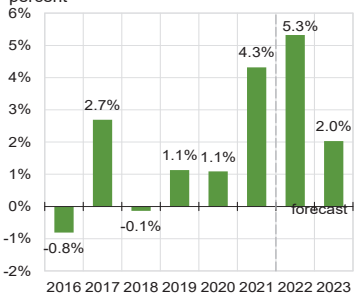


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. monthly nominal residential electricity price
cents per kilowatthour

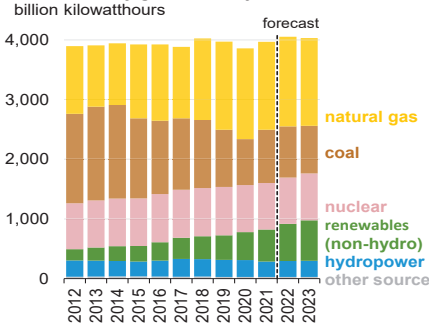


Annual growth in nominal residential electricity prices
percent

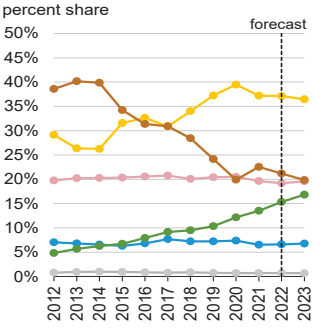


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. electricity generation by source, all sectors
billion kilowatthours

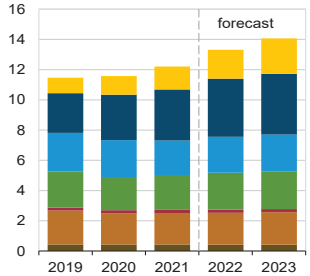


percent share

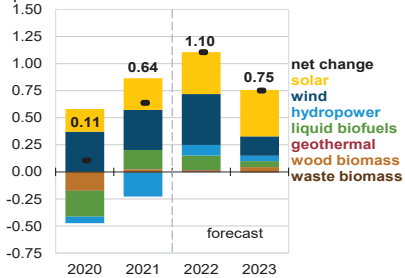


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

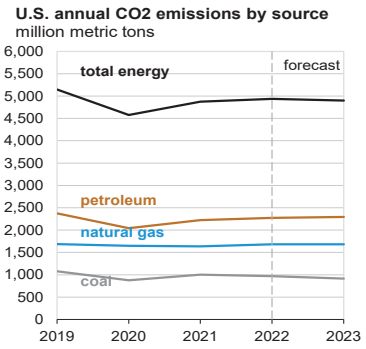
U.S. renewable energy supply
quadrillion British thermal units

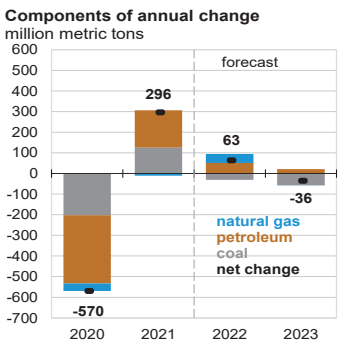


Components of annual change
quadrillion British thermal units

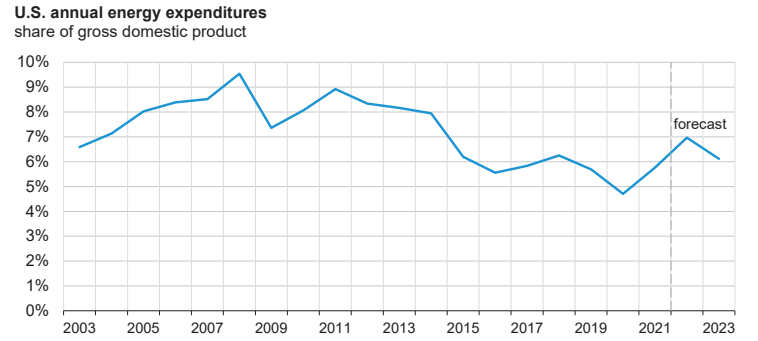


Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biommas includes municipal waste from biogenic sources, landfill gas, and non-wood waste.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

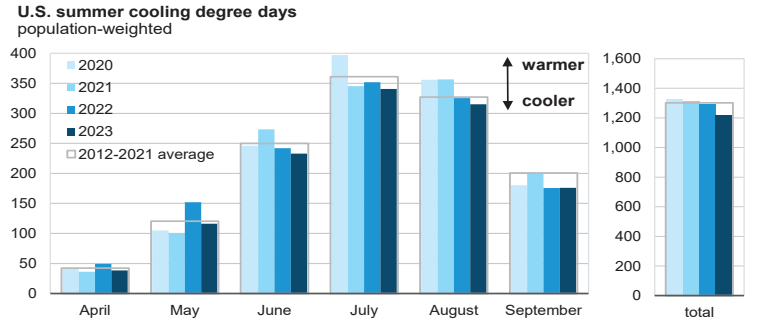




Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



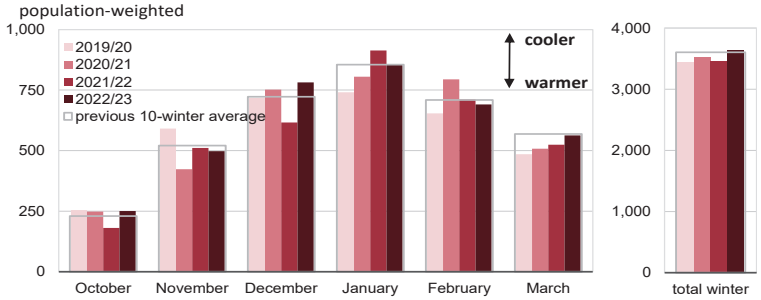
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

U.S. winter heating degree days
population-weighted

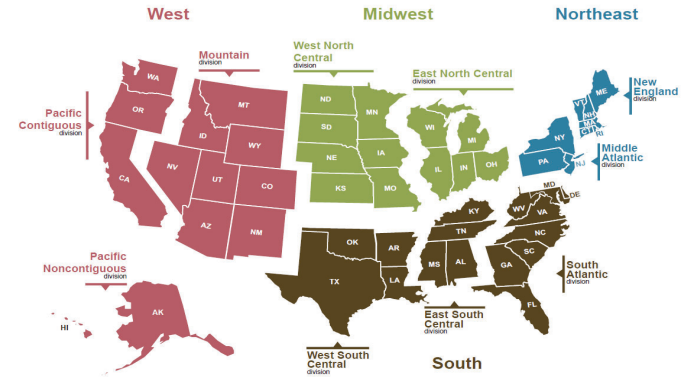


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.13**	**11.63**	**11.45**	*11.71*	*12.08*	*12.43*	*12.64*	*12.82*	*13.07*	*13.33*	**11.19**	*11.92*	*12.97*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.53**	**94.61**	*95.48*	*96.90*	*98.94*	*99.94*	*101.30*	*102.33*	*102.66*	**93.55**	*96.50*	*101.57*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**147**	*143*	*156*	*154*	*147*	*141*	*154*	*146*	**578**	*601*	*588*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	*20.38*	*20.62*	*20.89*	*20.39*	*20.67*	*20.85*	*20.98*	**19.78**	*20.53*	*20.73*
Natural Gas															
(billion cubic feet per day)	**99.44**	**72.00**	**75.08**	**85.62**	**104.30**	*74.34*	*75.04*	*87.94*	*100.39*	*72.61*	*77.42*	*90.36*	**82.98**	*85.33*	*85.15*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	*119*	*157*	*119*	*125*	*112*	*148*	*112*	**546**	*528*	*497*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.87**	*10.54*	*12.24*	*10.27*	*10.93*	*10.46*	*12.27*	*10.38*	**10.77**	*10.99*	*11.01*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.16**	**2.95**	**3.14**	**3.35**	*3.48*	*3.21*	*3.27*	*3.49*	*3.74*	*3.39*	*3.45*	**12.21**	*13.31*	*14.06*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.05**	**23.16**	**24.54**	**24.57**	**26.33**	*23.58*	*24.68*	*25.14*	*26.06*	*23.78*	*25.07*	*25.51*	**97.33**	*99.73*	*100.43*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*108.11*	*106.13*	*100.30*	*95.30*	*92.65*	*92.00*	*93.00*	**68.21**	*102.47*	*93.24*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*7.78*	*8.69*	*8.48*	*7.43*	*3.88*	*3.77*	*3.86*	**3.91**	*7.40*	*4.74*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	*2.14*	*2.00*	*1.98*	*2.05*	*2.07*	*2.06*	*2.03*	**1.98**	*2.07*	*2.05*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,736**	*19,799*	*19,890*	*20,005*	*20,110*	*20,254*	*20,394*	*20,535*	**19,427**	*19,858*	*20,323*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	**3.6**	*2.2*	*2.1*	*1.0*	*1.9*	*2.3*	*2.5*	*2.6*	**5.7**	*2.2*	*2.3*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	*125.1*	*126.6*	*127.7*	*128.4*	*129.2*	*130.0*	*130.9*	**118.5**	*125.8*	*129.6*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**6.8**	*6.5*	*6.1*	*5.2*	*3.9*	*3.2*	*2.7*	*2.5*	**4.2**	*6.1*	*3.1*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,418**	**15,339**	*15,316*	*15,364*	*15,416*	*15,523*	*15,714*	*15,889*	*16,083*	**16,021**	*15,359*	*15,802*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**-0.2**	**-10.9**	*-3.1*	*-1.8*	*0.0*	*1.2*	*2.6*	*3.4*	*4.3*	**2.2**	*-4.1*	*2.9*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**99.7**	**101.0**	**102.2**	*104.2*	*105.0*	*106.0*	*106.7*	*108.2*	*109.7*	*110.7*	**99.2**	*104.3*	*108.8*
Percent change from prior year	**-0.2**	**17.2**	**5.8**	**4.5**	**5.0**	*5.5*	*5.3*	*5.0*	*4.4*	*3.8*	*4.5*	*4.4*	**6.5**	*5.2*	*4.3*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,308**	**2,149**	*494*	*74*	*1,530*	*2,110*	*494*	*77*	*1,529*	**3,937**	*4,248*	*4,210*
U.S. Cooling Degree-Days	**50**	**410**	**901**	**127**	**47**	*443*	*853*	*94*	*43*	*387*	*832*	*94*	**1,489**	*1,436*	*1,356*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*108.11*	*106.13*	*100.30*	*95.30*	*92.65*	*92.00*	*93.00*	**68.21**	*102.47*	*93.24*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	*111.95*	*111.28*	*104.97*	*99.30*	*96.65*	*96.00*	*97.00*	**70.89**	*107.37*	*97.24*
U.S. Imported Average	**55.27**	**64.80**	**68.38**	**73.62**	**88.21**	*105.62*	*103.71*	*97.44*	*92.65*	*89.93*	*89.25*	*90.25*	**65.88**	*98.69*	*90.48*
U.S. Refiner Average Acquisition Cost	**57.12**	**66.11**	**70.30**	**76.36**	**91.66**	*106.61*	*104.63*	*98.54*	*93.60*	*90.91*	*90.25*	*91.25*	**67.82**	*100.51*	*91.46*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**278**	*367*	*346*	*300*	*283*	*289*	*285*	*277*	**219**	*324*	*284*
Diesel Fuel	**178**	**204**	**219**	**241**	**301**	*401*	*372*	*331*	*299*	*292*	*291*	*297*	**211**	*352*	*294*
Fuel Oil	**162**	**180**	**197**	**222**	**284**	*410*	*361*	*318*	*289*	*277*	*276*	*286*	**188**	*339*	*284*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**283**	*380*	*356*	*326*	*296*	*285*	*285*	*292*	**195**	*337*	*289*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**252**	*259*	*252*	*237*	*239*	*231*	*230*	*232*	**190**	*250*	*233*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**371**	*439*	*427*	*387*	*365*	*371*	*367*	*359*	**302**	*407*	*366*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	*449*	*438*	*400*	*378*	*384*	*381*	*373*	**311**	*418*	*379*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**432**	*530*	*478*	*437*	*418*	*413*	*407*	*417*	**329**	*469*	*414*
Heating Oil	**272**	**283**	**297**	**346**	**415**	*525*	*471*	*430*	*404*	*382*	*369*	*378*	**300**	*440*	*389*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*8.08*	*9.03*	*8.81*	*7.72*	*4.03*	*3.92*	*4.01*	**4.06**	*7.69*	*4.92*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*7.78*	*8.69*	*8.48*	*7.43*	*3.88*	*3.77*	*3.86*	**3.91**	*7.40*	*4.74*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.11**	**6.87**	**6.82**	*8.00*	*9.68*	*9.97*	*9.82*	*5.90*	*4.98*	*5.27*	**5.50**	*8.52*	*6.53*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	*10.84*	*12.97*	*12.80*	*12.83*	*12.05*	*10.75*	*9.11*	**8.82**	*11.24*	*11.39*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	*15.37*	*21.80*	*15.87*	*15.15*	*16.76*	*19.60*	*12.14*	**12.27**	*14.49*	*14.78*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	*2.14*	*2.00*	*1.98*	*2.05*	*2.07*	*2.06*	*2.03*	**1.98**	*2.07*	*2.05*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	*8.03*	*8.82*	*8.77*	*7.99*	*4.03*	*3.90*	*4.16*	**4.97**	*7.92*	*4.91*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	*22.04*	*21.47*	*19.82*	*18.79*	*18.53*	*17.53*	*17.42*	**13.66**	*19.57*	*18.08*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	*29.98*	*28.34*	*25.39*	*23.13*	*22.29*	*22.09*	*22.60*	**15.50**	*24.96*	*22.62*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	*7.26*	*7.83*	*7.49*	*7.54*	*6.97*	*7.45*	*7.15*	**7.26**	*7.50*	*7.28*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	*11.68*	*12.12*	*11.92*	*12.12*	*11.87*	*11.99*	*11.48*	**11.27**	*11.85*	*11.87*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	*14.59*	*14.67*	*14.57*	*14.55*	*15.15*	*14.86*	*14.44*	**13.72**	*14.45*	*14.75*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.08**	**30.74**	**31.06**	**32.19**	**31.66**	*32.14*	*32.70*	*33.54*	*33.92*	*34.16*	*34.34*	*34.91*	**31.02**	*32.51*	*34.33*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.87**	**19.43**	*19.94*	*20.47*	*21.00*	*21.18*	*21.48*	*21.76*	*22.15*	**18.88**	*20.21*	*21.65*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.68**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.90*	*5.91*	**5.54**	*5.73*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	*1.91*	*1.90*	*1.86*	*1.91*	*1.87*	*1.83*	*1.80*	**1.92**	*1.90*	*1.85*
Other OECD	**4.92**	**4.37**	**4.73**	**4.71**	**4.63**	*4.63*	*4.59*	*4.83*	*4.92*	*4.93*	*4.85*	*5.04*	**4.68**	*4.67*	*4.94*
Non-OECD	**62.53**	**63.95**	**65.58**	**66.08**	**67.17**	*67.07*	*68.14*	*67.87*	*67.55*	*67.89*	*68.07*	*67.55*	**64.55**	*67.57*	*67.77*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*33.99*	*34.57*	*34.86*	*35.07*	*34.92*	*34.91*	*34.90*	**31.66**	*34.29*	*34.95*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	*28.55*	*29.09*	*29.34*	*29.51*	*29.49*	*29.43*	*29.38*	**26.28**	*28.80*	*29.45*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.34**	*13.17*	*13.11*	*13.02*	*12.81*	*12.55*	*12.44*	*12.40*	**13.70**	*13.41*	*12.55*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	*5.16*	*5.14*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
Other Non-OECD	**13.82**	**14.42**	**14.70**	**13.82**	**13.90**	*14.74*	*15.32*	*14.81*	*14.45*	*15.17*	*15.48*	*14.96*	**14.19**	*14.70*	*15.02*
Total World Production	**92.62**	**94.69**	**96.64**	**98.27**	**98.83**	*99.21*	*100.84*	*101.41*	*101.47*	*102.05*	*102.40*	*102.45*	**95.57**	*100.08*	*102.10*
Non-OPEC Production	**62.28**	**63.81**	**64.35**	**65.16**	**65.08**	*65.22*	*66.27*	*66.56*	*66.41*	*67.13*	*67.49*	*67.55*	**63.91**	*65.78*	*67.15*
Consumption (million barrels per day) (c)															
OECD	**42.45**	**44.08**	**45.82**	**46.80**	**45.83**	*45.33*	*46.14*	*46.59*	*46.20*	*45.60*	*46.35*	*46.68*	**44.80**	*45.98*	*46.21*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	*20.38*	*20.62*	*20.89*	*20.39*	*20.67*	*20.85*	*20.98*	**19.78**	*20.53*	*20.73*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	*0.20*	*0.20*	*0.22*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.36**	*2.38*	*2.51*	*2.49*	*2.47*	*2.42*	*2.52*	*2.50*	**2.35**	*2.44*	*2.48*
Europe	**11.91**	**12.62**	**13.83**	**13.88**	**13.05**	*13.26*	*13.59*	*13.29*	*13.16*	*13.18*	*13.58*	*13.35*	**13.07**	*13.30*	*13.32*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.77**	*3.12*	*3.19*	*3.52*	*3.78*	*3.12*	*3.15*	*3.46*	**3.42**	*3.40*	*3.38*
Other OECD	**5.89**	**5.92**	**5.90**	**6.23**	**6.21**	*6.00*	*6.03*	*6.19*	*6.18*	*6.01*	*6.04*	*6.18*	**5.99**	*6.11*	*6.10*
Non-OECD	**51.78**	**52.20**	**52.53**	**53.64**	**53.04**	*53.44*	*53.98*	*54.14*	*55.07*	*55.49*	*55.12*	*54.77*	**52.54**	*53.65*	*55.11*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.46**	*4.32*	*4.67*	*4.60*	*4.27*	*4.43*	*4.74*	*4.66*	**4.86**	*4.51*	*4.53*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.75**	*0.75*	*0.75*	*0.76*	*0.75*	*0.77*	*0.77*	*0.78*	**0.75**	*0.75*	*0.77*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.25**	*15.29*	*15.46*	*15.79*	*16.36*	*16.25*	*15.62*	*15.54*	**15.27**	*15.45*	*15.94*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.80**	*13.90*	*13.49*	*13.90*	*14.52*	*14.49*	*13.91*	*14.20*	**13.23**	*13.77*	*14.28*
Other Non-OECD	**17.68**	**18.27**	**18.87**	**18.91**	**18.78**	*19.18*	*19.60*	*19.08*	*19.17*	*19.55*	*20.09*	*19.60*	**18.44**	*19.16*	*19.60*
Total World Consumption	**94.23**	**96.29**	**98.35**	**100.44**	**98.87**	*98.77*	*100.12*	*100.73*	*101.27*	*101.09*	*101.47*	*101.45*	**97.35**	*99.63*	*101.32*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	**0.75**	*0.85*	*0.64*	*0.69*	*-0.04*	*-0.39*	*-0.09*	*0.34*	**0.53**	*0.73*	*-0.04*
Other OECD	**0.87**	**0.15**	**0.97**	**0.67**	**-0.23**	*-0.41*	*-0.44*	*-0.44*	*-0.05*	*-0.18*	*-0.27*	*-0.43*	**0.66**	*-0.38*	*-0.23*
Other Stock Draws and Balance	**0.28**	**0.94**	**0.38**	**0.73**	**-0.48**	*-0.88*	*-0.92*	*-0.93*	*-0.11*	*-0.40*	*-0.58*	*-0.91*	**0.58**	*-0.81*	*-0.50*
Total Stock Draw	**1.61**	**1.60**	**1.72**	**2.17**	**0.04**	*-0.44*	*-0.72*	*-0.68*	*-0.21*	*-0.97*	*-0.93*	*-1.00*	**1.78**	*-0.45*	*-0.78*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	**1,154**	*1,160*	*1,191*	*1,165*	*1,173*	*1,216*	*1,227*	*1,206*	**1,194**	*1,165*	*1,206*
OECD Commercial Inventory	**2,908**	**2,864**	**2,745**	**2,636**	**2,616**	*2,660*	*2,731*	*2,746*	*2,759*	*2,818*	*2,854*	*2,872*	**2,636**	*2,746*	*2,872*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.33**	**27.48**	**27.02**	*27.50*	*28.11*	*28.71*	*29.01*	*29.23*	*29.49*	*29.86*	**26.34**	*27.84*	*29.40*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.68**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.90*	*5.91*	**5.54**	*5.73*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	*1.91*	*1.90*	*1.86*	*1.91*	*1.87*	*1.83*	*1.80*	**1.92**	*1.90*	*1.85*
United States	**17.62**	**19.05**	**18.94**	**19.87**	**19.43**	*19.94*	*20.47*	*21.00*	*21.18*	*21.48*	*21.76*	*22.15*	**18.88**	*20.21*	*21.65*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.83**	*6.60*	*7.14*	*6.63*	*6.28*	*7.03*	*7.37*	*6.86*	**6.10**	*6.55*	*6.89*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.77**	*0.75*	*0.77*	*0.79*	*0.81*	*0.79*	*0.81*	*0.83*	**0.70**	*0.77*	*0.81*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.33**	*4.00*	*4.47*	*3.90*	*3.50*	*4.27*	*4.59*	*4.05*	**3.69**	*3.93*	*4.11*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	*0.75*	*0.74*	*0.73*	*0.69*	*0.67*	*0.66*	*0.65*	**0.76**	*0.75*	*0.67*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	*0.53*	*0.53*	*0.53*	*0.54*	*0.56*	*0.58*	*0.60*	**0.48**	*0.52*	*0.57*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.48**	*0.57*	*0.63*	*0.68*	*0.73*	*0.73*	*0.73*	*0.73*	**0.47**	*0.59*	*0.73*
Europe	**4.34**	**3.84**	**4.12**	**4.12**	**4.08**	*4.06*	*4.01*	*4.26*	*4.35*	*4.36*	*4.29*	*4.49*	**4.10**	*4.10*	*4.37*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.97**	*1.98*	*2.03*	*2.19*	*2.30*	*2.31*	*2.31*	*2.41*	**2.03**	*2.04*	*2.33*
United Kingdom	**1.08**	**0.81**	**0.93**	**0.93**	**0.96**	*0.96*	*0.86*	*0.94*	*0.93*	*0.92*	*0.84*	*0.93*	**0.94**	*0.93*	*0.90*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.34**	*13.17*	*13.11*	*13.02*	*12.81*	*12.55*	*12.44*	*12.40*	**13.70**	*13.41*	*12.55*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	*0.70*	*0.69*	*0.69*	*0.68*	*0.66*	*0.65*	*0.67*	**0.72**	*0.69*	*0.67*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	*1.78*	*1.96*	*2.00*	*2.04*	*1.96*	*1.96*	*2.02*	**1.87**	*1.94*	*2.00*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	*10.33*	*10.09*	*9.97*	*9.72*	*9.56*	*9.46*	*9.35*	**10.78**	*10.42*	*9.52*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.24**	**0.23**	*0.23*	*0.23*	*0.23*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.23*	*0.24*
Other Eurasia	**0.10**	**0.10**	**0.10**	**0.10**	**0.11**	*0.13*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	**0.10**	*0.13*	*0.13*
Middle East	**3.10**	**3.13**	**3.17**	**3.18**	**3.23**	*3.25*	*3.24*	*3.24*	*3.23*	*3.23*	*3.23*	*3.22*	**3.15**	*3.24*	*3.23*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.05**	*1.05*	*1.05*	*1.05*	*1.04*	*1.04*	*1.04*	*1.04*	**0.98**	*1.05*	*1.04*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.95**	**9.19**	*9.22*	*9.22*	*9.26*	*9.30*	*9.30*	*9.26*	*9.29*	**9.07**	*9.22*	*9.29*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.44**	*0.47*	*0.47*	*0.46*	*0.45*	*0.45*	*0.44*	*0.44*	**0.46**	*0.46*	*0.45*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	*5.16*	*5.14*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.89**	*0.90*	*0.90*	*0.90*	*0.90*	*0.89*	*0.89*	*0.88*	**0.89**	*0.90*	*0.89*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.83**	*0.86*	*0.85*	*0.85*	*0.85*	*0.84*	*0.83*	*0.82*	**0.86**	*0.85*	*0.83*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.61**	*0.57*	*0.60*	*0.62*	*0.63*	*0.62*	*0.61*	*0.61*	**0.61**	*0.60*	*0.62*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.21**	*0.21*	*0.20*	*0.19*	*0.19*	*0.18*	*0.18*	*0.18*	**0.21**	*0.20*	*0.18*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.39**	*1.40*	*1.43*	*1.43*	*1.43*	*1.43*	*1.42*	*1.42*	**1.44**	*1.41*	*1.42*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.65**	*0.66*	*0.66*	*0.66*	*0.66*	*0.66*	*0.66*	*0.66*	**0.66**	*0.66*	*0.66*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	*0.16*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.17*	*0.19*
Total non-OPEC liquids	**62.28**	**63.81**	**64.35**	**65.16**	**65.08**	*65.22*	*66.27*	*66.56*	*66.41*	*67.13*	*67.49*	*67.55*	**63.91**	*65.78*	*67.15*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Non-OPEC + OPEC non-crude	**67.54**	**69.20**	**69.80**	**70.60**	**70.64**	*70.65*	*71.75*	*72.08*	*71.96*	*72.57*	*72.97*	*73.07*	**69.29**	*71.28*	*72.65*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	-	-	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

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Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.95**	**0.97**	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	-	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	-	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	-	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	-	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	-	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	-	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	-	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	-	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	-	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	-	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	-	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	*28.55*	*29.09*	*29.34*	*29.51*	*29.49*	*29.43*	*29.38*	**26.28**	*28.80*	*29.45*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*33.99*	*34.57*	*34.86*	*35.07*	*34.92*	*34.91*	*34.90*	**31.66**	*34.29*	*34.95*
Crude Oil Production Capacity															
Middle East	**25.26**	**25.55**	**25.55**	**25.53**	**25.58**	*25.56*	*25.72*	*25.82*	*26.02*	*26.12*	*26.17*	*26.17*	**25.47**	*25.67*	*26.12*
Other	**6.18**	**6.19**	**6.16**	**6.25**	**6.14**	*5.99*	*6.29*	*6.27*	*6.28*	*6.28*	*6.25*	*6.22*	**6.19**	*6.17*	*6.26*
OPEC Total	**31.44**	**31.73**	**31.70**	**31.78**	**31.72**	*31.56*	*32.01*	*32.09*	*32.30*	*32.40*	*32.42*	*32.39*	**31.66**	*31.84*	*32.38*
Surplus Crude Oil Production Capacity															
Middle East	**5.71**	**5.57**	**4.26**	**3.58**	**3.10**	*2.69*	*2.72*	*2.57*	*2.60*	*2.70*	*2.75*	*2.75*	**4.77**	*2.77*	*2.70*
Other	**0.65**	**0.68**	**0.60**	**0.54**	**0.43**	*0.31*	*0.19*	*0.18*	*0.19*	*0.22*	*0.24*	*0.26*	**0.62**	*0.28*	*0.22*
OPEC Total	**6.36**	**6.24**	**4.86**	**4.11**	**3.53**	*3.00*	*2.92*	*2.75*	*2.79*	*2.92*	*2.99*	*3.01*	**5.39**	*3.05*	*2.92*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	-	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.34**	**23.92**	**24.31**	**24.54**	**24.24**	*24.42*	*24.78*	*25.04*	*24.49*	*24.74*	*25.03*	*25.15*	**23.78**	*24.62*	*24.85*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.36**	*2.38*	*2.51*	*2.49*	*2.47*	*2.42*	*2.52*	*2.50*	**2.35**	*2.44*	*2.48*
Mexico	**1.62**	**1.64**	**1.60**	**1.71**	**1.66**	*1.65*	*1.64*	*1.65*	*1.62*	*1.64*	*1.64*	*1.66*	**1.64**	*1.65*	*1.64*
United States	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	*20.38*	*20.62*	*20.89*	*20.39*	*20.67*	*20.85*	*20.98*	**19.78**	*20.53*	*20.73*
Central and South America	**5.88**	**6.02**	**6.24**	**6.36**	**6.17**	*6.23*	*6.35*	*6.36*	*6.22*	*6.35*	*6.46*	*6.40*	**6.13**	*6.28*	*6.36*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.92**	*2.93*	*3.01*	*3.01*	*2.93*	*2.98*	*3.06*	*3.04*	**2.96**	*2.97*	*3.00*
Europe	**12.65**	**13.36**	**14.57**	**14.64**	**13.80**	*14.01*	*14.34*	*14.05*	*13.91*	*13.95*	*14.35*	*14.12*	**13.81**	*14.05*	*14.08*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.46**	*4.32*	*4.67*	*4.60*	*4.27*	*4.43*	*4.74*	*4.66*	**4.86**	*4.51*	*4.53*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.28**	*3.19*	*3.46*	*3.37*	*3.13*	*3.22*	*3.50*	*3.36*	**3.61**	*3.32*	*3.31*
Middle East	**8.08**	**8.50**	**9.03**	**8.77**	**8.77**	*9.09*	*9.49*	*8.75*	*8.99*	*9.22*	*9.74*	*9.13*	**8.60**	*9.03*	*9.27*
Asia and Oceania	**36.27**	**35.38**	**34.83**	**36.71**	**36.90**	*36.19*	*36.05*	*37.30*	*38.76*	*37.77*	*36.60*	*37.28*	**35.80**	*36.61*	*37.59*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.25**	*15.29*	*15.46*	*15.79*	*16.36*	*16.25*	*15.62*	*15.54*	**15.27**	*15.45*	*15.94*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.77**	*3.12*	*3.19*	*3.52*	*3.78*	*3.12*	*3.15*	*3.46*	**3.42**	*3.40*	*3.38*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	*5.12*	*4.76*	*5.05*	*5.28*	*5.35*	*4.99*	*5.31*	**4.65**	*5.00*	*5.23*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	**4.53**	*4.52*	*4.44*	*4.63*	*4.62*	*4.64*	*4.55*	*4.71*	**4.37**	*4.53*	*4.63*
Total OECD Liquid Fuels Consumption	**42.45**	**44.08**	**45.82**	**46.80**	**45.83**	*45.33*	*46.14*	*46.59*	*46.20*	*45.60*	*46.35*	*46.68*	**44.80**	*45.98*	*46.21*
Total non-OECD Liquid Fuels Consumption	**51.78**	**52.20**	**52.53**	**53.64**	**53.04**	*53.44*	*53.98*	*54.14*	*55.07*	*55.49*	*55.12*	*54.77*	**52.54**	*53.65*	*55.11*
Total World Liquid Fuels Consumption	**94.23**	**96.29**	**98.35**	**100.44**	**98.87**	*98.77*	*100.12*	*100.73*	*101.27*	*101.09*	*101.47*	*101.45*	**97.35**	*99.63*	*101.32*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.3**	**117.5**	**118.9**	**120.6**	**121.0**	*121.0*	*122.4*	*123.7*	*124.5*	*125.6*	*126.7*	*127.8*	**118.3**	*122.0*	*126.2*
Percent change from prior year	**3.3**	**11.6**	**5.0**	**4.6**	**4.1**	*3.0*	*3.0*	*2.5*	*2.9*	*3.8*	*3.5*	*3.4*	**6.0**	*3.1*	*3.4*
OECD Index, 2015 = 100													**109.5**	*112.5*	*115.0*
Percent change from prior year													**5.5**	*2.7*	*2.2*
Non-OECD Index, 2015 = 100													**123.7**	*127.9*	*133.5*
Percent change from prior year													**6.4**	*3.4*	*4.3*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	*112.2*	*114.0*	*113.8*	*112.9*	*112.0*	*111.3*	*110.7*	**107.3**	*112.4*	*111.7*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	*5.8*	*6.1*	*4.3*	*3.1*	*-0.2*	*-2.4*	*-2.7*	**-3.9**	*4.8*	*-0.6*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.63**	**11.45**	*11.71*	*12.08*	*12.43*	*12.64*	*12.82*	*13.07*	*13.33*	**11.19**	*11.92*	*12.97*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	*0.38*	*0.40*	*0.42*	*0.44*	*0.39*	*0.41*	*0.45*	**0.44**	*0.41*	*0.42*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.73**	**1.67**	*1.79*	*1.77*	*1.82*	*1.89*	*1.87*	*1.78*	*1.77*	**1.70**	*1.76*	*1.83*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.46**	**9.33**	*9.54*	*9.92*	*10.18*	*10.31*	*10.57*	*10.88*	*11.12*	**9.05**	*9.74*	*10.72*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	**3.00**	*2.77*	*3.07*	*2.92*	*2.81*	*3.22*	*2.97*	*2.14*	**3.13**	*2.94*	*2.78*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	*0.92*	*0.98*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.66*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	**0.08**	*0.23*	*0.22*	*-0.07*	*-0.40*	*0.11*	*0.21*	*-0.13*	**0.18**	*0.11*	*-0.05*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.54**	**0.72**	*0.59*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.53**	*0.42*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	**15.56**	*16.23*	*16.57*	*15.85*	*15.31*	*16.46*	*16.51*	*15.62*	**15.15**	*16.05*	*15.98*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.95**	*1.06*	*1.06*	*1.05*	*1.02*	*1.01*	*1.01*	*0.99*	**0.95**	*1.03*	*1.01*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	**5.61**	*5.78*	*5.93*	*6.10*	*6.13*	*6.24*	*6.27*	*6.37*	**5.40**	*5.86*	*6.25*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	**1.19**	*1.17*	*1.18*	*1.21*	*1.18*	*1.20*	*1.19*	*1.24*	**1.12**	*1.19*	*1.20*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	*0.98*	*1.00*	*1.01*	*0.98*	*0.99*	*0.99*	*1.01*	**0.98**	*1.00*	*0.99*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	**0.22**	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.21*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	**-3.74**	*-3.79*	*-3.79*	*-3.88*	*-3.78*	*-3.87*	*-4.01*	*-3.81*	**-3.29**	*-3.80*	*-3.87*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	**-2.14**	*-2.25*	*-2.29*	*-2.37*	*-2.40*	*-2.57*	*-2.61*	*-2.60*	**-2.15**	*-2.26*	*-2.55*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	**0.09**	*0.38*	*0.37*	*0.21*	*0.18*	*0.25*	*0.37*	*0.21*	**0.17**	*0.26*	*0.25*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	**-0.09**	*-0.03*	*-0.04*	*-0.03*	*-0.04*	*-0.03*	*-0.03*	*-0.02*	**-0.05**	*-0.05*	*-0.03*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	**0.40**	*0.68*	*0.50*	*0.21*	*0.38*	*0.63*	*0.38*	*0.43*	**0.60**	*0.45*	*0.45*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	**-0.76**	*-0.83*	*-0.75*	*-0.63*	*-0.74*	*-0.73*	*-0.75*	*-0.75*	**-0.71**	*-0.74*	*-0.74*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	**-0.04**	*-0.13*	*-0.05*	*-0.03*	*-0.07*	*0.04*	*0.05*	*0.06*	**0.05**	*-0.06*	*0.02*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	**-0.81**	*-1.27*	*-1.09*	*-0.92*	*-0.67*	*-1.06*	*-1.02*	*-0.87*	**-0.80**	*-1.02*	*-0.91*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	**0.14**	*0.14*	*0.06*	*0.13*	*0.03*	*0.06*	*0.03*	*0.13*	**0.09**	*0.12*	*0.07*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	*-0.47*	*-0.50*	*-0.47*	*-0.45*	*-0.46*	*-0.44*	*-0.41*	**-0.49**	*-0.50*	*-0.44*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	**0.37**	*-0.30*	*-0.55*	*0.35*	*0.32*	*-0.59*	*-0.33*	*0.36*	**0.23**	*-0.03*	*-0.06*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	**20.16**	*20.38*	*20.62*	*20.89*	*20.39*	*20.67*	*20.85*	*20.98*	**19.78**	*20.51*	*20.73*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	**3.87**	*3.33*	*3.39*	*3.90*	*4.02*	*3.46*	*3.46*	*3.90*	**3.41**	*3.63*	*3.71*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	**0.13**	*0.18*	*0.17*	*0.22*	*0.21*	*0.21*	*0.19*	*0.25*	**0.13**	*0.18*	*0.21*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	**0.13**	*0.03*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.04*	*0.00*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	**8.47**	*9.00*	*9.14*	*8.95*	*8.53*	*9.06*	*9.11*	*8.91*	**8.80**	*8.89*	*8.90*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	**0.87**	*0.94*	*0.92*	*0.92*	*0.87*	*0.93*	*0.93*	*0.93*	**0.91**	*0.91*	*0.91*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	**1.45**	*1.55*	*1.56*	*1.55*	*1.46*	*1.62*	*1.66*	*1.62*	**1.37**	*1.53*	*1.59*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	**4.14**	*3.83*	*3.87*	*4.03*	*4.09*	*3.96*	*3.93*	*4.03*	**3.94**	*3.97*	*4.00*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	**0.38**	*0.39*	*0.33*	*0.33*	*0.29*	*0.30*	*0.32*	*0.33*	**0.31**	*0.36*	*0.31*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	**1.65**	*2.05*	*2.14*	*1.91*	*1.80*	*2.06*	*2.19*	*1.95*	**1.82**	*1.94*	*2.00*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	*20.38*	*20.62*	*20.89*	*20.39*	*20.67*	*20.85*	*20.98*	**19.78**	*20.53*	*20.73*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	**-0.74**	*-1.01*	*-0.72*	*-0.96*	*-0.97*	*-0.64*	*-1.04*	*-1.67*	**-0.16**	*-0.86*	*-1.08*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	**414.4**	*393.7*	*373.7*	*380.2*	*416.5*	*406.2*	*387.0*	*399.3*	**421.4**	*380.2*	*399.3*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	**142.0**	*191.5*	*237.7*	*192.9*	*156.6*	*207.1*	*247.9*	*205.3*	**188.4**	*192.9*	*205.3*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	**87.9**	*88.0*	*89.2*	*82.8*	*92.3*	*89.6*	*89.3*	*82.4*	**80.3**	*82.8*	*82.4*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	**34.1**	*31.5*	*31.2*	*31.5*	*33.5*	*32.3*	*32.0*	*32.3*	**28.6**	*31.5*	*32.3*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	**238.5**	*223.3*	*219.9*	*235.3*	*233.7*	*236.1*	*227.1*	*241.4*	**232.2**	*235.3*	*241.4*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	**17.3**	*19.6*	*22.1*	*25.4*	*22.1*	*23.3*	*24.2*	*26.9*	**17.7**	*25.4*	*26.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	**221.2**	*203.7*	*197.9*	*209.9*	*211.6*	*212.8*	*202.9*	*214.5*	**214.5**	*209.9*	*214.5*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	**35.6**	*39.3*	*42.0*	*39.0*	*38.5*	*39.4*	*42.0*	*38.9*	**35.8**	*39.0*	*38.9*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	**114.6**	*109.9*	*123.3*	*125.8*	*114.5*	*119.1*	*125.8*	*127.7*	**129.9**	*125.8*	*127.7*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	**27.9**	*28.2*	*28.0*	*30.1*	*30.0*	*30.8*	*29.4*	*31.0*	**25.4**	*30.1*	*31.0*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	**58.5**	*54.5*	*45.6*	*47.5*	*57.0*	*55.1*	*46.1*	*47.6*	**51.8**	*47.5*	*47.6*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	**1153.6**	*1159.9*	*1190.7*	*1165.1*	*1172.6*	*1215.6*	*1226.5*	*1205.8*	**1193.8**	*1165.1*	*1205.8*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	*482.0*	*392.0*	*354.2*	*350.4*	*342.6*	*340.0*	*329.5*	**593.7**	*354.2*	*329.5*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

U.S. Energy Information Administration

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.32**	**2.33**	*2.41*	*2.44*	*2.53*	*2.55*	*2.59*	*2.56*	*2.61*	**2.14**	*2.43*	*2.58*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	**1.77**	*1.80*	*1.85*	*1.91*	*1.94*	*1.94*	*1.96*	*2.01*	**1.73**	*1.83*	*1.96*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	**0.93**	*0.95*	*0.98*	*1.01*	*1.02*	*1.04*	*1.06*	*1.08*	**0.92**	*0.97*	*1.05*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	**0.59**	*0.62*	*0.66*	*0.64*	*0.63*	*0.66*	*0.69*	*0.67*	**0.61**	*0.63*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.27**	*0.29*	*0.30*	*0.30*	*0.29*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	*0.28*	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	*0.26*	*0.19*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.47**	**-0.50**	*-0.39*	*-0.40*	*-0.44*	*-0.46*	*-0.46*	*-0.46*	*-0.46*	**-0.40**	*-0.43*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.20**	**-1.18**	*-1.28*	*-1.28*	*-1.35*	*-1.28*	*-1.35*	*-1.37*	*-1.40*	**-1.18**	*-1.27*	*-1.35*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.34**	**-0.28**	*-0.41*	*-0.44*	*-0.41*	*-0.43*	*-0.52*	*-0.53*	*-0.49*	**-0.37**	*-0.39*	*-0.49*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.17**	*-0.17*	*-0.18*	*-0.17*	*-0.23*	*-0.24*	*-0.26*	*-0.25*	**-0.20**	*-0.17*	*-0.24*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.52**	**0.44**	*0.29*	*0.32*	*0.50*	*0.42*	*0.29*	*0.32*	*0.51*	**0.38**	*0.39*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.20**	*0.18*	*0.19*	*0.18*	*0.17*	*0.18*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.90**	**1.98**	*2.02*	*2.03*	*2.08*	*2.09*	*2.09*	*2.10*	*2.14*	**1.77**	*2.03*	*2.10*
Propane	**1.09**	**0.65**	**0.66**	**0.96**	**1.16**	*0.55*	*0.58*	*1.03*	*1.20*	*0.63*	*0.63*	*1.03*	**0.84**	*0.83*	*0.87*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.29*	**0.31**	*0.30*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	**0.23**	*0.23*	*0.22*	*0.22*	*0.20*	*0.23*	*0.21*	*0.21*	**0.24**	*0.23*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.21**	*0.24*	*0.26*	*0.28*	*0.24*	*0.21*	*0.22*	*0.23*	**0.25**	*0.25*	*0.22*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**64.0**	**51.1**	*49.2*	*50.1*	*53.7*	*53.2*	*57.8*	*57.5*	*59.9*	**65.4**	*51.1*	*57.1*
Propane	**39.3**	**53.2**	**68.6**	**62.1**	**36.3**	*58.8*	*84.0*	*67.0*	*42.7*	*63.1*	*85.3*	*71.5*	**62.1**	*67.0*	*71.5*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.0**	*1.4*	*1.7*	*1.7*	*1.6*	*1.8*	*2.0*	*1.9*	**1.4**	*1.7*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**44.4**	**35.7**	*61.3*	*79.2*	*50.1*	*40.2*	*64.5*	*82.4*	*53.3*	**44.4**	*50.1*	*53.3*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**20.7**	**19.4**	*20.5*	*21.3*	*20.5*	*18.0*	*19.2*	*20.1*	*19.4*	**20.7**	*20.5*	*19.4*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	**15.56**	*16.23*	*16.57*	*15.85*	*15.31*	*16.46*	*16.51*	*15.62*	**15.15**	*16.05*	*15.98*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.75**	**0.64**	*0.48*	*0.51*	*0.69*	*0.60*	*0.47*	*0.51*	*0.69*	**0.54**	*0.58*	*0.57*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.18**	**1.12**	*1.18*	*1.17*	*1.15*	*1.10*	*1.17*	*1.17*	*1.16*	**1.15**	*1.16*	*1.15*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.20**	**-0.12**	*0.35*	*0.35*	*0.28*	*0.08*	*0.28*	*0.38*	*0.28*	**0.16**	*0.22*	*0.26*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.28**	**0.33**	*0.97*	*0.66*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.57*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.91**	**17.53**	*19.21*	*19.27*	*18.27*	*17.56*	*19.11*	*19.15*	*18.27*	**17.69**	*18.57*	*18.53*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.95**	*1.06*	*1.06*	*1.05*	*1.02*	*1.01*	*1.01*	*0.99*	**0.95**	*1.03*	*1.01*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	*0.85*	*0.78*	*0.39*	*0.49*	*0.84*	*0.77*	*0.37*	**0.62**	*0.63*	*0.62*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.69**	**9.22**	*9.91*	*9.98*	*9.79*	*9.32*	*9.87*	*9.93*	*9.85*	**9.52**	*9.73*	*9.74*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.48**	*1.72*	*1.64*	*1.55*	*1.53*	*1.59*	*1.64*	*1.52*	**1.31**	*1.60*	*1.57*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.87**	**4.77**	*5.05*	*5.12*	*4.97*	*4.64*	*5.07*	*5.02*	*4.92*	**4.66**	*4.98*	*4.91*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.22**	**0.26**	*0.25*	*0.27*	*0.22*	*0.26*	*0.25*	*0.27*	*0.22*	**0.21**	*0.25*	*0.25*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.33**	**2.26**	*2.48*	*2.54*	*2.40*	*2.35*	*2.50*	*2.53*	*2.37*	**2.32**	*2.42*	*2.44*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.94**	**18.49**	*20.26*	*20.33*	*19.32*	*18.59*	*20.11*	*20.16*	*19.26*	**18.64**	*19.60*	*19.53*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.02**	**16.07**	*16.63*	*16.85*	*16.16*	*15.64*	*16.67*	*16.80*	*15.96*	**15.67**	*16.43*	*16.27*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.05**	**17.94**	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	**18.10**	*17.94*	*17.94*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.90**	*0.93*	*0.94*	*0.90*	*0.87*	*0.93*	*0.94*	*0.89*	**0.87**	*0.92*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**278**	*367*	*346*	*300*	*283*	*289*	*285*	*277*	**219**	*324*	*284*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	*430*	*415*	*377*	*355*	*364*	*360*	*356*	**294**	*397*	*359*
PADD 2	**247**	**288**	**304**	**315**	**351**	*420*	*411*	*370*	*349*	*357*	*355*	*346*	**290**	*389*	*352*
PADD 3	**228**	**267**	**282**	**298**	**340**	*402*	*391*	*350*	*327*	*333*	*330*	*323*	**271**	*372*	*328*
PADD 4	**247**	**311**	**360**	**351**	**360**	*426*	*435*	*393*	*365*	*375*	*374*	*360*	**319**	*404*	*369*
PADD 5	**312**	**366**	**391**	**410**	**452**	*531*	*509*	*473*	*444*	*442*	*436*	*423*	**372**	*492*	*436*
U.S. Average	**256**	**297**	**316**	**333**	**371**	*439*	*427*	*387*	*365*	*371*	*367*	*359*	**302**	*407*	*366*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	*449*	*438*	*400*	*378*	*384*	*381*	*373*	**311**	*418*	*379*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.9**	*53.5*	*53.9*	*58.9*	*59.2*	*60.6*	*56.5*	*62.8*	**61.8**	*58.9*	*62.8*
PADD 2	**50.7**	**50.6**	**46.9**	**50.9**	**56.5**	*48.3*	*49.3*	*50.4*	*53.0*	*50.8*	*50.5*	*49.7*	**50.9**	*50.4*	*49.7*
PADD 3	**81.9**	**81.6**	**82.9**	**81.7**	**87.1**	*84.3*	*79.7*	*86.2*	*83.7*	*87.7*	*83.3*	*87.9*	**81.7**	*86.2*	*87.9*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**8.1**	*6.8*	*7.3*	*8.1*	*8.0*	*7.9*	*7.5*	*8.3*	**8.1**	*8.1*	*8.3*
PADD 5	**31.4**	**29.0**	**30.6**	**29.6**	**29.9**	*30.4*	*29.8*	*31.7*	*29.8*	*29.2*	*29.3*	*32.6*	**29.6**	*31.7*	*32.6*
U.S. Total	**237.6**	**237.2**	**227.0**	**232.2**	**238.5**	*223.3*	*219.9*	*235.3*	*233.7*	*236.1*	*227.1*	*241.4*	**232.2**	*235.3*	*241.4*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.7**	**17.3**	*19.6*	*22.1*	*25.4*	*22.1*	*23.3*	*24.2*	*26.9*	**17.7**	*25.4*	*26.9*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**214.5**	**221.2**	*203.7*	*197.9*	*209.9*	*211.6*	*212.8*	*202.9*	*214.5*	**214.5**	*209.9*	*214.5*

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.86**	**102.77**	*103.79*	*105.36*	*107.59*	*108.81*	*110.27*	*111.39*	*111.75*	**101.40**	*104.89*	*110.57*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	*0.79*	*0.73*	*0.87*	*0.93*	*0.78*	*0.74*	*0.89*	**0.97**	*0.86*	*0.84*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.04**	*2.25*	*2.16*	*2.14*	*2.18*	*2.12*	*2.00*	*1.95*	**2.11**	*2.15*	*2.06*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.73**	**99.67**	*100.75*	*102.47*	*104.58*	*105.70*	*107.38*	*108.65*	*108.90*	**98.32**	*101.88*	*107.67*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.53**	**94.61**	*95.48*	*96.90*	*98.94*	*99.94*	*101.30*	*102.33*	*102.66*	**93.55**	*96.50*	*101.57*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.18*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	*11.74*	*11.74*	*12.78*	*13.08*	*12.51*	*12.19*	*12.78*	**9.76**	*11.94*	*12.63*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.92**	*6.85*	*6.42*	*6.71*	*7.78*	*6.47*	*6.32*	*6.50*	**7.63**	*7.22*	*6.76*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	*8.39*	*9.24*	*9.20*	*9.12*	*9.02*	*9.33*	*9.24*	**8.47**	*8.82*	*9.18*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.19**	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	*-9.40*	*-7.96*	*2.17*	*13.52*	*-12.50*	*-8.41*	*3.09*	**0.24**	*1.16*	*-1.12*
Total Supply	**99.18**	**72.53**	**75.31**	**86.87**	**104.08**	*73.14*	*74.73*	*86.22*	*99.53*	*74.10*	*79.08*	*90.61*	**83.42**	*84.46*	*85.79*
Balancing Item (b)	**0.26**	**-0.53**	**-0.23**	**-1.25**	**0.23**	*1.20*	*0.31*	*1.72*	*0.86*	*-1.48*	*-1.66*	*-0.25*	**-0.44**	*0.87*	*-0.64*
Total Primary Supply	**99.44**	**72.00**	**75.08**	**85.62**	**104.30**	*74.34*	*75.04*	*87.94*	*100.39*	*72.61*	*77.42*	*90.36*	**82.98**	*85.33*	*85.15*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.63**	**14.43**	**26.09**	*7.66*	*3.48*	*16.82*	*24.70*	*8.10*	*4.04*	*16.74*	**12.75**	*13.46*	*13.35*
Commercial	**14.87**	**6.25**	**4.68**	**10.08**	**15.62**	*6.11*	*4.44*	*10.41*	*15.04*	*6.63*	*5.01*	*10.45*	**8.94**	*9.12*	*9.26*
Industrial	**23.81**	**21.49**	**21.12**	**23.44**	**25.23**	*22.01*	*20.91*	*23.10*	*23.33*	*21.22*	*21.84*	*25.05*	**22.46**	*22.80*	*22.86*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.65**	*30.79*	*38.36*	*29.20*	*28.42*	*28.65*	*38.30*	*29.43*	**30.88**	*31.77*	*31.22*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.12**	*5.17*	*5.25*	*5.36*	*5.42*	*5.50*	*5.55*	*5.57*	**5.05**	*5.23*	*5.51*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.45**	*2.44*	*2.46*	*2.90*	*3.33*	*2.37*	*2.53*	*2.98*	**2.74**	*2.81*	*2.80*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**72.00**	**75.08**	**85.62**	**104.30**	*74.34*	*75.04*	*87.94*	*100.39*	*72.61*	*77.42*	*90.36*	**82.98**	*85.33*	*85.15*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	*2,257*	*2,989*	*2,789*	*1,573*	*2,710*	*3,484*	*3,199*	**3,210**	*2,789*	*3,199*
East Region (d)	**313**	**515**	**804**	**766**	**242**	*462*	*740*	*644*	*277*	*609*	*887*	*772*	**766**	*644*	*772*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	*523*	*853*	*769*	*340*	*648*	*980*	*859*	**887**	*769*	*859*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	*866*	*916*	*939*	*676*	*1,021*	*1,084*	*1,088*	**1,143**	*939*	*1,088*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	*146*	*199*	*183*	*111*	*151*	*213*	*192*	**171**	*183*	*192*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	*238*	*260*	*233*	*146*	*258*	*297*	*267*	**218**	*233*	*267*
Alaska	**23**	**27**	**30**	**25**	**21**	*22*	*22*	*22*	*22*	*22*	*22*	*22*	**25**	*22*	*22*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*8.08*	*9.03*	*8.81*	*7.72*	*4.03*	*3.92*	*4.01*	**4.06**	*7.69*	*4.92*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**17.69**	*18.58*	*22.03*	*18.52*	*18.31*	*18.42*	*19.65*	*14.91*	**16.12**	*18.29*	*17.43*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.79**	*15.32*	*21.74*	*16.46*	*15.40*	*16.18*	*18.73*	*11.97*	**12.55**	*14.47*	*14.57*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.81**	*13.47*	*20.88*	*13.32*	*12.58*	*14.39*	*18.71*	*9.94*	**10.19**	*11.74*	*12.27*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**11.39**	*14.07*	*21.46*	*14.32*	*13.19*	*15.52*	*19.71*	*10.97*	**10.23**	*12.90*	*13.05*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.91**	*20.15*	*27.27*	*17.84*	*16.50*	*20.72*	*24.97*	*13.96*	**15.24**	*16.63*	*16.81*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.78**	*16.60*	*27.01*	*19.55*	*17.07*	*21.11*	*24.62*	*15.12*	**11.99**	*14.10*	*17.49*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**12.64**	*16.69*	*25.42*	*17.17*	*14.24*	*18.40*	*21.71*	*12.49*	**13.22**	*15.37*	*14.89*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.33**	*11.98*	*17.30*	*13.11*	*13.00*	*14.26*	*16.25*	*10.14*	**9.77**	*11.65*	*12.44*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.06**	*17.39*	*19.44*	*19.05*	*19.33*	*18.71*	*17.79*	*15.92*	**15.25**	*17.99*	*17.97*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	*15.37*	*21.80*	*15.87*	*15.15*	*16.76*	*19.60*	*12.14*	**12.27**	*14.49*	*14.78*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.63**	*13.33*	*14.62*	*15.16*	*15.61*	*14.48*	*12.30*	*11.24*	**11.33**	*13.78*	*13.86*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.33**	*10.40*	*11.22*	*12.40*	*12.86*	*11.53*	*9.64*	*9.28*	**8.56**	*11.08*	*11.19*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.14**	*9.57*	*13.14*	*11.86*	*12.04*	*11.76*	*10.75*	*7.93*	**7.60**	*9.79*	*10.59*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.24**	*10.80*	*13.89*	*12.51*	*12.33*	*11.10*	*10.48*	*8.10*	**7.91**	*11.24*	*10.70*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.52**	*12.31*	*14.48*	*14.07*	*13.85*	*13.05*	*11.65*	*10.06*	**9.76**	*12.32*	*12.27*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.54**	*12.19*	*14.47*	*14.09*	*13.71*	*13.34*	*12.03*	*10.10*	**9.89**	*12.29*	*12.35*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.99**	*10.58*	*12.73*	*12.69*	*12.22*	*11.50*	*9.94*	*8.49*	**8.62**	*11.21*	*10.80*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.83**	*9.39*	*11.37*	*11.03*	*11.25*	*11.27*	*11.04*	*9.17*	**7.75**	*9.81*	*10.57*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.74**	*12.47*	*13.87*	*14.11*	*14.03*	*12.75*	*11.54*	*10.24*	**11.09**	*13.27*	*12.18*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	*10.84*	*12.97*	*12.80*	*12.83*	*12.05*	*10.75*	*9.11*	**8.82**	*11.24*	*11.39*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**11.09**	*10.90*	*11.66*	*13.29*	*13.74*	*11.48*	*8.68*	*9.10*	**8.73**	*11.78*	*11.19*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.16**	*10.11*	*12.13*	*13.24*	*13.44*	*11.06*	*8.83*	*8.47*	**8.24**	*11.34*	*11.33*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.72**	*8.63*	*11.01*	*11.27*	*11.30*	*8.58*	*6.84*	*6.57*	**6.90**	*9.34*	*8.94*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**8.03**	*8.06*	*9.72*	*10.53*	*10.49*	*7.16*	*5.59*	*5.74*	**5.48**	*9.11*	*7.38*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.57**	*8.58*	*10.56*	*10.73*	*10.59*	*6.79*	*5.67*	*5.92*	**5.90**	*9.25*	*7.36*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.87**	*8.18*	*10.08*	*10.32*	*10.19*	*6.48*	*5.19*	*5.50*	**5.39**	*8.77*	*6.99*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**5.46**	*7.64*	*9.24*	*9.01*	*8.35*	*4.50*	*4.09*	*4.14*	**4.80**	*7.99*	*5.25*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.07**	*7.56*	*9.18*	*9.87*	*10.27*	*9.12*	*8.14*	*7.28*	**5.99**	*8.38*	*8.77*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.81**	*8.88*	*11.06*	*11.93*	*12.06*	*10.09*	*8.27*	*7.64*	**8.54**	*10.26*	*9.61*
U.S. Average	**5.73**	**4.09**	**5.11**	**6.87**	**6.82**	*8.00*	*9.68*	*9.97*	*9.82*	*5.90*	*4.98*	*5.27*	**5.50**	*8.52*	*6.53*

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**146.7**	**147.4**	*143.0*	*156.2*	*154.1*	*147.4*	*141.4*	*153.6*	*145.6*	**578.1**	*600.8*	*588.0*
Appalachia	**40.8**	**39.5**	**36.6**	**38.9**	**42.9**	*39.5*	*37.6*	*38.4*	*39.4*	*37.6*	*36.1*	*33.5*	**155.8**	*158.4*	*146.7*
Interior	**25.0**	**23.3**	**22.7**	**22.5**	**24.5**	*22.1*	*23.2*	*22.9*	*21.2*	*20.3*	*23.0*	*22.8*	**93.5**	*92.8*	*87.3*
Western	**74.5**	**80.0**	**89.0**	**85.3**	**80.0**	*81.4*	*95.4*	*92.8*	*86.8*	*83.4*	*94.4*	*89.3*	**328.8**	*349.6*	*353.9*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	**-1.1**	*-2.3*	*-1.0*	*-5.4*	*-2.4*	*-1.5*	*1.4*	*-2.0*	**-1.7**	*-9.8*	*-4.5*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	*1.4*	*1.3*	*1.2*	*1.1*	*1.2*	*1.6*	*1.4*	**5.4**	*5.2*	*5.3*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**20.2**	*17.0*	*19.1*	*24.8*	*19.1*	*20.8*	*20.5*	*22.2*	**85.2**	*81.1*	*82.6*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**10.5**	*8.8*	*11.2*	*12.8*	*10.7*	*11.7*	*11.5*	*12.2*	**45.3**	*43.3*	*46.1*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.7**	*8.2*	*7.9*	*12.0*	*8.5*	*9.0*	*9.0*	*10.0*	**39.9**	*37.8*	*36.5*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**124.9**	**127.4**	*125.1*	*137.4*	*125.1*	*127.0*	*120.3*	*136.0*	*122.9*	**496.6**	*515.0*	*506.2*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-14.0**	**7.6**	*-9.5*	*17.3*	*-8.4*	*-4.2*	*-9.8*	*10.3*	*-12.7*	**39.0**	*7.0*	*-16.4*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	*1.9*	*1.9*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**140.6**	**126.2**	**163.7**	**112.9**	**136.9**	*117.5*	*156.6*	*118.5*	*124.6*	*112.3*	*148.1*	*112.0*	**543.4**	*529.5*	*496.9*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.4**	*4.1*	*3.9*	*4.5*	*4.1*	*4.2*	*4.5*	*4.7*	**17.6**	*16.8*	*17.4*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.6**	*108.1*	*146.0*	*107.1*	*113.5*	*102.1*	*137.5*	*100.3*	**501.4**	*483.7*	*453.4*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.9**	*6.9*	*6.8*	*7.0*	*7.0*	*6.0*	*6.2*	*7.0*	**26.7**	*27.6*	*26.2*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.2*	*0.2*	*0.3*	*0.1*	*0.1*	*0.2*	**0.8**	*0.7*	*0.8*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	*6.8*	*6.6*	*6.8*	*6.7*	*5.8*	*6.0*	*6.8*	**25.8**	*26.9*	*25.3*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.1**	**133.9**	*119.1*	*156.6*	*118.5*	*124.6*	*112.3*	*148.1*	*112.0*	**545.7**	*528.1*	*496.9*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-1.2**	**3.0**	*-1.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-2.2**	*1.4*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	**26.4**	*28.7*	*29.7*	*35.1*	*37.5*	*39.0*	*37.7*	*39.6*	**25.3**	*35.1*	*39.6*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**99.1**	**91.6**	*101.0*	*83.7*	*92.1*	*96.3*	*106.1*	*95.8*	*108.5*	**99.1**	*92.1*	*108.5*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	*95.5*	*78.0*	*86.7*	*91.7*	*101.4*	*90.9*	*103.5*	**94.7**	*86.7*	*103.5*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**2.6**	**3.6**	*3.5*	*3.5*	*3.3*	*2.7*	*2.8*	*3.0*	*3.1*	**2.6**	*3.3*	*3.1*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	*1.9*	*2.0*	*2.0*	*1.7*	*1.8*	*1.8*	*1.9*	**1.7**	*2.0*	*1.9*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	**6.30**	*6.30*	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.251*	*0.262*	*0.271*	*0.276*	*0.278*	*0.307*	*0.327*	**0.258**	*0.259*	*0.297*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	*2.14*	*2.00*	*1.98*	*2.05*	*2.07*	*2.06*	*2.03*	**1.98**	*2.07*	*2.05*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,033**	*1,017*	*1,167*	*986*	*1,015*	*1,003*	*1,168*	*995*	**4,116**	*4,202*	*4,181*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**994**	*979*	*1,127*	*947*	*977*	*965*	*1,126*	*955*	**3,963**	*4,047*	*4,024*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**35**	*35*	*37*	*36*	*35*	*35*	*38*	*37*	**140**	*142*	*144*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*3*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**10**	*9*	*12*	*10*	*12*	*12*	*15*	*11*	**39**	*41*	*50*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,042**	*1,025*	*1,179*	*996*	*1,027*	*1,016*	*1,182*	*1,007*	**4,155**	*4,243*	*4,231*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**64**	*66*	*53*	*51*	*43*	*64*	*54*	*52*	**225**	*234*	*212*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**913**	**898**	**1,089**	**894**	**944**	*926*	*1,091*	*911*	*950*	*918*	*1,092*	*920*	**3,795**	*3,872*	*3,879*
Residential Sector	**379**	**329**	**446**	**324**	**379**	*333*	*435*	*329*	*380*	*324*	*433*	*334*	**1,477**	*1,477*	*1,471*
Commercial Sector	**304**	**321**	**377**	**322**	**322**	*334*	*381*	*326*	*322*	*329*	*379*	*325*	**1,325**	*1,363*	*1,355*
Industrial Sector	**229**	**247**	**264**	**247**	**242**	*258*	*272*	*253*	*247*	*263*	*279*	*259*	**987**	*1,026*	*1,047*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**34**	*33*	*36*	*34*	*34*	*34*	*37*	*35*	**136**	*138*	*140*
Total Consumption	**946**	**931**	**1,124**	**929**	**979**	*960*	*1,126*	*945*	*984*	*951*	*1,129*	*955*	**3,930**	*4,010*	*4,019*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,724**	*2,392*	*3,127*	*2,367*	*2,705*	*2,308*	*3,080*	*2,379*	**10,703**	*10,611*	*10,472*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	*95.5*	*78.0*	*86.7*	*91.7*	*101.4*	*90.9*	*103.5*	**94.7**	*86.7*	*103.5*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**5.7**	*6.0*	*6.3*	*6.9*	*4.8*	*4.6*	*2.7*	*3.4*	**7.0**	*6.9*	*3.4*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**15.5**	*15.3*	*15.2*	*15.5*	*15.4*	*15.2*	*15.1*	*15.4*	**16.0**	*15.5*	*15.4*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	*2.14*	*2.00*	*1.98*	*2.05*	*2.07*	*2.06*	*2.03*	**1.98**	*2.07*	*2.05*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	*8.03*	*8.82*	*8.77*	*7.99*	*4.03*	*3.90*	*4.16*	**4.97**	*7.92*	*4.91*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	*22.04*	*21.47*	*19.82*	*18.79*	*18.53*	*17.53*	*17.42*	**13.66**	*19.57*	*18.08*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	*29.98*	*28.34*	*25.39*	*23.13*	*22.29*	*22.09*	*22.60*	**15.50**	*24.96*	*22.62*
Retail Prices (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	*14.59*	*14.67*	*14.57*	*14.55*	*15.15*	*14.86*	*14.44*	**13.72**	*14.45*	*14.75*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	*11.68*	*12.12*	*11.92*	*12.12*	*11.87*	*11.99*	*11.48*	**11.27**	*11.85*	*11.87*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	*7.26*	*7.83*	*7.49*	*7.54*	*6.97*	*7.45*	*7.15*	**7.26**	*7.50*	*7.28*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	*78.30*	*91.33*	*80.16*	*68.32*	*60.73*	*46.08*	*38.87*	**189.54**	*73.13*	*53.50*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	*64.19*	*98.43*	*67.20*	*58.69*	*33.89*	*38.43*	*35.12*	**53.53**	*68.75*	*41.53*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	*91.67*	*118.96*	*44.73*	*45.01*	*94.84*	*138.73*	*31.83*	**51.81**	*92.96*	*77.60*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	*95.82*	*81.31*	*41.46*	*45.07*	*85.89*	*132.82*	*21.25*	**46.14**	*79.67*	*71.26*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	*83.95*	*105.65*	*80.09*	*74.34*	*44.21*	*45.94*	*42.35*	**45.67**	*82.00*	*51.71*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	*82.64*	*91.97*	*73.23*	*68.10*	*38.47*	*38.44*	*36.26*	**46.47**	*73.93*	*45.32*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	*66.62*	*77.09*	*56.10*	*51.51*	*28.73*	*29.26*	*25.19*	**93.88**	*59.27*	*33.67*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	*72.73*	*76.49*	*66.18*	*60.78*	*34.51*	*34.75*	*32.63*	**42.39**	*64.46*	*40.67*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	*66.73*	*67.41*	*63.31*	*56.58*	*33.25*	*33.86*	*33.07*	**37.92**	*59.64*	*39.19*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	*77.05*	*108.07*	*77.66*	*70.51*	*36.32*	*42.05*	*41.45*	**59.53**	*75.66*	*47.58*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	*65.00*	*95.23*	*61.10*	*53.14*	*30.86*	*34.53*	*31.09*	**55.44**	*65.09*	*37.41*

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**13.1**	*10.5*	*13.2*	*10.8*	*12.8*	*10.2*	*12.8*	*10.9*	**48.7**	*47.7*	*46.6*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**36.1**	*30.0*	*39.6*	*30.7*	*35.8*	*29.7*	*38.9*	*30.9*	**138.7**	*136.4*	*135.2*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.9**	*42.9*	*53.7*	*44.5*	*50.1*	*42.2*	*53.3*	*45.3*	**192.6**	*192.0*	*190.9*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**30.6**	*24.0*	*29.7*	*23.6*	*30.1*	*23.1*	*29.5*	*23.3*	**108.6**	*107.9*	*106.1*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**96.0**	*88.0*	*110.2*	*84.8*	*98.1*	*85.9*	*111.2*	*86.9*	**374.9**	*379.0*	*382.1*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**32.7**	*26.5*	*36.3*	*26.9*	*33.9*	*26.1*	*36.2*	*27.3*	**120.5**	*122.4*	*123.5*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**55.7**	*53.7*	*78.6*	*49.6*	*54.9*	*49.8*	*77.5*	*50.8*	**230.5**	*237.5*	*233.0*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**24.2**	*25.7*	*34.3*	*23.1*	*24.3*	*25.4*	*34.0*	*23.4*	**108.1**	*107.3*	*107.0*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.5**	*30.7*	*38.4*	*34.1*	*38.6*	*30.7*	*38.2*	*34.0*	**149.0**	*141.6*	*141.5*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.8*	*4.8*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**379.1**	*332.9*	*435.2*	*329.4*	*379.9*	*324.2*	*432.7*	*334.1*	**1,476.6**	*1,476.7*	*1,470.8*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	*12.0*	*13.6*	*11.7*	*12.0*	*11.8*	*13.3*	*11.5*	**48.5**	*49.3*	*48.5*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	*34.1*	*39.8*	*34.6*	*35.9*	*33.6*	*38.8*	*34.0*	**141.9**	*144.5*	*142.4*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**43.3**	*42.9*	*48.8*	*42.8*	*43.2*	*42.6*	*48.2*	*42.3*	**174.8**	*177.8*	*176.3*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.1**	*24.4*	*27.6*	*24.2*	*25.1*	*24.1*	*27.4*	*24.0*	**99.3**	*101.3*	*100.5*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**75.1**	*80.4*	*90.7*	*76.3*	*74.8*	*79.1*	*90.4*	*76.5*	**313.1**	*322.6*	*320.9*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.0**	*22.9*	*26.9*	*21.2*	*21.1*	*22.5*	*26.7*	*21.3*	**89.0**	*92.0*	*91.6*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**46.7**	*53.8*	*61.3*	*50.8*	*47.1*	*53.2*	*61.7*	*51.5*	**201.0**	*212.7*	*213.6*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**23.2**	*25.2*	*29.0*	*23.6*	*23.2*	*25.1*	*28.8*	*23.6*	**98.7**	*101.0*	*100.7*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.7**	*36.4*	*42.4*	*39.8*	*37.7*	*36.1*	*42.0*	*39.2*	**153.2**	*156.2*	*155.0*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	*1.3*	*1.4*	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.5*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**321.5**	*333.5*	*381.4*	*326.4*	*321.6*	*329.3*	*378.7*	*325.4*	**1,324.8**	*1,362.9*	*1,354.9*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	*4.0*	*4.2*	*3.9*	*3.9*	*4.0*	*4.2*	*3.9*	**15.8**	*15.9*	*15.9*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**17.5**	*18.5*	*20.2*	*18.6*	*18.0*	*18.8*	*20.2*	*18.5*	**73.1**	*74.8*	*75.5*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**45.9**	*47.5*	*49.6*	*47.1*	*46.8*	*48.5*	*51.4*	*48.6*	**185.5**	*190.2*	*195.3*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.0**	*25.3*	*26.7*	*25.2*	*24.8*	*25.5*	*26.8*	*25.3*	**97.9**	*101.1*	*102.3*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.3**	*37.3*	*39.6*	*37.2*	*37.3*	*37.8*	*40.2*	*37.7*	**143.7**	*150.3*	*153.0*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**24.7**	*25.6*	*26.5*	*25.3*	*24.8*	*25.9*	*27.1*	*25.8*	**99.7**	*102.1*	*103.5*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**49.8**	*55.8*	*58.6*	*54.5*	*52.0*	*58.6*	*62.2*	*57.7*	**199.7**	*218.7*	*230.6*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.9**	*21.9*	*23.3*	*20.4*	*19.9*	*22.0*	*23.8*	*21.0*	**84.4**	*85.5*	*86.6*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**19.0**	*21.1*	*22.6*	*19.9*	*18.6*	*20.5*	*21.7*	*18.9*	**82.5**	*82.5*	*79.7*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**242.1**	*258.1*	*272.4*	*253.2*	*247.2*	*262.7*	*278.7*	*258.6*	**986.8**	*1,025.8*	*1,047.2*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.2**	*26.6*	*31.1*	*26.5*	*28.8*	*26.0*	*30.3*	*26.4*	**113.4**	*113.3*	*111.5*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**90.5**	*83.4*	*100.4*	*84.6*	*90.5*	*82.8*	*98.7*	*84.1*	**356.9**	*358.9*	*356.2*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**140.3**	*133.5*	*152.3*	*134.5*	*140.3*	*133.4*	*153.0*	*136.3*	**553.4**	*560.5*	*563.0*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**79.7**	*73.6*	*84.0*	*73.0*	*80.0*	*72.6*	*83.7*	*72.6*	**305.8**	*310.4*	*309.0*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**207.7**	*206.0*	*240.7*	*198.6*	*210.5*	*203.1*	*242.0*	*201.5*	**832.7**	*853.0*	*857.1*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.4**	*75.0*	*89.7*	*73.4*	*79.8*	*74.5*	*90.0*	*74.4*	**309.2**	*316.5*	*318.7*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**152.3**	*163.3*	*198.5*	*155.0*	*154.0*	*161.7*	*201.4*	*160.1*	**631.4**	*669.1*	*677.3*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**67.3**	*72.8*	*86.7*	*67.2*	*67.4*	*72.4*	*86.6*	*68.0*	**291.4**	*293.9*	*294.5*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.4**	*88.3*	*103.5*	*93.9*	*95.2*	*87.5*	*102.0*	*92.3*	**385.5**	*381.1*	*376.9*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*15.0*	*15.0*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**944.5**	*926.1*	*1,090.6*	*910.6*	*950.2*	*917.7*	*1,091.7*	*919.6*	**3,794.5**	*3,871.8*	*3,879.2*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.93**	*24.46*	*25.02*	*25.67*	*27.37*	*27.07*	*26.80*	*26.79*	**21.51**	*24.74*	*27.01*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.12**	*17.97*	*18.37*	*17.96*	*17.81*	*17.93*	*17.86*	*17.35*	**16.49**	*17.86*	*17.74*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.22**	*15.24*	*14.93*	*15.14*	*14.89*	*15.83*	*15.26*	*15.09*	**14.10**	*14.86*	*15.25*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.28**	*13.07*	*13.87*	*12.22*	*11.56*	*13.29*	*13.65*	*11.97*	**12.21**	*12.60*	*12.61*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.68**	*13.22*	*13.30*	*13.05*	*13.02*	*13.47*	*13.23*	*12.70*	**12.24**	*13.07*	*13.11*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**11.97**	*12.68*	*12.31*	*12.19*	*12.13*	*12.94*	*12.41*	*12.05*	**11.83**	*12.27*	*12.37*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**11.83**	*12.17*	*12.10*	*12.59*	*12.53*	*13.11*	*12.56*	*12.44*	**11.89**	*12.15*	*12.65*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.14**	*12.70*	*12.81*	*12.64*	*12.45*	*12.97*	*12.99*	*12.68*	**12.08**	*12.59*	*12.80*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**18.12**	*18.89*	*20.08*	*18.08*	*18.81*	*19.97*	*20.93*	*18.59*	**18.01**	*18.81*	*19.58*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	*14.59*	*14.67*	*14.57*	*14.55*	*15.15*	*14.86*	*14.44*	**13.72**	*14.45*	*14.75*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.54**	*17.62*	*18.61*	*18.60*	*20.01*	*18.45*	*19.02*	*18.72*	**16.49**	*18.35*	*19.05*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**14.05**	*14.27*	*15.24*	*14.22*	*14.19*	*13.58*	*14.19*	*13.28*	**13.43**	*14.47*	*13.83*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.08**	*11.38*	*11.36*	*11.58*	*11.69*	*11.71*	*11.29*	*11.10*	**10.67**	*11.35*	*11.45*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.65**	*9.75*	*9.94*	*8.92*	*9.10*	*8.96*	*9.21*	*8.22*	**9.97**	*9.58*	*8.89*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.30**	*9.82*	*10.10*	*10.51*	*10.78*	*10.09*	*10.05*	*9.97*	**9.49**	*10.17*	*10.21*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.69**	*11.65*	*11.69*	*11.71*	*12.17*	*11.97*	*11.72*	*11.47*	**11.19**	*11.68*	*11.83*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**8.65**	*8.90*	*8.56*	*8.75*	*8.73*	*8.69*	*8.25*	*8.36*	**9.04**	*8.71*	*8.49*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.56**	*10.12*	*10.47*	*9.79*	*9.78*	*10.29*	*10.52*	*9.67*	**9.70**	*10.02*	*10.09*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**16.09**	*17.67*	*19.70*	*17.70*	*17.83*	*19.26*	*20.64*	*17.69*	**16.27**	*17.84*	*18.89*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	*11.68*	*12.12*	*11.92*	*12.12*	*11.87*	*11.99*	*11.48*	**11.27**	*11.85*	*11.87*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.14**	*13.97*	*14.51*	*14.80*	*15.62*	*14.17*	*14.55*	*14.82*	**13.58**	*14.60*	*14.78*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.87**	*7.20*	*7.31*	*7.20*	*7.67*	*6.70*	*6.90*	*6.64*	**6.89**	*7.38*	*6.97*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.72**	*7.61*	*7.80*	*7.89*	*7.93*	*7.32*	*7.42*	*7.60*	**7.26**	*7.75*	*7.56*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	*7.65*	*8.31*	*7.25*	*7.36*	*7.54*	*8.16*	*7.16*	**7.35**	*7.61*	*7.57*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.85**	*6.75*	*7.35*	*7.05*	*7.04*	*6.35*	*6.91*	*6.66*	**6.64**	*7.01*	*6.74*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.35**	*6.29*	*6.52*	*6.35*	*6.47*	*6.00*	*6.19*	*6.07*	**6.04**	*6.38*	*6.18*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**6.20**	*5.23*	*5.88*	*6.07*	*6.17*	*4.88*	*5.33*	*5.51*	**6.17**	*5.83*	*5.45*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.59**	*6.86*	*7.50*	*6.60*	*6.66*	*6.77*	*7.37*	*6.54*	**6.74**	*6.91*	*6.85*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.34**	*11.48*	*13.17*	*11.45*	*10.74*	*11.60*	*13.19*	*11.57*	**11.10**	*11.67*	*11.82*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	*7.26*	*7.83*	*7.49*	*7.54*	*6.97*	*7.45*	*7.15*	**7.26**	*7.50*	*7.28*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.48**	*19.73*	*20.76*	*20.91*	*22.65*	*21.13*	*21.65*	*21.44*	**18.21**	*20.48*	*21.74*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**14.07**	*14.02*	*14.87*	*14.02*	*14.32*	*13.57*	*14.14*	*13.31*	**13.26**	*14.27*	*13.86*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.11**	*11.28*	*11.45*	*11.46*	*11.58*	*11.41*	*11.37*	*11.17*	**10.72**	*11.33*	*11.38*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.53**	*10.11*	*10.81*	*9.41*	*9.49*	*9.84*	*10.44*	*9.06*	**9.92**	*9.99*	*9.73*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.79**	*10.72*	*11.11*	*10.94*	*11.16*	*10.82*	*10.99*	*10.53*	**10.23**	*10.90*	*10.88*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.12**	*10.19*	*10.41*	*10.04*	*10.38*	*10.24*	*10.33*	*9.81*	**9.78**	*10.20*	*10.20*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**9.01**	*8.72*	*9.17*	*9.03*	*9.22*	*8.67*	*9.01*	*8.63*	**9.17**	*8.99*	*8.88*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.61**	*10.05*	*10.60*	*9.80*	*9.82*	*10.16*	*10.63*	*9.74*	**9.73**	*10.05*	*10.12*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.76**	*16.60*	*18.39*	*16.50*	*16.82*	*17.69*	*19.14*	*16.75*	**15.83**	*16.85*	*17.63*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.49**	*11.49*	*12.07*	*11.65*	*11.90*	*11.63*	*11.96*	*11.34*	**11.18**	*11.69*	*11.72*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**337.9**	*360.8*	*454.5*	*349.3*	*333.9*	*333.7*	*450.8*	*349.1*	**1,473.6**	*1,502.4*	*1,467.5*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**217.5**	*190.9*	*260.5*	*188.6*	*201.2*	*179.0*	*243.9*	*174.7*	**892.8**	*857.5*	*798.7*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.6**	*185.7*	*203.8*	*191.2*	*194.0*	*188.0*	*207.3*	*198.1*	**778.2**	*776.3*	*787.4*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**235.5**	*236.3*	*202.6*	*213.1*	*241.7*	*259.7*	*218.8*	*228.2*	**795.2**	*887.5*	*948.4*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	*72.2*	*62.8*	*56.4*	*68.9*	*79.4*	*64.3*	*59.1*	**259.0**	*267.9*	*271.7*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	*109.9*	*84.9*	*117.1*	*126.2*	*114.8*	*88.5*	*122.0*	**378.6**	*431.4*	*451.5*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	*43.8*	*43.8*	*29.1*	*36.1*	*55.4*	*55.0*	*36.9*	**113.9**	*145.7*	*183.3*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	*6.3*	*6.9*	*6.5*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.3*	*26.1*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	*4.1*	*4.2*	*4.0*	*3.8*	*3.8*	*4.2*	*3.9*	**15.7**	*16.2*	*15.7*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.2**	*-1.1*	*-1.6*	*-1.3*	*-1.1*	*-1.0*	*-1.7*	*-1.2*	**-5.1**	*-5.2*	*-5.0*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	*3.8*	*4.4*	*3.9*	*5.2*	*3.6*	*4.4*	*4.1*	**17.8**	*18.7*	*17.3*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.8**	*0.8*	*0.9*	*0.8*	*0.8*	*0.7*	*0.9*	*0.8*	**3.2**	*3.3*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.6**	*1.8*	*1.7*	*1.7*	*1.5*	*1.7*	*1.7*	*1.6*	**7.2**	*6.8*	*6.5*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**994.2**	*979.0*	*1,126.7*	*947.4*	*977.2*	*965.4*	*1,126.0*	*955.4*	**3,962.8**	*4,047.3*	*4,024.1*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**11.8**	*12.3*	*15.9*	*13.4*	*16.0*	*11.6*	*14.7*	*13.0*	**51.5**	*53.4*	*55.3*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.3**	*0.4*	*0.1*	*0.2*	*0.3*	*0.4*	*0.1*	*0.2*	**0.6**	*1.0*	*0.9*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	*5.5*	*7.3*	*7.3*	*7.1*	*5.7*	*7.3*	*6.2*	**27.1**	*27.1*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.7**	*2.1*	*1.2*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*6.8*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.1**	*3.0*	*2.8*	*2.9*	*3.3*	*3.2*	*2.8*	*2.9*	**11.2**	*11.8*	*12.1*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	*0.3*	*0.3*	*0.4*	*0.8*	*0.3*	*0.3*	*0.4*	**1.5**	*2.5*	*1.7*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**25.4**	*23.7*	*27.5*	*25.9*	*29.4*	*23.3*	*26.4*	*24.4*	**98.2**	*102.6*	*103.5*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.2**	*26.3*	*32.2*	*28.2*	*30.0*	*27.7*	*32.4*	*29.0*	**116.4**	*116.9*	*119.0*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.0**	*13.0*	*19.6*	*12.1*	*8.6*	*14.2*	*19.3*	*13.8*	**61.9**	*58.7*	*55.9*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	*6.9*	*6.6*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.7*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**7.1**	*7.1*	*7.0*	*7.1*	*7.4*	*7.4*	*7.4*	*7.5*	**27.9**	*28.3*	*29.7*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.2**	*1.9*	*1.7*	*2.2*	*2.5*	*2.6*	*2.2*	*2.8*	**7.1**	*8.0*	*10.1*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	*0.1*	*0.2*	*0.1*	*0.7*	*0.1*	*0.3*	*0.1*	**1.3**	*1.8*	*1.2*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**31.0**	*29.1*	*35.1*	*28.4*	*25.8*	*30.8*	*36.1*	*31.2*	**129.3**	*123.6*	*123.9*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.6**	*34.5*	*42.4*	*35.4*	*36.5*	*35.1*	*41.9*	*35.5*	**149.0**	*149.9*	*148.9*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**76.9**	*71.9*	*90.8*	*79.8*	*80.5*	*74.7*	*97.1*	*83.1*	**310.9**	*319.4*	*335.4*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**48.6**	*33.7*	*45.9*	*32.4*	*40.8*	*33.5*	*43.3*	*29.8*	**175.4**	*160.7*	*147.3*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**69.0**	*65.4*	*72.3*	*66.8*	*67.9*	*67.2*	*72.1*	*68.8*	**271.7**	*273.5*	*276.0*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	*2.7*	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*9.1*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**13.2**	*12.0*	*10.2*	*12.2*	*14.4*	*13.5*	*11.7*	*13.4*	**42.4**	*47.5*	*52.9*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.6**	*0.5*	*0.3*	*0.4*	*0.5*	*0.4*	*0.3*	*0.4*	**2.5**	*1.8*	*1.7*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**211.0**	*186.2*	*221.1*	*193.7*	*206.8*	*191.9*	*226.1*	*197.6*	**812.1**	*812.0*	*822.4*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**200.9**	*178.2*	*211.7*	*185.5*	*199.2*	*181.4*	*211.1*	*187.4*	**770.2**	*776.3*	*779.1*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**64.1**	*70.5*	*78.5*	*67.2*	*68.3*	*65.4*	*76.0*	*65.2*	**252.3**	*280.2*	*274.9*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**32.3**	*33.8*	*45.5*	*28.5*	*34.0*	*31.3*	*45.0*	*28.8*	**137.7**	*140.0*	*139.1*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.4**	*51.9*	*55.4*	*52.4*	*52.6*	*54.1*	*58.2*	*59.2*	**212.2**	*211.2*	*224.1*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**11.9**	*9.5*	*7.8*	*8.4*	*11.0*	*8.3*	*7.4*	*8.4*	**43.9**	*37.6*	*35.2*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**5.0**	*6.8*	*6.4*	*4.7*	*5.7*	*7.8*	*7.4*	*5.2*	**19.1**	*22.9*	*26.1*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	*0.0*	*-0.4*	*-0.2*	*-0.1*	*-0.1*	*-0.4*	*-0.2*	**-0.9**	*-0.8*	*-0.8*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.6**	*172.4*	*193.2*	*161.0*	*171.5*	*166.8*	*193.8*	*166.6*	**664.2**	*691.2*	*698.6*
Net energy for load (f)	**161.3**	**154.7**	**183.9**	**154.5**	**166.5**	*168.8*	*187.6*	*157.7*	*169.4*	*162.1*	*191.2*	*162.2*	**654.4**	*680.7*	*685.0*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**38.3**	*45.7*	*49.9*	*39.7*	*37.3*	*40.9*	*50.1*	*38.5*	**171.8**	*173.7*	*166.8*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.5**	*4.1*	*4.3*	*3.1*	*2.9*	*3.5*	*3.7*	*2.6*	**18.3**	*14.9*	*12.6*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	*7.8*	*8.0*	*7.1*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.2*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**2.9**	*3.6*	*3.4*	*2.9*	*3.6*	*4.6*	*4.3*	*3.4*	**11.0**	*12.8*	*16.0*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.7**	*0.8*	*0.8*	*0.7*	*0.7*	*0.8*	*0.8*	*0.7*	**2.8**	*3.0*	*2.9*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**52.8**	*62.1*	*66.5*	*53.5*	*51.6*	*56.7*	*66.5*	*52.9*	**232.2**	*234.8*	*227.8*
Net energy for load (f)	**52.4**	**63.8**	**72.3**	**55.6**	**54.1**	*64.9*	*68.3*	*53.1*	*50.2*	*59.5*	*68.5*	*53.5*	**244.1**	*240.4*	*231.7*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**41.8**	*46.8*	*51.6*	*38.5*	*38.8*	*45.6*	*54.9*	*43.0*	**169.7**	*178.7*	*182.3*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**64.5**	*58.5*	*79.1*	*60.3*	*59.0*	*55.1*	*71.5*	*54.5*	**267.7**	*262.3*	*240.1*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	*20.0*	*24.2*	*23.5*	*22.3*	*21.0*	*24.3*	*20.9*	**95.7**	*91.5*	*88.5*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.1**	*3.0*	*2.4*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*10.6*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**31.8**	*25.2*	*20.2*	*29.1*	*33.3*	*26.4*	*21.4*	*30.3*	**93.1**	*106.3*	*111.5*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.3**	*1.3*	*1.6*	*1.2*	*1.4*	*1.3*	*1.5*	*1.3*	**6.4**	*5.4*	*5.5*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**166.4**	*154.8*	*179.1*	*154.7*	*157.4*	*152.4*	*176.0*	*152.3*	**643.3**	*654.9*	*638.1*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**165.1**	*157.0*	*183.1*	*159.6*	*162.3*	*160.2*	*183.5*	*161.8*	**647.3**	*664.8*	*667.9*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.1**	*16.6*	*20.5*	*11.0*	*11.3*	*14.2*	*19.8*	*12.0*	**56.3**	*59.2*	*57.2*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.1**	*17.6*	*28.2*	*18.0*	*20.0*	*17.1*	*28.1*	*16.1*	**92.0**	*86.0*	*81.2*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	*4.3*	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.2*	*17.4*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.6**	*4.8*	*4.0*	*3.1*	*4.0*	*4.7*	*4.3*	*3.5*	**15.5**	*16.6*	*16.5*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**28.8**	*27.2*	*23.1*	*29.1*	*31.2*	*28.4*	*24.3*	*29.9*	**93.6**	*108.2*	*113.8*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	**0.7**	*0.7*	*0.7*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.2**	*70.7*	*80.0*	*63.9*	*70.9*	*68.9*	*81.0*	*65.9*	**273.6**	*285.8*	*286.7*
Net energy for load (f)	**65.5**	**65.5**	**78.5**	**62.0**	**68.0**	*69.2*	*77.3*	*61.5*	*65.8*	*64.8*	*77.1*	*61.4*	**271.6**	*276.0*	*269.2*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**34.2**	*37.9*	*54.0*	*29.2*	*25.0*	*27.8*	*47.4*	*26.2*	**164.2**	*155.5*	*126.4*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**17.7**	*16.0*	*22.2*	*17.7*	*16.7*	*17.7*	*22.1*	*17.6*	**74.5**	*73.5*	*74.0*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	*9.9*	*10.6*	*10.9*	*10.7*	*9.0*	*11.0*	*10.1*	**40.2**	*42.4*	*40.7*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.7*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.2**	*37.8*	*29.8*	*33.8*	*36.2*	*43.6*	*34.3*	*36.9*	**106.3**	*132.5*	*151.0*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	*0.4*	*0.4*	*0.5*	*0.4*	*0.4*	*0.4*	*0.5*	**1.4**	*1.6*	*1.7*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	*102.4*	*117.1*	*92.1*	*89.2*	*98.6*	*115.3*	*91.3*	**387.1**	*406.2*	*394.4*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	*102.4*	*117.1*	*92.1*	*89.2*	*98.6*	*115.3*	*91.3*	**387.1**	*406.2*	*394.4*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**19.6**	*19.0*	*28.4*	*22.9*	*21.6*	*15.8*	*28.5*	*20.5*	**90.2**	*89.9*	*86.3*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**21.6**	*19.6*	*23.4*	*21.2*	*22.3*	*14.5*	*19.5*	*17.9*	**90.5**	*85.8*	*74.3*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	*2.5*	*2.4*	*2.4*	*2.3*	*1.2*	*2.4*	*2.4*	**8.5**	*9.8*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**39.3**	*34.5*	*31.2*	*27.3*	*33.4*	*40.6*	*30.2*	*27.7*	**121.0**	*132.2*	*132.0*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**19.1**	*17.5*	*16.5*	*17.9*	*20.4*	*19.6*	*17.6*	*19.4*	**65.5**	*70.9*	*77.1*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	**0.7**	*0.5*	*0.5*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.2**	*93.1*	*102.0*	*91.8*	*100.2*	*91.8*	*98.4*	*88.1*	**376.4**	*389.1*	*378.5*
Net energy for load (f)	**89.9**	**86.2**	**97.7**	**89.6**	**88.0**	*88.8*	*95.8*	*88.7*	*91.1*	*85.1*	*94.6*	*87.9*	**363.4**	*361.2*	*358.8*
Southwest															
Natural Gas	**10.7**	**15.2**	**19.4**	**11.5**	**9.6**	*12.3*	*17.8*	*12.4*	*11.7*	*10.5*	*15.8*	*11.1*	**56.8**	*52.2*	*49.0*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**6.1**	*5.6*	*8.7*	*4.9*	*3.9*	*4.4*	*7.7*	*4.8*	**26.8**	*25.4*	*20.8*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	*7.5*	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.6*	*31.9*
Conventional hydropower	**2.0**	**2.3**	**1.9**	**1.5**	**1.9**	*2.3*	*2.3*	*1.9*	*2.1*	*2.5*	*2.4*	*1.9*	**7.7**	*8.4*	*9.0*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	*5.9*	*4.4*	*5.4*	*4.7*	*6.3*	*4.6*	*6.0*	**14.0**	*20.3*	*21.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	*0.2*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.3*	*0.2*
Total generation	**29.8**	**34.2**	**41.5**	**31.6**	**30.4**	*33.7*	*42.1*	*32.2*	*30.9*	*31.4*	*39.2*	*31.3*	**137.1**	*138.3*	*132.7*
Net energy for load (f)	**20.5**	**26.3**	**33.2**	**22.5**	**21.2**	*26.3*	*33.2*	*22.1*	*21.7*	*26.0*	*33.0*	*22.4*	**102.5**	*102.7*	*103.2*
California															
Natural Gas	**16.7**	**17.9**	**29.4**	**21.6**	**15.8**	*14.2*	*26.8*	*22.3*	*14.0*	*12.4*	*26.7*	*22.1*	**85.6**	*79.1*	*75.1*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.5**	*1.2*	*2.5*	*1.9*	*1.0*	*1.2*	*2.4*	*2.0*	**7.6**	*6.1*	*6.7*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	*4.1*	*4.4*	*4.0*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.1*	*18.0*
Conventional hydropower	**2.4**	**4.2**	**4.9**	**2.8**	**3.6**	*5.4*	*4.7*	*2.1*	*3.2*	*7.3*	*6.7*	*3.4*	**14.4**	*15.8*	*20.6*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.7**	*22.6*	*20.8*	*16.2*	*17.0*	*23.6*	*23.3*	*18.5*	**71.1**	*76.4*	*82.3*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	*-0.1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**-0.2**	*-0.1*	*0.2*
Total generation	**39.3**	**48.9**	**61.5**	**45.3**	**41.2**	*47.5*	*59.2*	*46.5*	*39.9*	*49.3*	*63.7*	*50.0*	**195.0**	*194.4*	*202.9*
Net energy for load (f)	**55.6**	**62.5**	**77.2**	**59.5**	**56.0**	*60.3*	*74.4*	*59.7*	*58.1*	*61.3*	*73.7*	*59.2*	**254.8**	*250.4*	*252.2*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.034**	*0.036*	*0.037*	*0.035*	*0.033*	*0.034*	*0.037*	*0.034*	**0.138**	*0.142*	*0.137*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.665**	*0.643*	*0.559*	*0.502*	*0.614*	*0.707*	*0.572*	*0.526*	**2.272**	*2.370*	*2.420*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.257**	*0.390*	*0.390*	*0.260*	*0.321*	*0.493*	*0.490*	*0.329*	**1.014**	*1.297*	*1.633*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.056**	*0.058*	*0.059*	*0.058*	*0.058*	*0.058*	*0.057*	*0.056*	**0.236**	*0.230*	*0.229*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.052**	*0.040*	*0.050*	*0.044*	*0.048*	*0.041*	*0.050*	*0.044*	**0.199**	*0.186*	*0.184*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	*0.979*	*0.756*	*1.043*	*1.124*	*1.022*	*0.789*	*1.086*	**3.372**	*3.842*	*4.021*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.129**	*2.146*	*1.851*	*1.942*	*2.198*	*2.355*	*1.995*	*2.076*	**7.231**	*8.068*	*8.623*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.205**	*0.202*	*0.203*	*0.206*	*0.196*	*0.200*	*0.201*	*0.206*	**0.789**	*0.816*	*0.803*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.009*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	*0.011*	*0.011*	*0.008*	*0.009*	*0.012*	*0.012*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.041**	*0.040*	*0.039*	*0.042*	*0.041*	*0.040*	*0.040*	*0.042*	**0.160**	*0.162*	*0.163*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.321**	*0.331*	*0.353*	*0.357*	*0.347*	*0.345*	*0.358*	*0.361*	**1.342**	*1.363*	*1.410*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.584**	*0.593*	*0.615*	*0.622*	*0.600*	*0.606*	*0.619*	*0.626*	**2.361**	*2.414*	*2.451*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	*0.049*	*0.049*	*0.034*	*0.038*	*0.055*	*0.056*	*0.039*	**0.140**	*0.164*	*0.189*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.009**	*0.008*	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.035**	*0.036*	*0.036*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.077**	*0.092*	*0.093*	*0.078*	*0.082*	*0.098*	*0.100*	*0.083*	**0.313**	*0.339*	*0.363*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.080**	*0.122*	*0.122*	*0.084*	*0.093*	*0.140*	*0.141*	*0.098*	**0.329**	*0.407*	*0.472*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.118**	*0.116*	*0.117*	*0.117*	*0.118*	*0.116*	*0.117*	*0.117*	**0.464**	*0.467*	*0.467*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.207**	*0.247*	*0.249*	*0.211*	*0.220*	*0.266*	*0.268*	*0.224*	**0.832**	*0.914*	*0.978*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	*0.122*	*0.117*	*0.139*	*0.128*	*0.134*	*0.126*	*0.152*	**0.372**	*0.472*	*0.539*
Ethanol (g)	**0.243**	**0.281**	**0.285**	**0.288**	**0.259**	*0.284*	*0.281*	*0.281*	*0.259*	*0.280*	*0.283*	*0.284*	**1.097**	*1.105*	*1.106*
Subtotal	**0.322**	**0.376**	**0.374**	**0.397**	**0.355**	*0.405*	*0.399*	*0.420*	*0.387*	*0.414*	*0.409*	*0.436*	**1.469**	*1.578*	*1.645*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	*0.122*	*0.117*	*0.139*	*0.128*	*0.134*	*0.126*	*0.152*	**0.372**	*0.472*	*0.539*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.205**	*0.202*	*0.203*	*0.206*	*0.196*	*0.200*	*0.201*	*0.206*	**0.789**	*0.816*	*0.803*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.301**	**0.270**	*0.296*	*0.294*	*0.294*	*0.271*	*0.293*	*0.296*	*0.297*	**1.146**	*1.154*	*1.156*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.051**	*0.053*	*0.054*	*0.052*	*0.050*	*0.051*	*0.054*	*0.051*	**0.206**	*0.211*	*0.206*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.668**	*0.646*	*0.562*	*0.505*	*0.617*	*0.710*	*0.575*	*0.529*	**2.283**	*2.381*	*2.430*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.378**	*0.572*	*0.572*	*0.385*	*0.461*	*0.701*	*0.699*	*0.474*	**1.519**	*1.907*	*2.335*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	*0.106*	*0.107*	*0.109*	*0.108*	*0.107*	*0.106*	*0.108*	**0.431**	*0.430*	*0.428*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.511**	*0.508*	*0.541*	*0.539*	*0.533*	*0.522*	*0.546*	*0.543*	**2.087**	*2.099*	*2.143*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	*0.979*	*0.756*	*1.043*	*1.124*	*1.022*	*0.789*	*1.086*	**3.372**	*3.842*	*4.021*
Total Consumption	**2.950**	**3.162**	**2.953**	**3.141**	**3.351**	*3.483*	*3.205*	*3.272*	*3.486*	*3.739*	*3.391*	*3.446*	**12.206**	*13.312*	*14.062*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,161**	**5,997**	**5,980**	**5,977**	**5,972**	*6,008*	*6,010*	*6,003*	*5,979*	*5,979*	*5,920*	*5,920*	**5,977**	*6,003*	*5,920*
Waste	**3,700**	**3,680**	**3,677**	**3,674**	**3,669**	*3,706*	*3,708*	*3,700*	*3,676*	*3,676*	*3,618*	*3,618*	**3,674**	*3,700*	*3,618*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,736**	**78,796**	**78,798**	**78,798**	**78,844**	*78,851*	*78,894*	*78,917*	*78,917*	*78,925*	*78,952*	*78,962*	**78,798**	*78,917*	*78,962*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	*2,517*	*2,517*	*2,542*	*2,542*	*2,542*	*2,542*	*2,542*	**2,483**	*2,542*	*2,542*
Large-Scale Solar (b)	**50,368**	**52,359**	**55,609**	**60,671**	**63,047**	*68,060*	*71,034*	*80,236*	*83,736*	*88,952*	*91,253*	*102,564*	**60,671**	*80,236*	*102,564*
Wind	**121,201**	**124,742**	**126,696**	**132,243**	**134,990**	*138,366*	*139,347*	*142,979*	*143,129*	*144,280*	*144,280*	*147,933*	**132,243**	*142,979*	*147,933*
Other Sectors (c)															
Biomass	**6,206**	**6,210**	**6,214**	**6,214**	**6,217**	*6,225*	*6,217*	*6,217*	*6,217*	*6,221*	*6,221*	*6,221*	**6,214**	*6,217*	*6,221*
Waste	**827**	**830**	**829**	**829**	**828**	*828*	*828*	*828*	*828*	*828*	*828*	*828*	**829**	*828*	*828*
Wood	**5,380**	**5,380**	**5,385**	**5,385**	**5,389**	*5,397*	*5,389*	*5,389*	*5,389*	*5,393*	*5,393*	*5,393*	**5,385**	*5,389*	*5,393*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	*291*	*291*	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**473**	**475**	**511**	**529**	**547**	*562*	*562*	*584*	*584*	*631*	*632*	*632*	**529**	*584*	*632*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,720**	*36,215*	*37,623*	*39,089*	*40,707*	*42,436*	*44,240*	*46,258*	**32,972**	*39,089*	*46,258*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,260**	*23,415*	*24,435*	*25,502*	*26,666*	*27,884*	*29,158*	*30,580*	**21,022**	*25,502*	*30,580*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,220**	*10,508*	*10,841*	*11,186*	*11,584*	*12,035*	*12,506*	*13,039*	**9,728**	*11,186*	*13,039*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,240**	*2,292*	*2,346*	*2,401*	*2,457*	*2,516*	*2,576*	*2,639*	**2,223**	*2,401*	*2,639*
Wind	**121**	**121**	**121**	**121**	**122**	*122*	*122*	*122*	*122*	*122*	*122*	*122*	**121**	*122*	*122*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	*6.3*	*6.9*	*6.5*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.3*	*26.1*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.5**	*3.8*	*3.8*	*3.7*	*3.7*	*3.8*	*3.7*	*3.6*	**15.5**	*14.9*	*14.8*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**3.2**	*2.5*	*3.1*	*2.7*	*3.0*	*2.5*	*3.1*	*2.7*	**12.4**	*11.4*	*11.3*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	*72.2*	*62.8*	*56.4*	*68.9*	*79.4*	*64.3*	*59.1*	**259.0**	*267.9*	*271.7*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	*4.1*	*4.2*	*4.0*	*3.8*	*3.8*	*4.2*	*3.9*	**15.7**	*16.2*	*15.7*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	*43.8*	*43.8*	*29.1*	*36.1*	*55.4*	*55.0*	*36.9*	**113.9**	*145.7*	*183.3*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	*109.9*	*84.9*	*117.1*	*126.2*	*114.8*	*88.5*	*122.0*	**378.6**	*431.4*	*451.5*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.7**	*6.8*	*7.1*	*6.8*	*6.7*	*6.8*	*7.1*	*6.8*	**27.6**	*27.4*	*27.4*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**5.9**	*6.1*	*6.4*	*6.1*	*5.9*	*6.1*	*6.4*	*6.1*	**24.8**	*24.6*	*24.6*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*1.0*	*1.0*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**12.0**	*17.9*	*18.0*	*12.4*	*14.0*	*20.9*	*21.1*	*14.6*	**49.0**	*60.2*	*70.5*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.6**	*11.5*	*11.5*	*7.9*	*8.9*	*13.6*	*13.6*	*9.5*	**30.1**	*38.4*	*45.6*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	*5.2*	*5.2*	*3.6*	*4.1*	*6.0*	*6.0*	*4.2*	**15.1**	*17.7*	*20.3*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	*1.2*	*1.2*	*0.9*	*0.9*	*1.3*	*1.4*	*1.0*	**3.8**	*4.2*	*4.6*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,736**	*19,799*	*19,890*	*20,005*	*20,110*	*20,254*	*20,394*	*20,535*	**19,427**	*19,858*	*20,323*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,818**	**13,912**	*13,967*	*14,042*	*14,086*	*14,135*	*14,208*	*14,275*	*14,343*	**13,625**	*14,002*	*14,240*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,609**	**3,673**	*3,702*	*3,745*	*3,742*	*3,748*	*3,760*	*3,774*	*3,799*	**3,588**	*3,716*	*3,770*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**249**	**207**	*125*	*81*	*105*	*98*	*103*	*114*	*126*	**-20**	*130*	*110*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,359**	**3,336**	*3,343*	*3,356*	*3,371*	*3,384*	*3,396*	*3,406*	*3,417*	**3,376**	*3,351*	*3,401*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,391**	**2,355**	*2,402*	*2,435*	*2,471*	*2,513*	*2,557*	*2,601*	*2,642*	**2,308**	*2,416*	*2,578*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,741**	**3,896**	*3,912*	*3,951*	*3,942*	*3,938*	*3,934*	*3,933*	*3,943*	**3,592**	*3,925*	*3,937*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,418**	**15,339**	*15,316*	*15,364*	*15,416*	*15,523*	*15,714*	*15,889*	*16,083*	**16,021**	*15,359*	*15,802*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	*151.6*	*152.3*	*152.7*	*152.9*	*153.1*	*153.1*	*153.2*	**146.1**	*151.7*	*153.1*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	*3.6*	*3.6*	*3.7*	*3.8*	*4.0*	*4.2*	*4.3*	**5.4**	*3.7*	*4.1*
Housing Starts															
(millions - SAAR)	**1.58**	**1.59**	**1.57**	**1.68**	**1.72**	*1.66*	*1.55*	*1.49*	*1.47*	*1.45*	*1.45*	*1.43*	**1.61**	*1.61*	*1.45*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.7**	**101.7**	**103.5**	*106.0*	*107.5*	*108.4*	*109.1*	*110.2*	*111.2*	*111.9*	**100.1**	*106.4*	*110.6*
Manufacturing	**97.3**	**98.7**	**99.7**	**101.0**	**102.2**	*104.2*	*105.0*	*106.0*	*106.7*	*108.2*	*109.7*	*110.7*	**99.2**	*104.3*	*108.8*
Food	**101.2**	**100.5**	**99.7**	**101.5**	**103.3**	*104.1*	*104.1*	*104.4*	*104.7*	*105.0*	*105.4*	*105.7*	**100.7**	*104.0*	*105.2*
Paper	**93.9**	**95.0**	**95.2**	**93.9**	**95.4**	*96.1*	*95.1*	*95.3*	*95.0*	*95.7*	*96.7*	*97.3*	**94.5**	*95.5*	*96.2*
Petroleum and Coal Products	**90.5**	**95.9**	**95.0**	**96.3**	**96.4**	*97.9*	*98.3*	*98.8*	*99.0*	*99.5*	*99.6*	*99.6*	**94.4**	*97.8*	*99.4*
Chemicals	**91.8**	**99.3**	**99.6**	**100.5**	**100.9**	*102.2*	*101.6*	*102.4*	*103.0*	*104.5*	*106.1*	*106.8*	**97.8**	*101.8*	*105.1*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.7**	**99.1**	**103.9**	*105.1*	*105.6*	*105.5*	*105.4*	*105.7*	*106.3*	*107.0*	**97.1**	*105.0*	*106.1*
Primary Metals	**92.4**	**96.7**	**98.1**	**99.2**	**98.1**	*97.2*	*93.9*	*96.2*	*96.1*	*101.0*	*105.3*	*107.0*	**96.6**	*96.3*	*102.4*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.4**	**97.3**	**98.4**	*98.9*	*97.6*	*98.6*	*98.8*	*101.0*	*103.1*	*103.9*	**95.6**	*98.4*	*101.7*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.8**	**104.3**	**106.5**	*107.9*	*107.7*	*108.3*	*108.3*	*109.4*	*110.4*	*111.0*	**102.7**	*107.6*	*109.8*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.7**	**98.6**	**99.6**	*100.8*	*100.2*	*101.2*	*101.6*	*103.5*	*105.3*	*106.1*	**97.0**	*100.5*	*104.1*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.9**	**96.4**	**97.3**	*98.4*	*97.5*	*98.4*	*98.9*	*100.8*	*102.7*	*103.4*	**94.9**	*97.9*	*101.5*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	*2.89*	*2.92*	*2.95*	*2.97*	*2.98*	*3.00*	*3.02*	**2.71**	*2.90*	*2.99*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.53**	*2.61*	*2.59*	*2.54*	*2.50*	*2.42*	*2.40*	*2.40*	**2.27**	*2.57*	*2.43*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	*3.61*	*3.45*	*3.09*	*2.92*	*2.91*	*2.88*	*2.87*	**2.41**	*3.33*	*2.89*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	*125.1*	*126.6*	*127.7*	*128.4*	*129.2*	*130.0*	*130.9*	**118.5**	*125.8*	*129.6*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,126**	**9,368**	**8,934**	**8,375**	*9,273*	*9,520*	*9,113*	*8,541*	*9,466*	*9,613*	*9,193*	**8,843**	*9,073*	*9,206*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**597**	**658**	**667**	**651**	*682*	*710*	*678*	*673*	*701*	*720*	*703*	**615**	*681*	*700*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**352**	*403*	*406*	*380*	*369*	*412*	*414*	*389*	**334**	*385*	*396*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	*257.3*	*250.6*	*264.7*	*237.5*	*261.5*	*259.3*	*269.7*	**217.5**	*249.5*	*257.0*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.251*	*0.262*	*0.271*	*0.276*	*0.278*	*0.307*	*0.327*	**0.258**	*0.259*	*0.297*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**570**	**578**	**552**	*561*	*579*	*583*	*559*	*572*	*582*	*583*	**2,224**	*2,275*	*2,296*
Natural Gas	**485**	**353**	**373**	**426**	**506**	*365*	*373*	*437*	*490*	*356*	*384*	*449*	**1,637**	*1,680*	*1,680*
Coal	**256**	**229**	**307**	**209**	**248**	*218*	*286*	*218*	*229*	*206*	*271*	*206*	**1,001**	*970*	*913*
Total Energy (c)	**1,260**	**1,144**	**1,252**	**1,216**	**1,309**	*1,146*	*1,240*	*1,241*	*1,281*	*1,137*	*1,240*	*1,241*	**4,872**	*4,936*	*4,900*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,001**	**1,008**	**1,026**	**1,020**	*1,024*	*1,028*	*1,031*	*1,035*	*1,041*	*1,046*	*1,052*	**1,004**	*1,026*	*1,043*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,813**	**2,809**	*2,815*	*2,825*	*2,840*	*2,850*	*2,868*	*2,884*	*2,902*	**2,765**	*2,822*	*2,876*
E. N. Central	**2,485**	**2,514**	**2,520**	**2,553**	**2,537**	*2,544*	*2,557*	*2,572*	*2,585*	*2,603*	*2,621*	*2,638*	**2,518**	*2,553*	*2,612*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,221**	**1,215**	*1,218*	*1,224*	*1,230*	*1,236*	*1,245*	*1,253*	*1,262*	**1,212**	*1,222*	*1,249*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,517**	**3,505**	*3,517*	*3,534*	*3,555*	*3,574*	*3,600*	*3,625*	*3,650*	**3,449**	*3,528*	*3,612*
E. S. Central	**836**	**842**	**846**	**861**	**858**	*860*	*863*	*866*	*869*	*874*	*879*	*885*	**846**	*862*	*877*
W. S. Central	**2,320**	**2,362**	**2,378**	**2,431**	**2,428**	*2,443*	*2,461*	*2,478*	*2,498*	*2,520*	*2,542*	*2,565*	**2,373**	*2,453*	*2,531*
Mountain	**1,274**	**1,296**	**1,303**	**1,324**	**1,320**	*1,324*	*1,331*	*1,341*	*1,351*	*1,363*	*1,375*	*1,388*	**1,299**	*1,329*	*1,369*
Pacific	**3,692**	**3,774**	**3,800**	**3,883**	**3,866**	*3,876*	*3,890*	*3,913*	*3,932*	*3,959*	*3,985*	*4,009*	**3,787**	*3,886*	*3,971*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.5**	**97.1**	**98.0**	**99.2**	**100.3**	*102.0*	*102.6*	*103.7*	*104.4*	*105.8*	*107.3*	*108.1*	**97.4**	*102.2*	*106.4*
Middle Atlantic	**93.3**	**94.6**	**95.3**	**96.5**	**97.7**	*99.7*	*100.5*	*101.4*	*102.0*	*103.2*	*104.5*	*105.2*	**94.9**	*99.8*	*103.7*
E. N. Central	**95.7**	**96.3**	**97.2**	**99.0**	**100.0**	*101.8*	*102.5*	*103.7*	*104.5*	*106.1*	*107.6*	*108.6*	**97.0**	*102.0*	*106.7*
W. N. Central	**98.5**	**99.7**	**100.7**	**101.4**	**103.1**	*104.8*	*105.5*	*106.5*	*107.2*	*108.7*	*110.2*	*111.3*	**100.1**	*105.0*	*109.3*
S. Atlantic	**99.6**	**100.8**	**102.0**	**103.4**	**104.5**	*106.4*	*107.0*	*107.9*	*108.5*	*109.8*	*111.2*	*112.2*	**101.5**	*106.5*	*110.4*
E. S. Central	**98.0**	**99.0**	**99.9**	**101.2**	**101.9**	*103.7*	*104.4*	*105.3*	*105.9*	*107.3*	*108.8*	*109.8*	**99.5**	*103.8*	*107.9*
W. S. Central	**98.8**	**100.4**	**101.3**	**102.9**	**104.5**	*106.9*	*107.8*	*108.9*	*109.5*	*111.2*	*112.8*	*113.8*	**100.8**	*107.0*	*111.8*
Mountain	**106.8**	**109.0**	**110.1**	**111.9**	**113.8**	*115.8*	*116.4*	*117.6*	*118.3*	*119.9*	*121.6*	*122.8*	**109.4**	*115.9*	*120.6*
Pacific	**94.4**	**96.0**	**96.6**	**97.7**	**98.7**	*101.2*	*102.2*	*103.5*	*104.6*	*106.0*	*107.5*	*108.5*	**96.2**	*101.4*	*106.6*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**942**	**933**	**927**	*925*	*928*	*930*	*934*	*941*	*946*	*953*	**955**	*928*	*943*
Middle Atlantic	**2,614**	**2,449**	**2,436**	**2,381**	**2,391**	*2,377*	*2,385*	*2,393*	*2,405*	*2,422*	*2,437*	*2,453*	**2,470**	*2,387*	*2,429*
E. N. Central	**2,744**	**2,524**	**2,493**	**2,460**	**2,440**	*2,440*	*2,450*	*2,460*	*2,471*	*2,492*	*2,509*	*2,526*	**2,555**	*2,448*	*2,500*
W. N. Central	**1,276**	**1,195**	**1,176**	**1,157**	**1,156**	*1,157*	*1,161*	*1,166*	*1,171*	*1,180*	*1,187*	*1,195*	**1,201**	*1,160*	*1,183*
S. Atlantic	**3,721**	**3,444**	**3,427**	**3,420**	**3,402**	*3,398*	*3,409*	*3,421*	*3,440*	*3,470*	*3,497*	*3,523*	**3,503**	*3,407*	*3,483*
E. S. Central	**1,025**	**927**	**924**	**921**	**914**	*912*	*914*	*915*	*919*	*926*	*932*	*937*	**949**	*914*	*928*
W. S. Central	**2,238**	**2,078**	**2,069**	**2,074**	**2,065**	*2,066*	*2,077*	*2,086*	*2,099*	*2,120*	*2,137*	*2,157*	**2,115**	*2,074*	*2,128*
Mountain	**1,381**	**1,281**	**1,277**	**1,273**	**1,266**	*1,266*	*1,270*	*1,275*	*1,282*	*1,295*	*1,306*	*1,318*	**1,303**	*1,269*	*1,301*
Pacific	**3,268**	**3,086**	**3,085**	**3,044**	**3,026**	*3,022*	*3,028*	*3,038*	*3,051*	*3,076*	*3,095*	*3,114*	**3,121**	*3,028*	*3,084*
Households (Thousands)															
New England	**6,054**	**6,061**	**6,057**	**6,067**	**6,075**	*6,080*	*6,088*	*6,098*	*6,107*	*6,116*	*6,123*	*6,130*	**6,067**	*6,098*	*6,130*
Middle Atlantic	**16,405**	**16,405**	**16,387**	**16,404**	**16,416**	*16,425*	*16,442*	*16,465*	*16,491*	*16,514*	*16,534*	*16,553*	**16,404**	*16,465*	*16,553*
E. N. Central	**19,076**	**19,090**	**19,095**	**19,140**	**19,172**	*19,185*	*19,206*	*19,231*	*19,258*	*19,284*	*19,307*	*19,329*	**19,140**	*19,231*	*19,329*
W. N. Central	**8,717**	**8,729**	**8,736**	**8,763**	**8,782**	*8,800*	*8,822*	*8,839*	*8,858*	*8,877*	*8,893*	*8,909*	**8,763**	*8,839*	*8,909*
S. Atlantic	**26,284**	**26,358**	**26,405**	**26,516**	**26,611**	*26,696*	*26,788*	*26,879*	*26,972*	*27,060*	*27,142*	*27,227*	**26,516**	*26,879*	*27,227*
E. S. Central	**7,816**	**7,830**	**7,840**	**7,866**	**7,886**	*7,903*	*7,924*	*7,941*	*7,960*	*7,977*	*7,994*	*8,010*	**7,866**	*7,941*	*8,010*
W. S. Central	**15,332**	**15,379**	**15,414**	**15,482**	**15,541**	*15,594*	*15,653*	*15,706*	*15,760*	*15,813*	*15,865*	*15,915*	**15,482**	*15,706*	*15,915*
Mountain	**9,612**	**9,653**	**9,688**	**9,744**	**9,792**	*9,832*	*9,877*	*9,917*	*9,958*	*10,000*	*10,038*	*10,076*	**9,744**	*9,917*	*10,076*
Pacific	**19,002**	**18,992**	**18,979**	**19,010**	**19,039**	*19,058*	*19,089*	*19,111*	*19,135*	*19,159*	*19,180*	*19,205*	**19,010**	*19,111*	*19,205*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.2**	*7.5*	*7.5*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	*19.6*	*19.7*	*19.7*	*19.8*	*19.8*	*19.8*	*19.8*	**18.8**	*19.6*	*19.8*
E. N. Central	**21.1**	**21.2**	**21.4**	**21.6**	**21.9**	*22.0*	*22.1*	*22.2*	*22.2*	*22.2*	*22.2*	*22.2*	**21.3**	*22.0*	*22.2*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	*10.7*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	**10.5**	*10.7*	*10.8*
S. Atlantic	**28.2**	**28.5**	**28.8**	**29.2**	**29.5**	*29.7*	*29.8*	*29.9*	*30.0*	*30.0*	*30.0*	*30.0*	**28.7**	*29.7*	*30.0*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	*8.4*	*8.5*	*8.5*	*8.5*	*8.5*	*8.5*	*8.5*	**8.2**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.9**	**18.1**	*18.2*	*18.3*	*18.4*	*18.4*	*18.5*	*18.5*	*18.5*	**17.5**	*18.3*	*18.5*
Mountain	**10.8**	**11.0**	**11.1**	**11.3**	**11.4**	*11.5*	*11.5*	*11.6*	*11.6*	*11.6*	*11.7*	*11.7*	**11.1**	*11.5*	*11.7*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.7**	*23.9*	*24.0*	*24.1*	*24.1*	*24.1*	*24.1*	*24.1*	**22.8**	*23.9*	*24.1*

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,014**	**779**	**85**	**1,922**	**3,141**	*799*	*129*	*2,141*	*3,095*	*871*	*136*	*2,141*	**5,800**	*6,210*	*6,243*
Middle Atlantic	**2,819**	**669**	**57**	**1,727**	**2,938**	*668*	*81*	*1,972*	*2,863*	*693*	*87*	*1,972*	**5,272**	*5,659*	*5,615*
E. N. Central	**3,085**	**707**	**70**	**1,888**	**3,267**	*770*	*123*	*2,251*	*3,142*	*738*	*130*	*2,251*	**5,750**	*6,411*	*6,261*
W. N. Central	**3,227**	**718**	**88**	**2,025**	**3,479**	*824*	*158*	*2,452*	*3,250*	*715*	*163*	*2,453*	**6,058**	*6,913*	*6,581*
South Atlantic	**1,345**	**211**	**10**	**799**	**1,342**	*195*	*14*	*955*	*1,381*	*193*	*14*	*953*	**2,365**	*2,506*	*2,541*
E. S. Central	**1,789**	**313**	**19**	**1,032**	**1,818**	*245*	*21*	*1,301*	*1,804*	*254*	*21*	*1,301*	**3,154**	*3,385*	*3,381*
W. S. Central	**1,299**	**122**	**1**	**497**	**1,342**	*64*	*4*	*802*	*1,204*	*93*	*4*	*801*	**1,918**	*2,213*	*2,103*
Mountain	**2,309**	**664**	**110**	**1,637**	**2,301**	*713*	*144*	*1,855*	*2,256*	*718*	*152*	*1,854*	**4,720**	*5,013*	*4,980*
Pacific	**1,559**	**487**	**77**	**1,209**	**1,407**	*590*	*95*	*1,221*	*1,539*	*601*	*93*	*1,222*	**3,332**	*3,312*	*3,455*
U.S. Average	**2,107**	**472**	**51**	**1,308**	**2,149**	*494*	*74*	*1,530*	*2,110*	*494*	*77*	*1,529*	**3,937**	*4,248*	*4,210*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	*852*	*107*	*2,104*	*3,151*	*860*	*107*	*2,110*	**6,195**	*6,164*	*6,228*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	*684*	*71*	*1,908*	*2,944*	*692*	*71*	*1,912*	**5,572**	*5,551*	*5,619*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	*727*	*97*	*2,162*	*3,215*	*743*	*96*	*2,171*	**6,161**	*6,119*	*6,225*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	*726*	*125*	*2,357*	*3,317*	*757*	*126*	*2,366*	**6,477**	*6,427*	*6,566*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	*187*	*11*	*906*	*1,401*	*190*	*10*	*902*	**2,503**	*2,483*	*2,503*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	*243*	*15*	*1,227*	*1,809*	*250*	*14*	*1,226*	**3,267**	*3,248*	*3,299*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	*93*	*3*	*754*	*1,189*	*96*	*3*	*763*	**2,015**	*1,995*	*2,051*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	*685*	*132*	*1,818*	*2,201*	*698*	*135*	*1,825*	**4,877**	*4,816*	*4,859*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,454**	*523*	*79*	*1,137*	*1,440*	*521*	*80*	*1,141*	**3,242**	*3,193*	*3,183*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,095**	*479*	*62*	*1,473*	*2,133*	*486*	*62*	*1,476*	**4,147**	*4,110*	*4,157*
Cooling Degree Days															
New England	**0**	**143**	**457**	**7**	**0**	*125*	*430*	*2*	*0*	*80*	*387*	*2*	**607**	*558*	*470*
Middle Atlantic	**0**	**180**	**625**	**23**	**0**	*183*	*554*	*5*	*0*	*149*	*519*	*5*	**828**	*742*	*672*
E. N. Central	**2**	**250**	**627**	**30**	**1**	*235*	*543*	*6*	*0*	*209*	*517*	*6*	**909**	*785*	*733*
W. N. Central	**8**	**312**	**747**	**23**	**3**	*290*	*683*	*10*	*3*	*255*	*651*	*10*	**1,090**	*985*	*918*
South Atlantic	**154**	**617**	**1,172**	**285**	**157**	*712*	*1,152*	*233*	*126*	*642*	*1,137*	*233*	**2,227**	*2,253*	*2,139*
E. S. Central	**40**	**436**	**1,018**	**127**	**28**	*559*	*1,040*	*64*	*28*	*495*	*1,018*	*64*	**1,622**	*1,692*	*1,605*
W. S. Central	**90**	**768**	**1,470**	**315**	**55**	*1,014*	*1,504*	*200*	*82*	*819*	*1,468*	*201*	**2,643**	*2,773*	*2,569*
Mountain	**10**	**527**	**962**	**68**	**17**	*446*	*923*	*74*	*17*	*406*	*896*	*74*	**1,567**	*1,459*	*1,393*
Pacific	**24**	**249**	**701**	**57**	**31**	*158*	*565*	*62*	*25*	*164*	*568*	*62*	**1,032**	*815*	*818*
U.S. Average	**50**	**410**	**901**	**127**	**47**	*443*	*853*	*94*	*43*	*387*	*832*	*94*	**1,489**	*1,436*	*1,356*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	*87*	*472*	*2*	*0*	*92*	*466*	*2*	**555**	*561*	*560*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	*162*	*608*	*8*	*0*	*162*	*601*	*8*	**779**	*778*	*771*
E. N. Central	**3**	**234**	**572**	**7**	**3**	*238*	*571*	*9*	*1*	*232*	*560*	*10*	**816**	*821*	*802*
W. N. Central	**7**	**294**	**686**	**10**	**7**	*299*	*681*	*11*	*4*	*290*	*669*	*12*	**997**	*999*	*975*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	*668*	*1,189*	*269*	*144*	*675*	*1,188*	*273*	**2,276**	*2,272*	*2,281*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	*518*	*1,057*	*84*	*36*	*517*	*1,057*	*86*	**1,713**	*1,703*	*1,696*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	*853*	*1,536*	*224*	*101*	*853*	*1,532*	*226*	**2,772**	*2,726*	*2,711*
Mountain	**24**	**441**	**949**	**85**	**23**	*458*	*945*	*84*	*23*	*453*	*941*	*82*	**1,499**	*1,511*	*1,500*
Pacific	**31**	**193**	**648**	**86**	**31**	*208*	*664*	*85*	*32*	*207*	*655*	*84*	**959**	*988*	*978*
U.S. Average	**52**	**413**	**892**	**104**	**53**	*412*	*889*	*109*	*50*	*413*	*884*	*110*	**1,461**	*1,463*	*1,457*

- = no data available

Notes: EIA completed modeling and analysis for this report on June 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the June 2022 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Apr 2022	May 2022	Apr 2022 – May 2022 Average	Apr 2021 – May 2021 Average	2019 – 2021 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	98.6	99.1	98.9	94.4	96.5
Global Petroleum and Other Liquids Consumption (b)	97.7	98.6	98.2	95.2	96.7
Biofuels Production (c)	2.5	3.0	2.7	2.8	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.7	3.6	3.6	3.5	3.2
Iran Liquid Fuels Consumption	1.8	2.0	1.9	1.6	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	92.4	92.6	92.5	88.1	90.6
Consumption (d)	93.3	94.0	93.7	91.0	92.3
Production minus Consumption	-0.9	-1.4	-1.2	-3.0	-1.6
World Inventory Net Withdrawals Including Iran	-0.9	-0.5	-0.7	0.9	0.1
Estimated OECD Inventory Level (e) (million barrels)	2,627	2,647	2,637	2,913	2,943
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	3.0	3.0	3.0	6.5	4.3

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Apr 2022	May 2022	Apr 2022 – May 2022 Average	Apr 2021 – May 2021 Average	2019 – 2021 Average
Brent Front Month Futures Price ($ per barrel)	105.92	111.96	109.01	66.78	59.44
WTI Front Month Futures Price ($ per barrel)	101.64	109.26	105.54	63.38	54.82
Dubai Front Month Futures Price ($ per barrel)	102.71	107.66	105.25	64.82	58.86
Brent 1st - 13th Month Futures Spread ($ per barrel)	12.80	18.64	15.79	4.20	1.80
WTI 1st - 13th Month Futures Spread ($ per barrel)	13.25	20.43	16.93	4.31	1.37
RBOB Front Month Futures Price ($ per gallon)	3.26	3.78	3.53	2.07	1.67
Heating Oil Front Month Futures Price ($ per gallon)	3.87	3.92	3.90	1.94	1.75
RBOB - Brent Futures Crack Spread ($ per gallon)	0.73	1.12	0.93	0.48	0.25
Heating Oil - Brent Futures Crack Spread ($ per gallon)	1.35	1.26	1.30	0.35	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

July 2022

Short-Term Energy Outlook

Forecast highlights

- The July *Short-Term Energy Outlook* (STEO) is subject to heightened uncertainty resulting from a variety of factors, including Russia's full-scale invasion of Ukraine. The possibility of economic activity being less robust than assumed in our forecast could result in lower-than-forecast energy consumption. Factors driving uncertainty about energy supply include how sanctions affect Russia's oil production, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas production rises.
- The spot price of Brent crude oil averaged $71 per barrel (b) in 2021, and we forecast the Brent price will average $104/b in 2022 and $94/b in 2023.
- Global oil inventories in the forecast rise by 0.8 million barrels per day (b/d) in 2022 and remain unchanged in 2023. Inventory builds in 2022 reflect rising production of liquid fuels in the United States and OPEC, paired with slowing liquid fuels consumption growth.
- We expect global consumption of liquid fuels will grow by 2.2 million b/d in 2022 and by 2.0 million b/d in 2023.
- We forecast that OPEC crude oil production will rise by 2.4 million b/d to average 28.7 million b/d in 2022 and will further increase to 29.3 million b/d in 2023. Crude oil production from OPEC members averaged 26.3 million b/d in 2021.
- U.S. crude oil production in our forecast averages 11.9 million b/d in 2022 and 12.8 million b/d in 2023, which would set a record for most U.S. crude oil production in a year. The current record is 12.3 million b/d, set in 2019.
- U.S. regular gasoline retail prices averaged $4.11 per gallon (gal) in the first half of 2022 (1H22), up from $2.78/gal in 1H21. We forecast gasoline prices will average $4.05/gal in 2022 and $3.57/gal in 2023. U.S. diesel prices averaged $4.91/gal in 1H22, up from $3.06/gal in 1H21. We forecast diesel prices will average $4.73/gal in 2022 and $4.07/gal in 2023.
- U.S. refineries average 94% utilization in the third quarter of 2022 (3Q22) in our forecast, as a result of high wholesale product margins. Although we expect that refinery utilization will be at or near the highest levels in the past five years, operable

U.S. refinery capacity has fallen by about 1 million b/d. As a result, we do not expect U.S. refinery output of products to reach its highest level in the past five years.

- The spot price of natural gas at Henry Hub averaged $6.07 per million British thermal units (MMBtu) in the first half of 2022 (1H22). The average price increased in each month from January through May, when it reached $8.14/MMBtu before declining to $7.70/MMBtu in June. We expect the Henry Hub spot price will average $5.97/MMBtu in 2H22 and average $4.76/MMBtu in 2023.

- We estimate that U.S. liquefied natural gas (LNG) exports averaged 11.2 billion cubic feet per day (Bcf/d) in 1H22, compared with 9.5 Bcf/d in the same period in 2021. We expect LNG exports to average 10.9 Bcf/d in 2022 and 12.7 Bcf/d in 2023. We reduced our forecast for LNG exports in 2H22 as a result of the outage at the Freeport LNG export facility in Texas. Our forecast assumes the facility will return to near full operations in January 2023.

- U.S. dry natural gas production in the forecast averages 96.2 Bcf/d in 2022, up 2.7 Bcf/d (3%) from 2021. We forecast average production will increase to almost 100.0 Bcf/d in 2023.

- Compared with the 2021, U.S. natural gas consumption in the forecast will increase by 2.9 Bcf/d (3%) to average 85.9 Bcf/d in 2022 and then fall to 85.4 Bcf/d in 2023.

- We forecast U.S. natural gas inventories will end October 2022, the end of the 2022 storage injection season, at almost 3.5 trillion cubic feet, which would be 6% below the 2017–21 average for the end of October and down 5% from October 2021.

- U.S. consumption of electricity increases in the forecast by 2.3% in 2022, largely because of rising economic activity. Growth in electricity consumption slows to 0.6% in 2023.

- The largest increases in U.S. electricity generation in our forecast come from renewable energy sources, mostly solar and wind. We expect renewable sources will provide 22% of U.S. generation in 2022 and 24% in 2023, up from a share of 20% in 2021.

- We forecast that the cost of natural gas to U.S. power generators will rise from $4.97/MMBtu in 2021 to $6.35/MMBtu in 2022. Despite the increase, we forecast the share of natural gas in U.S. generation will average 37% in 2022, about the same as last year. The similar share of natural gas generation despite higher prices results partly from our forecast that electricity generation from coal will decline from 23% of the total in 2021 to 21% in 2022 and to 20% in 2023, which reflects the continued retirement of coal-fired generating capacity and other coal market constraints.

- We forecast the U.S. residential electricity price will average 14.4 cents per kilowatthour in 2022, up 5.3% from 2021. Higher retail electricity prices largely reflect an increase in

wholesale power prices driven by rising natural gas prices. Annual average wholesale prices for 2022 range from an average of $50 per megawatthour (MWh) in the Southwest Power Pool market to $85/MWh in the ISO New England market.

- We expect energy-related carbon dioxide (CO_2) emissions in the United States to increase by 1.5% in 2022 and remain generally unchanged in 2023.

Global liquid fuels

After more than two years of price volatility in global oil markets stemming from responses to the COVID-19 pandemic, Russia's full-scale invasion of Ukraine has added further uncertainty and volatility to markets in 2022. Global oil consumption has outpaced the global oil supply since mid-2020, which, combined with the increased risk that global oil supply could be constrained, has put significant upward pressure on both crude oil and petroleum product prices. Because production has not kept up with demand, commercial oil inventories in the OECD have fallen outside of their five-year (2017–2021) range and are near their lowest levels since 2014.

Oil consumption outpacing oil production has led to persistent withdrawals from global oil inventories. We estimate that global oil inventories declined for seven consecutive quarters starting in the third quarter of 2020 (3Q20) and continuing through 1Q22. Inventories declined at an average rate of 1.4 million barrels per day (b/d) over that period. The Brent crude oil spot price increased from an average of $43 per barrel (b) in 3Q20 to an average of $114/b in 2Q22.

For 2Q22, we estimate that inventories rose for the first time on a quarterly basis in two years. We expect global oil inventories will rise by an average of 0.8 million b/d in 2022 and be mostly unchanged in 2023. Inventory builds in 2022 generally put downward pressure on crude oil prices. However, we expect prices to stay elevated as inventories remain below their recent five-year average for most of the forecast, which will likely keep crude oil prices volatile. The Brent price averages $104/b in 2022 and $94/b in 2023 in our forecast.

Uncertainty in global oil markets has increased during 2022. On the demand side, the impacts of COVID-19 restrictions on oil consumption have increasingly been centered in China. In addition, given the potential for high fuel prices, inflation, and slowing economic activity, fuel demand might decrease in the coming months. On the supply side, heightened geopolitical risks and uncertainty stemming from Russia's full-scale invasion of Ukraine have increased. The full impact of sanctions against Russia remains uncertain. There is additional uncertainty about whether OPEC+ members will meet their increasing production targets and the responsiveness of new crude oil production to current high prices.

***Global petroleum and other liquid fuels consumption*.** We forecast global consumption of petroleum and other liquid fuels will grow by 2.2 million b/d in 2022. This growth is less than our January STEO forecast 2022 growth of 3.6 million b/d. Our reduced consumption forecast reflects the reduced global GDP forecast and the COVID-related lockdowns in China during the

first half of 2022 (1H22). Our global economic forecasts come from Oxford Economics, which forecasts GDP will increase by 3.2% in 2022 compared with the 4.5% we used in the January STEO. Forecasted GDP grows by 3.3% in 2023, and global consumption of petroleum and other liquid fuels grows by 2.0 million b/d in 2023.

We forecast of OECD oil consumption grows by 1.2 million b/d in 2022, and non-OECD consumption grows by 1.0 million b/d. If realized, 2022 would be the first year growth in oil consumption in the OECD outpaces growth in non-OECD consumption since 1999. Economic growth is the main driver of oil consumption growth throughout the forecast, but how higher oil prices, increasingly tight monetary policy, and a stronger U.S. dollar will affect world oil consumption in 2H22 and 2023 remains uncertain.

Many countries have significantly eased or have eliminated the restrictions on travel, mobility, and economic activity that were imposed to lessen the spread of COVID-19. China has been an exception; the government imposed a strict city-wide lockdown in Shanghai, is conducting mass testing, and is isolating significant portions of the population in an effort to control an outbreak of COVID-19 that occurred in March 2022. The lockdown in Shanghai continued for nearly all of 2Q22 and severely limited mobility and business activity in that city. Many of China's larger cities, including Beijing, also experienced COVID-19 outbreaks in 2Q22 that restricted mobility and business activity, although less so than in Shanghai. The outbreaks of COVID-19 in China and related restrictions lowered China's oil consumption in 2Q22. Although the government began easing restrictions in a number of China's cities in May 2022, some limitations on business activity and mobility continue and are expected to linger into 3Q22. Oil demand in China could fall further than we expect in the event of future outbreaks.

Non-OPEC production of petroleum and other liquid fuels. We expect non-OPEC production will increase by 2.2 million b/d in 2022 and by an additional 0.6 million b/d in 2023. The United States leads production growth among non-OPEC countries in our forecast, and Brazil, Canada, and Norway also contribute significantly to growth. Production increases in these countries more than offset a decline in Russia's driven by sanctions and independent corporate actions.

This forecast reflects the implementation of the European Union's (EU) sixth package of sanctions on Russia, with imposition of a crude oil import ban by early December 2022 and petroleum products import ban by early February 2023. These sanctions will ban most EU crude oil and petroleum product imports from Russia and will prohibit EU companies from providing certain services, including insurance and reinsurance, to ships that carry Russian oil cargoes. We assume that the United Kingdom will implement similar services sanctions, including insurance and reinsurance. However, the EU's sixth package of sanctions does not ban EU-owned and EU-operated tankers from transporting Russian crude oil and products.

Our forecast assumes that although some EU shippers will no longer participate in the trade of Russia's crude oil and petroleum products, sufficient shipping capacity exists to carry Russia's

previous exports to the EU to alternative (non-EU) destinations instead. We expect that about half of these petroleum products will go to countries in Africa and Asia and that most of these crude oil exports could find alternative buyers, mainly in Asia.

We also assume that given the timeline of the implementation of sanctions, tanker owners and operators will be able to secure alternative services, including sovereign guarantees or alternative insurance and reinsurance policies, to replace most of those currently provided by EU and UK companies. Some shippers currently involved in trade with Russia will voluntarily stop shipping Russia's oil.

Our assumptions about the EU import ban and the reduced availability of shippers are reflected in our lower forecast on Russia's crude oil production for 2023. Russia's production will ultimately depend on how markets and trade flows evolve based on these sanctions as well as any other potential future sanctions. We forecast Russia's production of liquid fuels will fall to an average of 10.4 million b/d by 4Q22, down from 11.3 million b/d in 1Q22. We expect that Russia's production will fall to 9.1 million b/d by the end of 2023.

Brazil's liquid fuels production in our forecast increases from 3.7 million b/d in 2021 to 3.9 million b/d in 2022 and to 4.1 million b/d in 2023. Our forecast assumes that production from six new floating production storage and offloading (FPSO) units will ramp up through 2023 and continue to drive growth, notably at the Sepia, Mero, and Buzios fields.

Liquid fuels production in Canada in our forecast rises by 0.2 million b/d in 2022 and by 0.1 million b/d in 2023, bringing production to 5.9 million b/d in 2023. Canada's production growth is driven primarily by oil sands expansion and debottlenecking projects following the expansion of the Enbridge Line 3 pipeline (with a capacity of 760,000 b/d), which became operational in October 2021. The TransMountain pipeline expansion project (with a capacity of 890,000 b/d) is set to begin service at the end of 2023. Additional expansions and optimizations to Enbridge's existing pipeline system, if completed, will add more than 400,000 b/d of export capacity over the forecast period. This new pipeline capacity from Enbridge and other planned pipeline expansions will reduce existing constraints on Canada's crude oil exports by the end of 2023.

We forecast that production of liquid fuels in Norway will remain mostly flat in 2022, but we expect it to increase by 0.3 million b/d in 2023, reaching 2.3 million b/d. Growth largely reflects the completion of phase two of the Johan Sverdrup expansion project, which is scheduled to come online in 4Q22. We expect the combined production from this phase and from phase one to reach 720,000 b/d at full capacity.

The remaining key sources of forecast non-OPEC production growth come from China, Argentina, and Guyana. Notably, Guyana first began producing oil in December 2019. We expect that Guyana will be a source of liquid fuels production growth in 2022 and 2023, driven by new offshore oil resources such as the Liza oil field. We expect oil production in Guyana to increase from an average of 110,000 b/d in 2021 to 240,000 b/d in 2022 and 340,000 b/d in 2023.

We forecast that output from a number of other non-OPEC producers, notably Indonesia and Colombia, will decline in 2022 and 2023.

OPEC production of petroleum and other liquid fuels. At the June 2022 OPEC+ meeting, participants reaffirmed their decision to advance their planned September production increase to July and August and to continue their production agreement through December 2022 to compensate for some under-producing members. Notably, they made no adjustments to reflect reduced crude oil production from Russia as a result of sanctions. Our forecast assumes that OPEC+ member countries will not fully increase production in accordance with their targets in 2022. In addition to less oil from Russia, some countries will be unable to meet their new targets because of limited production capacity, and other countries will limit increases because of uncertainty over the magnitude of Russia's oil losses as well as weakening global oil demand.

OPEC crude oil production averaged 28.3 million b/d in 1H22, up 3.0 million b/d from the same period in 2021. We forecast that average OPEC crude oil production will increase to an average of 29.1 million b/d in 2H22 and then increase to 29.3 million b/d in 2023. Our OPEC crude oil production forecast is subject to considerable uncertainty, driven by a wide range of possible outcomes for country compliance with existing production targets and for future global demand growth.

We expect that surplus OPEC crude oil production capacity will decline from 5.2 million b/d in 2021 to an average of 2.8 million b/d in 2022 as OPEC production increases. We expect it to decline further to an average of 2.6 million b/d in 2023, compared with an average surplus capacity of 2.6 million b/d from 2010 to 2019.

Iran, Libya, and Venezuela are OPEC+ members that are not subject to production targets. Our STEO forecast assumes current U.S. sanctions remain in place for Iran and Venezuela for the entire forecast period. We also expect that OPEC+ will not implement further production cuts to accommodate any potential increases in oil output from Iran or Venezuela.

After five years of declines, Venezuela's crude oil production rose from 0.5 million b/d in 2020 to almost 0.6 million b/d in 2021, driven by increased service company activity and increased access to condensate and other diluents for blending with Venezuela's heavy crude oil. Even though Venezuela's crude oil production increased in 2021, its prospects are limited while sanctions remain. Overall, we expect that Venezuela's crude oil production will decline as long-run operational difficulties, including lack of field and facility maintenance, continue and as sanctions remain in effect.

Libya's crude oil production declined from 1.1 million b/d in February 2022 to less than 700,000 b/d in June. Civil unrest and protests in Libya have disrupted crude oil production and exports since mid-April. Armed militias blockaded several export facilities and large fields in the southwestern region, including Sharara, the country's largest oil field. This political strife continues to affect the oil sector, leading to disruptions in crude oil production and exports. Our

forecast for Libya's crude oil production is subject to heightened uncertainty as a result of the tentative political and security situation in Libya and the lack of a budget to support oil and natural gas infrastructure maintenance and repairs.

OPEC non-crude oil liquids. OPEC production of non-crude oil liquids averaged 5.4 million b/d in 2021, reflecting increases in production of associated liquids as a result of higher OPEC+ production targets. We expect that production of non-crude oil liquids will increase further in 2022 to 5.5 million b/d and remain relatively unchanged in 2023.

Global oil inventories. We estimate that global oil inventories decreased by an average of 1.4 million b/d from 3Q20 through 1Q22. In our forecast, global oil inventories increase by 1.2 million b/d in 2H22. Inventory growth in 2022 largely reflects growth in global oil production paired with slowing growth in oil consumption. However, we expect decelerating production growth will lead to mostly balanced markets in 2023, with inventory levels mostly unchanged next year.

Commercial oil inventories in the OECD totaled 2.6 billion barrels at the end of 2021. We expect oil inventories in the OECD to rise to more than 2.8 billion barrels at the end of 2022 and remain at that level at the end of 2023.

Crude oil prices. The Brent crude oil price has increased from an average of $87/b in January 2022 to $123/b in June. Crude oil prices increased in 1H22 following Russia's full-scale invasion of Ukraine in February. As a result of the invasion, several countries imposed sanctions on imports of crude oil and petroleum products from Russia. In addition, many international oil companies and other firms ended operations in Russia and limited or stopped trading Russia's crude oil and petroleum products. These actions have reduced Russia's oil production and caused crude oil prices to rise. Several OPEC+ members have produced below their targets, which has also put additional upward pressure on oil prices. These factors, along with already low global inventories, have intensified both upward oil price pressures and oil price volatility.

We expect the Brent crude oil price will average $101/b in 2H22 and then fall to $94/b in 2023. The forecast price declines are the result of expected increases in global oil inventories in late 2022. Most of the price declines in our forecast occur in 2H22, with prices falling from $123/b on average in June to $97/b in 4Q22. Although inventories build in our forecast, they are currently lower than in 2019, which may limit some of the downward price pressures associated with rising inventories and raises the potential for continuing volatility. In addition, we expect more balanced markets in 2023. As a result of this balance, crude oil prices in our forecast decline slowly through 2023, falling from $97/b in 4Q22 to $93/b in 4Q23.

Reduced exports of refined petroleum products from Russia as a result of sanctions and less global refining capacity than before 2020 have reduced the available supply of refined petroleum products and have led to higher retail prices for gasoline and diesel fuel. This

situation could persist and may limit the degree to which lower crude oil prices result in lower retail prices for gasoline and diesel.

Actual prices will be based on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production and the sale of Russia's oil in the global market. Global economic developments will also be critical for oil prices. Our current price path reflects global oil consumption that increases by 2% from 2021 to 2022 and by an additional 2% in 2023. However, the ways that central banks may respond to inflationary concerns could affect economic growth and oil demand during the forecast period. The duration of, and compliance with, the latest OPEC+ production targets also remain uncertain. In addition, international sanctions have limited exports from Russia and global refining capacity has decreased from pre-pandemic levels. These factors have reduced the available global supply of refined petroleum products and led to higher retail prices for gasoline and diesel fuel. If this situation continues, it could limit the degree to which lower crude oil prices result in lower retail prices for gasoline and diesel.

We forecast the West Texas Intermediate (WTI) crude oil price will average about $5/b less than the Brent price in 2H22 before averaging $4/b less than the Brent price through 2023. These price discounts are based on our assumption that the recent discount of WTI to Brent, which averaged less than $3/b in 2021, reflected low global demand for oil exports and relatively low U.S. crude oil production. U.S. crude oil supply increased in early 2Q22, which put downward press on WTI prices relative to Brent prices. At the same time, reduced crude oil supply from Russia into Europe put upward pressure on Brent prices. Together, these two factors caused the WTI discount to widen. We expect the WTI discount to return to $4/b by 2023 as the global oil market adjusts to constraints on production from Russia and as new crude oil trade flows are established.

U.S. liquid fuels

U.S. consumption. We forecast that consumption of petroleum and liquid fuels in the United States will average 20.5 million barrels per day (b/d) in 2022, which would be about the same as in 2019. In 2023, we forecast that consumption will grow to 20.8 million b/d. Our forecast of growth in U.S. consumption of petroleum and liquid fuels is driven by hydrocarbon gas liquids (HGLs) in 2022 and by gasoline in 2023.

We forecast that U.S. consumption of HGLs will increase by 0.2 million b/d in 2022 and by 0.1 million b/d in 2023. We expect all of the growth in HGL consumption in 2022 and 2023 to be from increased use of ethane as a petrochemical feedstock. Domestic ethane consumption increased this year when a new petrochemical cracker came online in the beginning of 2022, and we expect an additional petrochemical cracker to start up during the next two months, both of which will exclusively use ethane as a feedstock.

U.S. gasoline consumption averaged 8.7 million b/d in 1H22, up 0.1 million b/d from the same period in 2021. The April data for vehicle miles traveled (VMT), published by the Federal Highway Administration, is lower than we had forecast in last month's STEO, which possibly reflects the effects of high gasoline prices. As a result of the lower-than-expected VMT, we revised down our forecast VMT for the third quarter of 2022 (3Q22). Following the reduction in forecast VMT, we forecast U.S. gasoline consumption will average 9.0 million b/d in the second half of 2022 (2H22), a slight decline from 2H21. Gasoline consumption declines even though we forecast almost 5 million more jobs in the U.S. economy in 2H22 compared with a year earlier, based on the S&P Global macroeconomic model. However, the effects of high gasoline prices and strong employment on driving habits are uncertain. Employees may now have more flexibility when choosing between commuting to work or working from home, and with high gasoline prices, employees may be choosing to work from home more than before the COVID-19 pandemic. In addition, we expect a 2% increase in overall vehicle fleet fuel efficiency will also limit gasoline consumption growth in 2H22 compared with 2H21.

Distillate fuel consumption in the United States averaged 4.0 million b/d in 1H22, unchanged from the same period in 2021. However, we estimate distillate consumption averaged 3.8 million b/d in 2Q22, which down by 0.1 million b/d from 2Q21. Trade press reports indicate that the spot segment of the trucking market has slowed, which is likely reducing distillate consumption. We expect distillate consumption will average 3.9 million b/d in 2H22 and 4.0 million b/d in 2023.

U.S. jet fuel consumption averaged 1.5 million b/d in 1H22, up 0.3 million b/d from 1H21. Despite this growth, jet fuel consumption in 1H22 remained 12% lower than 1H19 levels, the largest decline on a percentage basis among the major fuel types. We forecast that U.S. consumption of jet fuel will average 1.6 million b/d in 2H22 and in 2023.

U.S. crude oil supply. We estimate U.S. crude oil production averaged 11.6 million b/d in 1H22, up 0.6 million b/d from year-ago levels. Although crude oil prices are high, economic headwinds including inflation, supply chain issues, and labor shortages, and less operator activity than we had forecast at the beginning of this year have limited production growth. We forecast that crude oil production will rise to an average of 12.2 million b/d in 2H22 and to 12.8 million b/d in 2023, which would surpass the previous annual record set in 2019.

During 2022, most of the drilling activity has occurred in the Permian Basin. Favorable geology combined with technological and operational improvements have made the Permian Basin one of the most prolific regions of U.S. crude oil production. We forecast that average annual crude oil production in the Permian Basin will reach 5.3 million b/d in 2022 and 5.7 million b/d in 2023.

However, the increased production of associated natural gas from this region poses a downside risk to Permian crude oil production. If natural gas pipeline constraints are not eased and the proposed 5.0 billion cubic feet per day of pipeline takeaway capacity out of the Permian Basin is not brought online by 2024, drilling activity in areas with high concentration of natural gas might

be reduced. In addition, the capital deployment decisions of producers will be critical for rig deployment and production. Further, production could be less than our forecast if supply chain issues and input cost inflation persist through the forecast period.

We expect that crude oil production from the Gulf of Mexico will average about 1.8 million b/d in both 2022 and 2023. In 2021, seven new projects came online. We expect nine more projects to come online in 2022.

Alaska's crude oil production in the forecast stays near the 2021 level of 0.4 million b/d in both 2022 and 2023.

Hydrocarbon gas liquids supply. We forecast U.S. production of HGLs to increase by 0.5 million b/d in 2022 to an average of 6.5 million b/d and then to increase to an average of 6.8 million b/d in 2023. HGL production will increase as a result of rising production of natural gas in 2022 and 2023, as well as higher rates of natural gas processing plant utilization. Ethane production is the leading contributor to the HGL growth, and we expect it will rise to meet growing demand for ethane as a petrochemical feedstock both in the United States and globally.

Liquid biofuels. Consumption of biofuels has risen in the United States in 2022, and we expect this growth to continue. Increasing demand for transportation fuels, higher 2022 Renewable Fuel Standard (RFS) program targets announced on June 3, and new renewable diesel production capacity coming online all contribute to this growth. Prices for Renewable identification number (RIN) credits—the compliance mechanism used for the Renewable Fuel Standard (RFS) program administered by the U.S. Environmental Protection Agency (EPA)—have increased in 2022 to near record-high prices, which has facilitated growing biofuel consumption. From 1H21 to 1H22, ethanol consumption increased by 24,000 b/d (3%), renewable diesel consumption increased by 32,000 b/d (46%), and other biofuels consumption increased by 6,000 b/d (133%). Biodiesel consumption was unchanged during the same period.

We expect that new renewable diesel production will help meet rising RFS targets. Marathon Petroleum's renewable diesel refinery in Dickinson, North Dakota, became fully operational in 2Q21. It is now the second-largest renewable diesel refinery in the United States and has a production capacity of 12,500 b/d. In 4Q21, Diamond Green Diesel expanded its Norco, Louisiana, refinery, which is now the largest renewable diesel refinery in the United States, with a production capacity of 44,000 b/d. So far in 2022, HollyFrontier's Cheyenne, Wyoming, refinery has come online, and CVR Energy's Wynnewood, Oklahoma, refinery has come partially online. Seven other projects are set to come online by the end of the year, potentially adding as much as 88,000 b/d of capacity, and several more projects will come online in 2023. We forecast renewable diesel consumption of 116,000 b/d in 2022, an increase of 41,000 b/d (53%) from 2021, and we expect renewable diesel consumption to increase further to 164,000 b/d in 2023. This forecast assumes that some of the capacity scheduled to come online in 2022 and 2023 will have delays or be affected by high agricultural feedstock costs.

Because one gallon of renewable diesel produces more RIN credits under the RFS program than biodiesel and also faces no infrastructure or blending constraints, we expect new renewable diesel plants to be brought online to secure scarce oil feedstocks, such as soybean oil, outpacing biodiesel refineries and limiting biodiesel production. We forecast slightly higher biodiesel consumption in 2022 than in 2021. However, we expect U.S. biodiesel consumption to decrease in 2023 as renewable diesel increasingly satisfies RFS requirements. We forecast U.S. biodiesel production in 2022 to fall 8% from 2021 to less than 100,000 b/d, the lowest annual average since 2015.

More fuel ethanol was consumed in the United States in 1H22 than in the same period in 2021, mainly because of more gasoline consumption. We expect similar gasoline and fuel ethanol consumption in 2H22. We forecast that U.S. fuel ethanol consumption will remain around 2022 levels in 2023 and that the ethanol share of U.S. gasoline consumption will be near 10.3%. If favorable blending economics for fuel ethanol, driven by lower relative fuel ethanol prices, and high RIN prices persist, the fuel ethanol share of gasoline consumption could potentially increase.

Product prices. Increased global consumption of liquid fuels during 1H22, combined with constraints on global refining capacity and rising crude oil prices, puts upward pressure on prices for petroleum products. The average U.S. retail price for regular-grade motor gasoline in 1H22 was $4.11 per gallon (gal), an increase of $1.33/gal from 1H21. Retail diesel prices in 1H22 averaged $4.91/gal, an increase of $1.85/gal over 1H21. Russia's full-scale invasion of Ukraine, which began at the end of February, has significantly raised crude oil prices and crack spreads. In 2Q22, retail gasoline averaged $4.50/gal, and diesel averaged $5.49/gal.

Rising crack spreads—the difference in price between wholesale refining products and the crude oil used to make them—have been a major contributor to rising retail fuel prices. Crack spreads have increased sharply as exports of refined products from Russia have decreased in response to sanctions. Even where there are no formal sanctions, some international buyers, particularly European countries who typically purchase Russia's fuel, have chosen to reduce or end imports from Russia.

The gasoline crack spread (calculated as the U.S. refiner gasoline price for resale against Brent crude oil) in 2Q22 increased to an average of $1.05/gal from 52 cents/gal in 2Q21, and the diesel crack spread increased to an average of $1.47/gal during the same period from 40 cents/gal in 2Q21. Increasing crude oil prices often narrow crack spreads as high input costs narrow refining margins; however, the current high crack spreads are the result of decreased refinery capacity both globally and in the United States combined with Russia's reduced product exports.

Refinery Capacity in the United States fell by 0.9 million b/d in 2020 and by 0.2 million b/d in 2021. The lost capacity mainly resulted from low refinery margins brought on by the COVID-19 pandemic, as well as a handful of refinery incidents—including the explosion at Philadelphia

Energy Solutions in 2019 and the flooding of the Phillips 66 Alliance refinery during Hurricane Ida in August 2021— and conversions to biofuels production. Decreasing refinery capacity was not limited to the United States. The IEA reports that global refinery capacity fell by 0.9 million b/d in 2021, which combined with the exclusion of refining capacity in Russia, leaves the global market with less refinery capacity available to meet increasing demand this summer.

Historically high crack spreads have encouraged U.S. refiners to increase refinery utilization, which ran at 92% in 2Q22, in order to meet high demand in the United States. We expect refinery utilization to average 94% in 3Q22, compared with 89% in 3Q21. Refinery utilization is usually higher in the second and third quarters in response to summer demand for fuel. We expect utilization to average 90% in 4Q22 up only slightly over 4Q21, at a time when low product inventories and increasing demand were already providing incentives for refiners to increase refinery runs. Although we expect refinery utilization to remain well above average through the end of the year, less refinery capacity in the United States means that actual refinery inputs and volumetric production of refined products will not exceed pre-pandemic production levels.

As rising refinery production contributes to some increases in refined product inventories, we expect crack spreads to decrease in 2H22 but remain above the five-year average through the end of the forecast. We forecast gasoline crack spreads to average $0.88/gal in 3Q22 and $0.57/gal in 4Q22, or $0.72/gal for the year, before decreasing to an annual average of $0.52/gal in 2023. Similarly, we forecast distillate crack spreads to average $1.11/gal in 3Q22 and $0.91/gal in 4Q22, averaging $1.03/gal in 2022 before dropping to $0.65/gal in 2023. In comparison, the gasoline crack spread in 2019 was $0.33/gal, and the distillate crack spread was $0.43/gal in 2019.

High product crack spreads are encouraging refiners to maximize operations to meet U.S. and global demand although their ability to do so remains subject to several uncertainties. High refinery utilization brings inherently greater risks of operational malfunctions, disruptions, and unplanned turnarounds that can temporarily take units or whole facilities out of commission. Furthermore, the National Oceanic and Atmospheric Administration (NOAA) predicts an above-average hurricane season in 2022. Hurricanes present particular weather-related risks to most of U.S. refining capacity, which is concentrated along the U.S. Gulf Coast, particularly in Texas and Louisiana.

Natural gas

Natural gas consumption. We expect U.S. natural gas consumption will increase by 2.9 billion cubic feet per day (Bcf/d) (3%) to average 85.9 Bcf/d in 2022 and fall to 85.4 Bcf/d in 2023.

We forecast U.S. consumption of natural gas to increase in all sectors in 2022, with the largest increase in the electric power sector. We forecast the U.S. electric power sector will consume an average of 31.9 Bcf/d of natural gas in 2022, which is 3% more than in 2021. Our forecast

increase occurs despite high natural gas prices in 2022, which in the past have typically encouraged more switching from natural gas to coal as an electricity generation source. The electric power sector continues to use high amounts of natural gas because coal-fired power plants are limited in their ability to act as an alternative source of electricity generation. Ongoing coal capacity retirements, limited rail capacity for fuel delivery to coal plants, and lower-than-average stocks at coal plants have all contributed to reduced coal-fired electricity generation. As a result, more natural gas has been used to meet electricity demand. We expect consumption of natural gas in the electric power sector to decline slightly by 0.5 Bcf/d (1%) in 2023 as more electric-generation capacity from renewable energy sources comes online.

Consumption of natural gas in the U.S. industrial sector in our forecast increases by 3% this year, averaging 23.2 Bcf/d in 2022, as demand for industrial goods and economic activity increases. We forecast industrial sector consumption of natural gas will be mostly unchanged in 2023 compared with 2022.

We expect combined U.S. residential and commercial natural gas consumption to average 22.6 Bcf/d in 2022 and 22.4 Bcf/d in 2023, based largely on weather expectations we derive from National Oceanic and Atmospheric Administration (NOAA) forecasts. Our July STEO assumes colder temperatures in 2022 than in 2021 and similar temperatures in 2023. NOAA forecasts 8% more heating degree days (HDDs) across the United States in 2022 compared with 2021.

Natural gas production. We forecast dry natural gas production will average 96.2 Bcf/d in 2022 in the United States, an increase of 2.7 Bcf/d (3%) compared with 2021. Increases in crude oil and domestic natural gas prices, as well as increases in the number of active oil and natural gas rigs, will contribute to an overall increase in drilling activity in 2022 and 2023 that will lead to production growth. In 2023, we expect dry natural gas production to increase by 3.7 Bcf/d (4%) to reach 100.0 Bcf/d. The Haynesville region and the Permian Basin will drive growth in dry natural gas production, supported by increased pipeline takeaway capacity in both regions and high oil production in the Permian Basin that results in greater levels of associated natural gas production.

Natural gas trade. Liquefied natural gas (LNG) exports continued to drive growth in U.S. natural gas exports in the first half of 2022 (1H22). U.S. LNG exports averaged 11.2 Bcf/d during 1H22 and set a monthly record in March 2022, averaging 11.7 Bcf/d. U.S. LNG export capacity is continuing to expand this year with the addition of the Calcasieu Pass LNG export facility, which has been ramping up LNG production ahead of schedule and is expected to be fully operational by the third quarter of 2022 (3Q22).

Strong natural gas demand and high LNG prices in Europe and Asia drove the continued growth in U.S. LNG exports in the first half of this year. During the first five months of 2022, the United States exported 71% of its LNG to Europe, compared with an annual average of 34% last year. In the past, Asia had been the main destination for U.S. LNG exports, accounting for almost half of the total exports in 2020 and 2021. LNG prices in Europe remain high amid supply uncertainties

because of Russia's invasion of Ukraine and the need to replenish Europe's natural gas inventories, which has kept Europe's demand for LNG elevated.

Since December 2021, the EU and the United Kingdom have been importing record volumes of LNG, primarily to fill natural gas storage inventories, which were historically low from fall 2021 through spring 2022. The United States became the largest LNG supplier to the EU and United Kingdom last year, accounting for 26% of total imports. In the first five months of 2022, LNG imports from the United States to the EU and the United Kingdom continued to grow. European natural gas storage inventories filled up rapidly in recent months, and they were 3% below their five-year average (2017–2021) level at the end of June.

For the second half of this year, we expect U.S. LNG exports will decline because of the outage at the Freeport LNG export facility, which we do not expect to return to full service until late 2022. The shutdown of Freeport LNG will reduce U.S. LNG export capacity by approximately 2 Bcf/d, which is about 17% of the total capacity. We forecast U.S. LNG exports to average 10.5 Bcf/d in 2H22, 14% less than the forecast in our June 2022 STEO. We expect LNG exports will continue to grow in 2023, averaging 12.7 Bcf/d on an annual basis, 17% higher than in 2022.

U.S. exports of natural gas by pipeline, almost all of which move natural gas to Mexico, average 8.8 Bcf/d in 2022 in the forecast, up 4% from 2021, and then rise by an additional 4% to reach 9.2 Bcf/d in 2023.

Natural gas inventories. U.S. storage withdrawals in 1Q22 were 27% higher than the five-year average because of colder-than-normal temperatures that led to higher consumption in the residential, commercial, and electric power sectors and because of declines in natural gas production as a result of weather-related freeze-offs in producing regions. Working natural gas inventories ended March 2022 at 1,401 Bcf, which was 17% less than the five-year average for that time of year and the least natural gas held in U.S. underground storage at the end of March (the traditional end of the heating season) since 2019.

As the Freeport LNG outage returns about 2 Bcf/d of natural gas to the domestic market, we expect end-of-October storage will be closer the five-year average than we did in last month's forecast. We expect that inventories will reach 3,468 Bcf at the end of October 2022, which would be 6% less than the five-year average for October and 5% less than the natural gas in U.S. storage at the end of October 2021.

Natural gas prices. The Henry Hub spot price averaged $6.07 per million British thermal units (MMBtu) in 1H22, rising steadily from an average of $4.38/MMBtu in January to $8.14/MMBtu in May. Prices then fell in June, in part, because of the outage at the Freeport LNG export terminal. The increase through May resulted from continued demand for LNG exports, increased demand in electric power generation as a result of limited natural gas-to-coal switching, and decreased production compared with the end of 2021.

Natural gas prices have been volatile in 2022. The 30-day historical volatility of U.S. natural gas prices averaged 179.1% in February compared with the five-year average of 47.7%. Historical volatility measures the magnitude of daily changes in the closing price for a commodity during a specific time in the past. Natural gas price volatility resulted, in large part, from the uncertainty in the global natural gas markets leading up to and following Russia's full-scale invasion of Ukraine on February 24, as well as from weather-related fluctuations in natural gas demand. Uncertainty around production that was relatively flat in 1H22 (and slightly lower than the high levels reached at the end of 2021) has also contributed to price volatility. Natural gas price volatility remained relatively high in 2Q22, averaging 87.2% in June.

We forecast the Henry Hub spot price will average $5.97/MMBtu in 2H22. This price is down from our forecast of $8.58/MMBtu in the June STEO in part because, due to the Freeport LNG facility being offline through late 2022, we expect more natural gas to be injected into storage in 2H22 than in last month's forecast. Although our end-of-October storage forecast is still less than the previous five-year average. However, because of ongoing constraints in the coal market that are limiting the use of coal in the electric power sector, we expect electric power-sector use of natural gas will remain strong, keeping upward pressure on prices, particularly in the case of a significant heat wave. Despite the outage at Freeport LNG, we also expect full utilization at remaining LNG facilities this summer to raise natural gas prices as Europe's demand for LNG from the United States remains high.

The lower natural gas price in our forecast for 2H22 contributes to our lower forecast for production in 2023 compared with the June STEO. Based partly on the lower production forecast, we raised our price forecast for May through December 2023. We expect the Henry Hub spot price will average $4.41/MMBtu during 2H23, up 59 cents/MMBtu from last month's forecast. For all of 2023, we expect the Henry Hub spot price will average $4.76/MMBtu.

Coal

Coal production. U.S. coal production totaled 289 million short tons (MMst) in the first half of 2022 (1H22), up 6 MMst (2%) from 1H21. As coal consumption decreased, increases in production have kept inventories in 1H22 from falling by as much as they did in 1H21.

In 2022, we expect U.S. coal production to rise by 17 MMst (3%) from 2021 to 595 MMst. Our forecast 2022 coal production increases by 15 MMst (5%) in the Western Region and by 1 MMst (1%) in both the Appalachia and Interior regions. We expect U.S. coal production to remain flat in 2023.

Our expectation of increased production in 2022 primarily reflects demand to replenish depleted coal stocks. Electric power sector inventories fell significantly in 2021. We expect more draws through summer 2022. In our forecast, 2022 end-of-year electric power sector coal inventories decline to 77 MMst, 18% less than at the end of 2021.

In 2023, we expect coal production to total 594 MMst, about the same as 2022. Much of the decrease in coal mine capacity that has occurred since 2020 appears to be permanent. Coal producers have experienced labor and capital shortages, which we expect will continue to limit coal supply in the forecast.

Coal consumption. In this forecast, U.S. coal consumption declines to 527 MMst (3%) in 2022 and to 506 MMst (4%) in 2023, compared with 546 MMst in 2021.

We expect the retirement of approximately 22 gigawatts (GW) of coal-fired power plant capacity through 2023, down 10% from 2021. As a result, we forecast electric power sector demand for coal will decrease by 20 MMst (4%) in 2022. Coal plant retirements and lower expected natural gas prices drive our forecast of an additional 23 MMst (5%) decline in 2023.

Increased economic activity following COVID-19 shutdowns and rising natural gas prices relative to coal prices led to increased demand for coal-fired power generation in 2021 compared with 2020. Although natural gas prices remain high in 2022, constraints on coal production from decreased mine capacity and transportation from labor shortages in the railroad industry have led to coal generators taking steps to conserve coal stocks to meet peak electricity demand during the summer, which is limiting coal-fired electricity generation.

Metallurgical coal, also known as coking coal, is an essential component of the steel-making process. We expect demand for coking coal to rise by 8% (1 MMst) from 2021 to 2023, driven by our expectation of more raw steel production in the forecast.

Coal trade. We expect U.S. coal exports to increase 3% to 88 MMst in 2022 from 85 MMst in 2021. It is unclear how much of the U.S. increase in coal exports have been a result of the improved post-pandemic economy and high natural gas prices or a result of sanctions against Russian coal.

Increased exports are driven by a forecast 2% increase in metallurgical coal exports in 2022 to accommodate increased steel production and an even larger 4% increase in steam coal exports as countries increase coal-fired electricity generation relative to natural gas-fired generation to manage costs associated with high natural gas prices. Exports in the forecast fall to 83 MMst in 2023, less than in 2021, as the economy cools down. While metallurgical coal exports remain steady, we expect steam coal exports to fall 12% in 2023 as natural gas prices fall, increasing natural gas-fired generation relative to coal-fired generation.

Although Europe—largest importer of coal from Russia—Japan, and South Korea are expected to eventually end coal imports from Russia, any decline in Russia's coal exports so far have been offset by increases in purchases of coal from Russia by China, India, and Turkey to capitalize on the discounts Russia has offered.

Coal prices. The price of coal delivered to U.S. electricity generators averaged $1.98 per million British thermal units (MMBtu) in 2021. We expect the average delivered coal prices to the

electric power sector to increase to $2.10/MMBtu (6%) in 2022 then fall to $1.99/MMBtu (5%) in 2023.

Electricity

Electricity consumption. We forecast that total consumption of electricity in the United States, including sales to ultimate customers and direct use of electricity by generators, will increase by 2% in 2022 and by 1% in 2023. Sales of electricity to ultimate customers account for about 97% of total U.S. electricity consumption.

Relative outside temperatures, often measured using heating degree days (HDDs) and cooling degree days (CDDs), are the main driver of electricity consumed by the residential sector. We estimate that 2% more electricity was sold to residential customers in the first half of 2022 (1H22) than the same period last year. Although temperatures in January and February were colder than normal, they were relatively similar to temperatures last winter. Likewise, early summer temperatures have been warmer than normal, especially in the South, but have been relatively similar to the same period in 2021.

During 2H22, we expect U.S. residential electricity consumption to be similar to 2H21. We forecast that sales of electricity to residential customers will grow by 1% for all of 2022 and then fall slightly in 2023 as winter and summer temperatures return to more normal levels.

Electricity sales to customers in the U.S. commercial and industrial sectors are growing faster than sales to the residential sector. Commercial electricity use is related both to overall weather patterns and economic trends. We estimate that 5% more electricity was used by the U.S. commercial sector in 1H22 than 1H21. Stronger economic activity than in 2021 drove most of this growth. Nonfarm employment in 1H22 grew by 5% year over year. We expect economic growth to slow somewhat in 2H22, but we still expect commercial electricity use to rise by 3% in 2022. The slower economic growth contributes to our forecast that electricity consumption in the commercial sector will remain relatively unchanged next year.

The U.S. industrial production index for electricity-intensive industries increased year over year by 5% in 1H22, and we expect it to grow at a similar rate in 2H22. As a result, we expect 4% more sales of electricity to the industrial sector in 2022 than in 2021. Our forecast of industrial electricity use grows slightly less at 3% in 2023, reflecting slower overall economic growth.

Electricity generation. We estimate that electricity generation by the U.S. electric power sector during the first half of 2022 grew 4% from 1H21, reflecting warmer-than-normal temperatures in May and June. We expect the U.S. electric power sector will generate 4,055 billion kilowatthours (BkWh) in 2022, which is a 2% increase from 2021. Forecast electric power sector generation remains at about the same level in 2023.

We forecast that most of the increase in U.S. electricity generation through 2023 will come from renewable energy sources as a result of growth in U.S. renewable generating capacity. We

expect renewable energy will provide 22% of U.S. electric power sector generation in 2022 and 24% in 2023, compared with 20% in 2021.

Most of our forecast increase in generation from renewables comes from solar capacity expansions in the electric power sector. We expect solar electricity generation to increase to 145 BkWh in 2022 and 182 BkWh in 2023. Installed capacity of solar photovoltaic (PV) generation continued to grow despite supply chain and commerce issues that affected the industry during the past six months. We forecast that the electric power sector will add 19 gigawatts (GW) of solar capacity in 2022 and an additional 23 GW in 2023. We forecast small-scale solar PV capacity, including systems installed on rooftops, will increase by 6 GW in 2022 and by 7 GW in 2023. More than two-thirds of this additional small-scale solar PV capacity over the next two years will be installed on residential rooftops.

In February, U.S. tariffs on imported crystalline silicon solar products from China were extended, setting an annual tariff-rate quota for solar cells imported from China to 5 GW, with exemption of bifacial panels. In March, the U.S. Department of Commerce (DOC) announced an anti-dumping circumvention investigation of solar cells and modules imported from Cambodia, Malaysia, Thailand, and Vietnam—countries that allegedly use parts made in China that otherwise would be subject to tariffs. DOC is expected to make a decision by the first quarter of 2023. In June, by Executive Order, the President invoked the Defense Production Act to ease import duties for a 24-month period for solar cells and modules imported from Cambodia, Malaysia, Thailand, and Vietnam. Our preliminary data from January to April 2022 indicate that an average of 3.9 GW of PV solar installations reported delays compared with 2.1 GW delayed during the same period last year.

We expect continued growth in solar energy through 2023, in part, because of the solar investment tax credit under the Consolidated Appropriations Act, which offers a 26% tax credit to projects that start in 2022. The credit drops to 22% for projects that start in 2023. States such as Texas and Florida are set to add significant solar PV in the next two years.

We forecast that U.S. electricity generation from wind will increase by 16% in 2022 from 2021 and by 4% in 2023 from 2022. Wind capacity in the electric power sector will grow by 11 GW in 2022 and by an additional 4 GW in 2023, down from the 14 GW added yearly in 2021 and 2020.

We can attribute slower growth in wind capacity, in part, to the phasedown of the production tax credit (PTC) as well as supply chain issues. The PTC, which was extended through the 2022 calendar year, provides a 2.6 cent per kWh benefit for facilities entering service or spending at least 5% of total estimated project cost (securing 5% safe harboring). Producers of safe harbored projects are able to claim the PTC four years after they qualify.

Hydropower contributed 7% of U.S. electric power generation in 2021. In the forecast, the share of hydropower generation will remain around 7% in both 2022 and 2023. Since 2021, the drought affecting the West has constrained electricity generation by hydropower, and California

is one of the most affected states. We published a supplement to the STEO in May 2022, looking at hydropower generation in California across a range of water conditions. In a severe drought case, we expect hydropower generation in California would drop to half of normal levels in 2022.

Economic factors, such as fuel costs and changes in the mix of generating capacity, are likely to affect trends in electricity generation from nonrenewable sources. The price of natural gas, in particular, has traditionally been an important driver of the relative use of natural gas and coal for power generation. Natural gas prices have significantly increased from last year, and we expect they will remain high through the end of 2022.

In the past, high natural gas prices have typically led to more generation from coal-fired power plants. However, the industry continues to retire coal-fired generation capacity. According to the latest information from the Form EIA-860 survey, the United States will have 10%, or nearly 22 GW, less operating coal capacity at the end of 2023 than at the end of 2021. In addition to these capacity retirements, coal-fired power plants have not received sufficient fuel deliveries because of limited rail capacity and reduced coal mine capacity. In some regions of the country, such as the Midcontinent Independent System Operator (MISO) and Southwest Power Pool (SPP) power markets, increased growth in renewables contributes to the forecast decline in coal-fired electricity generation. We expect that coal's share of U.S. total generation will fall from 23% in 2021 to 21% this year and 20% in 2023.

The constraints on coal-fired electricity generation are resulting in more natural gas-fired generation than we would have expected, despite the high fuel costs. We expect natural gas's share of total U.S. generation to average about 37% in 2022, similar to the generation share in 2021, and 36% 2023. Despite higher prices for natural gas, we expect that some regions, particularly in the mid-Atlantic and Southeast, will increase natural gas-fired electricity generation this year. The recent coal-fired power plant retirements and the constraints on coal deliveries are affecting these regions the most.

In May 2022, the Palisades nuclear power plant in Michigan shut down as planned. This retirement of 769 megawatts (MW) of capacity contributes to our expected slight reduction in U.S. nuclear generation in 2022. Two new reactors at the Vogtle plant in Georgia are scheduled to come online in 2023, adding 2.2 GW of nuclear power to the system. We expect the nuclear share of total generation to be 19% in 2022 and 2023, about the same share as last year.

Electricity prices. The large increase in natural gas fuel costs over the past year is also driving up wholesale electricity prices throughout the United States. Increases in wholesale prices during the first half of 2022 ranged from 13% higher than first half 2021 in the Southwest region to 135% higher in the New York ISO region. Average year-to-date prices are lower in the Central/SPP and Texas/ERCOT regions because of extreme price spikes that occurred in February 2021. We expect wholesale electricity prices to remain elevated through the remainder of 2022. Our forecast for a decline in natural gas prices next year contributes to our forecast that

electricity prices will fall in all regions in 2023, ranging from 18% lower in the Mid-Atlantic region's PJM market to 40% lower in the ERCOT market in Texas.

The higher prices of wholesale electricity and generation fuels contributes to our forecast for higher prices for electricity sold to ultimate customers. We forecast the U.S. retail electricity price for the residential sector will average 14.4 cents/kWh in 2022, which is 5% higher than the average retail price in 2021. The forecast increases in residential electricity prices vary by region, ranging from 2% higher in the West South Central states to 14% higher in New England. The forecast commercial sector electricity price averages 11.9 cents/kWh in 2022 (up 5%), and the industrial sector price averages 7.6 cents/kWh (up 5%).

U.S. economic assumptions and energy-related carbon dioxide emissions

U.S. economy. We incorporate the S&P Global macroeconomic forecast model for the United States with our own energy price forecasts to create STEO forecasts.

Based on this model, we estimate that U.S. real GDP will grow by 2.4% in 2022 and by 2.5% in 2023. In comparison, real U.S. GDP grew by 5.7% in 2021. Total industrial production will grow at a relatively faster pace, increasing by 6.2% in 2022 and 3.4% in 2023, following a 5.5% increase in 2021. S&P Global estimates that the unemployment rate will fall from 5.4% in 2021 to 3.7% in 2022, but it will increase slightly to 3.9% in 2023. Nonfarm payroll employment will increase by 5.7 million jobs (3.9%) in 2022 and by 1.9 million (1.3%) in 2023. Price levels are elevated in 2022, when the Consumer Price Index (CPI) will rise by 7.4%, but forecast inflation falls to 2.8% in 2023.

Energy-related carbon dioxide emissions. Energy-related carbon dioxide (CO_2) emissions rose by 6.5% in the United States during 2021, and we estimate that they will rise by 1.5% in 2022 and remain flat in 2023. Forecast petroleum-related CO_2 emissions increase by 2.4% in 2022 and by 1.1% in 2023 as transportation demand begins to return to pre-pandemic levels, but this growth is limited by high fuel prices. We expect CO_2 emissions from coal will fall by 3.9% in 2022 and by a further 3.2% in 2023 as coal-fired electricity generation is displaced, primarily by renewable sources. We expect CO_2 emissions from natural gas to rise by 3.6% in 2022, as demand for space heating increases, and to fall by 0.7% in 2023.

Notable forecast changes

- We forecast Russia's liquid fuels production will average 10.7 million b/d in 2H22, up from a forecast of 10.0 million b/d in last month's STEO. The increase reflects our expectation that Russia's production will remain in 3Q22 before EU sanctions take effect at the end of 2022. However, we forecast a larger drop in Russia's production next year, with 2023 production averaging 9.3 million b/d, down by 0.2 million b/d from last month's forecast.

- We expect U.S. LNG exports will decline because of the outage at the Freeport LNG export facility, which we do not expect to return to full service until late 2022. U.S. LNG exports are forecast to average 10.5 Bcf/d in 2H22, 14% lower than in our June STEO.
- We forecast the Henry Hub spot price will average $5.97/MMBtu in 2H22. This price is down from our forecast of $8.58/MMBtu in the June STEO because of an additional 2 Bcf/d of natural gas that will be available in the domestic market as a result of the Freeport LNG facility being offline through the end of the year.
- You can find more information in the detailed table of forecast changes.

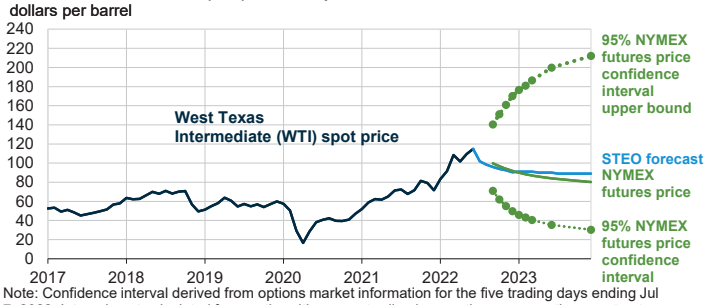
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Short-Term Energy Outlook
Chart Gallery

July 12, 2022

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

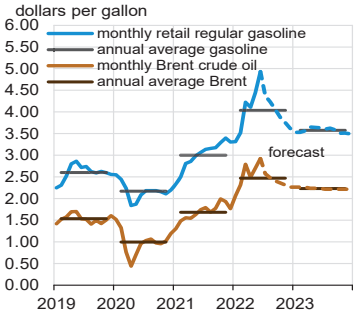


Note: Confidence interval derived from options market information for the five trading days ending Jul 7, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

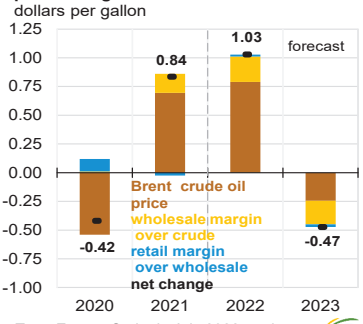
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon

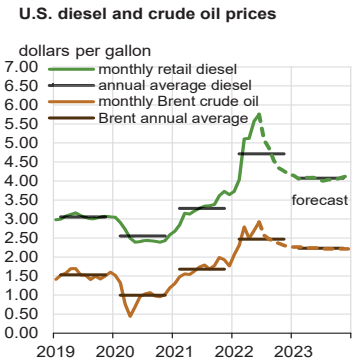


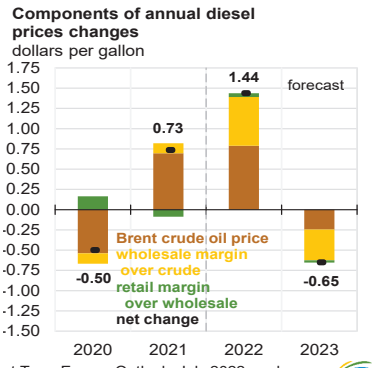
Components of annual gasoline price changes
dollars per gallon



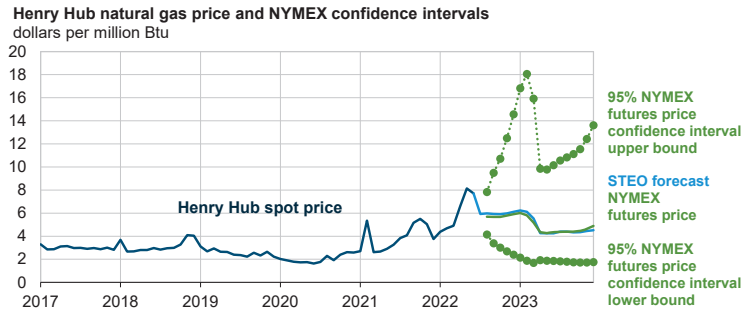
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022, and Refinitiv an LSEG Business

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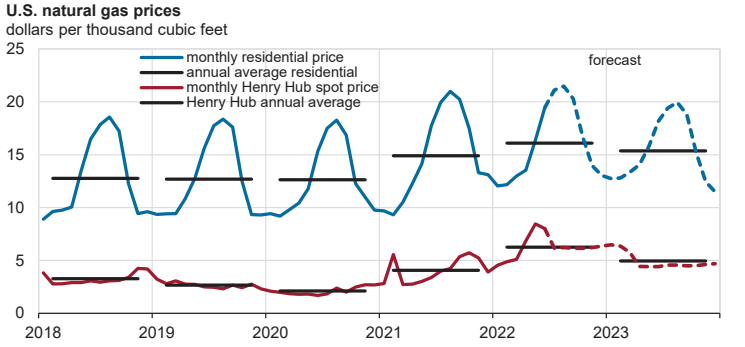


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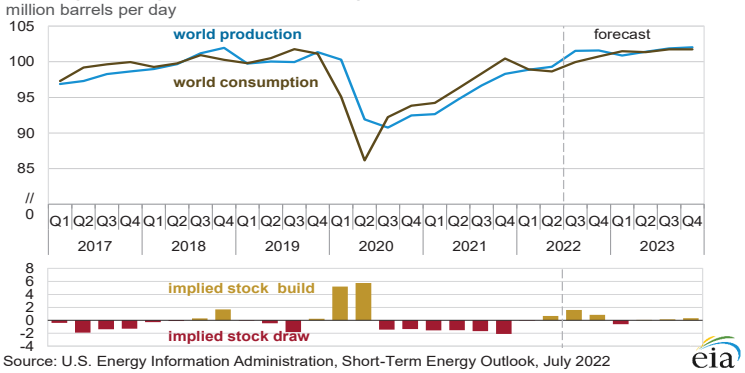
Note: Confidence interval derived from options market information for the five trading days ending Jul 7, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022, CME Group, and Refinitiv an LSEG Business



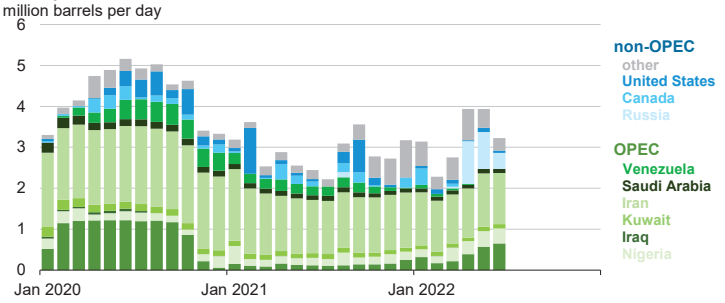
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022, and Refinitiv an LSEG Business

World liquid fuels production and consumption balance
million barrels per day



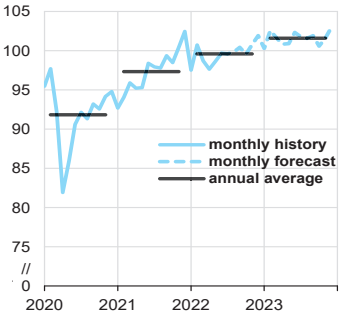
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day

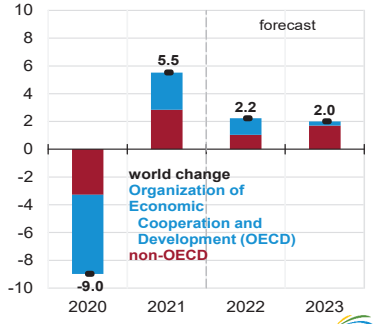


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

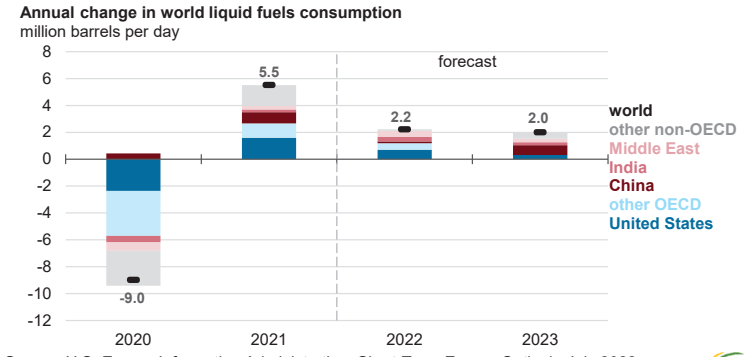
World liquid fuels consumption
million barrels per day



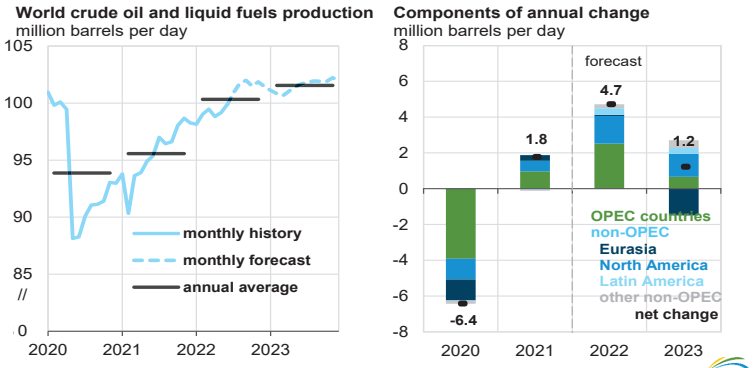
Components of annual change
million barrels per day



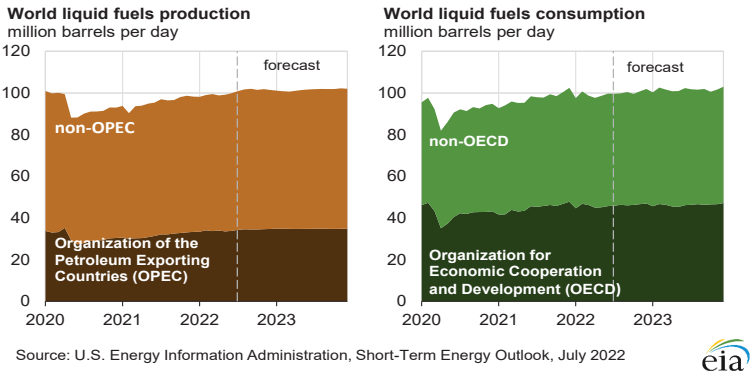
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

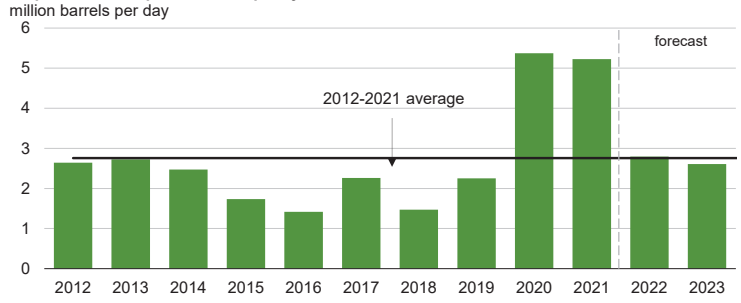


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



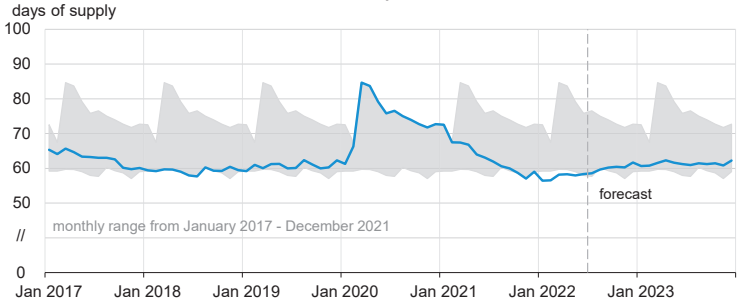
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



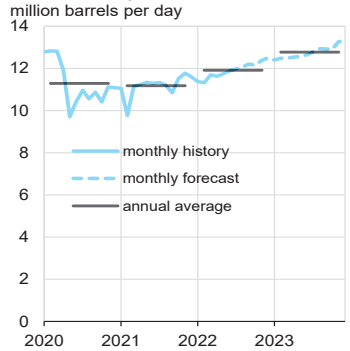
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

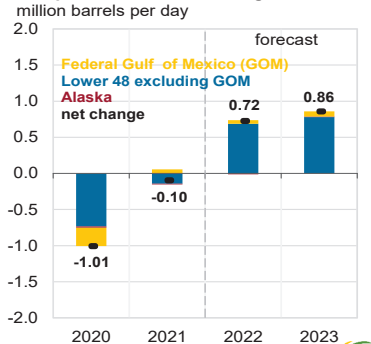


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. crude oil production
million barrels per day

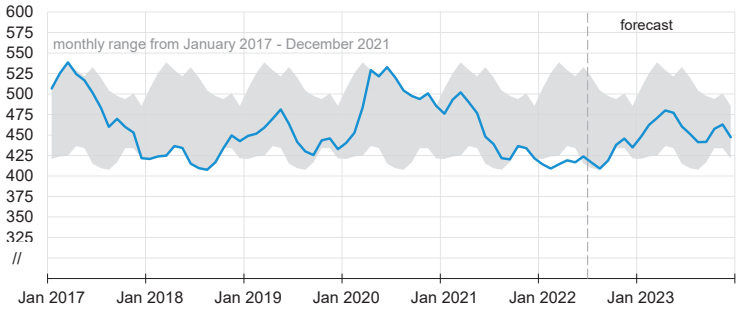


Components of annual change
million barrels per day



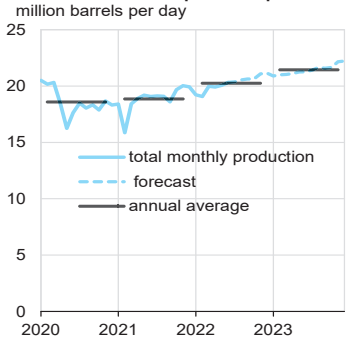
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. commercial crude oil inventories
million barrels

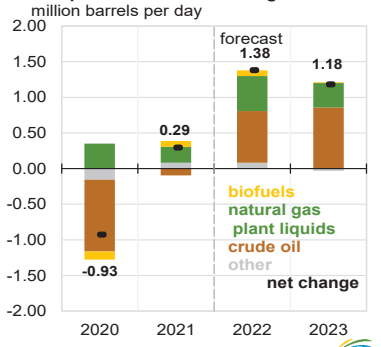


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. crude oil and liquid fuels production
million barrels per day

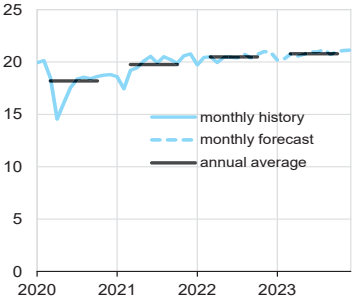


Components of annual change
million barrels per day

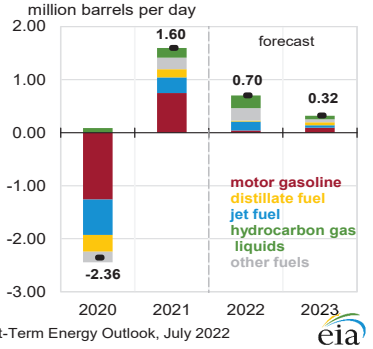


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. liquid fuels product supplied (consumption)
million barrels per day

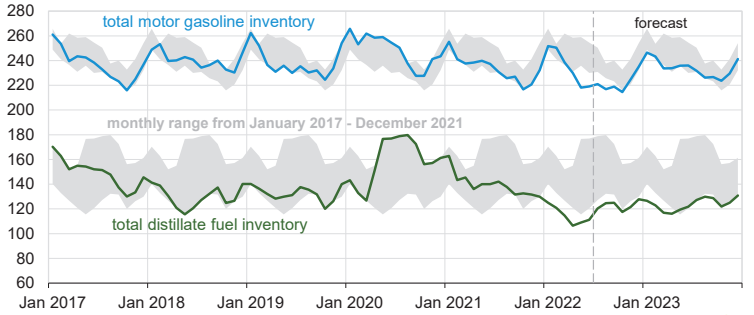


Components of annual change
million barrels per day



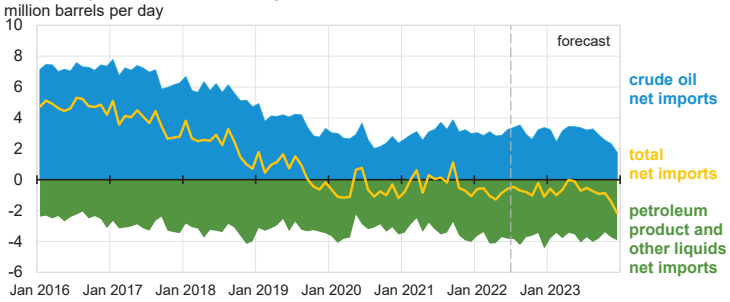
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. gasoline and distillate inventories
million barrels



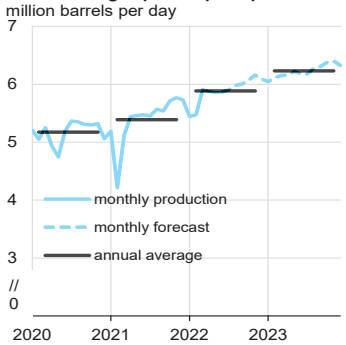
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

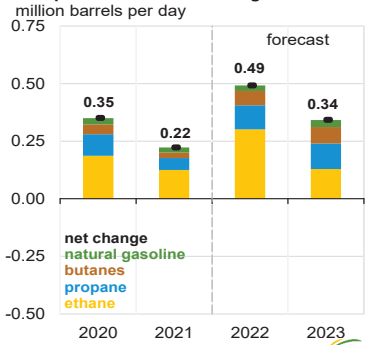


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

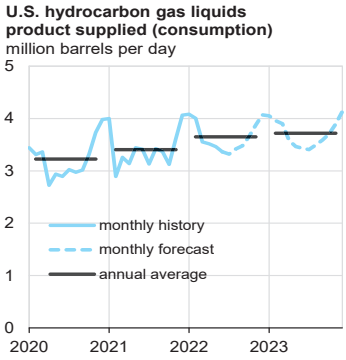
U.S. natural gas plant liquids production
million barrels per day

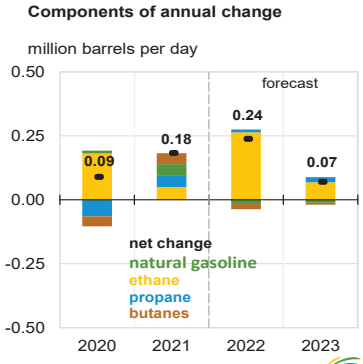


Components of annual change
million barrels per day

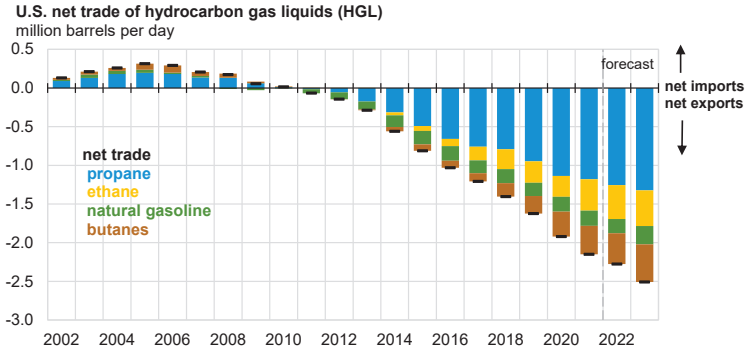


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

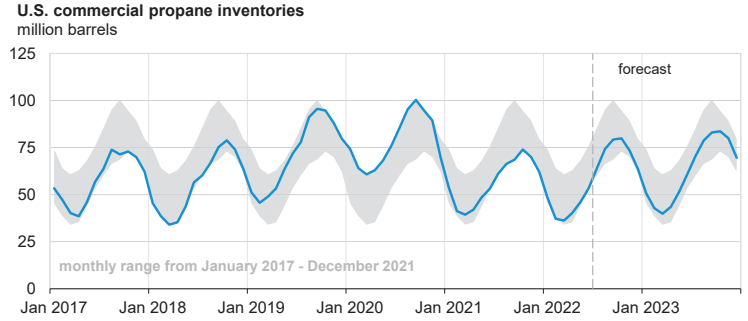




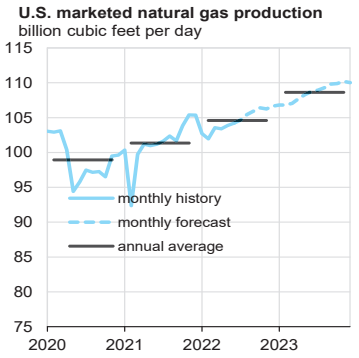
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

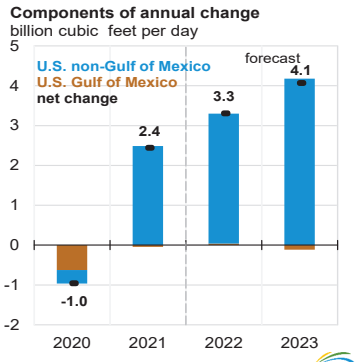


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

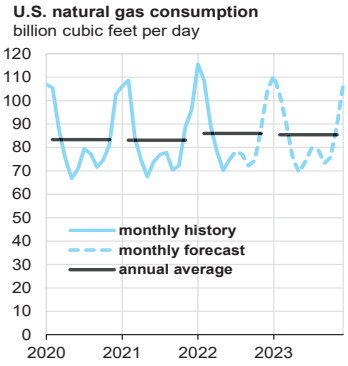


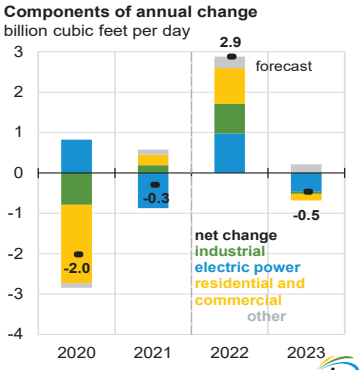
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



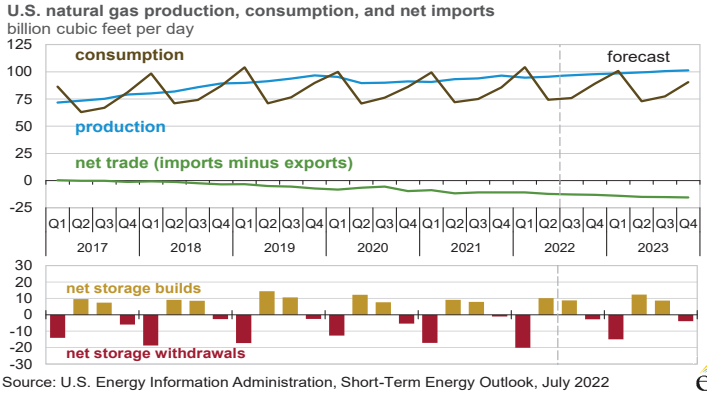


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



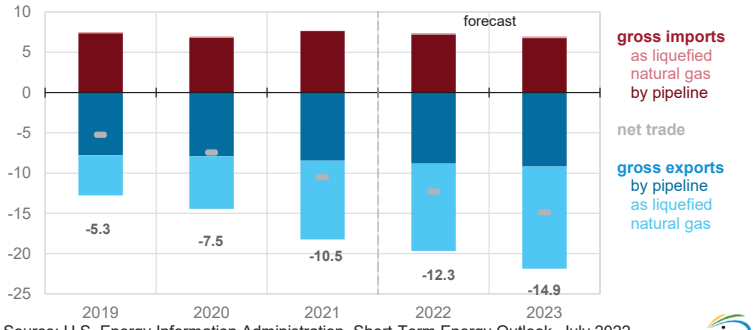


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



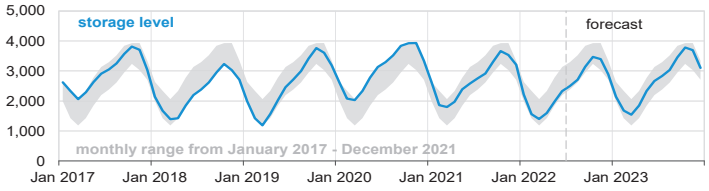
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. annual natural gas trade
billion cubic feet per day

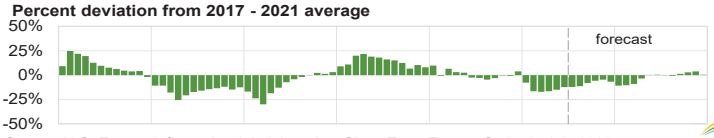


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. working natural gas in storage
billion cubic feet

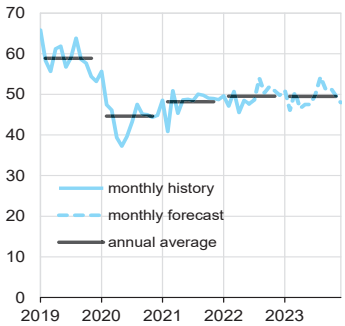


Percent deviation from 2017 - 2021 average

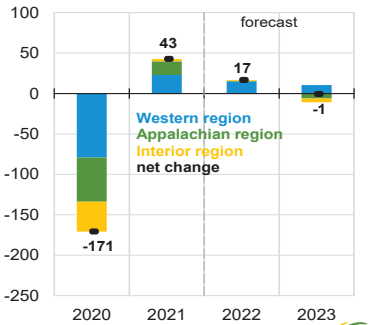


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

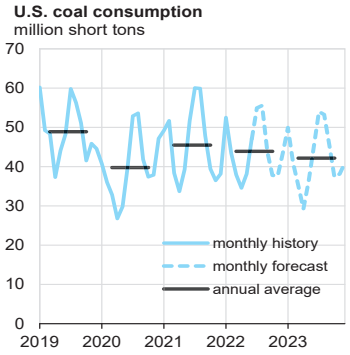
U.S. coal production
million short tons

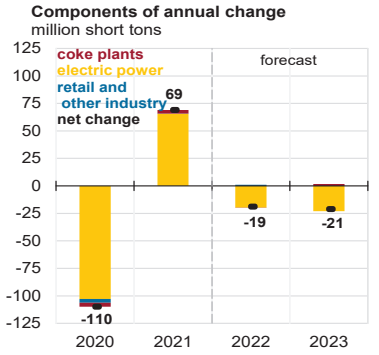


Components of annual change
million short tons

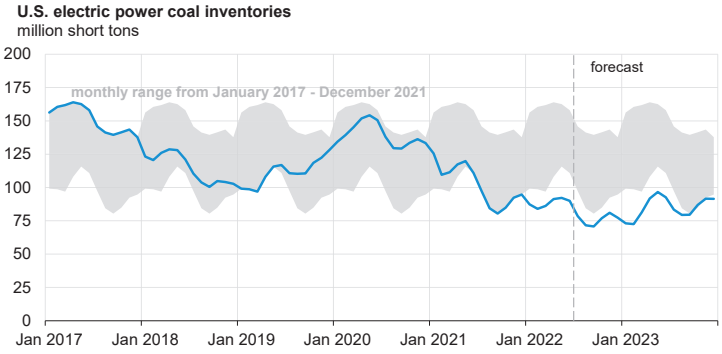


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

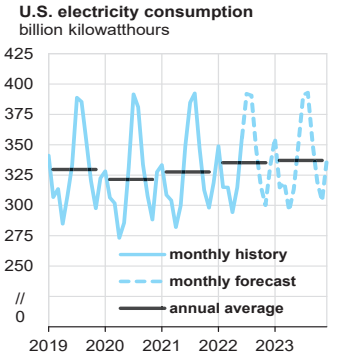


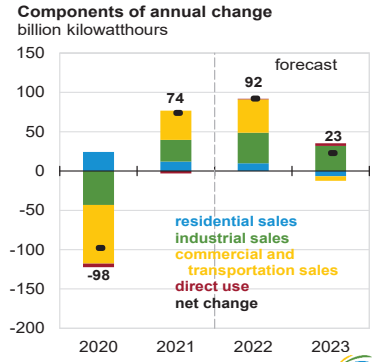


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

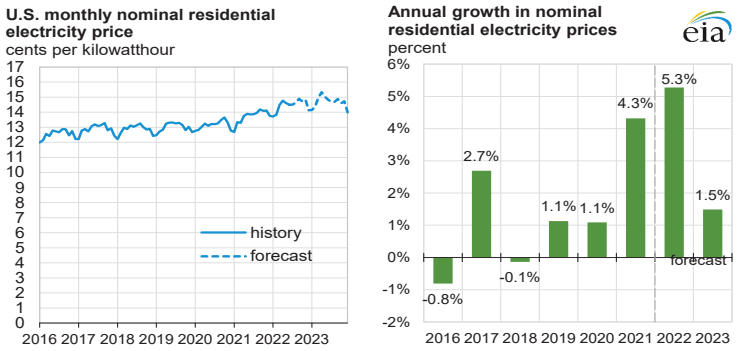


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

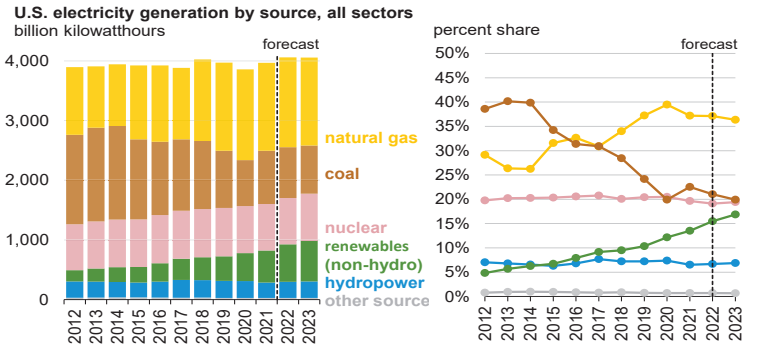




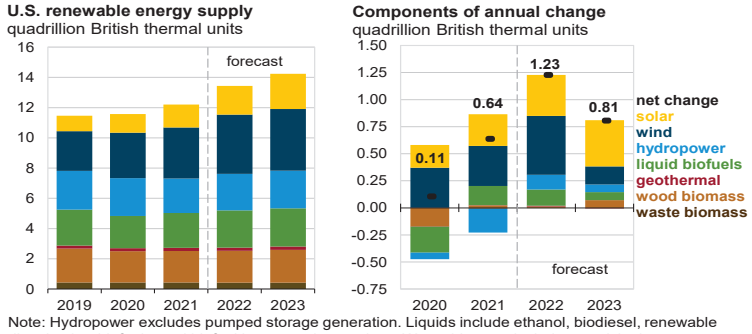
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



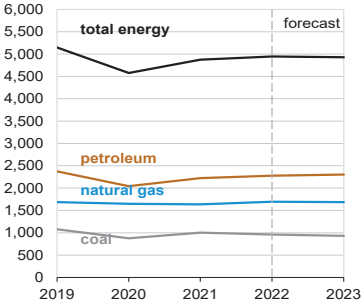
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022



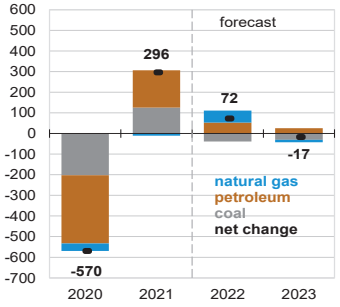
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. annual CO2 emissions by source
million metric tons

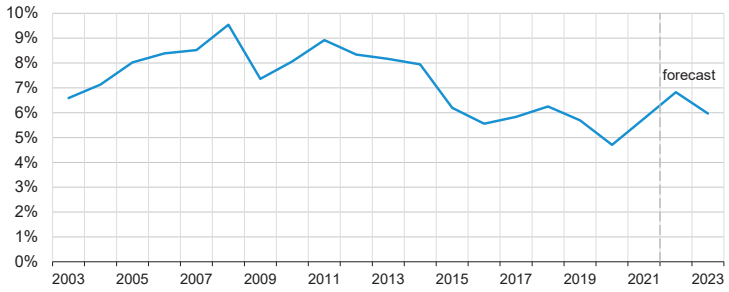


Components of annual change
million metric tons



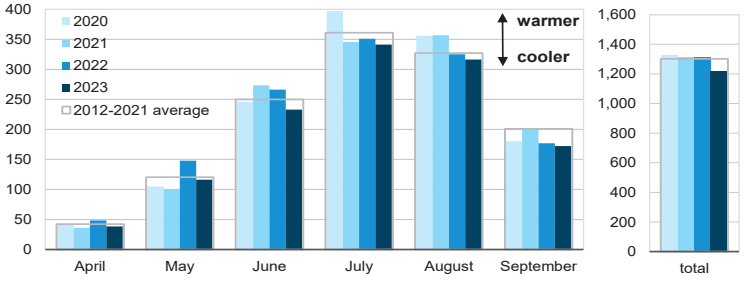
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

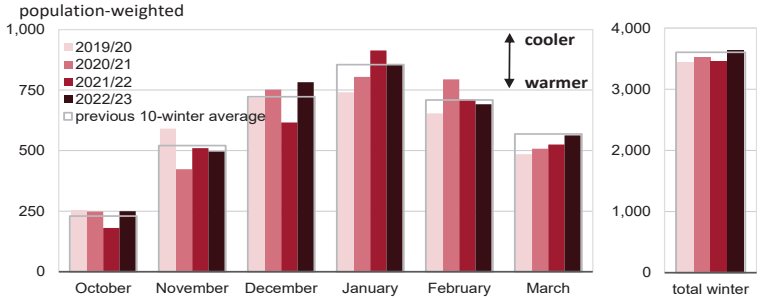
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

U.S. winter heating degree days
population-weighted

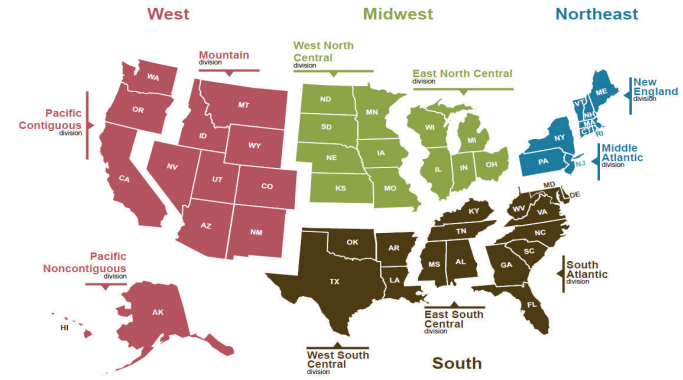


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, July 2022

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

eia

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.13**	**11.63**	**11.46**	**11.75**	*12.08*	*12.34*	*12.45*	*12.58*	*12.87*	*13.17*	**11.19**	*11.91*	*12.77*
Dry Natural Gas Production (f)															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.53**	**94.61**	**95.51**	*96.88*	*97.89*	*98.40*	*99.62*	*100.60*	*101.25*	**93.55**	*96.23*	*99.98*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**147**	**142**	*153*	*153*	*148*	*142*	*155*	*149*	**578**	*595*	*594*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.30**	*20.53*	*20.88*	*20.41*	*20.75*	*20.95*	*21.09*	**19.78**	*20.48*	*20.80*
Natural Gas															
(billion cubic feet per day)	**99.44**	**72.00**	**75.08**	**85.62**	**104.30**	**74.35**	*75.94*	*89.10*	*100.87*	*72.95*	*77.43*	*90.49*	**82.98**	*85.85*	*85.38*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	**120**	*154*	*119*	*126*	*111*	*153*	*116*	**546**	*527*	*506*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.87**	**10.61**	*12.28*	*10.31*	*10.99*	*10.56*	*12.33*	*10.44*	**10.77**	*11.02*	*11.08*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.16**	**2.95**	**3.14**	**3.35**	**3.55**	*3.23*	*3.31*	*3.52*	*3.81*	*3.42*	*3.48*	**12.21**	*13.44*	*14.24*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.05**	**23.17**	**24.54**	**24.57**	**26.50**	**23.57**	*24.70*	*25.29*	*26.17*	*23.89*	*25.22*	*25.68*	**97.33**	*100.05*	*100.97*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	*98.77*	*92.30*	*91.00*	*90.00*	*89.00*	*89.00*	**68.21**	*98.79*	*89.75*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	*5.94*	*6.00*	*5.97*	*4.25*	*4.38*	*4.44*	**3.91**	*6.02*	*4.76*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.13**	*2.04*	*2.03*	*1.98*	*2.00*	*2.00*	*1.97*	**1.98**	*2.10*	*1.99*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,731**	**19,818**	*19,930*	*20,093*	*20,190*	*20,313*	*20,448*	*20,586*	**19,427**	*19,893*	*20,384*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	**3.5**	**2.3**	*2.3*	*1.4*	*2.3*	*2.5*	*2.6*	*2.5*	**5.7**	*2.4*	*2.5*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**125.6**	*127.2*	*128.2*	*129.0*	*129.8*	*130.6*	*131.5*	**118.5**	*126.2*	*130.2*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**6.8**	**6.9**	*6.6*	*5.6*	*4.3*	*3.3*	*2.7*	*2.6*	**4.2**	*6.5*	*3.2*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,198**	**15,118**	*15,162*	*15,257*	*15,387*	*15,633*	*15,870*	*16,096*	**16,032**	*15,184*	*15,746*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**0.1**	**-11.7**	**-4.4**	*-3.1*	*-1.3*	*1.2*	*3.4*	*4.7*	*5.5*	**2.3**	*-5.3*	*3.7*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**99.7**	**101.0**	**102.2**	**104.2**	*105.2*	*106.7*	*107.3*	*108.3*	*109.5*	*110.2*	**99.2**	*104.6*	*108.8*
Percent change from prior year	**-0.2**	**17.2**	**5.8**	**4.5**	**5.0**	**5.5**	*5.5*	*5.7*	*5.0*	*4.0*	*4.1*	*3.2*	**6.5**	*5.4*	*4.1*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,307**	**2,150**	**493**	*75*	*1,529*	*2,112*	*494*	*80*	*1,528*	**3,936**	*4,247*	*4,213*
U.S. Cooling Degree-Days	**50**	**410**	**902**	**127**	**46**	**463**	*853*	*95*	*43*	*387*	*830*	*95*	**1,489**	*1,456*	*1,355*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

(f) We published the Natural Gas Monthly on Friday July 8, which was after we completed this forecast, and as a result, this forecast does not include final Natural Gas Monthly data for April 2022.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	*98.77*	*92.30*	*91.00*	*90.00*	*89.00*	*89.00*	**68.21**	*98.79*	*89.75*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	**113.84**	*104.27*	*96.97*	*95.00*	*94.00*	*93.00*	*93.00*	**70.89**	*104.05*	*93.75*
U.S. Imported Average	**55.33**	**64.81**	**68.41**	**73.67**	**89.44**	**106.68**	*96.41*	*89.44*	*88.25*	*87.25*	*86.25*	*86.25*	**65.91**	*95.46*	*87.04*
U.S. Refiner Average Acquisition Cost	**57.14**	**66.11**	**70.31**	**76.37**	**92.32**	**108.60**	*97.33*	*90.54*	*89.25*	*88.25*	*87.25*	*87.25*	**67.83**	*97.25*	*87.98*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**278**	**376**	*336*	*288*	*272*	*282*	*278*	*268*	**219**	*320*	*275*
Diesel Fuel	**178**	**204**	**219**	**241**	**301**	**418**	*360*	*321*	*291*	*286*	*285*	*289*	**211**	*350*	*288*
Fuel Oil	**162**	**180**	**197**	**222**	**284**	**419**	*347*	*308*	*281*	*270*	*270*	*278*	**188**	*334*	*277*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**283**	**400**	*337*	*305*	*284*	*278*	*278*	*283*	**195**	*332*	*281*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**252**	**260**	*239*	*218*	*227*	*224*	*223*	*223*	**190**	*243*	*224*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**371**	**450**	*422*	*375*	*354*	*364*	*360*	*351*	**302**	*405*	*357*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	**460**	*434*	*388*	*367*	*378*	*374*	*365*	**311**	*416*	*371*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**432**	**549**	*483*	*426*	*410*	*407*	*402*	*410*	**329**	*473*	*407*
Heating Oil	**272**	**283**	**297**	**346**	**415**	**550**	*487*	*438*	*407*	*382*	*367*	*373*	**300**	*447*	*389*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	*6.18*	*6.23*	*6.20*	*4.42*	*4.55*	*4.61*	**4.06**	*6.25*	*4.94*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	*5.94*	*6.00*	*5.97*	*4.25*	*4.38*	*4.44*	**3.91**	*6.02*	*4.76*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.11**	**6.87**	**6.82**	**7.64**	*7.44*	*7.47*	*7.79*	*5.89*	*5.47*	*5.82*	**5.50**	*7.32*	*6.26*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	**10.86**	*12.17*	*10.94*	*10.77*	*10.80*	*10.49*	*9.33*	**8.82**	*10.62*	*10.32*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	**15.30**	*20.93*	*13.89*	*12.92*	*15.37*	*19.37*	*12.36*	**12.27**	*13.80*	*13.58*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.13**	*2.04*	*2.03*	*1.98*	*2.00*	*2.00*	*1.97*	**1.98**	*2.10*	*1.99*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.42**	*6.05*	*6.30*	*6.47*	*4.40*	*4.50*	*4.74*	**4.97**	*6.35*	*4.98*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**23.87**	*21.51*	*18.84*	*17.86*	*18.00*	*17.13*	*16.90*	**13.66**	*19.70*	*17.47*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	*27.89*	*24.68*	*22.60*	*21.87*	*21.72*	*22.06*	**15.50**	*24.89*	*22.14*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**7.74**	*7.81*	*7.42*	*7.47*	*7.43*	*7.65*	*7.24*	**7.26**	*7.60*	*7.45*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**11.81**	*12.11*	*11.84*	*12.01*	*11.95*	*12.09*	*11.62*	**11.27**	*11.86*	*11.92*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**14.61**	*14.66*	*14.53*	*14.46*	*15.05*	*14.75*	*14.41*	**13.72**	*14.45*	*14.66*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.08**	**30.74**	**31.06**	**32.19**	**31.66**	**32.23**	*32.79*	*33.45*	*33.68*	*33.85*	*34.10*	*34.73*	**31.02**	*32.54*	*34.09*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.87**	**19.44**	**20.10**	*20.52*	*20.95*	*20.97*	*21.20*	*21.55*	*22.00*	**18.88**	*20.26*	*21.44*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.75**	*5.73*	*5.84*	*5.91*	*5.87*	*5.89*	*5.90*	**5.54**	*5.75*	*5.89*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	*1.89*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
Other OECD	**4.92**	**4.37**	**4.73**	**4.71**	**4.65**	**4.49**	*4.65*	*4.80*	*4.89*	*4.91*	*4.83*	*5.02*	**4.68**	*4.65*	*4.91*
Non-OECD	**62.58**	**63.99**	**65.62**	**66.13**	**67.21**	**67.07**	*68.74*	*68.14*	*67.19*	*67.55*	*67.80*	*67.32*	**64.59**	*67.79*	*67.46*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.82**	*34.49*	*34.64*	*34.88*	*34.80*	*34.85*	*34.85*	**31.66**	*34.18*	*34.84*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.38**	*29.01*	*29.12*	*29.32*	*29.36*	*29.37*	*29.33*	**26.28**	*28.68*	*29.35*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.47**	*13.94*	*13.49*	*12.61*	*12.27*	*12.21*	*12.21*	**13.75**	*13.82*	*12.32*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.18**	*5.14*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
Other Non-OECD	**13.82**	**14.42**	**14.70**	**13.82**	**13.90**	**14.61**	*15.18*	*14.82*	*14.47*	*15.23*	*15.50*	*14.97*	**14.19**	*14.63*	*15.05*
Total World Production	**92.66**	**94.73**	**96.68**	**98.31**	**98.87**	**99.30**	*101.53*	*101.59*	*100.87*	*101.40*	*101.89*	*102.04*	**95.62**	*100.33*	*101.55*
Non-OPEC Production	**62.32**	**63.85**	**64.40**	**65.21**	**65.13**	**65.48**	*67.04*	*66.95*	*65.99*	*66.60*	*67.04*	*67.19*	**63.95**	*66.16*	*66.71*
Consumption (million barrels per day) (c)															
OECD	**42.45**	**44.08**	**45.82**	**46.81**	**45.89**	**45.29**	*46.12*	*46.66*	*46.23*	*45.69*	*46.46*	*46.79*	**44.81**	*45.99*	*46.29*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.30**	*20.53*	*20.88*	*20.41*	*20.75*	*20.95*	*21.09*	**19.78**	*20.48*	*20.80*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	**0.20**	*0.20*	*0.22*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.33**	**2.38**	*2.50*	*2.48*	*2.46*	*2.40*	*2.51*	*2.48*	**2.35**	*2.43*	*2.46*
Europe	**11.91**	**12.62**	**13.83**	**13.89**	**13.08**	**13.33**	*13.65*	*13.35*	*13.20*	*13.21*	*13.61*	*13.38*	**13.07**	*13.36*	*13.35*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.73**	**3.09**	*3.19*	*3.52*	*3.78*	*3.12*	*3.15*	*3.45*	**3.42**	*3.38*	*3.37*
Other OECD	**5.89**	**5.92**	**5.90**	**6.23**	**6.30**	**5.99**	*6.03*	*6.20*	*6.17*	*6.00*	*6.03*	*6.17*	**5.99**	*6.13*	*6.09*
Non-OECD	**51.78**	**52.20**	**52.53**	**53.64**	**53.04**	**53.37**	*53.83*	*54.10*	*55.24*	*55.66*	*55.30*	*54.95*	**52.54**	*53.59*	*55.29*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.48**	**4.33**	*4.69*	*4.62*	*4.30*	*4.46*	*4.77*	*4.69*	**4.86**	*4.53*	*4.55*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.75**	**0.75**	*0.76*	*0.77*	*0.75*	*0.77*	*0.77*	*0.78*	**0.75**	*0.76*	*0.77*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.25**	**15.24**	*15.33*	*15.78*	*16.54*	*16.43*	*15.80*	*15.72*	**15.27**	*15.40*	*16.12*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.81**	**13.89**	*13.48*	*13.90*	*14.51*	*14.48*	*13.90*	*14.19*	**13.23**	*13.77*	*14.27*
Other Non-OECD	**17.68**	**18.27**	**18.87**	**18.91**	**18.75**	**19.15**	*19.57*	*19.03*	*19.15*	*19.53*	*20.06*	*19.57*	**18.44**	*19.13*	*19.58*
Total World Consumption	**94.23**	**96.29**	**98.35**	**100.45**	**98.93**	**98.65**	*99.95*	*100.75*	*101.47*	*101.35*	*101.76*	*101.74*	**97.35**	*99.58*	*101.58*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	**0.75**	**0.51**	*0.44*	*0.56*	*-0.05*	*-0.39*	*-0.09*	*0.40*	**0.53**	*0.57*	*-0.03*
Other OECD	**0.87**	**0.15**	**0.97**	**0.67**	**-0.23**	**-0.37**	*-0.65*	*-0.45*	*0.21*	*0.11*	*-0.01*	*-0.23*	**0.66**	*-0.43*	*0.02*
Other Stock Draws and Balance	**0.24**	**0.90**	**0.33**	**0.69**	**-0.47**	**-0.78**	*-1.37*	*-0.95*	*0.44*	*0.24*	*-0.03*	*-0.48*	**0.54**	*-0.90*	*0.04*
Total Stock Draw	**1.57**	**1.56**	**1.67**	**2.13**	**0.06**	**-0.64**	*-1.59*	*-0.84*	*0.60*	*-0.05*	*-0.13*	*-0.31*	**1.73**	*-0.76*	*0.03*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	**1,154**	**1,182**	*1,231*	*1,217*	*1,225*	*1,269*	*1,280*	*1,253*	**1,194**	*1,217*	*1,253*
OECD Commercial Inventory	**2,908**	**2,864**	**2,745**	**2,636**	**2,616**	**2,678**	*2,787*	*2,815*	*2,804*	*2,838*	*2,850*	*2,845*	**2,636**	*2,815*	*2,845*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.33**	**27.48**	**27.01**	**27.74**	*28.14*	*28.65*	*28.79*	*28.94*	*29.27*	*29.70*	**26.34**	*27.89*	*29.18*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.75**	*5.73*	*5.84*	*5.91*	*5.87*	*5.89*	*5.90*	**5.54**	*5.75*	*5.89*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	*1.89*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
United States	**17.62**	**19.05**	**18.94**	**19.87**	**19.44**	**20.10**	*20.52*	*20.95*	*20.97*	*21.20*	*21.55*	*22.00*	**18.88**	*20.26*	*21.44*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.83**	**6.44**	*6.99*	*6.62*	*6.28*	*7.05*	*7.37*	*6.86*	**6.10**	*6.47*	*6.89*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.77**	**0.77**	*0.77*	*0.79*	*0.81*	*0.81*	*0.81*	*0.83*	**0.70**	*0.77*	*0.82*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.33**	**3.86**	*4.36*	*3.89*	*3.50*	*4.26*	*4.58*	*4.04*	**3.69**	*3.86*	*4.10*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	**0.76**	*0.74*	*0.73*	*0.69*	*0.68*	*0.66*	*0.65*	**0.76**	*0.75*	*0.67*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	**0.46**	*0.46*	*0.53*	*0.55*	*0.57*	*0.59*	*0.61*	**0.48**	*0.48*	*0.58*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.49**	**0.59**	*0.66*	*0.68*	*0.73*	*0.73*	*0.73*	*0.73*	**0.47**	*0.61*	*0.73*
Europe	**4.34**	**3.84**	**4.12**	**4.12**	**4.08**	**3.93**	*4.09*	*4.25*	*4.34*	*4.36*	*4.28*	*4.48*	**4.10**	*4.09*	*4.37*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.97**	**1.84**	*2.10*	*2.18*	*2.29*	*2.30*	*2.30*	*2.40*	**2.03**	*2.02*	*2.32*
United Kingdom	**1.08**	**0.81**	**0.93**	**0.93**	**0.96**	**0.97**	*0.87*	*0.94*	*0.93*	*0.92*	*0.84*	*0.94*	**0.94**	*0.93*	*0.91*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.47**	*13.94*	*13.49*	*12.61*	*12.27*	*12.21*	*12.21*	**13.75**	*13.82*	*12.32*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	**0.69**	*0.68*	*0.67*	*0.66*	*0.65*	*0.64*	*0.65*	**0.72**	*0.68*	*0.65*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	**1.79**	*1.94*	*2.00*	*2.02*	*1.94*	*1.95*	*2.01*	**1.87**	*1.93*	*1.98*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	**10.59**	*10.92*	*10.43*	*9.51*	*9.27*	*9.20*	*9.14*	**10.78**	*10.81*	*9.28*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.26**	*0.26*	*0.26*	*0.27*	*0.27*	*0.27*	*0.27*	**0.25**	*0.26*	*0.27*
Other Eurasia	**0.13**	**0.14**	**0.14**	**0.13**	**0.14**	**0.14**	*0.14*	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	**0.13**	*0.14*	*0.14*
Middle East	**3.10**	**3.13**	**3.17**	**3.18**	**3.25**	**3.26**	*3.23*	*3.22*	*3.23*	*3.22*	*3.22*	*3.22*	**3.15**	*3.24*	*3.22*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.05**	**1.07**	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*	**0.98**	*1.04*	*1.03*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.85**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.95**	**9.17**	**9.24**	*9.23*	*9.27*	*9.31*	*9.33*	*9.28*	*9.30*	**9.07**	*9.23*	*9.30*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.45**	**0.45**	*0.45*	*0.45*	*0.44*	*0.43*	*0.43*	*0.42*	**0.46**	*0.45*	*0.43*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.18**	*5.14*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.88**	**0.92**	*0.90*	*0.90*	*0.90*	*0.91*	*0.89*	*0.88*	**0.89**	*0.90*	*0.90*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.84**	**0.85**	*0.85*	*0.85*	*0.84*	*0.84*	*0.83*	*0.82*	**0.86**	*0.85*	*0.83*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.61**	**0.59**	*0.63*	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	**0.61**	*0.62*	*0.64*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.21**	**0.21**	*0.20*	*0.19*	*0.19*	*0.18*	*0.18*	*0.18*	**0.21**	*0.20*	*0.18*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.40**	**1.40**	*1.44*	*1.44*	*1.43*	*1.43*	*1.42*	*1.41*	**1.44**	*1.42*	*1.42*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.66**	**0.66**	*0.66*	*0.67*	*0.65*	*0.65*	*0.65*	*0.65*	**0.66**	*0.66*	*0.65*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	**0.15**	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.17*	*0.19*
Total non-OPEC liquids	**62.32**	**63.85**	**64.40**	**65.21**	**65.13**	**65.48**	*67.04*	*66.95*	*65.99*	*66.60*	*67.04*	*67.19*	**63.95**	*66.16*	*66.71*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Non-OPEC + OPEC non-crude	**67.59**	**69.24**	**69.84**	**70.65**	**70.68**	**70.91**	*72.52*	*72.47*	*71.55*	*72.04*	*72.52*	*72.71*	**69.34**	*71.65*	*72.21*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	**1.35**	-	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.95**	**0.97**	**1.00**	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	**1.19**	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	**0.29**	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	**0.09**	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	**0.19**	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	**2.55**	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	**4.42**	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	**2.69**	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	**0.76**	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	**1.11**	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	**10.30**	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	**3.04**	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	**0.76**	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.38**	*29.01*	*29.12*	*29.32*	*29.36*	*29.37*	*29.33*	**26.28**	*28.68*	*29.35*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.82**	*34.49*	*34.64*	*34.88*	*34.80*	*34.85*	*34.85*	**31.66**	*34.18*	*34.84*
Crude Oil Production Capacity															
Middle East	**25.21**	**25.50**	**25.50**	**25.48**	**25.48**	**25.48**	*25.62*	*25.72*	*25.92*	*26.02*	*26.07*	*26.07*	**25.42**	*25.58*	*26.02*
Other	**6.12**	**6.11**	**6.01**	**6.09**	**6.00**	**5.75**	*5.89*	*5.96*	*5.97*	*5.96*	*5.92*	*5.88*	**6.08**	*5.90*	*5.93*
OPEC Total	**31.33**	**31.60**	**31.50**	**31.57**	**31.48**	**31.23**	*31.51*	*31.68*	*31.89*	*31.98*	*31.99*	*31.95*	**31.50**	*31.48*	*31.95*
Surplus Crude Oil Production Capacity															
Middle East	**5.66**	**5.52**	**4.21**	**3.53**	**3.00**	**2.48**	*2.27*	*2.47*	*2.50*	*2.57*	*2.60*	*2.60*	**4.72**	*2.55*	*2.57*
Other	**0.59**	**0.60**	**0.45**	**0.38**	**0.29**	**0.37**	*0.22*	*0.09*	*0.07*	*0.05*	*0.02*	*0.02*	**0.50**	*0.24*	*0.04*
OPEC Total	**6.25**	**6.11**	**4.66**	**3.91**	**3.29**	**2.85**	*2.50*	*2.56*	*2.57*	*2.62*	*2.62*	*2.62*	**5.22**	*2.80*	*2.61*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	**2.37**	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.34**	**23.92**	**24.31**	**24.54**	**24.31**	**24.34**	*24.68*	*25.02*	*24.50*	*24.80*	*25.11*	*25.23*	**23.78**	*24.59*	*24.91*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.33**	**2.38**	*2.50*	*2.48*	*2.46*	*2.40*	*2.51*	*2.48*	**2.35**	*2.43*	*2.46*
Mexico	**1.62**	**1.64**	**1.60**	**1.71**	**1.75**	**1.65**	*1.64*	*1.65*	*1.62*	*1.64*	*1.64*	*1.65*	**1.64**	*1.67*	*1.64*
United States	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.30**	*20.53*	*20.88*	*20.41*	*20.75*	*20.95*	*21.09*	**19.78**	*20.48*	*20.80*
Central and South America	**5.88**	**6.02**	**6.24**	**6.36**	**6.17**	**6.23**	*6.34*	*6.35*	*6.20*	*6.33*	*6.44*	*6.38*	**6.13**	*6.27*	*6.34*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.94**	**2.95**	*3.03*	*3.03*	*2.95*	*3.00*	*3.08*	*3.06*	**2.96**	*2.99*	*3.02*
Europe	**12.65**	**13.36**	**14.57**	**14.65**	**13.84**	**14.08**	*14.41*	*14.12*	*13.95*	*13.98*	*14.39*	*14.16*	**13.82**	*14.11*	*14.12*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.48**	**4.33**	*4.69*	*4.62*	*4.30*	*4.46*	*4.77*	*4.69*	**4.86**	*4.53*	*4.55*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.30**	**3.20**	*3.48*	*3.39*	*3.16*	*3.25*	*3.53*	*3.39*	**3.61**	*3.34*	*3.34*
Middle East	**8.08**	**8.50**	**9.03**	**8.77**	**8.79**	**9.10**	*9.51*	*8.76*	*9.02*	*9.24*	*9.77*	*9.16*	**8.60**	*9.04*	*9.30*
Asia and Oceania	**36.27**	**35.38**	**34.82**	**36.71**	**36.86**	**36.09**	*35.92*	*37.30*	*38.92*	*37.93*	*36.77*	*37.44*	**35.80**	*36.54*	*37.76*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.25**	**15.24**	*15.33*	*15.78*	*16.54*	*16.43*	*15.80*	*15.72*	**15.27**	*15.40*	*16.12*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.73**	**3.09**	*3.19*	*3.52*	*3.78*	*3.12*	*3.15*	*3.45*	**3.42**	*3.38*	*3.37*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	**5.13**	*4.75*	*5.05*	*5.27*	*5.34*	*4.99*	*5.31*	**4.65**	*5.00*	*5.23*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	**4.48**	**4.48**	*4.40*	*4.59*	*4.59*	*4.60*	*4.52*	*4.68*	**4.37**	*4.49*	*4.60*
Total OECD Liquid Fuels Consumption	**42.45**	**44.08**	**45.82**	**46.81**	**45.89**	**45.29**	*46.12*	*46.66*	*46.23*	*45.69*	*46.46*	*46.79*	**44.81**	*45.99*	*46.29*
Total non-OECD Liquid Fuels Consumption	**51.78**	**52.20**	**52.53**	**53.64**	**53.04**	**53.37**	*53.83*	*54.10*	*55.24*	*55.66*	*55.30*	*54.95*	**52.54**	*53.59*	*55.29*
Total World Liquid Fuels Consumption	**94.23**	**96.29**	**98.35**	**100.45**	**98.93**	**98.65**	*99.95*	*100.75*	*101.47*	*101.35*	*101.76*	*101.74*	**97.35**	*99.58*	*101.58*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.3**	**117.5**	**119.0**	**120.7**	**121.2**	**121.1**	*122.5*	*123.7*	*124.6*	*125.6*	*126.7*	*127.9*	**118.4**	*122.1*	*126.2*
Percent change from prior year	**3.4**	**11.6**	**5.0**	**4.6**	**4.2**	**3.0**	*3.0*	*2.5*	*2.8*	*3.7*	*3.4*	*3.4*	**6.0**	*3.2*	*3.3*
OECD Index, 2015 = 100													**109.6**	*112.7*	*115.0*
Percent change from prior year													**5.5**	*2.8*	*2.0*
Non-OECD Index, 2015 = 100													**123.8**	*128.1*	*133.6*
Percent change from prior year													**6.4**	*3.5*	*4.3*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	**112.2**	*114.0*	*113.6*	*112.9*	*112.2*	*111.6*	*111.0*	**107.3**	*112.3*	*111.9*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	**5.8**	*6.0*	*4.2*	*3.0*	*0.0*	*-2.0*	*-2.3*	**-3.9**	*4.7*	*-0.4*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.63**	**11.46**	**11.75**	*12.08*	*12.34*	*12.45*	*12.58*	*12.87*	*13.17*	**11.19**	*11.91*	*12.77*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	**0.42**	*0.41*	*0.42*	*0.44*	*0.43*	*0.42*	*0.45*	**0.44**	*0.43*	*0.43*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.73**	**1.67**	**1.75**	*1.76*	*1.82*	*1.89*	*1.86*	*1.78*	*1.76*	**1.70**	*1.75*	*1.82*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.46**	**9.34**	**9.58**	*9.91*	*10.10*	*10.12*	*10.29*	*10.68*	*10.96*	**9.05**	*9.74*	*10.52*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	**3.00**	**2.97**	*3.28*	*3.06*	*2.95*	*3.41*	*3.12*	*2.20*	**3.13**	*3.08*	*2.92*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	**0.81**	*0.98*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.63*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	**0.08**	**-0.10**	*0.05*	*-0.17*	*-0.40*	*0.11*	*0.21*	*-0.06*	**0.18**	*-0.04*	*-0.03*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.54**	**0.71**	**0.60**	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.53**	*0.42*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	**15.56**	**16.03**	*16.62*	*15.80*	*15.27*	*16.40*	*16.46*	*15.59*	**15.15**	*16.00*	*15.93*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.95**	**1.06**	*1.07*	*1.05*	*1.02*	*1.00*	*1.00*	*0.99*	**0.95**	*1.03*	*1.01*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	**5.61**	**5.87**	*5.96*	*6.10*	*6.10*	*6.19*	*6.25*	*6.37*	**5.40**	*5.89*	*6.23*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	**1.19**	**1.19**	*1.19*	*1.23*	*1.19*	*1.21*	*1.20*	*1.26*	**1.12**	*1.20*	*1.22*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	**1.01**	*1.01*	*1.02*	*0.99*	*1.00*	*0.99*	*1.02*	**0.98**	*1.02*	*1.00*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	**0.22**	**0.22**	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.21*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	**-3.74**	**-3.88**	*-3.94*	*-3.85*	*-3.68*	*-3.68*	*-3.85*	*-3.69*	**-3.29**	*-3.85*	*-3.73*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	**-2.14**	**-2.26**	*-2.31*	*-2.40*	*-2.40*	*-2.49*	*-2.56*	*-2.58*	**-2.15**	*-2.28*	*-2.51*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	**0.09**	**0.32**	*0.35*	*0.21*	*0.18*	*0.25*	*0.38*	*0.21*	**0.17**	*0.24*	*0.25*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	**-0.09**	**-0.09**	*-0.05*	*-0.03*	*-0.03*	*-0.03*	*-0.03*	*-0.02*	**-0.05**	*-0.06*	*-0.03*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	**0.40**	**0.60**	*0.50*	*0.21*	*0.38*	*0.63*	*0.38*	*0.43*	**0.60**	*0.43*	*0.45*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	**-0.76**	**-0.82**	*-0.86*	*-0.63*	*-0.70*	*-0.68*	*-0.70*	*-0.71*	**-0.71**	*-0.77*	*-0.70*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	**-0.04**	**-0.08**	*-0.01*	*0.01*	*-0.06*	*0.04*	*0.05*	*0.07*	**0.05**	*-0.03*	*0.03*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	**-0.81**	**-1.23**	*-1.13*	*-0.91*	*-0.66*	*-1.03*	*-0.98*	*-0.84*	**-0.80**	*-1.02*	*-0.88*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	**0.14**	**0.12**	*0.07*	*0.14*	*0.04*	*0.07*	*0.04*	*0.14*	**0.09**	*0.12*	*0.07*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	**-0.43**	*-0.50*	*-0.45*	*-0.43*	*-0.44*	*-0.42*	*-0.39*	**-0.49**	*-0.48*	*-0.42*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	**0.37**	**-0.20**	*-0.59*	*0.33*	*0.31*	*-0.59*	*-0.33*	*0.35*	**0.23**	*-0.03*	*-0.07*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	**20.16**	**20.30**	*20.53*	*20.88*	*20.41*	*20.75*	*20.95*	*21.09*	**19.78**	*20.47*	*20.80*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	**3.87**	**3.45**	*3.40*	*3.87*	*3.97*	*3.49*	*3.50*	*3.91*	**3.41**	*3.65*	*3.72*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	**0.13**	**0.17**	*0.18*	*0.23*	*0.22*	*0.21*	*0.20*	*0.26*	**0.13**	*0.18*	*0.22*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	**0.13**	**0.06**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.05*	*0.00*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	**8.47**	**8.90**	*9.03*	*8.94*	*8.55*	*9.09*	*9.14*	*8.94*	**8.80**	*8.84*	*8.93*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	**0.87**	**0.93**	*0.92*	*0.93*	*0.87*	*0.94*	*0.93*	*0.94*	**0.91**	*0.91*	*0.92*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	**1.45**	**1.58**	*1.57*	*1.55*	*1.46*	*1.61*	*1.65*	*1.62*	**1.37**	*1.54*	*1.58*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	**4.14**	**3.83**	*3.85*	*4.03*	*4.10*	*3.97*	*3.95*	*4.05*	**3.94**	*3.96*	*4.02*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	**0.38**	**0.35**	*0.34*	*0.34*	*0.30*	*0.31*	*0.32*	*0.34*	**0.31**	*0.35*	*0.32*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	**1.65**	**1.97**	*2.16*	*1.92*	*1.81*	*2.07*	*2.20*	*1.97*	**1.82**	*1.92*	*2.01*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.30**	*20.53*	*20.88*	*20.41*	*20.75*	*20.95*	*21.09*	**19.78**	*20.48*	*20.80*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	**-0.74**	**-0.91**	*-0.66*	*-0.79*	*-0.73*	*-0.28*	*-0.73*	*-1.48*	**-0.16**	*-0.77*	*-0.81*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	**414.4**	**423.8**	*418.9*	*434.8*	*470.6*	*460.7*	*441.4*	*447.2*	**421.4**	*434.8*	*447.2*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	**142.0**	**187.2**	*233.6*	*189.9*	*154.2*	*204.8*	*245.6*	*203.3*	**188.4**	*189.9*	*203.3*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	**87.9**	**88.0**	*89.2*	*82.8*	*92.3*	*89.3*	*89.2*	*82.4*	**80.3**	*82.8*	*82.4*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	**34.1**	**30.4**	*30.1*	*30.4*	*32.4*	*31.2*	*30.9*	*31.2*	**28.6**	*30.4*	*31.2*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	**238.5**	**219.1**	*219.0*	*235.1*	*233.6*	*235.9*	*226.7*	*241.2*	**232.2**	*235.1*	*241.2*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	**17.3**	**17.6**	*21.1*	*24.8*	*21.8*	*23.1*	*24.1*	*26.8*	**17.7**	*24.8*	*26.8*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	**221.2**	**201.5**	*197.9*	*210.3*	*211.9*	*212.8*	*202.6*	*214.4*	**214.5**	*210.3*	*214.4*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	**35.6**	**39.9**	*42.5*	*39.3*	*38.8*	*39.6*	*42.2*	*39.0*	**35.8**	*39.3*	*39.0*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	**114.6**	**111.1**	*124.9*	*127.8*	*116.9*	*121.8*	*128.7*	*130.8*	**129.9**	*127.8*	*130.8*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	**27.9**	**28.4**	*28.2*	*30.2*	*30.1*	*30.9*	*29.5*	*31.0*	**25.4**	*30.2*	*31.0*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	**58.5**	**53.5**	*44.8*	*46.7*	*56.3*	*54.5*	*45.5*	*47.1*	**51.8**	*46.7*	*47.1*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	**1153.6**	**1181.5**	*1231.1*	*1217.0*	*1225.2*	*1268.8*	*1279.7*	*1253.2*	**1193.8**	*1217.0*	*1253.2*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	**492.0**	*402.0*	*364.2*	*360.4*	*352.6*	*350.0*	*339.5*	**593.7**	*364.2*	*339.5*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.32**	**2.33**	**2.45**	*2.45*	*2.55*	*2.53*	*2.59*	*2.56*	*2.61*	**2.14**	*2.44*	*2.57*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	**1.77**	**1.83**	*1.85*	*1.90*	*1.92*	*1.92*	*1.95*	*2.01*	**1.73**	*1.84*	*1.95*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	**0.93**	**0.96**	*1.01*	*1.02*	*1.03*	*1.03*	*1.06*	*1.08*	**0.92**	*0.98*	*1.05*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	**0.59**	**0.63**	*0.66*	*0.64*	*0.62*	*0.66*	*0.69*	*0.67*	**0.61**	*0.63*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.27**	**0.30**	*0.30*	*0.29*	*0.29*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	**0.28**	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	**0.26**	*0.19*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.47**	**-0.50**	**-0.42**	*-0.40*	*-0.44*	*-0.46*	*-0.46*	*-0.46*	*-0.46*	**-0.40**	*-0.44*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.20**	**-1.18**	**-1.27**	*-1.23*	*-1.34*	*-1.26*	*-1.30*	*-1.34*	*-1.40*	**-1.18**	*-1.25*	*-1.32*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.34**	**-0.28**	**-0.41**	*-0.47*	*-0.43*	*-0.45*	*-0.50*	*-0.52*	*-0.49*	**-0.37**	*-0.40*	*-0.49*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.17**	**-0.17**	*-0.20*	*-0.19*	*-0.23*	*-0.23*	*-0.24*	*-0.24*	**-0.20**	*-0.18*	*-0.24*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.52**	**0.44**	**0.31**	*0.32*	*0.50*	*0.42*	*0.29*	*0.32*	*0.50*	**0.38**	*0.39*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.20**	**0.18**	*0.19*	*0.18*	*0.17*	*0.18*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.90**	**1.98**	**2.01**	*2.04*	*2.10*	*2.07*	*2.09*	*2.11*	*2.14*	**1.77**	*2.03*	*2.10*
Propane	**1.09**	**0.65**	**0.66**	**0.96**	**1.16**	**0.65**	*0.62*	*1.01*	*1.19*	*0.66*	*0.65*	*1.03*	**0.84**	*0.86*	*0.88*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	**0.30**	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.29*	**0.31**	*0.30*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	**0.23**	**0.24**	*0.21*	*0.21*	*0.19*	*0.23*	*0.22*	*0.22*	**0.24**	*0.22*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.21**	**0.25**	*0.24*	*0.25*	*0.23*	*0.21*	*0.23*	*0.24*	**0.25**	*0.24*	*0.23*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**64.0**	**51.1**	**51.7**	*52.1*	*55.4*	*55.0*	*59.2*	*58.8*	*61.1*	**65.4**	*52.6*	*58.5*
Propane	**39.3**	**53.2**	**68.6**	**62.1**	**36.3**	**53.3**	*79.3*	*63.6*	*39.9*	*60.7*	*83.0*	*69.6*	**62.1**	*63.6*	*69.6*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.0**	**1.3**	*1.7*	*1.7*	*1.5*	*1.8*	*2.0*	*1.9*	**1.4**	*1.7*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**44.4**	**35.7**	**59.7**	*77.5*	*48.4*	*38.5*	*62.9*	*80.8*	*51.7*	**44.4**	*48.4*	*51.7*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**20.7**	**19.4**	**21.1**	*21.8*	*21.0*	*18.5*	*19.7*	*20.5*	*19.7*	**20.7**	*21.0*	*19.7*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	**15.56**	**16.03**	*16.62*	*15.80*	*15.27*	*16.40*	*16.46*	*15.59*	**15.15**	*16.00*	*15.93*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.75**	**0.64**	**0.49**	*0.51*	*0.69*	*0.60*	*0.47*	*0.51*	*0.69*	**0.54**	*0.58*	*0.57*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.18**	**1.12**	**1.19**	*1.17*	*1.16*	*1.10*	*1.18*	*1.18*	*1.16*	**1.15**	*1.16*	*1.16*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.20**	**-0.12**	**0.26**	*0.33*	*0.28*	*0.08*	*0.28*	*0.38*	*0.28*	**0.16**	*0.19*	*0.26*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.28**	**0.33**	**0.86**	*0.64*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.91**	**17.53**	**18.84**	*19.27*	*18.22*	*17.53*	*19.05*	*19.11*	*18.24*	**17.69**	*18.47*	*18.48*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.95**	**1.06**	*1.07*	*1.05*	*1.02*	*1.00*	*1.00*	*0.99*	**0.95**	*1.03*	*1.01*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	**0.85**	*0.78*	*0.39*	*0.49*	*0.84*	*0.77*	*0.37*	**0.62**	*0.63*	*0.62*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.69**	**9.22**	**9.75**	*9.99*	*9.79*	*9.30*	*9.85*	*9.91*	*9.85*	**9.52**	*9.69*	*9.73*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.48**	**1.71**	*1.61*	*1.50*	*1.51*	*1.58*	*1.63*	*1.52*	**1.31**	*1.58*	*1.56*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.87**	**4.77**	**5.02**	*5.13*	*4.97*	*4.64*	*5.05*	*5.01*	*4.91*	**4.66**	*4.97*	*4.90*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.22**	**0.26**	**0.23**	*0.26*	*0.22*	*0.26*	*0.25*	*0.27*	*0.22*	**0.21**	*0.24*	*0.25*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.33**	**2.26**	**2.35**	*2.56*	*2.40*	*2.35*	*2.49*	*2.52*	*2.37*	**2.32**	*2.39*	*2.43*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.94**	**18.49**	**19.90**	*20.33*	*19.27*	*18.55*	*20.05*	*20.11*	*19.23*	**18.64**	*19.50*	*19.49*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.02**	**16.07**	**16.53**	*16.89*	*16.12*	*15.60*	*16.61*	*16.75*	*15.93*	**15.67**	*16.40*	*16.23*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.05**	**17.94**	**17.94**	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	**18.10**	*17.94*	*17.94*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.90**	**0.92**	*0.94*	*0.90*	*0.87*	*0.93*	*0.93*	*0.89*	**0.87**	*0.91*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**278**	**376**	*336*	*288*	*272*	*282*	*278*	*268*	**219**	*320*	*275*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	**438**	*409*	*361*	*344*	*357*	*353*	*347*	**294**	*393*	*350*
PADD 2	**247**	**288**	**304**	**315**	**352**	**436**	*407*	*358*	*339*	*351*	*348*	*337*	**290**	*388*	*343*
PADD 3	**228**	**267**	**282**	**298**	**340**	**415**	*384*	*334*	*316*	*326*	*323*	*314*	**271**	*369*	*320*
PADD 4	**247**	**311**	**360**	**351**	**360**	**445**	*448*	*388*	*353*	*368*	*367*	*352*	**319**	*410*	*360*
PADD 5	**312**	**366**	**391**	**410**	**452**	**543**	*506*	*466*	*437*	*436*	*431*	*417*	**372**	*493*	*430*
U.S. Average	**256**	**297**	**316**	**333**	**371**	**450**	*422*	*375*	*354*	*364*	*360*	*351*	**302**	*405*	*357*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	**460**	*434*	*388*	*367*	*378*	*374*	*365*	**311**	*416*	*371*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.9**	**52.5**	*53.6*	*58.9*	*59.2*	*60.6*	*56.5*	*62.7*	**61.8**	*58.9*	*62.7*
PADD 2	**50.7**	**50.6**	**46.9**	**50.9**	**56.5**	**47.2**	*49.0*	*50.3*	*53.0*	*50.8*	*50.3*	*49.7*	**50.9**	*50.3*	*49.7*
PADD 3	**81.9**	**81.6**	**82.9**	**81.7**	**87.1**	**83.0**	*79.5*	*86.1*	*83.7*	*87.4*	*83.1*	*87.8*	**81.7**	*86.1*	*87.8*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**8.1**	**6.3**	*7.1*	*8.1*	*8.0*	*7.9*	*7.4*	*8.3*	**8.1**	*8.1*	*8.3*
PADD 5	**31.4**	**29.0**	**30.6**	**29.6**	**29.9**	**30.1**	*29.7*	*31.7*	*29.8*	*29.3*	*29.4*	*32.6*	**29.6**	*31.7*	*32.6*
U.S. Total	**237.6**	**237.2**	**227.0**	**232.2**	**238.5**	**219.1**	*219.0*	*235.1*	*233.6*	*235.9*	*226.7*	*241.2*	**232.2**	*235.1*	*241.2*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.7**	**17.3**	**17.6**	*21.1*	*24.8*	*21.8*	*23.1*	*24.1*	*26.8*	**17.7**	*24.8*	*26.8*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**214.5**	**221.2**	**201.5**	*197.9*	*210.3*	*211.9*	*212.8*	*202.6*	*214.4*	**214.5**	*210.3*	*214.4*

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories (e)

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.86**	**102.77**	**103.83**	*105.34*	*106.44*	*106.90*	*108.26*	*109.34*	*110.04*	**101.40**	*104.61*	*108.64*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	**0.83**	*0.75*	*0.87*	*0.93*	*0.82*	*0.76*	*0.89*	**0.97**	*0.88*	*0.85*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.04**	**2.25**	*2.17*	*2.13*	*2.16*	*2.09*	*1.97*	*1.91*	**2.11**	*2.15*	*2.03*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.73**	**99.67**	**100.75**	*102.43*	*103.44*	*103.81*	*105.35*	*106.61*	*107.23*	**98.32**	*101.58*	*105.76*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.53**	**94.61**	**95.51**	*96.88*	*97.89*	*98.40*	*99.62*	*100.60*	*101.25*	**93.55**	*96.23*	*99.98*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	**0.18**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.18*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	**10.94**	*10.14*	*10.85*	*13.00*	*12.61*	*12.27*	*12.89*	**9.76**	*10.85*	*12.69*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.92**	**6.84**	*6.42*	*6.71*	*7.78*	*6.47*	*6.33*	*6.50*	**7.63**	*7.21*	*6.76*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	**8.39**	*9.24*	*9.20*	*9.12*	*9.02*	*9.33*	*9.24*	**8.47**	*8.82*	*9.18*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.19**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	**0.16**	*0.17*	*0.17*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	**-10.17**	*-8.83*	*2.74*	*14.96*	*-12.35*	*-8.62*	*3.84*	**0.24**	*0.90*	*-0.59*
Total Supply	**99.18**	**72.53**	**75.31**	**86.87**	**104.08**	**73.19**	*75.44*	*87.65*	*99.51*	*72.45*	*77.06*	*89.83*	**83.42**	*85.02*	*84.67*
Balancing Item (b)	**0.26**	**-0.53**	**-0.23**	**-1.25**	**0.23**	**1.16**	*0.50*	*1.45*	*1.36*	*0.49*	*0.37*	*0.65*	**-0.44**	*0.83*	*0.72*
Total Primary Supply	**99.44**	**72.00**	**75.08**	**85.62**	**104.30**	**74.35**	*75.94*	*89.10*	*100.87*	*72.95*	*77.43*	*90.49*	**82.98**	*85.85*	*85.38*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.63**	**14.43**	**26.09**	**7.65**	*3.49*	*16.82*	*24.71*	*7.77*	*3.90*	*16.74*	**12.75**	*13.46*	*13.23*
Commercial	**14.87**	**6.25**	**4.68**	**10.08**	**15.62**	**6.09**	*4.44*	*10.43*	*15.11*	*6.36*	*4.83*	*10.52*	**8.94**	*9.12*	*9.18*
Industrial	**23.81**	**21.49**	**21.12**	**23.44**	**25.23**	**22.05**	*21.41*	*24.13*	*23.49*	*21.44*	*22.31*	*25.34*	**22.46**	*23.20*	*23.15*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.65**	**30.75**	*38.66*	*29.27*	*28.65*	*29.40*	*38.20*	*29.20*	**30.88**	*31.85*	*31.38*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.12**	**5.18**	*5.25*	*5.31*	*5.33*	*5.40*	*5.45*	*5.49*	**5.05**	*5.21*	*5.42*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.45**	**2.49**	*2.54*	*3.00*	*3.43*	*2.44*	*2.60*	*3.06*	**2.74**	*2.87*	*2.88*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**72.00**	**75.08**	**85.62**	**104.30**	**74.35**	*75.94*	*89.10*	*100.87*	*72.95*	*77.43*	*90.49*	**82.98**	*85.85*	*85.38*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	**2,327**	*3,139*	*2,887*	*1,541*	*2,664*	*3,457*	*3,103*	**3,210**	*2,887*	*3,103*
East Region (d)	**313**	**515**	**804**	**766**	**242**	**479**	*789*	*673*	*253*	*586*	*873*	*740*	**766**	*673*	*740*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	**558**	*909*	*802*	*343*	*641*	*978*	*820*	**887**	*802*	*820*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	**889**	*974*	*987*	*674*	*1,011*	*1,077*	*1,065*	**1,143**	*987*	*1,065*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	**137**	*182*	*168*	*100*	*144*	*208*	*188*	**171**	*168*	*188*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	**239**	*261*	*233*	*147*	*258*	*297*	*267*	**218**	*233*	*267*
Alaska	**23**	**27**	**30**	**25**	**21**	**24**	*24*	*24*	*24*	*24*	*24*	*24*	**25**	*24*	*24*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

(e) We published the Natural Gas Monthly on Friday July 8, which was after we completed this forecast, and as a result, this forecast does not include final Natural Gas Monthly data for April

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	*6.18*	*6.23*	*6.20*	*4.42*	*4.55*	*4.61*	**4.06**	*6.25*	*4.94*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**17.69**	**20.18**	*22.16*	*17.20*	*16.56*	*17.09*	*19.24*	*15.01*	**16.12**	*18.19*	*16.36*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.79**	**15.08**	*20.70*	*14.29*	*13.17*	*14.88*	*18.64*	*12.35*	**12.55**	*13.96*	*13.57*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.81**	**13.42**	*19.86*	*11.53*	*10.75*	*13.29*	*18.49*	*10.12*	**10.19**	*11.33*	*11.43*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**11.39**	**13.77**	*20.86*	*12.63*	*11.20*	*13.90*	*19.21*	*11.03*	**10.23**	*12.51*	*12.02*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.91**	**18.79**	*26.09*	*15.72*	*14.29*	*19.16*	*24.58*	*14.12*	**15.24**	*15.92*	*15.69*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.78**	**16.26**	*26.14*	*16.60*	*14.52*	*19.52*	*24.82*	*15.69*	**11.99**	*14.00*	*16.45*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**12.64**	**17.78**	*24.65*	*14.58*	*11.73*	*17.23*	*22.03*	*13.13*	**13.22**	*14.82*	*13.84*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.33**	**12.44**	*17.19*	*11.64*	*11.05*	*12.60*	*15.61*	*10.14*	**9.77**	*11.41*	*11.36*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.06**	**16.76**	*18.35*	*17.05*	*17.17*	*17.37*	*17.47*	*16.13*	**15.25**	*17.15*	*16.92*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	**15.30**	*20.93*	*13.89*	*12.92*	*15.37*	*19.37*	*12.36*	**12.27**	*13.80*	*13.58*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.63**	**13.77**	*13.92*	*13.29*	*13.52*	*13.14*	*12.05*	*11.50*	**11.33**	*13.15*	*12.71*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.33**	**10.49**	*10.44*	*10.77*	*11.03*	*10.31*	*9.21*	*9.32*	**8.56**	*10.50*	*10.18*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.14**	**10.09**	*12.43*	*9.84*	*9.80*	*10.39*	*10.67*	*8.30*	**7.60**	*9.23*	*9.47*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.24**	**10.80**	*12.61*	*10.26*	*10.10*	*10.05*	*10.58*	*8.55*	**7.91**	*10.50*	*9.65*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.52**	**12.03**	*13.26*	*11.90*	*11.62*	*11.95*	*11.63*	*10.43*	**9.76**	*11.50*	*11.31*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.54**	**11.92**	*13.48*	*12.04*	*11.47*	*12.01*	*11.82*	*10.39*	**9.89**	*11.51*	*11.25*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.99**	**11.27**	*12.14*	*10.65*	*9.91*	*10.16*	*9.84*	*8.89*	**8.62**	*10.70*	*9.68*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.83**	**9.83**	*11.25*	*10.04*	*9.85*	*10.03*	*10.38*	*8.93*	**7.75**	*9.58*	*9.64*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.74**	**12.16**	*13.07*	*12.46*	*12.10*	*11.37*	*10.99*	*10.20*	**11.09**	*12.59*	*11.19*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	**10.86**	*12.17*	*10.94*	*10.77*	*10.80*	*10.49*	*9.33*	**8.82**	*10.62*	*10.32*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**11.09**	**11.25**	*10.72*	*11.15*	*11.48*	*10.36*	*8.68*	*9.51*	**8.73**	*11.07*	*10.25*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.16**	**8.74**	*10.49*	*10.77*	*11.08*	*9.98*	*8.92*	*8.98*	**8.24**	*10.12*	*10.13*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.72**	**8.69**	*9.33*	*8.78*	*9.08*	*7.99*	*7.23*	*7.14*	**6.90**	*8.39*	*8.11*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**8.03**	**7.80**	*8.04*	*8.06*	*8.30*	*6.62*	*5.93*	*6.31*	**5.48**	*7.99*	*6.85*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.57**	**8.43**	*8.44*	*8.10*	*8.46*	*6.71*	*6.24*	*6.52*	**5.90**	*8.09*	*7.05*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.87**	**8.37**	*7.98*	*7.70*	*8.08*	*6.38*	*5.76*	*6.11*	**5.39**	*7.68*	*6.65*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**5.46**	**7.50**	*6.65*	*6.39*	*6.44*	*4.79*	*4.70*	*4.75*	**4.80**	*6.54*	*5.15*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.07**	**7.87**	*8.61*	*8.45*	*8.59*	*7.99*	*7.69*	*7.25*	**5.99**	*7.92*	*7.91*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.81**	**8.61**	*9.99*	*9.88*	*9.85*	*8.90*	*8.10*	*7.94*	**8.54**	*9.34*	*8.75*
U.S. Average	**5.73**	**4.09**	**5.11**	**6.87**	**6.82**	**7.64**	*7.44*	*7.47*	*7.79*	*5.89*	*5.47*	*5.82*	**5.50**	*7.32*	*6.26*

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**146.7**	**147.4**	**141.6**	*152.9*	*152.6*	*147.7*	*141.5*	*155.5*	*149.3*	**578.1**	*594.6*	*594.0*
Appalachia	**40.8**	**39.5**	**36.6**	**38.9**	**42.9**	**38.7**	*36.5*	*38.4*	*40.2*	*38.3*	*37.1*	*34.9*	**155.8**	*156.6*	*150.4*
Interior	**25.0**	**23.3**	**22.7**	**22.5**	**24.5**	**21.9**	*23.6*	*24.3*	*22.9*	*21.1*	*23.0*	*22.6*	**93.5**	*94.4*	*89.6*
Western	**74.5**	**80.0**	**89.0**	**85.3**	**80.0**	**81.0**	*92.7*	*89.9*	*84.7*	*82.2*	*95.4*	*91.8*	**328.8**	*343.7*	*354.0*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	**-1.1**	**-2.2**	*-1.0*	*-5.4*	*-2.3*	*-1.5*	*1.4*	*-1.9*	**-1.7**	*-9.7*	*-4.2*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	**1.9**	*1.5*	*1.3*	*1.1*	*1.2*	*1.6*	*1.4*	**5.4**	*6.0*	*5.3*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**20.2**	**22.2**	*20.2*	*25.2*	*19.4*	*20.8*	*20.5*	*22.3*	**85.2**	*87.8*	*82.9*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**10.5**	**11.1**	*11.6*	*13.0*	*10.8*	*11.8*	*11.4*	*12.2*	**45.3**	*46.1*	*46.1*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.7**	**11.1**	*8.6*	*12.2*	*8.6*	*9.0*	*9.1*	*10.1*	**39.9**	*41.6*	*36.8*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**124.9**	**127.4**	**119.1**	*133.2*	*123.4*	*127.2*	*120.5*	*137.9*	*126.5*	**496.6**	*503.2*	*512.2*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-14.0**	**7.6**	**-4.0**	*19.1*	*-6.4*	*-3.2*	*-11.5*	*12.9*	*-11.9*	**39.0**	*16.3*	*-13.8*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	**1.9**	*1.9*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**140.6**	**126.2**	**163.7**	**112.9**	**136.9**	**117.0**	*154.2*	*118.9*	*125.8*	*110.8*	*152.6*	*116.4*	**543.4**	*527.0*	*505.6*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.4**	**4.1**	*4.0*	*4.8*	*4.5*	*4.6*	*4.9*	*5.1*	**17.6**	*17.3*	*19.0*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.6**	**108.8**	*143.4*	*106.9*	*114.1*	*99.9*	*141.1*	*103.8*	**501.4**	*481.7*	*458.8*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.9**	**6.9**	*6.7*	*7.2*	*7.2*	*6.4*	*6.6*	*7.5*	**26.7**	*27.7*	*27.7*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	*0.1*	*0.2*	*0.3*	*0.1*	*0.1*	*0.2*	**0.8**	*0.6*	*0.8*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	**6.8**	*6.6*	*7.0*	*6.9*	*6.2*	*6.5*	*7.3*	**25.8**	*27.1*	*26.9*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.1**	**133.9**	**119.8**	*154.2*	*118.9*	*125.8*	*110.8*	*152.6*	*116.4*	**545.7**	*526.8*	*505.6*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-1.2**	**3.0**	**-2.8**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-2.2**	*0.2*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	**26.4**	**28.6**	*29.6*	*35.0*	*37.3*	*38.8*	*37.4*	*39.3*	**25.3**	*35.0*	*39.3*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**99.1**	**91.6**	**95.6**	*76.5*	*82.9*	*86.0*	*97.5*	*84.7*	*96.6*	**99.1**	*82.9*	*96.6*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**90.0**	*70.8*	*77.4*	*81.4*	*92.6*	*79.6*	*91.4*	**94.7**	*77.4*	*91.4*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**2.6**	**3.6**	**3.5**	*3.5*	*3.3*	*2.8*	*2.9*	*3.1*	*3.1*	**2.6**	*3.3*	*3.1*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	**1.9**	*2.0*	*2.0*	*1.8*	*1.9*	*1.9*	*2.0*	**1.7**	*2.0*	*2.0*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	**6.30**	**6.30**	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	*0.272*	*0.300*	*0.314*	*0.318*	*0.349*	*0.377*	**0.258**	*0.270*	*0.340*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.13**	*2.04*	*2.03*	*1.98*	*2.00*	*2.00*	*1.97*	**1.98**	*2.10*	*1.99*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,033**	**1,020**	*1,167*	*989*	*1,020*	*1,013*	*1,173*	*1,001*	**4,116**	*4,209*	*4,207*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**994**	**984**	*1,127*	*950*	*982*	*975*	*1,132*	*961*	**3,963**	*4,055*	*4,050*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**35**	**33**	*36*	*36*	*35*	*35*	*38*	*37*	**140**	*141*	*144*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*3*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**10**	**12**	*14*	*11*	*12*	*13*	*15*	*12*	**39**	*46*	*51*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,042**	**1,032**	*1,181*	*1,000*	*1,032*	*1,026*	*1,188*	*1,012*	**4,155**	*4,255*	*4,259*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**64**	**67**	*51*	*51*	*43*	*65*	*54*	*52*	**225**	*233*	*214*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**913**	**898**	**1,089**	**894**	**944**	**933**	*1,094*	*914*	*955*	*927*	*1,098*	*925*	**3,795**	*3,886*	*3,905*
Residential Sector	**379**	**329**	**446**	**324**	**379**	**340**	*438*	*330*	*381*	*330*	*434*	*334*	**1,477**	*1,486*	*1,480*
Commercial Sector	**304**	**321**	**377**	**322**	**322**	**336**	*382*	*327*	*323*	*332*	*380*	*326*	**1,325**	*1,367*	*1,361*
Industrial Sector	**229**	**247**	**264**	**247**	**242**	**255**	*273*	*256*	*250*	*263*	*282*	*263*	**987**	*1,026*	*1,058*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**34**	**32**	*35*	*34*	*34*	*34*	*37*	*35*	**136**	*137*	*140*
Total Consumption	**946**	**931**	**1,124**	**929**	**979**	**965**	*1,129*	*949*	*989*	*961*	*1,135*	*960*	**3,930**	*4,022*	*4,045*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,724**	**2,441**	*3,143*	*2,371*	*2,713*	*2,352*	*3,092*	*2,377*	**10,703**	*10,678*	*10,535*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**90.0**	*70.8*	*77.4*	*81.4*	*92.6*	*79.6*	*91.4*	**94.7**	*77.4*	*91.4*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**5.7**	**6.0**	*6.2*	*6.7*	*4.6*	*4.6*	*2.7*	*3.4*	**7.0**	*6.7*	*3.4*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**15.5**	**15.6**	*15.5*	*15.7*	*15.5*	*15.4*	*15.3*	*15.5*	**16.0**	*15.7*	*15.5*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.13**	*2.04*	*2.03*	*1.98*	*2.00*	*2.00*	*1.97*	**1.98**	*2.10*	*1.99*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.42**	*6.05*	*6.30*	*6.47*	*4.40*	*4.50*	*4.74*	**4.97**	*6.35*	*4.98*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**23.87**	*21.51*	*18.84*	*17.86*	*18.00*	*17.13*	*16.90*	**13.66**	*19.70*	*17.47*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	*27.89*	*24.68*	*22.60*	*21.87*	*21.72*	*22.06*	**15.50**	*24.89*	*22.14*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**14.61**	*14.66*	*14.53*	*14.46*	*15.05*	*14.75*	*14.41*	**13.72**	*14.45*	*14.66*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**11.81**	*12.11*	*11.84*	*12.01*	*11.95*	*12.09*	*11.62*	**11.27**	*11.86*	*11.92*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**7.74**	*7.81*	*7.42*	*7.47*	*7.43*	*7.65*	*7.24*	**7.26**	*7.60*	*7.45*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	**83.19**	*70.06*	*41.06*	*33.79*	*35.00*	*47.38*	*25.80*	**189.54**	*59.26*	*35.49*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	**60.34**	*58.36*	*52.94*	*48.71*	*39.19*	*44.94*	*39.05*	**53.53**	*54.21*	*42.97*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	**73.28**	*92.64*	*56.11*	*48.44*	*52.55*	*86.57*	*34.86*	**51.81**	*84.63*	*55.61*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	**79.72**	*87.64*	*65.40*	*48.74*	*55.93*	*75.93*	*28.17*	**46.14**	*83.21*	*52.19*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	**93.00**	*78.40*	*74.05*	*74.85*	*55.78*	*62.28*	*55.83*	**45.67**	*75.94*	*62.18*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	**89.21**	*67.98*	*64.42*	*64.47*	*48.38*	*51.15*	*46.55*	**46.47**	*67.37*	*52.63*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	**72.85**	*57.96*	*46.98*	*46.61*	*35.33*	*37.58*	*32.00*	**93.88**	*53.76*	*37.88*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	**84.96**	*56.50*	*53.58*	*53.60*	*40.05*	*42.32*	*38.80*	**42.39**	*59.37*	*43.69*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	**78.70**	*49.22*	*49.27*	*48.41*	*36.66*	*38.89*	*37.59*	**37.92**	*54.58*	*40.39*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	**59.39**	*59.97*	*54.12*	*49.31*	*37.26*	*44.56*	*40.24*	**59.53**	*53.33*	*42.84*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	**60.50**	*53.57*	*47.57*	*45.04*	*37.26*	*42.22*	*35.10*	**55.44**	*50.17*	*39.90*

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**13.1**	**10.5**	*13.3*	*10.9*	*12.8*	*10.5*	*12.9*	*10.9*	**48.7**	*47.9*	*47.0*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**36.1**	**29.8**	*39.5*	*30.7*	*35.8*	*29.8*	*38.9*	*30.8*	**138.7**	*136.1*	*135.3*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.9**	**43.6**	*53.9*	*44.6*	*50.3*	*42.2*	*53.3*	*45.1*	**192.6**	*193.0*	*191.0*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**30.6**	**24.3**	*29.7*	*23.7*	*30.2*	*23.0*	*29.3*	*23.2*	**108.6**	*108.4*	*105.7*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**96.0**	**88.3**	*111.1*	*85.1*	*98.7*	*87.2*	*111.6*	*86.9*	**374.9**	*380.6*	*384.5*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**32.7**	**27.0**	*36.8*	*26.9*	*34.0*	*26.3*	*36.3*	*27.2*	**120.5**	*123.4*	*123.7*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**55.7**	**56.3**	*79.6*	*49.7*	*55.2*	*52.4*	*78.6*	*51.1*	**230.5**	*241.4*	*237.3*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**24.2**	**25.9**	*34.1*	*23.1*	*24.3*	*25.6*	*34.1*	*23.4*	**108.1**	*107.2*	*107.3*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.5**	**32.9**	*38.3*	*34.0*	*38.6*	*32.3*	*38.0*	*34.0*	**149.0**	*143.8*	*142.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**379.1**	**339.7**	*437.5*	*330.0*	*381.1*	*330.4*	*434.3*	*333.9*	**1,476.6**	*1,486.4*	*1,479.7*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	**11.9**	*13.6*	*11.7*	*12.1*	*11.9*	*13.4*	*11.6*	**48.5**	*49.3*	*48.9*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	**34.2**	*39.8*	*34.6*	*36.1*	*34.0*	*39.2*	*34.2*	**141.9**	*144.6*	*143.4*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**43.3**	**42.7**	*48.8*	*42.8*	*43.3*	*42.2*	*48.4*	*42.6*	**174.8**	*177.6*	*176.5*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.1**	**24.3**	*27.6*	*24.3*	*25.1*	*23.9*	*27.5*	*24.1*	**99.3**	*101.3*	*100.6*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**75.1**	**81.2**	*91.1*	*76.7*	*75.3*	*80.4*	*91.0*	*77.0*	**313.1**	*324.1*	*323.7*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.0**	**22.5**	*26.8*	*21.3*	*21.2*	*22.1*	*26.6*	*21.3*	**89.0**	*91.7*	*91.3*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**46.7**	**54.7**	*61.6*	*51.0*	*47.1*	*53.5*	*61.3*	*51.1*	**201.0**	*214.0*	*213.0*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**23.2**	**25.3**	*29.1*	*23.7*	*23.3*	*25.2*	*29.1*	*23.7*	**98.7**	*101.2*	*101.3*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.7**	**38.1**	*42.5*	*39.8*	*37.8*	*37.9*	*42.1*	*39.4*	**153.2**	*158.1*	*157.3*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	**1.3**	*1.4*	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.4*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**321.5**	**336.3**	*382.2*	*327.1*	*322.7*	*332.4*	*379.8*	*326.4*	**1,324.8**	*1,367.2*	*1,361.4*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	**4.0**	*4.2*	*3.9*	*3.9*	*4.1*	*4.3*	*3.9*	**15.8**	*16.0*	*16.2*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**17.5**	**18.5**	*20.1*	*18.6*	*17.9*	*19.0*	*20.5*	*18.8*	**73.1**	*74.7*	*76.2*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**45.9**	**47.2**	*50.2*	*48.1*	*47.8*	*49.1*	*52.9*	*50.0*	**185.5**	*191.5*	*199.8*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.0**	**24.7**	*26.7*	*25.3*	*25.0*	*25.2*	*27.4*	*25.9*	**97.9**	*100.7*	*103.6*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.3**	**37.6**	*39.6*	*37.5*	*37.6*	*38.6*	*40.9*	*38.5*	**143.7**	*151.0*	*155.6*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**24.7**	**25.7**	*26.7*	*25.7*	*25.2*	*26.3*	*27.5*	*26.3*	**99.7**	*102.8*	*105.3*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**49.8**	**52.3**	*57.7*	*54.9*	*52.6*	*55.5*	*61.2*	*57.9*	**199.7**	*214.6*	*227.3*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.9**	**22.2**	*23.5*	*20.7*	*20.1*	*22.6*	*24.1*	*21.2*	**84.4**	*86.3*	*88.0*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**19.0**	**22.0**	*22.6*	*19.8*	*18.6*	*21.4*	*21.9*	*19.1*	**82.5**	*83.4*	*81.0*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.8*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**242.1**	**255.4**	*272.6*	*255.7*	*249.9*	*263.1*	*282.0*	*262.8*	**986.8**	*1,025.8*	*1,057.7*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.2**	**26.6**	*31.3*	*26.6*	*28.9*	*26.5*	*30.6*	*26.6*	**113.4**	*113.6*	*112.5*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**90.5**	**83.3**	*100.1*	*84.6*	*90.6*	*83.6*	*99.3*	*84.5*	**356.9**	*358.6*	*358.0*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**140.3**	**133.7**	*153.0*	*135.6*	*141.5*	*133.7*	*154.7*	*137.8*	**553.4**	*562.5*	*567.8*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**79.7**	**73.3**	*84.0*	*73.3*	*80.3*	*72.2*	*84.2*	*73.2*	**305.8**	*310.4*	*310.0*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**207.7**	**207.4**	*242.1*	*199.5*	*211.9*	*206.5*	*243.8*	*202.6*	**832.7**	*856.8*	*864.9*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.4**	**75.2**	*90.4*	*73.9*	*80.4*	*74.7*	*90.4*	*74.8*	**309.2**	*317.9*	*320.3*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**152.3**	**163.3**	*199.0*	*155.6*	*155.0*	*161.5*	*201.2*	*160.2*	**631.4**	*670.2*	*677.9*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**67.3**	**73.3**	*86.7*	*67.5*	*67.7*	*73.4*	*87.3*	*68.3*	**291.4**	*294.8*	*296.7*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.4**	**93.2**	*103.7*	*93.8*	*95.2*	*91.7*	*102.3*	*92.7*	**385.5**	*386.1*	*381.9*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	**3.6**	*3.7*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*15.0*	*15.1*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**944.5**	**932.9**	*1,093.9*	*914.4*	*955.4*	*927.4*	*1,097.7*	*924.6*	**3,794.5**	*3,885.7*	*3,905.1*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour) U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.92**	**24.01**	*24.73*	*25.47*	*27.24*	*26.50*	*26.38*	*26.27*	**21.51**	*24.52*	*26.62*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.12**	**18.02**	*18.35*	*17.94*	*17.86*	*18.15*	*18.14*	*17.44*	**16.49**	*17.86*	*17.91*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.22**	**15.10**	*14.89*	*15.09*	*14.81*	*15.63*	*15.21*	*15.17*	**14.10**	*14.81*	*15.19*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.28**	**13.06**	*13.84*	*12.12*	*11.50*	*13.30*	*13.76*	*12.10*	**12.21**	*12.57*	*12.65*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.68**	**13.33**	*13.30*	*12.99*	*12.90*	*13.43*	*13.19*	*12.72*	**12.24**	*13.08*	*13.06*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**11.97**	**12.62**	*12.27*	*12.17*	*12.08*	*12.84*	*12.36*	*12.08*	**11.83**	*12.25*	*12.32*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**11.83**	**12.26**	*12.11*	*12.50*	*12.24*	*12.71*	*12.07*	*12.12*	**11.89**	*12.16*	*12.26*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.14**	**12.78**	*12.84*	*12.60*	*12.36*	*12.91*	*12.93*	*12.65*	**12.08**	*12.62*	*12.73*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**18.12**	**18.85**	*20.21*	*18.22*	*18.96*	*19.95*	*20.89*	*18.57*	**18.01**	*18.87*	*19.61*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**14.61**	*14.66*	*14.53*	*14.46*	*15.05*	*14.75*	*14.41*	**13.72**	*14.45*	*14.66*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.54**	**17.74**	*18.59*	*18.54*	*19.97*	*18.55*	*18.95*	*18.51*	**16.49**	*18.36*	*19.00*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**14.05**	**14.66**	*15.27*	*14.27*	*14.39*	*14.35*	*14.71*	*13.40*	**13.43**	*14.58*	*14.23*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.08**	**11.49**	*11.35*	*11.49*	*11.55*	*11.71*	*11.37*	*11.31*	**10.67**	*11.35*	*11.48*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.65**	**10.04**	*9.94*	*8.84*	*9.00*	*9.26*	*9.53*	*8.39*	**9.97**	*9.63*	*9.06*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.30**	**10.14**	*10.10*	*10.43*	*10.60*	*10.23*	*10.05*	*10.05*	**9.49**	*10.23*	*10.22*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.69**	**11.73**	*11.70*	*11.66*	*12.04*	*11.94*	*11.76*	*11.57*	**11.19**	*11.70*	*11.82*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**8.65**	**8.50**	*8.56*	*8.75*	*8.79*	*8.51*	*8.70*	*8.95*	**9.04**	*8.61*	*8.73*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.56**	**10.24**	*10.50*	*9.74*	*9.66*	*10.27*	*10.48*	*9.68*	**9.70**	*10.04*	*10.05*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**16.09**	**17.70**	*19.57*	*17.39*	*17.33*	*18.66*	*20.04*	*17.44*	**16.27**	*17.74*	*18.40*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**11.81**	*12.11*	*11.84*	*12.01*	*11.95*	*12.09*	*11.62*	**11.27**	*11.86*	*11.92*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.14**	**14.75**	*14.80*	*14.90*	*15.67*	*14.98*	*14.85*	*14.86*	**13.58**	*14.89*	*15.08*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.87**	**7.58**	*7.26*	*7.24*	*7.67*	*7.10*	*6.96*	*6.79*	**6.89**	*7.48*	*7.12*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.72**	**8.00**	*7.71*	*7.84*	*7.91*	*7.77*	*7.62*	*7.73*	**7.26**	*7.82*	*7.76*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	**7.72**	*8.21*	*7.20*	*7.33*	*7.65*	*8.22*	*7.20*	**7.35**	*7.59*	*7.61*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.85**	**7.08**	*7.15*	*6.91*	*6.96*	*6.65*	*7.01*	*6.75*	**6.64**	*7.00*	*6.84*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.35**	**6.69**	*6.48*	*6.30*	*6.44*	*6.38*	*6.35*	*6.16*	**6.04**	*6.45*	*6.33*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**6.20**	**6.03**	*6.06*	*5.91*	*5.94*	*5.46*	*5.65*	*5.50*	**6.17**	*6.05*	*5.63*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.58**	**7.19**	*7.55*	*6.62*	*6.67*	*7.16*	*7.57*	*6.62*	**6.74**	*7.01*	*7.03*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.33**	**11.82**	*13.05*	*11.39*	*10.70*	*12.03*	*13.36*	*11.63*	**11.10**	*11.71*	*11.99*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**7.74**	*7.81*	*7.42*	*7.47*	*7.43*	*7.65*	*7.24*	**7.26**	*7.60*	*7.45*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.48**	**19.74**	*20.67*	*20.80*	*22.57*	*21.11*	*21.48*	*21.13*	**18.21**	*20.44*	*21.59*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**14.06**	**14.27**	*14.87*	*14.05*	*14.42*	*14.05*	*14.45*	*13.40*	**13.26**	*14.33*	*14.10*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.11**	**11.43**	*11.40*	*11.38*	*11.48*	*11.50*	*11.41*	*11.27*	**10.72**	*11.33*	*11.41*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.53**	**10.26**	*10.77*	*9.33*	*9.42*	*9.98*	*10.58*	*9.15*	**9.92**	*9.99*	*9.80*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.79**	**10.94**	*11.09*	*10.86*	*11.02*	*10.91*	*10.97*	*10.57*	**10.23**	*10.93*	*10.87*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.12**	**10.32**	*10.39*	*9.98*	*10.30*	*10.30*	*10.36*	*9.85*	**9.78**	*10.21*	*10.21*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**9.01**	**9.01**	*9.26*	*8.95*	*9.05*	*8.82*	*9.09*	*8.71*	**9.17**	*9.07*	*8.93*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.61**	**10.21**	*10.62*	*9.76*	*9.74*	*10.23*	*10.63*	*9.75*	**9.73**	*10.09*	*10.13*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.75**	**16.71**	*18.37*	*16.41*	*16.68*	*17.55*	*18.90*	*16.64*	**15.83**	*16.85*	*17.47*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.49**	**11.72**	*12.06*	*11.57*	*11.80*	*11.77*	*12.00*	*11.38*	**11.18**	*11.72*	*11.75*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**337.9**	**359.0**	*458.0*	*349.8*	*336.1*	*340.9*	*449.2*	*346.1*	**1,473.6**	*1,504.6*	*1,472.3*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**217.5**	**193.0**	*254.9*	*188.2*	*201.7*	*175.5*	*249.4*	*180.6*	**892.8**	*853.6*	*807.1*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.6**	**184.9**	*203.7*	*191.1*	*193.9*	*187.9*	*207.2*	*198.0*	**778.2**	*775.3*	*787.0*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**235.5**	**241.3**	*204.7*	*216.1*	*243.9*	*266.1*	*220.7*	*230.7*	**795.2**	*897.7*	*961.5*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**71.6**	*64.5*	*57.8*	*70.6*	*81.2*	*66.0*	*60.8*	**259.0**	*270.5*	*278.5*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**116.6**	*85.4*	*118.1*	*126.4*	*120.8*	*89.0*	*122.1*	**378.6**	*439.6*	*458.3*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**42.7**	*43.8*	*29.4*	*36.3*	*53.9*	*54.6*	*37.5*	**113.9**	*144.7*	*182.4*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.2**	*6.9*	*6.5*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.3*	*26.1*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**4.1**	*4.2*	*4.3*	*4.0*	*3.9*	*4.2*	*4.0*	**15.7**	*16.5*	*16.2*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.2**	**-0.9**	*-1.7*	*-1.3*	*-1.2*	*-1.0*	*-1.6*	*-1.2*	**-5.1**	*-5.2*	*-5.1*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	**3.8**	*4.4*	*3.9*	*5.2*	*3.7*	*4.4*	*4.1*	**17.8**	*18.7*	*17.3*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.8**	**0.8**	*0.9*	*0.8*	*0.8*	*0.7*	*0.9*	*0.8*	**3.2**	*3.3*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.6**	**1.7**	*1.8*	*1.7*	*1.5*	*1.7*	*1.7*	*1.7*	**7.2**	*6.9*	*6.6*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**994.2**	**983.6**	*1,126.7*	*950.4*	*981.9*	*975.3*	*1,131.9*	*960.8*	**3,962.8**	*4,054.9*	*4,050.0*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**11.8**	**12.3**	*16.0*	*12.0*	*13.5*	*12.5*	*16.2*	*12.5*	**51.5**	*52.1*	*54.7*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.3**	**0.2**	*0.2*	*0.0*	*0.3*	*0.2*	*0.2*	*0.0*	**0.6**	*0.6*	*0.7*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	**5.6**	*7.3*	*7.3*	*7.1*	*5.7*	*7.3*	*6.2*	**27.1**	*27.2*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.7**	**1.7**	*1.1*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*6.3*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.1**	**3.1**	*2.8*	*2.9*	*3.2*	*3.3*	*2.8*	*2.9*	**11.2**	*11.9*	*12.2*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	**0.4**	*0.3*	*0.4*	*0.7*	*0.3*	*0.3*	*0.4*	**1.5**	*2.4*	*1.7*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**25.4**	**23.2**	*27.7*	*24.2*	*26.8*	*24.2*	*27.9*	*23.7*	**98.2**	*100.6*	*102.6*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.2**	**25.9**	*32.5*	*28.6*	*30.3*	*28.0*	*32.7*	*29.1*	**116.4**	*117.2*	*120.1*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.0**	**13.3**	*19.5*	*14.1*	*11.7*	*15.0*	*18.7*	*14.3*	**61.9**	*60.9*	*59.7*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	**7.0**	*6.6*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.8*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**7.1**	**6.7**	*6.8*	*7.0*	*7.3*	*7.3*	*7.3*	*7.5*	**27.9**	*27.6*	*29.4*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.2**	**2.0**	*1.7*	*2.2*	*2.4*	*2.6*	*2.0*	*2.8*	**7.1**	*8.1*	*9.8*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	**0.1**	*0.2*	*0.1*	*0.7*	*0.1*	*0.3*	*0.1*	**1.3**	*1.8*	*1.2*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**31.0**	**29.2**	*34.8*	*30.2*	*28.8*	*31.5*	*35.3*	*31.7*	**129.3**	*125.2*	*127.2*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.6**	**33.8**	*42.1*	*35.3*	*36.5*	*35.2*	*42.0*	*35.5*	**149.0**	*148.9*	*149.3*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**76.9**	**70.5**	*90.5*	*84.2*	*81.8*	*75.0*	*93.7*	*86.3*	**310.9**	*322.1*	*336.9*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**48.6**	**35.4**	*43.4*	*33.3*	*41.2*	*34.6*	*43.1*	*30.5*	**175.4**	*160.8*	*149.4*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**69.0**	**65.0**	*72.2*	*66.8*	*67.9*	*67.1*	*72.1*	*68.8*	**271.7**	*273.1*	*275.8*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	**2.5**	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*8.9*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**13.2**	**12.6**	*10.0*	*12.4*	*14.4*	*14.0*	*11.4*	*13.6*	**42.4**	*48.1*	*53.4*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.6**	**0.5**	*0.3*	*0.4*	*0.5*	*0.4*	*0.3*	*0.5*	**2.5**	*1.8*	*1.6*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**211.0**	**186.6**	*218.0*	*199.2*	*208.3*	*193.9*	*222.3*	*201.8*	**812.1**	*814.7*	*826.3*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**200.9**	**177.3**	*210.9*	*186.0*	*200.2*	*182.0*	*212.4*	*188.5*	**770.2**	*775.1*	*783.1*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**64.1**	**63.7**	*75.4*	*63.7*	*67.8*	*60.5*	*74.6*	*62.8*	**252.3**	*266.9*	*265.8*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**32.3**	**32.9**	*41.3*	*27.2*	*33.4*	*29.6*	*43.5*	*27.7*	**137.7**	*133.7*	*134.3*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.4**	**51.4**	*55.4*	*52.4*	*52.6*	*54.0*	*58.2*	*59.1*	**212.2**	*210.6*	*223.8*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**11.9**	**10.1**	*9.0*	*9.9*	*12.7*	*10.1*	*9.2*	*10.2*	**43.9**	*40.9*	*42.1*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**5.0**	**6.6**	*6.1*	*4.8*	*5.9*	*7.5*	*7.0*	*5.5*	**19.1**	*22.5*	*25.9*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	**-0.1**	*-0.4*	*-0.2*	*-0.1*	*-0.2*	*-0.4*	*-0.2*	**-0.9**	*-0.9*	*-0.9*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.6**	**164.7**	*186.8*	*157.8*	*172.2*	*161.6*	*192.1*	*165.1*	**664.2**	*673.8*	*690.9*
Net energy for load (f)	**161.3**	**154.7**	**183.9**	**154.5**	**166.5**	**164.3**	*184.3*	*156.2*	*168.9*	*163.0*	*191.2*	*162.3*	**654.4**	*671.3*	*685.3*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**38.3**	**45.1**	*55.2*	*39.8*	*37.1*	*40.5*	*55.3*	*38.4*	**171.8**	*178.3*	*171.4*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.5**	**5.1**	*5.1*	*3.1*	*2.9*	*4.4*	*4.5*	*2.6*	**18.3**	*16.8*	*14.4*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	**7.8**	*8.0*	*7.1*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.2*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**2.9**	**3.7**	*3.7*	*2.9*	*3.8*	*4.6*	*4.6*	*3.6*	**11.0**	*13.1*	*16.5*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.7**	**0.7**	*0.8*	*0.7*	*0.7*	*0.7*	*0.8*	*0.7*	**2.8**	*2.9*	*2.9*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**52.8**	**62.4**	*72.8*	*53.6*	*51.6*	*57.2*	*72.7*	*53.1*	**232.2**	*241.6*	*234.6*
Net energy for load (f)	**52.4**	**63.8**	**72.3**	**55.6**	**54.1**	**64.0**	*68.0*	*53.1*	*50.2*	*59.8*	*68.6*	*53.6*	**244.1**	*239.2*	*232.2*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**41.8**	**47.1**	*51.6*	*37.6*	*37.0*	*46.6*	*54.6*	*41.9*	**169.7**	*178.0*	*180.1*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**64.5**	**56.6**	*78.8*	*58.5*	*59.8*	*55.5*	*73.5*	*54.7*	**267.7**	*258.3*	*243.4*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	**19.7**	*24.2*	*23.5*	*22.3*	*21.0*	*24.3*	*20.9*	**95.7**	*91.2*	*88.5*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.1**	**2.5**	*2.2*	*2.1*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*9.9*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**31.8**	**26.9**	*20.4*	*29.2*	*33.5*	*28.4*	*21.8*	*30.5*	**93.1**	*108.4*	*114.2*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.3**	**1.4**	*1.5*	*1.2*	*1.4*	*1.4*	*1.5*	*1.3*	**6.4**	*5.4*	*5.6*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**166.4**	**154.2**	*178.6*	*152.1*	*156.5*	*155.8*	*178.0*	*151.6*	**643.3**	*651.3*	*641.9*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**165.1**	**156.1**	*181.7*	*159.8*	*163.0*	*160.3*	*184.2*	*162.5*	**647.3**	*662.7*	*670.0*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.1**	**14.5**	*19.0*	*10.1*	*10.6*	*13.2*	*16.9*	*9.9*	**56.3**	*54.7*	*50.6*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.1**	**17.5**	*27.6*	*18.3*	*20.5*	*14.9*	*30.1*	*18.4*	**92.0**	*85.5*	*83.8*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	**4.3**	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.2*	*17.4*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.6**	**3.8**	*3.6*	*3.0*	*3.9*	*4.7*	*4.3*	*3.5*	**15.5**	*15.0*	*16.4*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**28.8**	**29.9**	*23.2*	*29.3*	*31.4*	*31.3*	*24.5*	*30.2*	**93.6**	*111.3*	*117.5*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	**0.7**	*0.7*	*0.7*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.2**	**70.2**	*77.6*	*63.4*	*70.9*	*68.7*	*80.3*	*66.4*	**273.6**	*282.5*	*286.3*
Net energy for load (f)	**65.5**	**65.5**	**78.5**	**62.0**	**68.0**	**69.1**	*76.7*	*61.6*	*66.1*	*64.5*	*77.5*	*61.9*	**271.6**	*275.4*	*270.0*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**34.2**	**44.9**	*60.1*	*32.6*	*28.7*	*31.3*	*49.3*	*29.2*	**164.2**	*171.8*	*138.5*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**17.7**	**19.2**	*22.1*	*17.4*	*16.1*	*18.1*	*21.9*	*17.0*	**74.5**	*76.4*	*73.0*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	**9.9**	*10.6*	*10.9*	*10.7*	*9.0*	*11.0*	*10.1*	**40.2**	*42.4*	*40.7*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.7*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.2**	**37.4**	*30.1*	*33.9*	*35.9*	*42.1*	*34.7*	*36.4*	**106.3**	*132.5*	*149.0*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.5*	*0.4*	*0.4*	*0.4*	*0.5*	**1.4**	*1.6*	*1.7*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**112.0**	*123.5*	*95.3*	*91.9*	*101.0*	*117.3*	*93.3*	**387.1**	*425.4*	*403.5*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**112.0**	*123.5*	*95.3*	*91.9*	*101.0*	*117.3*	*93.3*	**387.1**	*425.4*	*403.5*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**19.6**	**20.3**	*28.0*	*23.0*	*22.0*	*20.4*	*28.5*	*19.5*	**90.2**	*90.9*	*90.5*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**21.6**	**18.8**	*24.0*	*23.2*	*22.3*	*11.8*	*21.2*	*22.6*	**90.5**	*87.6*	*77.9*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	**2.4**	*2.4*	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.5**	*9.7*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**39.3**	**36.3**	*32.7*	*27.7*	*33.6*	*40.7*	*30.2*	*27.7*	**121.0**	*136.0*	*132.3*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**19.1**	**19.2**	*16.4*	*18.7*	*20.2*	*20.7*	*17.6*	*19.9*	**65.5**	*73.4*	*78.5*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	**0.7**	*0.7*	*0.6*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.2**	**97.2**	*103.7*	*95.1*	*100.6*	*95.0*	*100.2*	*92.3*	**376.4**	*398.2*	*388.0*
Net energy for load (f)	**89.9**	**86.2**	**97.8**	**89.7**	**88.0**	**89.2**	*96.0*	*88.8*	*91.3*	*87.9*	*95.0*	*88.3*	**363.5**	*362.0*	*362.5*
Southwest															
Natural Gas	**10.7**	**15.2**	**19.4**	**11.5**	**9.6**	**12.7**	*15.8*	*11.6*	*10.9*	*12.1*	*15.1*	*10.5*	**56.8**	*49.8*	*48.6*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**6.1**	**5.6**	*9.3*	*4.7*	*4.2*	*4.4*	*8.4*	*4.7*	**26.8**	*25.8*	*21.8*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	**7.5**	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.7*	*31.9*
Conventional hydropower	**2.0**	**2.3**	**1.9**	**1.5**	**1.9**	**2.1**	*2.2*	*1.8*	*2.1*	*2.5*	*2.4*	*1.9*	**7.7**	*7.9*	*9.0*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	**5.6**	*4.6*	*5.1*	*4.8*	*5.9*	*4.8*	*5.6*	**14.0**	*19.8*	*21.1*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.3*	*0.2*
Total generation	**29.8**	**34.2**	**41.5**	**31.6**	**30.4**	**33.5**	*40.6*	*30.8*	*30.4*	*32.5*	*39.4*	*30.2*	**137.1**	*135.3*	*132.6*
Net energy for load (f)	**20.5**	**26.3**	**33.2**	**22.5**	**21.2**	**26.8**	*33.2*	*22.1*	*21.8*	*26.9*	*33.3*	*22.5*	**102.6**	*103.3*	*104.4*
California															
Natural Gas	**16.7**	**17.9**	**29.4**	**21.6**	**15.8**	**14.2**	*26.3*	*20.4*	*14.2*	*13.0*	*25.7*	*19.9*	**85.6**	*76.8*	*72.8*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.5**	**1.3**	*2.6*	*1.9*	*0.7*	*1.5*	*2.7*	*1.9*	**7.6**	*6.3*	*6.7*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	**4.2**	*4.4*	*4.0*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.2*	*18.0*
Conventional hydropower	**2.4**	**4.2**	**4.9**	**2.8**	**3.6**	**5.2**	*4.8*	*2.0*	*3.3*	*7.3*	*6.7*	*3.4*	**14.4**	*15.6*	*20.7*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.7**	**22.2**	*20.8*	*16.4*	*17.5*	*23.8*	*23.0*	*18.4*	**71.1**	*76.1*	*82.7*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	**0.0**	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	**-0.2**	*0.0*	*0.3*
Total generation	**39.3**	**48.9**	**61.5**	**45.3**	**41.2**	**47.1**	*59.0*	*44.8*	*40.3*	*50.5*	*62.7*	*47.7*	**195.0**	*192.1*	*201.2*
Net energy for load (f)	**55.6**	**62.6**	**77.5**	**59.5**	**56.0**	**60.9**	*74.1*	*59.7*	*58.2*	*63.3*	*74.0*	*59.4*	**255.1**	*250.7*	*254.9*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.034**	**0.036**	*0.037*	*0.038*	*0.035*	*0.034*	*0.037*	*0.035*	**0.138**	*0.145*	*0.142*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.671**	**0.649**	*0.575*	*0.515*	*0.628*	*0.723*	*0.588*	*0.541*	**2.272**	*2.410*	*2.480*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.257**	**0.380**	*0.390*	*0.262*	*0.323*	*0.480*	*0.487*	*0.334*	**1.014**	*1.289*	*1.624*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.056**	**0.056**	*0.059*	*0.058*	*0.058*	*0.057*	*0.057*	*0.056*	**0.236**	*0.228*	*0.229*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.052**	**0.042**	*0.050*	*0.044*	*0.048*	*0.042*	*0.050*	*0.044*	**0.199**	*0.188*	*0.184*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.039**	*0.760*	*1.052*	*1.125*	*1.076*	*0.793*	*1.087*	**3.372**	*3.915*	*4.081*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.135**	**2.201**	*1.870*	*1.968*	*2.218*	*2.412*	*2.012*	*2.098*	**7.231**	*8.174*	*8.740*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.211**	*0.205*	*0.208*	*0.197*	*0.201*	*0.201*	*0.207*	**0.789**	*0.828*	*0.806*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	**0.011**	*0.012*	*0.008*	*0.009*	*0.012*	*0.013*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.042**	**0.040**	*0.039*	*0.042*	*0.041*	*0.040*	*0.040*	*0.042*	**0.160**	*0.163*	*0.163*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.315**	**0.329**	*0.355*	*0.362*	*0.353*	*0.351*	*0.364*	*0.367*	**1.342**	*1.361*	*1.436*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.576**	**0.599**	*0.619*	*0.629*	*0.607*	*0.613*	*0.626*	*0.634*	**2.361**	*2.424*	*2.480*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	**0.049**	*0.049*	*0.034*	*0.038*	*0.055*	*0.056*	*0.039*	**0.140**	*0.164*	*0.189*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.010**	**0.008**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.035**	*0.036*	*0.036*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	**0.020**	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.077**	**0.092**	*0.093*	*0.078*	*0.082*	*0.099*	*0.100*	*0.083*	**0.313**	*0.339*	*0.364*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.079**	**0.122**	*0.122*	*0.084*	*0.093*	*0.140*	*0.141*	*0.098*	**0.329**	*0.407*	*0.472*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.119**	**0.116**	*0.117*	*0.117*	*0.119*	*0.116*	*0.117*	*0.117*	**0.464**	*0.469*	*0.469*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.208**	**0.247**	*0.249*	*0.211*	*0.222*	*0.266*	*0.268*	*0.224*	**0.832**	*0.915*	*0.980*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	**0.119**	*0.119*	*0.145*	*0.135*	*0.136*	*0.132*	*0.159*	**0.372**	*0.477*	*0.562*
Ethanol (g)	**0.243**	**0.281**	**0.285**	**0.288**	**0.259**	**0.280**	*0.281*	*0.283*	*0.261*	*0.282*	*0.285*	*0.286*	**1.097**	*1.103*	*1.113*
Subtotal	**0.322**	**0.376**	**0.374**	**0.397**	**0.353**	**0.408**	*0.400*	*0.428*	*0.396*	*0.418*	*0.416*	*0.445*	**1.469**	*1.590*	*1.675*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	**0.119**	*0.119*	*0.145*	*0.135*	*0.136*	*0.132*	*0.159*	**0.372**	*0.477*	*0.562*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.211**	*0.205*	*0.208*	*0.197*	*0.201*	*0.201*	*0.207*	**0.789**	*0.828*	*0.806*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.301**	**0.270**	**0.292**	*0.294*	*0.296*	*0.272*	*0.295*	*0.297*	*0.299*	**1.146**	*1.152*	*1.163*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.051**	**0.053**	*0.054*	*0.055*	*0.052*	*0.051*	*0.054*	*0.052*	**0.206**	*0.214*	*0.210*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.674**	**0.651**	*0.577*	*0.518*	*0.631*	*0.725*	*0.590*	*0.544*	**2.283**	*2.420*	*2.491*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.378**	**0.562**	*0.572*	*0.387*	*0.463*	*0.688*	*0.696*	*0.479*	**1.519**	*1.899*	*2.327*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	**0.106**	*0.107*	*0.109*	*0.108*	*0.106*	*0.106*	*0.108*	**0.431**	*0.430*	*0.428*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.507**	**0.507**	*0.542*	*0.544*	*0.540*	*0.529*	*0.552*	*0.550*	**2.087**	*2.100*	*2.171*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.039**	*0.760*	*1.052*	*1.125*	*1.076*	*0.793*	*1.087*	**3.372**	*3.915*	*4.081*
Total Consumption	**2.950**	**3.162**	**2.953**	**3.141**	**3.349**	**3.548**	*3.231*	*3.314*	*3.524*	*3.807*	*3.423*	*3.484*	**12.206**	*13.442*	*14.239*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,161**	**5,997**	**5,980**	**5,977**	**5,972**	**5,976**	*5,976*	*6,001*	*5,977*	*5,979*	*5,920*	*5,920*	**5,977**	*6,001*	*5,920*
Waste	**3,700**	**3,680**	**3,677**	**3,674**	**3,669**	**3,674**	*3,674*	*3,698*	*3,674*	*3,676*	*3,618*	*3,618*	**3,674**	*3,698*	*3,618*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,736**	**78,796**	**78,798**	**78,798**	**78,843**	**78,850**	*78,893*	*78,916*	*78,916*	*78,924*	*78,951*	*78,961*	**78,798**	*78,916*	*78,961*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,517**	*2,517*	*2,542*	*2,542*	*2,542*	*2,542*	*2,542*	**2,483**	*2,542*	*2,542*
Large-Scale Solar (b)	**50,368**	**52,359**	**55,609**	**60,671**	**63,117**	**67,604**	*71,202*	*80,093*	*83,111*	*88,795*	*91,236*	*103,482*	**60,671**	*80,093*	*103,482*
Wind	**121,201**	**124,742**	**126,696**	**132,243**	**135,041**	**137,972**	*139,199*	*142,818*	*142,968*	*144,119*	*144,119*	*147,184*	**132,243**	*142,818*	*147,184*
Other Sectors (c)															
Biomass	**6,206**	**6,210**	**6,214**	**6,214**	**6,217**	**6,225**	*6,217*	*6,217*	*6,217*	*6,209*	*6,209*	*6,209*	**6,214**	*6,217*	*6,209*
Waste	**827**	**830**	**829**	**829**	**828**	**828**	*828*	*828*	*828*	*828*	*828*	*828*	**829**	*828*	*828*
Wood	**5,380**	**5,380**	**5,385**	**5,385**	**5,389**	**5,397**	*5,389*	*5,389*	*5,389*	*5,381*	*5,381*	*5,381*	**5,385**	*5,389*	*5,381*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	**291**	*291*	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**473**	**475**	**511**	**529**	**551**	**563**	*563*	*587*	*587*	*635*	*635*	*635*	**529**	*587*	*635*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,720**	**36,215**	*37,624*	*39,091*	*40,710*	*42,440*	*44,245*	*46,264*	**32,972**	*39,091*	*46,264*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,260**	**23,415**	*24,435*	*25,502*	*26,666*	*27,884*	*29,158*	*30,580*	**21,022**	*25,502*	*30,580*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,220**	**10,508**	*10,842*	*11,188*	*11,587*	*12,039*	*12,511*	*13,045*	**9,728**	*11,188*	*13,045*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,240**	**2,292**	*2,346*	*2,401*	*2,457*	*2,517*	*2,577*	*2,639*	**2,223**	*2,401*	*2,639*
Wind	**121**	**121**	**121**	**121**	**122**	**122**	*122*	*122*	*122*	*122*	*122*	*122*	**121**	*122*	*122*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.2**	*6.9*	*6.5*	*6.7*	*6.3*	*6.8*	*6.4*	**27.9**	*26.3*	*26.1*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.5**	**3.7**	*3.8*	*3.7*	*3.7*	*3.7*	*3.7*	*3.6*	**15.5**	*14.7*	*14.8*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**3.2**	**2.6**	*3.1*	*2.7*	*3.0*	*2.6*	*3.1*	*2.7*	**12.4**	*11.5*	*11.3*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**71.6**	*64.5*	*57.8*	*70.6*	*81.2*	*66.0*	*60.8*	**259.0**	*270.5*	*278.5*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**4.1**	*4.2*	*4.3*	*4.0*	*3.9*	*4.2*	*4.0*	**15.7**	*16.5*	*16.2*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**42.7**	*43.8*	*29.4*	*36.3*	*53.9*	*54.6*	*37.5*	**113.9**	*144.7*	*182.4*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**116.6**	*85.4*	*118.1*	*126.4*	*120.8*	*89.0*	*122.1*	**378.6**	*439.6*	*458.3*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.7**	**6.7**	*7.1*	*6.8*	*6.7*	*6.7*	*7.1*	*6.8*	**27.6**	*27.3*	*27.3*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**5.9**	**6.1**	*6.4*	*6.1*	*5.9*	*6.1*	*6.4*	*6.1*	**24.8**	*24.5*	*24.5*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*1.0*	*1.1*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**12.0**	**17.9**	*18.0*	*12.4*	*14.0*	*20.9*	*21.1*	*14.6*	**49.0**	*60.2*	*70.5*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.6**	**11.5**	*11.5*	*7.9*	*8.9*	*13.6*	*13.6*	*9.5*	**30.1**	*38.4*	*45.6*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	**5.2**	*5.2*	*3.6*	*4.1*	*6.0*	*6.0*	*4.2*	**15.1**	*17.7*	*20.3*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	**1.2**	*1.2*	*0.9*	*0.9*	*1.3*	*1.4*	*1.0*	**3.8**	*4.2*	*4.6*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,731**	**19,818**	*19,930*	*20,093*	*20,190*	*20,313*	*20,448*	*20,586*	**19,427**	*19,893*	*20,384*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,818**	**13,925**	**14,073**	*14,151*	*14,231*	*14,321*	*14,422*	*14,517*	*14,614*	**13,625**	*14,095*	*14,468*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,609**	**3,669**	**3,643**	*3,685*	*3,695*	*3,705*	*3,722*	*3,741*	*3,770*	**3,588**	*3,673*	*3,735*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**249**	**193**	**93**	*61*	*136*	*126*	*122*	*134*	*142*	**-20**	*121*	*131*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,359**	**3,336**	**3,342**	*3,352*	*3,354*	*3,360*	*3,367*	*3,375*	*3,385*	**3,376**	*3,346*	*3,372*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,391**	**2,358**	**2,445**	*2,474*	*2,504*	*2,540*	*2,580*	*2,620*	*2,659*	**2,308**	*2,445*	*2,600*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,741**	**3,901**	**3,936**	*3,973*	*3,990*	*4,031*	*4,070*	*4,109*	*4,153*	**3,592**	*3,950*	*4,091*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,198**	**15,118**	*15,162*	*15,257*	*15,387*	*15,633*	*15,870*	*16,096*	**16,032**	*15,184*	*15,746*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	**151.6**	*152.4*	*153.0*	*153.4*	*153.6*	*153.9*	*154.2*	**146.1**	*151.8*	*153.8*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	**3.6**	*3.6*	*3.7*	*3.8*	*3.9*	*3.9*	*4.0*	**5.4**	*3.7*	*3.9*
Housing Starts															
(millions - SAAR)	**1.58**	**1.59**	**1.57**	**1.68**	**1.72**	**1.67**	*1.58*	*1.53*	*1.53*	*1.53*	*1.55*	*1.54*	**1.61**	*1.62*	*1.54*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.7**	**101.7**	**103.4**	**106.0**	*107.4*	*108.7*	*109.0*	*109.6*	*110.4*	*110.9*	**100.1**	*106.4*	*109.9*
Manufacturing	**97.3**	**98.7**	**99.7**	**101.0**	**102.2**	**104.2**	*105.2*	*106.7*	*107.3*	*108.3*	*109.5*	*110.2*	**99.2**	*104.6*	*108.8*
Food	**101.2**	**100.5**	**99.7**	**101.5**	**103.3**	**103.8**	*105.1*	*105.4*	*105.9*	*106.2*	*106.7*	*107.2*	**100.7**	*104.4*	*106.5*
Paper	**93.9**	**95.0**	**95.2**	**94.0**	**95.9**	**97.3**	*98.0*	*99.3*	*99.3*	*100.3*	*101.2*	*101.9*	**94.5**	*97.6*	*100.7*
Petroleum and Coal Products	**90.5**	**95.9**	**95.0**	**96.3**	**96.7**	**98.9**	*97.9*	*98.6*	*99.0*	*99.7*	*100.2*	*100.3*	**94.4**	*98.0*	*99.8*
Chemicals	**91.8**	**99.3**	**99.6**	**100.5**	**101.0**	**102.7**	*103.0*	*104.8*	*105.0*	*106.6*	*108.5*	*109.4*	**97.8**	*102.9*	*107.4*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.7**	**99.1**	**103.5**	**103.7**	*104.9*	*105.3*	*105.2*	*106.0*	*107.1*	*108.2*	**97.1**	*104.3*	*106.6*
Primary Metals	**92.4**	**96.7**	**98.1**	**99.2**	**98.0**	**99.4**	*99.0*	*105.8*	*105.1*	*110.1*	*115.8*	*117.4*	**96.6**	*100.6*	*112.1*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.4**	**97.4**	**98.4**	**99.6**	*99.6*	*102.7*	*102.4*	*104.9*	*107.6*	*108.5*	**95.6**	*100.1*	*105.9*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.8**	**104.3**	**106.5**	**108.0**	*108.7*	*110.2*	*110.4*	*111.7*	*113.2*	*114.0*	**102.7**	*108.3*	*112.3*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.7**	**98.6**	**99.7**	**101.3**	*101.7*	*104.3*	*104.6*	*106.5*	*108.8*	*109.7*	**97.0**	*101.7*	*107.4*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.9**	**96.4**	**97.5**	**99.1**	*99.2*	*101.7*	*101.8*	*103.7*	*105.9*	*106.6*	**94.9**	*99.4*	*104.5*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	**2.91**	*2.94*	*2.96*	*2.97*	*2.98*	*3.00*	*3.02*	**2.71**	*2.91*	*2.99*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.53**	**2.63**	*2.62*	*2.57*	*2.51*	*2.42*	*2.40*	*2.41*	**2.27**	*2.58*	*2.44*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	**3.98**	*3.37*	*2.96*	*2.82*	*2.84*	*2.82*	*2.78*	**2.41**	*3.37*	*2.81*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**125.6**	*127.2*	*128.2*	*129.0*	*129.8*	*130.6*	*131.5*	**118.5**	*126.2*	*130.2*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,126**	**9,368**	**8,934**	**8,375**	**9,072**	*9,408*	*9,108*	*8,572*	*9,443*	*9,634*	*9,223*	**8,843**	*8,994*	*9,221*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**597**	**658**	**667**	**656**	**697**	*714*	*673*	*666*	*695*	*714*	*699*	**615**	*685*	*693*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**356**	**405**	*399*	*373*	*362*	*407*	*409*	*385*	**334**	*383*	*391*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	**325.6**	*300.6*	*300.4*	*267.9*	*311.3*	*287.9*	*290.8*	**217.5**	*288.1*	*289.5*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	*0.272*	*0.300*	*0.314*	*0.318*	*0.349*	*0.377*	**0.258**	*0.270*	*0.340*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**570**	**578**	**562**	**557**	*575*	*582*	*560*	*573*	*583*	*585*	**2,224**	*2,276*	*2,302*
Natural Gas	**485**	**354**	**373**	**426**	**508**	**368**	*377*	*443*	*492*	*358*	*384*	*450*	**1,637**	*1,696*	*1,684*
Coal	**256**	**229**	**307**	**209**	**246**	**216**	*282*	*219*	*232*	*204*	*280*	*215*	**1,001**	*962*	*931*
Total Energy (c)	**1,260**	**1,144**	**1,252**	**1,216**	**1,319**	**1,143**	*1,236*	*1,247*	*1,286*	*1,139*	*1,251*	*1,253*	**4,873**	*4,945*	*4,928*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,001**	**1,008**	**1,026**	**1,020**	**1,025**	*1,031*	*1,037*	*1,040*	*1,045*	*1,049*	*1,055*	**1,004**	*1,028*	*1,047*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,813**	**2,809**	**2,817**	*2,831*	*2,851*	*2,860*	*2,874*	*2,890*	*2,908*	**2,765**	*2,827*	*2,883*
E. N. Central	**2,485**	**2,514**	**2,520**	**2,553**	**2,536**	**2,543**	*2,558*	*2,579*	*2,592*	*2,609*	*2,626*	*2,643*	**2,518**	*2,554*	*2,618*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,221**	**1,214**	**1,219**	*1,225*	*1,234*	*1,240*	*1,247*	*1,255*	*1,264*	**1,212**	*1,223*	*1,251*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,517**	**3,504**	**3,523**	*3,544*	*3,573*	*3,591*	*3,613*	*3,637*	*3,662*	**3,449**	*3,536*	*3,626*
E. S. Central	**836**	**842**	**846**	**861**	**858**	**860**	*863*	*868*	*871*	*876*	*881*	*886*	**846**	*862*	*879*
W. S. Central	**2,320**	**2,362**	**2,378**	**2,431**	**2,428**	**2,448**	*2,468*	*2,492*	*2,511*	*2,529*	*2,549*	*2,569*	**2,373**	*2,459*	*2,539*
Mountain	**1,274**	**1,296**	**1,303**	**1,324**	**1,320**	**1,327**	*1,335*	*1,348*	*1,357*	*1,368*	*1,380*	*1,392*	**1,299**	*1,332*	*1,374*
Pacific	**3,692**	**3,774**	**3,800**	**3,883**	**3,865**	**3,879**	*3,897*	*3,928*	*3,946*	*3,971*	*3,997*	*4,023*	**3,787**	*3,892*	*3,984*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.5**	**97.1**	**98.0**	**99.2**	**100.3**	**102.5**	*103.3*	*104.9*	*105.3*	*106.3*	*107.3*	*107.8*	**97.4**	*102.7*	*106.6*
Middle Atlantic	**93.3**	**94.6**	**95.3**	**96.5**	**97.6**	**99.6**	*100.6*	*101.9*	*102.4*	*103.1*	*104.1*	*104.6*	**94.9**	*99.9*	*103.5*
E. N. Central	**95.7**	**96.3**	**97.2**	**99.0**	**99.9**	**101.6**	*102.6*	*104.2*	*104.9*	*106.1*	*107.3*	*108.0*	**97.0**	*102.1*	*106.6*
W. N. Central	**98.5**	**99.7**	**100.7**	**101.5**	**103.1**	**104.7**	*105.6*	*107.1*	*107.6*	*108.7*	*109.9*	*110.7*	**100.1**	*105.1*	*109.2*
S. Atlantic	**99.6**	**100.8**	**102.0**	**103.4**	**104.5**	**106.4**	*107.4*	*108.8*	*109.1*	*110.0*	*111.0*	*111.7*	**101.5**	*106.8*	*110.4*
E. S. Central	**98.0**	**99.0**	**99.9**	**101.2**	**101.9**	**103.7**	*104.8*	*106.5*	*107.0*	*108.2*	*109.5*	*110.2*	**99.5**	*104.2*	*108.7*
W. S. Central	**98.8**	**100.4**	**101.3**	**102.9**	**104.5**	**106.6**	*107.8*	*109.4*	*109.9*	*111.1*	*112.4*	*113.2*	**100.8**	*107.1*	*111.7*
Mountain	**106.8**	**109.0**	**110.1**	**111.9**	**113.8**	**115.7**	*116.6*	*118.3*	*118.8*	*120.0*	*121.3*	*122.1*	**109.4**	*116.1*	*120.6*
Pacific	**94.4**	**96.0**	**96.6**	**97.7**	**98.8**	**101.1**	*102.2*	*104.0*	*104.9*	*105.8*	*107.0*	*107.7*	**96.2**	*101.5*	*106.3*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**942**	**935**	**930**	**926**	*928*	*932*	*936*	*942*	*948*	*954*	**956**	*929*	*945*
Middle Atlantic	**2,614**	**2,449**	**2,436**	**2,388**	**2,395**	**2,378**	*2,383*	*2,397*	*2,407*	*2,422*	*2,438*	*2,453*	**2,472**	*2,388*	*2,430*
E. N. Central	**2,744**	**2,524**	**2,493**	**2,467**	**2,445**	**2,440**	*2,446*	*2,459*	*2,470*	*2,489*	*2,508*	*2,525*	**2,557**	*2,447*	*2,498*
W. N. Central	**1,276**	**1,195**	**1,176**	**1,161**	**1,158**	**1,157**	*1,160*	*1,165*	*1,169*	*1,177*	*1,186*	*1,194*	**1,202**	*1,160*	*1,182*
S. Atlantic	**3,721**	**3,444**	**3,427**	**3,430**	**3,410**	**3,405**	*3,412*	*3,432*	*3,450*	*3,479*	*3,508*	*3,535*	**3,505**	*3,415*	*3,493*
E. S. Central	**1,025**	**927**	**924**	**923**	**916**	**912**	*912*	*915*	*918*	*925*	*931*	*936*	**950**	*914*	*928*
W. S. Central	**2,238**	**2,078**	**2,069**	**2,080**	**2,070**	**2,068**	*2,075*	*2,089*	*2,102*	*2,120*	*2,138*	*2,156*	**2,116**	*2,075*	*2,129*
Mountain	**1,381**	**1,281**	**1,277**	**1,276**	**1,269**	**1,266**	*1,269*	*1,277*	*1,283*	*1,296*	*1,308*	*1,319*	**1,304**	*1,270*	*1,302*
Pacific	**3,268**	**3,086**	**3,085**	**3,053**	**3,032**	**3,026**	*3,027*	*3,042*	*3,053*	*3,076*	*3,098*	*3,118*	**3,123**	*3,032*	*3,086*
Households (Thousands)															
New England	**6,054**	**6,061**	**6,057**	**6,067**	**6,075**	**6,083**	*6,090*	*6,099*	*6,107*	*6,115*	*6,123*	*6,131*	**6,067**	*6,099*	*6,131*
Middle Atlantic	**16,405**	**16,405**	**16,387**	**16,404**	**16,416**	**16,433**	*16,446*	*16,468*	*16,491*	*16,514*	*16,537*	*16,557*	**16,404**	*16,468*	*16,557*
E. N. Central	**19,076**	**19,090**	**19,095**	**19,140**	**19,172**	**19,194**	*19,210*	*19,234*	*19,258*	*19,283*	*19,308*	*19,331*	**19,140**	*19,234*	*19,331*
W. N. Central	**8,717**	**8,729**	**8,736**	**8,763**	**8,782**	**8,805**	*8,824*	*8,841*	*8,858*	*8,876*	*8,894*	*8,910*	**8,763**	*8,841*	*8,910*
S. Atlantic	**26,284**	**26,358**	**26,405**	**26,516**	**26,611**	**26,709**	*26,795*	*26,883*	*26,970*	*27,057*	*27,142*	*27,227*	**26,516**	*26,883*	*27,227*
E. S. Central	**7,816**	**7,830**	**7,840**	**7,866**	**7,886**	**7,907**	*7,926*	*7,943*	*7,960*	*7,977*	*7,994*	*8,011*	**7,866**	*7,943*	*8,011*
W. S. Central	**15,332**	**15,379**	**15,414**	**15,482**	**15,541**	**15,602**	*15,656*	*15,708*	*15,760*	*15,813*	*15,867*	*15,919*	**15,482**	*15,708*	*15,919*
Mountain	**9,612**	**9,653**	**9,688**	**9,744**	**9,792**	**9,837**	*9,879*	*9,919*	*9,958*	*9,999*	*10,038*	*10,077*	**9,744**	*9,919*	*10,077*
Pacific	**19,002**	**18,992**	**18,979**	**19,010**	**19,039**	**19,067**	*19,092*	*19,113*	*19,136*	*19,161*	*19,188*	*19,215*	**19,010**	*19,113*	*19,215*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	**7.5**	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.6*	**7.2**	*7.5*	*7.5*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	**19.6**	*19.7*	*19.8*	*19.8*	*19.8*	*19.8*	*19.9*	**18.8**	*19.6*	*19.8*
E. N. Central	**21.1**	**21.2**	**21.4**	**21.6**	**21.9**	**22.0**	*22.1*	*22.2*	*22.2*	*22.3*	*22.3*	*22.4*	**21.3**	*22.0*	*22.3*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	**10.7**	*10.8*	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	**10.5**	*10.7*	*10.8*
S. Atlantic	**28.2**	**28.5**	**28.8**	**29.2**	**29.5**	**29.8**	*29.9*	*30.0*	*30.1*	*30.1*	*30.2*	*30.3*	**28.7**	*29.8*	*30.2*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	**8.4**	*8.4*	*8.5*	*8.5*	*8.5*	*8.5*	*8.5*	**8.2**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.9**	**18.1**	**18.2**	*18.3*	*18.4*	*18.5*	*18.5*	*18.5*	*18.6*	**17.5**	*18.3*	*18.5*
Mountain	**10.8**	**11.0**	**11.1**	**11.3**	**11.4**	**11.5**	*11.6*	*11.6*	*11.7*	*11.7*	*11.7*	*11.8*	**11.1**	*11.5*	*11.7*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.7**	**23.9**	*24.0*	*24.1*	*24.2*	*24.2*	*24.3*	*24.3*	**22.8**	*23.9*	*24.3*

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,013**	**780**	**84**	**1,922**	**3,141**	**792**	*126*	*2,140*	*3,092*	*871*	*146*	*2,140*	**5,800**	*6,199*	*6,250*
Middle Atlantic	**2,820**	**668**	**57**	**1,726**	**2,939**	**664**	*81*	*1,976*	*2,868*	*692*	*91*	*1,976*	**5,271**	*5,659*	*5,626*
E. N. Central	**3,086**	**707**	**70**	**1,886**	**3,268**	**761**	*124*	*2,253*	*3,146*	*738*	*132*	*2,253*	**5,749**	*6,406*	*6,270*
W. N. Central	**3,227**	**718**	**88**	**2,026**	**3,481**	**790**	*162*	*2,453*	*3,250*	*716*	*169*	*2,453*	**6,059**	*6,885*	*6,588*
South Atlantic	**1,346**	**213**	**10**	**799**	**1,345**	**189**	*13*	*956*	*1,384*	*193*	*14*	*954*	**2,368**	*2,503*	*2,546*
E. S. Central	**1,790**	**314**	**19**	**1,034**	**1,821**	**249**	*20*	*1,301*	*1,812*	*255*	*23*	*1,302*	**3,158**	*3,391*	*3,392*
W. S. Central	**1,297**	**121**	**1**	**497**	**1,343**	**57**	*4*	*788*	*1,199*	*93*	*6*	*787*	**1,915**	*2,191*	*2,086*
Mountain	**2,310**	**664**	**110**	**1,635**	**2,297**	**724**	*146*	*1,848*	*2,248*	*718*	*163*	*1,847*	**4,719**	*5,015*	*4,976*
Pacific	**1,558**	**484**	**77**	**1,207**	**1,405**	**614**	*99*	*1,223*	*1,541*	*600*	*93*	*1,225*	**3,325**	*3,341*	*3,458*
U.S. Average	**2,107**	**472**	**51**	**1,307**	**2,150**	**493**	*75*	*1,529*	*2,112*	*494*	*80*	*1,528*	**3,936**	*4,247*	*4,213*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	**853**	*107*	*2,104*	*3,151*	*859*	*107*	*2,110*	**6,195**	*6,164*	*6,227*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	**684**	*71*	*1,908*	*2,944*	*691*	*71*	*1,912*	**5,572**	*5,550*	*5,619*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	**727**	*97*	*2,162*	*3,215*	*742*	*96*	*2,171*	**6,161**	*6,119*	*6,224*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	**726**	*125*	*2,357*	*3,317*	*754*	*126*	*2,367*	**6,477**	*6,427*	*6,564*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	**188**	*11*	*906*	*1,401*	*190*	*10*	*902*	**2,503**	*2,483*	*2,503*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	**243**	*15*	*1,228*	*1,809*	*251*	*14*	*1,226*	**3,267**	*3,248*	*3,300*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	**93**	*3*	*754*	*1,189*	*95*	*3*	*761*	**2,015**	*1,995*	*2,049*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	**685**	*132*	*1,817*	*2,201*	*700*	*135*	*1,824*	**4,877**	*4,816*	*4,860*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,454**	**523**	*79*	*1,137*	*1,439*	*523*	*80*	*1,142*	**3,242**	*3,192*	*3,185*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,095**	**479**	*62*	*1,473*	*2,133*	*486*	*62*	*1,475*	**4,147**	*4,110*	*4,157*
Cooling Degree Days															
New England	**0**	**142**	**457**	**6**	**0**	**90**	*441*	*2*	*0*	*80*	*389*	*2*	**605**	*533*	*471*
Middle Atlantic	**0**	**181**	**627**	**23**	**0**	**164**	*558*	*5*	*0*	*149*	*521*	*5*	**831**	*726*	*674*
E. N. Central	**2**	**250**	**627**	**30**	**1**	**268**	*540*	*7*	*0*	*209*	*517*	*7*	**910**	*816*	*734*
W. N. Central	**8**	**311**	**746**	**23**	**3**	**325**	*667*	*10*	*3*	*255*	*646*	*10*	**1,089**	*1,005*	*914*
South Atlantic	**153**	**614**	**1,167**	**284**	**154**	**704**	*1,157*	*234*	*126*	*642*	*1,137*	*235*	**2,219**	*2,249*	*2,139*
E. S. Central	**40**	**435**	**1,016**	**126**	**29**	**600**	*1,042*	*65*	*28*	*495*	*1,012*	*65*	**1,618**	*1,736*	*1,600*
W. S. Central	**90**	**769**	**1,470**	**315**	**55**	**1,083**	*1,508*	*207*	*81*	*819*	*1,458*	*207*	**2,643**	*2,853*	*2,565*
Mountain	**10**	**526**	**961**	**68**	**16**	**440**	*916*	*74*	*17*	*406*	*893*	*74*	**1,565**	*1,447*	*1,390*
Pacific	**24**	**254**	**712**	**57**	**31**	**204**	*559*	*62*	*25*	*164*	*569*	*62*	**1,047**	*855*	*819*
U.S. Average	**50**	**410**	**902**	**127**	**46**	**463**	*853*	*95*	*43*	*387*	*830*	*95*	**1,489**	*1,456*	*1,355*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	**87**	*471*	*2*	*0*	*88*	*467*	*2*	**555**	*561*	*558*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	**162**	*608*	*8*	*0*	*160*	*601*	*8*	**779**	*779*	*770*
E. N. Central	**3**	**234**	**572**	**7**	**3**	**238**	*571*	*9*	*1*	*235*	*559*	*10*	**816**	*821*	*805*
W. N. Central	**7**	**294**	**686**	**10**	**7**	**299**	*681*	*11*	*4*	*294*	*667*	*12*	**997**	*999*	*977*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	**668**	*1,188*	*269*	*144*	*674*	*1,188*	*273*	**2,276**	*2,271*	*2,280*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	**518**	*1,057*	*84*	*36*	*521*	*1,057*	*86*	**1,713**	*1,702*	*1,700*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	**853**	*1,536*	*224*	*101*	*860*	*1,532*	*226*	**2,772**	*2,726*	*2,720*
Mountain	**24**	**441**	**949**	**85**	**23**	**458**	*945*	*84*	*23*	*453*	*940*	*82*	**1,499**	*1,511*	*1,499*
Pacific	**31**	**193**	**648**	**86**	**31**	**208**	*665*	*85*	*32*	*212*	*656*	*84*	**959**	*990*	*984*
U.S. Average	**52**	**413**	**892**	**104**	**53**	**412**	*889*	*109*	*50*	*415*	*884*	*110*	**1,461**	*1,463*	*1,459*

- = no data available

Notes: EIA completed modeling and analysis for this report on July 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

August 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The August *Short-Term Energy Outlook* (STEO) is subject to heightened uncertainty resulting from Russia's full-scale invasion of Ukraine, how sanctions affect Russia's oil production, the production decisions of OPEC+, the rate at which U.S. oil and natural gas production rises, and other contributing factors. Less robust economic activity in our forecast could result in lower-than-forecast energy consumption.
- We forecast the spot price of Brent crude oil will average $105 per barrel (b) in 2022 and $95/b in 2023.
- U.S. crude oil production in our forecast averages 11.9 million barrels per day (b/d) in 2022 and 12.7 million b/d in 2023, which would set a record for most U.S. crude oil production in a year. The current record is 12.3 million b/d, set in 2019.
- We estimate that 98.8 million b/d of petroleum and liquid fuels was consumed globally in July 2022, an increase of 0.9 million b/d from July 2021. We forecast that global consumption of petroleum and liquid fuels will average 99.4 million b/d for all of 2022, which is a 2.1 million b/d increase from 2021. We forecast that global consumption of petroleum and liquid fuels will increase by another 2.1 million b/d in 2023 to average 101.5 million b/d.
- The U.S. retail price for regular grade gasoline averaged $4.56 per gallon (gal) in July, and the average retail diesel price was $5.49/gal. We expect retail gasoline prices to average $4.29/gal in the third quarter of 2022 (3Q22) and fall to an average of $3.78/gal in 4Q22. Retail diesel prices in our forecast average $5.02/gal in 3Q22 and $4.39/gal in 4Q22.
- U.S. refineries average 93% utilization in 3Q22 in our forecast, as a result of high wholesale product margins. Elevated prices for gasoline and diesel reflect refining margins for those products that are at or near record highs amid low inventory levels.

Natural gas

- In July, the Henry Hub spot price averaged $7.28 per million British thermal units (MMBtu), down from $7.70/MMBtu in June and $8.14/MMBtu in May. Average natural

gas prices fell over the last two months primarily because of additional supply in the domestic market following the shutdown of the Freeport LNG export terminal on June 8. However, prices increased by almost 50%, from $5.73/MMBtu on July 1 to $8.37/MMBtu on July 29, because of continued high demand for natural gas from the electric power sector. We expect the Henry Hub price to average $7.54/MMBtu in the second half of 2022 and then fall to an average of $5.10/MMBtu in 2023 amid rising natural gas production.

- U.S. natural gas inventories ended July at 2.5 trillion cubic feet (Tcf), which was 12% below the 2017–2021 average. We forecast that natural gas inventories will end the 2022 injection season (end of October) at close to 3.5 Tcf, which would be 6% below the five-year average.

- We forecast that U.S. LNG exports will average 10.0 Bcf/d in 3Q22 and 11.2 Bcf/d for all of 2022, a 14% increase from 2021. This increase is the result of additional U.S. LNG export capacity that has come online and Freeport LNG resuming operations sooner than we had initially expected. In the first half of 2022, the United States became the largest LNG exporter in the world. We forecast LNG exports will average 12.7 Bcf/d in 2023.

- U.S. consumption of natural gas in our forecast averages 85.2 Bcf/d in 2022, up 3% from 2021. Consumption in the electric power sector continues to increase as a result of limited switching from natural gas-fired generators to coal-fired generators for power generation, despite elevated natural gas prices. In addition, rising U.S. natural gas consumption reflects increased consumption in the residential and commercial sectors as a result of colder temperatures on average in 2022 than in 2021. We forecast that natural gas consumption will average 83.8 Bcf/d in 2023, about 1.3 Bcf/d (2%) lower than in 2022.

- We forecast U.S. dry natural gas production to average 97.1 Bcf/d in August and 96.6 Bcf/d during all of 2022, which would be 3.0 Bcf/d (3%) more than in 2021. We expect dry natural gas production to average 100.0 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- We expect U.S. sales of electricity to ultimate customers to increase in the forecast by 2.5% in 2022, mostly because of rising economic activity but also because of hot summer weather in much of the country. Forecast U.S. sales of electricity decline by 0.3% in 2023.

- The largest increases in U.S. electricity generation in our forecast come from renewable energy sources, mostly solar and wind. We expect renewable sources will provide 22% of U.S. generation in 2022 and 24% in 2023, up from 20% in 2021.

- We forecast the U.S. residential electricity price will average 14.6 cents per kilowatthour (kWh) in 2022, up 6.1% from 2021. Higher retail electricity prices largely reflect an increase in wholesale power prices driven by rising natural gas prices. Annual average wholesale prices for 2022 range from an average of $62 per megawatthour (MWh) in Florida to $95/MWh in the ISO New England and New York ISO markets.

- The U.S. electric power sector added 13 gigawatts (GW) of utility-scale solar photovoltaic (PV) capacity in 2021. Solar capacity additions in the forecast period total 20 GW for 2022 and 24 GW for 2023, and they represent an addition of 31 billion kWh of electric power generation in 2022 and 41 billion kWh in 2023.

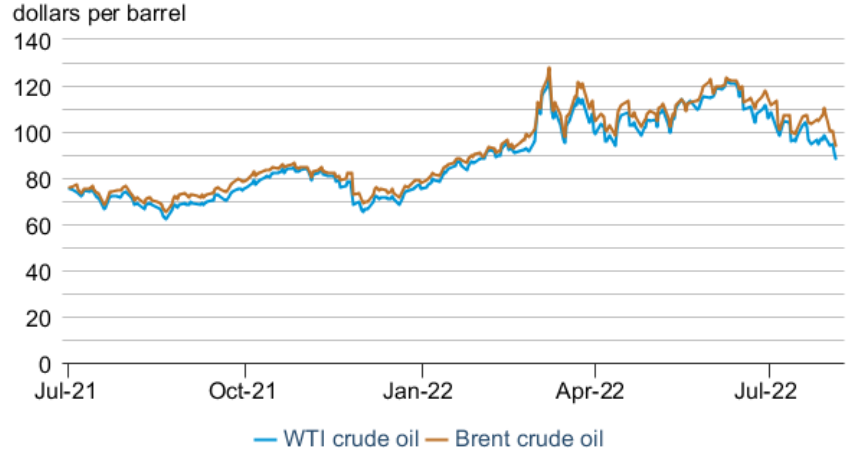
- U.S. coal production is forecast to increase by 21 million short tons (MMst) to 599 MMst in 2022 and to 601 MMst in 2023. We expect coal consumption to be slightly lower in 2022 at 541 MMst, relative to 546 MMst in 2021. This forecast decline is a result of constraints on coal generation and mine shutdowns as well as coal transportation limitations. As coal plant shutdowns continue and natural gas prices fall, coal consumption is expected to decline by 9% to 493 MMst in 2023. Coal exports increase from 85 MMst in 2021 to 87 MMst in 2022 and to 98 MMst in 2023.

Petroleum and Natural Gas Markets Review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $94.12 per barrel (b) on August 4, a decrease of $17.51/b from the July 1 price of $111.63/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $19.89/b during the same period, settling at $88.54/b on August 4 **(Figure 1)**.

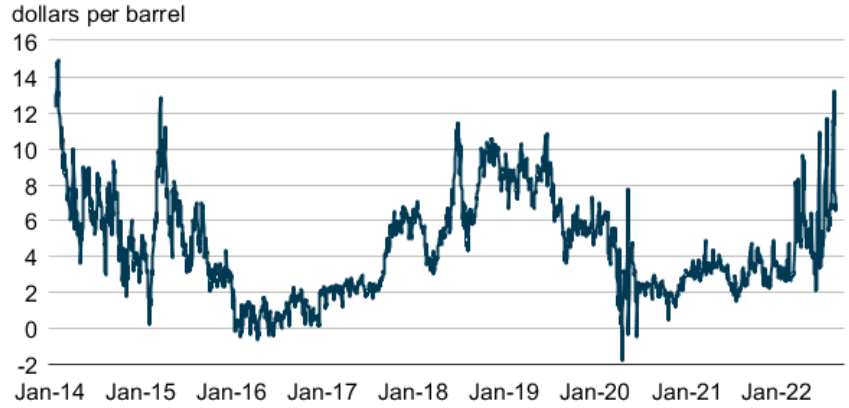
Figure 1. Crude oil front-month futures prices



eia Data source: CME Group, Intercontinental Exchange, and Bloomberg L.P.
Note: WTI=West Texas Intermediate

Crude oil prices generally decreased in July, and the price of WTI decreased by more than Brent. The price spread between Brent and WTI increased to a high of $13.26/b on July 29, the highest price spread since January 14, 2014 **(Figure 2)**. This wide Brent-WTI spread, which reflects supply and demand dynamics in Northwest Europe, has come down in the first few trading days of August but remains high.

Figure 2. Brent–WTI futures price spread

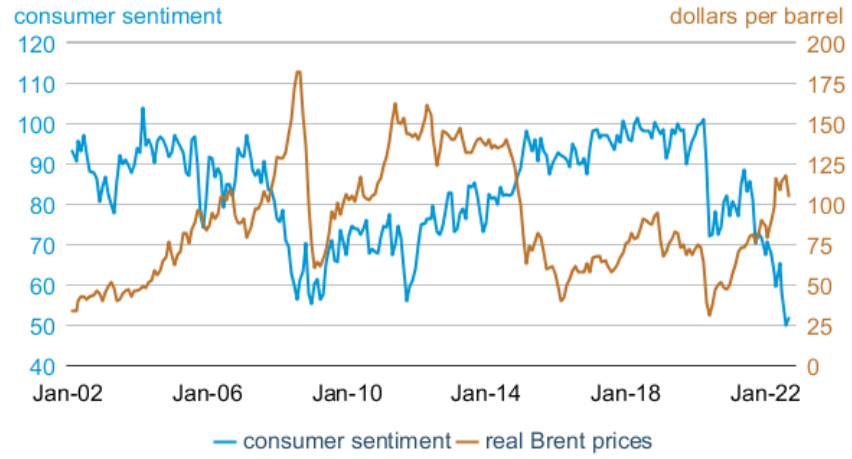


Data source: Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Russia's full-scale invasion of Ukraine has resulted in shifting trade patterns, leaving Europe to find substitutes for Russia's oil. This change has driven up the price of Brent contracts to a level high enough to reduce Asia's imports of Brent crude oil and to retain more oil in Europe. The Brent-WTI spread has also increased enough to attract more imports of crude oil from the United States into Europe. From March through July, the Brent-WTI spread averaged $6.05/b, an almost $2.50/b increase from the first two months of the year. We forecast the Brent-WTI spread will average $6/b in 2023, up $2/b from the July STEO. This high spread will keep exports from Europe to Asia subdued and encourage higher imports from the United States, both of which will likely be necessary as the EU reduces crude oil imports from Russia by 90% by the end of the year.

Although supply disruptions have kept crude oil prices around $100/b, crude oil prices have come down slightly in July as concerns of slower economic growth or a recession become more prevalent. These concerns are reflected in the University of Michigan's survey of consumer sentiment, which recorded its lowest reading on record in June, with data going back to November 1952 **(Figure 3)**. Likewise, consumer sentiment in the Euro Area has decreased, reaching record lows in July.

Figure 3. Consumer sentiment and real Brent crude oil prices



eia Data source: University of Michigan Surveys of Consumers; CME Group, ICE, and Bloomberg L.P.
Note: Real prices were calculated using the Consumer Price Index.

Consumer sentiment has been decreasing as inflation continues to be strong, borrowing costs increase with higher interest rates, and economic growth shows signs of slowing. Data points reflecting these trends include:

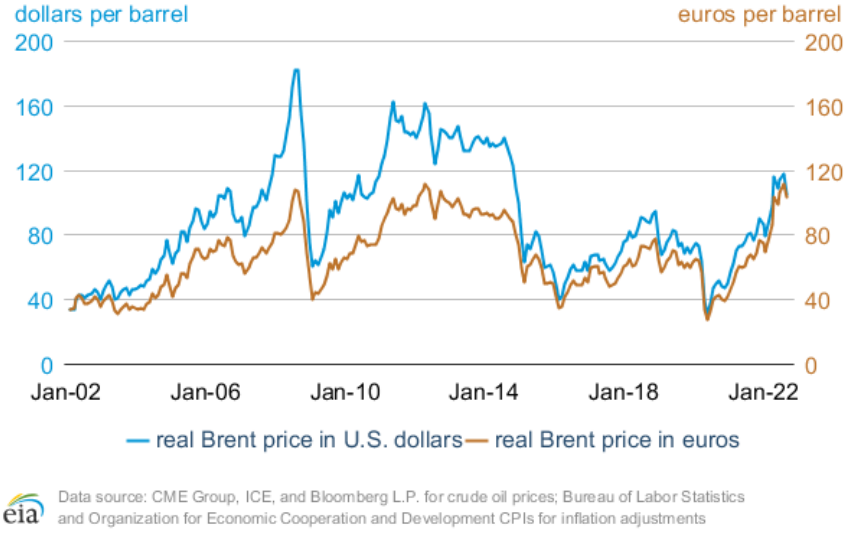
- The Bureau of Labor Statistics' Consumer Price Index in June showed year-over-year inflation of 9.1%, its fastest rate since 1981.
- Inflationary concerns have led to the Federal Reserve increasing interest rates, which increases borrowing costs and could also be affecting consumer sentiment.
- As prices have risen, U.S. manufacturing, as measured by the manufacturing Purchasing Manager Index (PMI), decreased in July to its lowest levels since July 2020.
- The Bureau of Economic Analysis's gross domestic product report released in July showed U.S. real gross domestic product contracting by an estimated 0.9% in 2Q22, making it the second consecutive quarter of economic contraction.

Consumer sentiment has often declined in response to high crude oil prices. This trend likely reflects the effects of higher crude oil prices on consumer budgets. Higher crude oil prices lead directly to increased costs for fuel that consumers purchase for transportation. Additionally, rising crude oil prices can create inflationary pressures throughout the economy by raising input costs of goods. Because inflation has been affecting consumers' budgets for an extended time now, it is likely that some consumers have begun to make lifestyle adjustments that are reducing petroleum product consumption in the third quarter, which we have reflected as reductions in our forecast.

Price of Brent crude oil in U.S. dollars and euros: As U.S. interest rates rise and concerns of a recession increase, demand for U.S. dollars has increased, strengthening its value relative to other currencies. For countries using a currency other than the U.S. dollar, a strengthening

dollar could make the imported cost of a barrel of crude oil more expensive. For example, recently the dollar has been trading close to the euro for the first time since 2002. Whereas the inflation-adjusted price of a barrel of crude oil in U.S. dollars is not as high as the levels seen from 2011–2014 or in 2008, the real price of a barrel of crude oil in euros has surpassed those highs **(Figure 4)**. The relatively higher prices have further contributed to slowing growth in petroleum and other liquids consumption in the second half of 2022 (2H22).

Figure 4. Real Brent crude oil price in U.S. dollars and euros

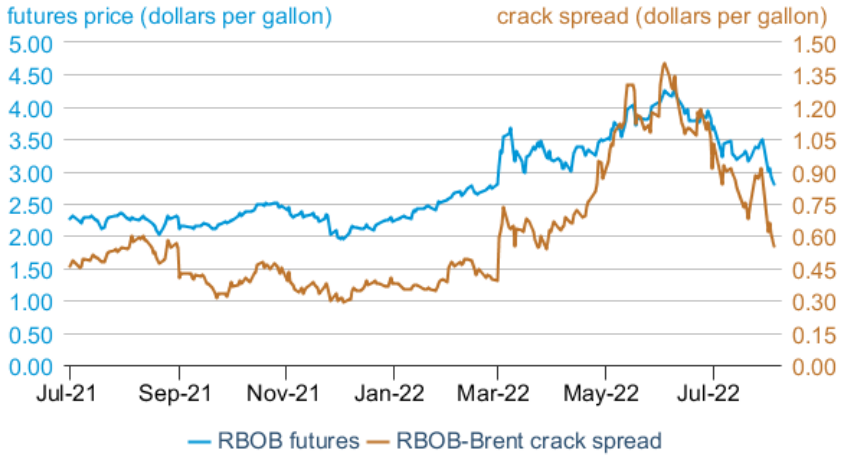


Data source: CME Group, ICE, and Bloomberg L.P. for crude oil prices; Bureau of Labor Statistics and Organization for Economic Cooperation and Development CPIs for inflation adjustments

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.79 per gallon (gal) on August 4, down 89 cents/gal from July 1 **(Figure 5)**. The RBOB-Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at $0.55/gal on August 4, down 48 cents/gal during the same period.

Figure 5. Historical RBOB front-month futures prices and crack spreads



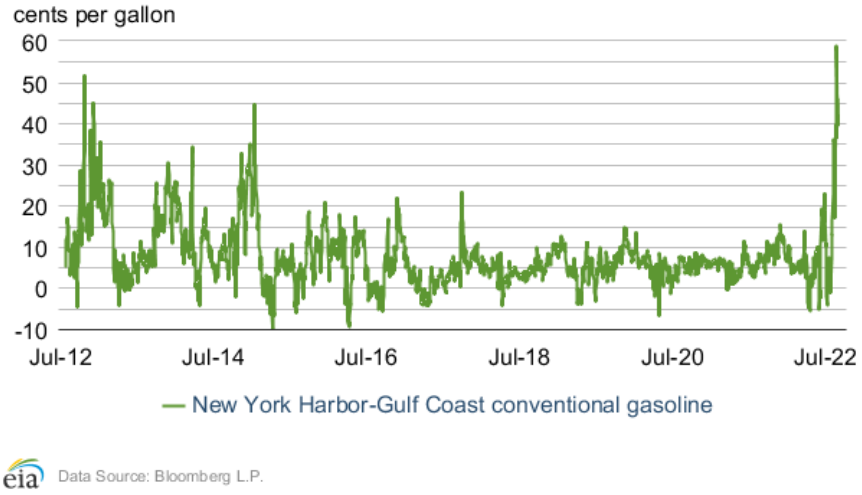
Data source: CME Group and Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

Lower crude oil prices and a narrowing gasoline crack spread both contributed to an overall decrease in RBOB prices in July. The monthly average RBOB price in July was $3.34/gal, a decrease of 65 cents/gal compared with June. Just over half of this decrease was in the gasoline crack spread, which decreased to a monthly average of 85 cents/gal, down 34 cents/gal compared with June. The gasoline crack spread has remained below $1/gal since July 1.

Gasoline inventories in the United States increased by 7.8 million barrels in July compared with June. Increased gasoline production as a result of high refinery utilization has filled inventories amid relatively lower gasoline demand compared with 2021. We estimate that refinery utilization and gasoline production will rise in August before decreasing in September, in line with normal seasonal trends for fall maintenance. We estimate that less gasoline demand in the fall and winter will partially offset lower refinery production during the fall maintenance season, though this will lead to normal seasonal draws on inventories until November. From September through the end of 2022, we expect end-of-month motor gasoline inventories to be within 10 million barrels of the five-year average. As inventories grow closer to typical seasonal levels, we expect monthly average gasoline prices to continue decreasing. However, unexpected reductions in refinery operations because of unplanned outages—particularly those related to hurricanes on the Gulf Coast—as well as potential increases in driving activity in response to lower retail gasoline prices both present upside risks to gasoline prices and crack spreads.

New York Harbor-Gulf Coast price differential: The price differential for conventional gasoline between the New York Harbor and U.S. Gulf Coast spot markets increased substantially in July. On July 29, the price spread widened to 59 cents/gal, the widest spread in real terms since September 2012 **(Figure 6)**. The average price spread in July was 27 cents/gal, the widest monthly average price spread in real terms since 2014.

Figure 6. New York Harbor-Gulf Coast conventional gasoline spot price differentials

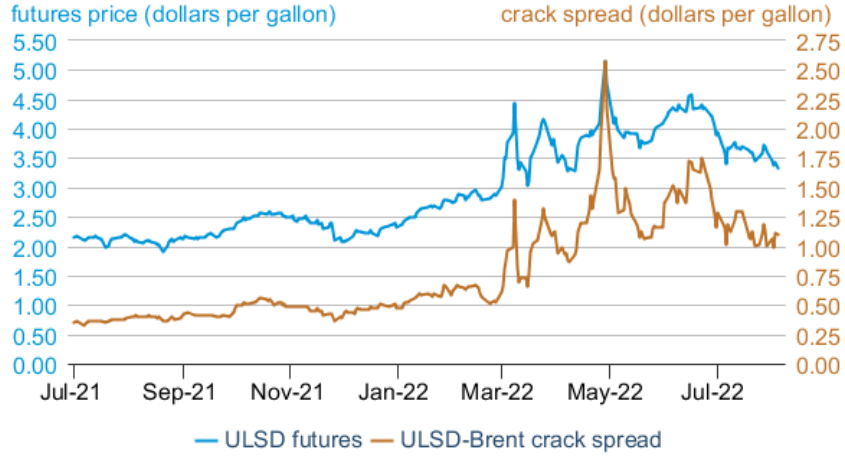


The wide price spread reflects substantially lower gasoline inventories at New York Harbor and along the East Coast than on the Gulf Coast. East Coast weekly motor gasoline inventories have averaged 21% less than the five-year average since May. In contrast, Gulf Coast weekly motor gasoline inventories have averaged slightly more than the five-year average since May. East Coast refineries produce a relatively small share of the overall volume of gasoline that is consumed in the region. The East Coast has historically imported gasoline from Europe and Canada and received transfers from the U.S. Gulf Coast to meet its consumption needs. Lower gasoline inventories along the East Coast reflect the impact of not only reduced imports of gasoline from Europe but also the closure of what had been the East Coast's largest refinery in 2019, as well as the closure of the export-oriented Canadian Come-by-Chance refinery in 2020. With these lost sources of supply, Gulf Coast refiners have increased refinery utilization and gasoline production in response to the high prices, but logistical capacity constraints limit the volume of gasoline that can be moved to East Coast markets, accounting for the wide regional discrepancy in inventory levels.

Trade press reports have suggested that line space along the Colonial Pipeline (the largest petroleum product pipeline connecting the Gulf Coast to the East Coast), which is traded on secondary markets, was pricing at its highest premium to the pipeline's tariff rate since 2015. Gasoline that cannot be moved along the Colonial Pipeline or the smaller Products SE Pipeline must instead be moved from the Gulf Coast to the East Coast by rail or Jones Act compliant tanker. The current level of the regional price spread suggests that even capacity on more expensive modes of transit between the Gulf Coast to the East Coast, such as rail or tanker, are being used to their current capacity. Increased tanker traffic, more available space on rail lines, or even increased long distance trucking traffic to certain regions may become temporarily viable at current price spreads if market participants believe the price spreads will last long enough to justify the diversion of resources.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $3.34/gal on August 4, a 60 cents/gal decrease from July 1 **(Figure 7)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased 18 cents/gal during the same period and settled at $1.10/gal on August 4.

Figure 7. Historical ULSD front-month futures prices and crack spreads



Data source: CME Group and Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

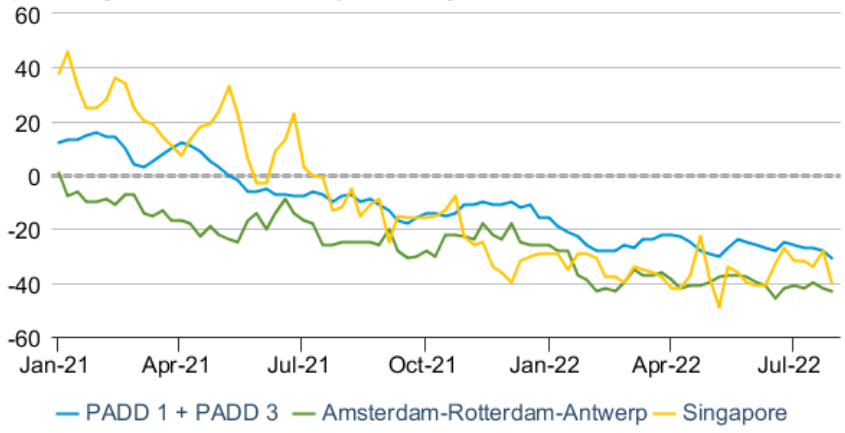
ULSD prices and crack spreads decreased this month to levels not seen since early April, as concerns about a potential recession weighed on the economic outlook. Compared with June, July ULSD prices were 15% lower, and crack spreads were 24% narrower, marking the first decline in ULSD prices since the beginning of the year. However, ULSD prices in July were still 71% higher than in July 2021, and ULSD crack spreads for July were three times wider than in July 2021.

Declining crude oil prices and less domestic consumption of distillate contributed to lower distillate prices. We estimate distillate consumption decreased by 0.2 million b/d (4%) from June to 3.7 million b/d in July. Consumption typically declines in July as stocks rebuild to prepare for higher demand during the fall harvest season and winter heating season. However, we estimate U.S. distillate inventories decreased 1.8 million barrels (2%) in July to reach 109 million barrels, or 26% below the five-year average. We estimate U.S. distillate production averaged 5.1 million b/d in July, slightly below June, which had seen the most production since December 2019. Strong global distillate demand continues to support higher production and, with lower domestic consumption, higher-than-average exports in July. We forecast production will remain above 2021 levels through the rest of the year.

International distillate inventories: Western sanctions against Russia's petroleum product exports following its full-scale invasion of Ukraine in February have been a major driver of global distillate prices this year. Even before the sanctions, however, distillate inventories at all three

major trading hubs (New York Harbor, Amsterdam-Rotterdam-Antwerp, and Singapore) started the year below their respective five-year averages **(Figure 8)**. U.S. distillate inventories increased to record highs in 2020 when the COVID-19 pandemic resulted in historically low consumption of petroleum products. As demand returned, inventory drawdowns began in the United States and followed overseas by the beginning of 2021. As of July 29, 2022, combined distillate inventories in the East Coast and the Gulf Coast (PADD 1 and PADD 3) were 31% below the five-year average, and inventories at Amsterdam-Rotterdam-Antwerp and Singapore were around 40% below their five-year averages. In addition to sanctions on Russia's exports, reduced refinery capacity in the United States and lower quotas for exports from China contributed to distillate inventory draws. Low inventories globally have put sustained upward pressure on distillate prices. We forecast higher-than-average domestic distillate production will begin contributing to building inventories in August with overall domestic stocks reaching 119 million barrels, or 17% short of the five-year average, by the end of this year.

Figure 8. International distillate inventories

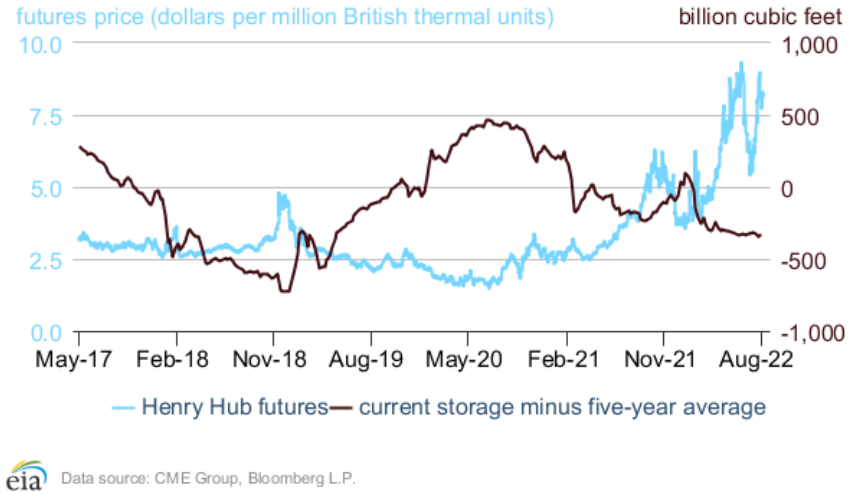


eia Data source: EIA, *Weekly Petroleum Status Report*, and CME Group as compiled by Bloomberg L.P.

Natural gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $8.12 per million British thermal units (MMBtu) on August 4, up $2.39/MMBtu from July 1, 2022 **(Figure 9)**. The average price for front-month natural gas futures contracts in July was $7.19/MMBtu, down 41 cents/MMBtu from June's average of $7.60/MMBtu when the front-month natural gas futures price topped $9.00/MMBtu on two days.

Figure 9. U.S. natural gas front-month futures prices and current storage deviation from five-year average



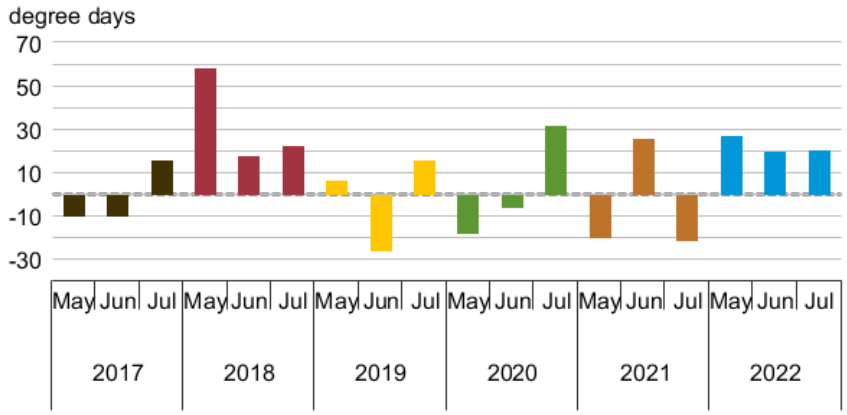
eia Data source: CME Group, Bloomberg L.P.

Natural gas injections into storage in June were 2% higher than the five-year (2017–2021) average. That trend reversed in July as 10% less natural gas was injected into storage than the five-year average. We estimate that storage inventories ended July at 2,493 billion cubic feet (Bcf), 12% less than the five-year average level.

The front-month Henry Hub futures price fell from $9.29/MMBtu on June 7, the day before the outage at Freeport LNG, to $5.42/MMBtu on June 30, likely because of market anticipation that the decrease in natural gas available for export would lead to an increase in natural gas supply available in the U.S. market. With more natural gas supply available, market participants may have anticipated more natural gas injections into storage. However, higher-than-normal temperatures in July increased consumption of natural gas for electric power generation to meet air-conditioning demand. We estimate that an average of 41.8 billion cubic feet per day (Bcf/d) of natural gas was consumed in the electric power sector during July, 2.2 Bcf/d more than the five-year average and 5.0 Bcf/d more than in June. At the same time, we estimate that dry natural gas production averaged 96.4 Bcf/d in July, down 0.6 Bcf/d from June.

Summer space cooling: During May, June, and July, the United States experienced 800 cumulative cooling degree days (CDD), or 69 (9%) more than the prior 10-year (2011–2020) average **(Figure 10),** and the most CDDs for this time period since 2018. Higher-than-normal temperatures led to more consumption of natural gas for electric power generation to meet air-conditioning demand. We estimate that natural gas consumption in the electric power sector averaged 36.2 Bcf/d from May through July, 2.1 Bcf/d more than the same time period in 2021 and 3.4 Bcf/d more than the five-year average. The strong demand has led to lower-than-average injections into natural gas storage for three of the four months so far during this injection season (April–October) and has contributed to the deficit in the storage inventory compared with the five-year average. The sustained lower-than-average storage inventories have put upward pressure on the Henry Hub spot natural gas price.

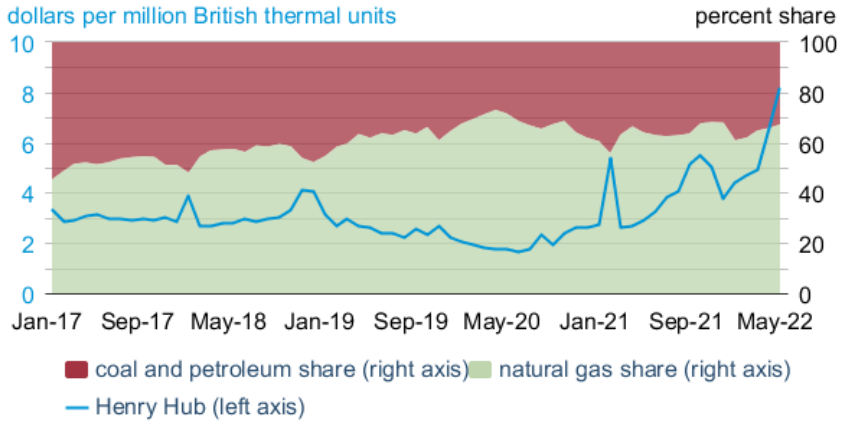
Figure 10. May–July cooling degree days deviation from 10-year average



eia Data source: U.S. Energy Information Administration, Short-Term Energy Outlook

Natural gas share of electricity generation: In recent years, the electric power sector substituted natural gas-fired generation with coal-fired generation when natural gas prices rose. However, in recent months, coal power plants have responded less to price than in the past, most likely as a result of continued coal capacity retirements, constraints in fuel delivery to coal plants, and lower-than-average stocks at coal plants. Additionally, growth in electricity generation capacity from renewable sources is limiting the dispatch of both coal and natural gas. The Henry Hub spot natural gas price has remained elevated since the beginning of the year, but natural gas has maintained a more than 60% share of fossil-fuel sourced electricity generation **(Figure 11)**. The Henry Hub spot price increased $3.76/MMBtu from January to May, but the natural gas share of fossil-fuel sourced electricity generation also increased from 60% in January to 67% in May despite the higher fuel cost.

Figure 11. Shares of fossil-fuel electricity generation in the United States and Henry Hub spot price



eia Data source: U.S. Energy Information Administration, Short-Term Energy Outlook
Note: Fossil-fuel=natural gas, petroleum liquids, petroleum coke, and coal

Notable forecast changes

- This STEO incorporates our changed forecast for the Brent and WTI crude oil price spread. Changes to sources of Europe's crude oil imports following Russia's full-scale invasion of Ukraine and the EU's subsequent petroleum import ban have contributed to redirections in oil trade flows. European countries are importing more crude oil from the United States and exporting less crude oil to countries in Asia, contributing to the development of a crude oil import price premium in Europe. As a result, we anticipate this trend will maintain a wider price spread between Brent and WTI crude oil of $6/b in 2023, which is $2/b wider than in the July STEO.

- Natural gas prices have risen in recent weeks in response to the sooner-than-expected re-opening of the Freeport LNG export terminal and ongoing hot weather. As a result, we have increased our forecast for natural gas prices. We now forecast that the Henry Hub price will average $7.54/MMBtu during the second half of 2022 compared with a forecast of $5.97/MMBtu in the last STEO. We have also raised our forecast average price for 2023 from $4.76/MMBtu to $5.10/MMBtu.

- We have revised our modeling of electricity supply to better reflect regional differences in fuel costs. This change, along with a higher forecast natural gas price, has contributed to some significant increases in our forecast for wholesale electricity prices, particularly in the Northeast. In the current STEO, we forecast winter wholesale prices in ISO New England will average $176 per megawatthour (MWh) between December and February compared with $57/MWh in the previous STEO. The large increase in forecast prices reflects updates to our assumption about that region's natural gas costs for this winter. We also raised our forecast electricity prices in Texas's ERCOT market.

- You can find more information in the detailed table of forecast changes.

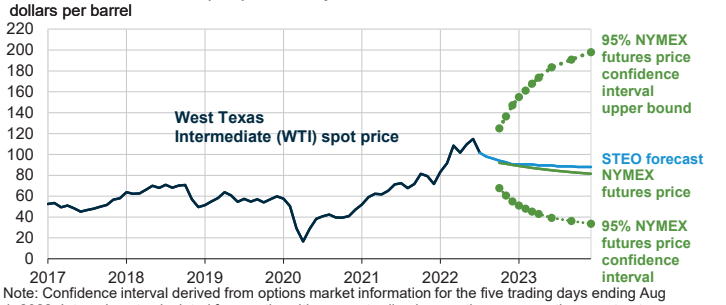
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

August 9, 2022

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

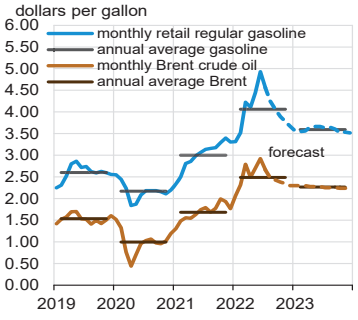


Note: Confidence interval derived from options market information for the five trading days ending Aug 4, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

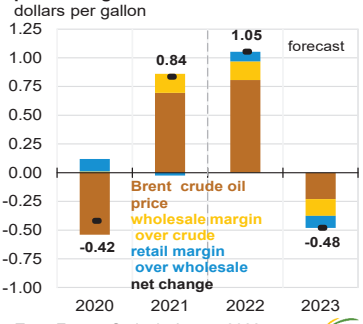
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



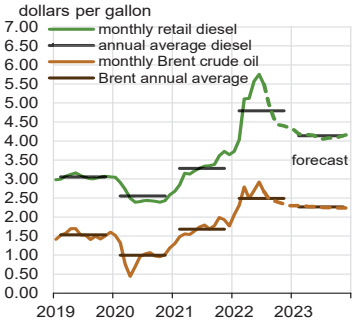
Components of annual gasoline price changes
dollars per gallon



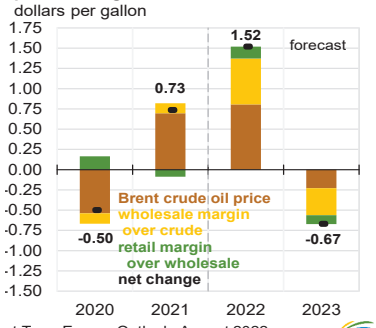
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices

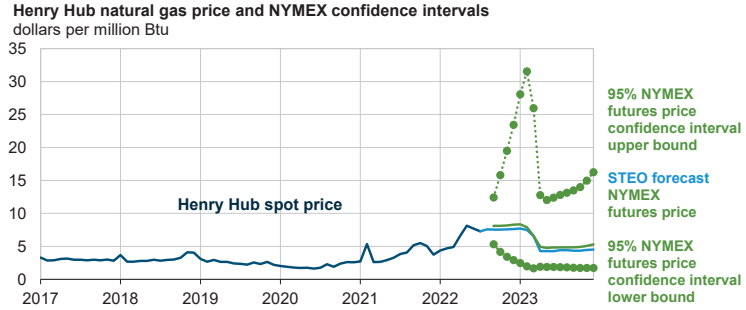


Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022, and Refinitiv an LSEG Business

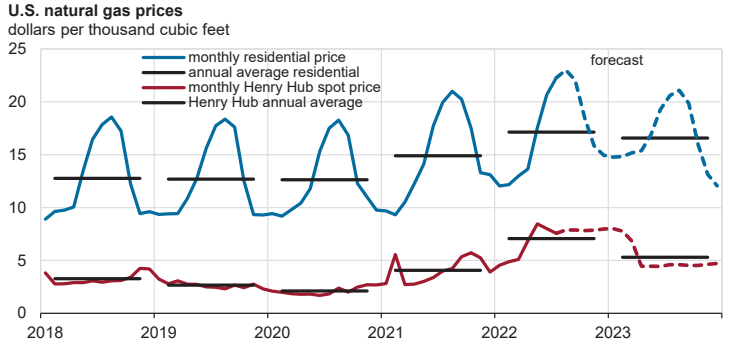
Henry Hub natural gas price and NYMEX confidence intervals



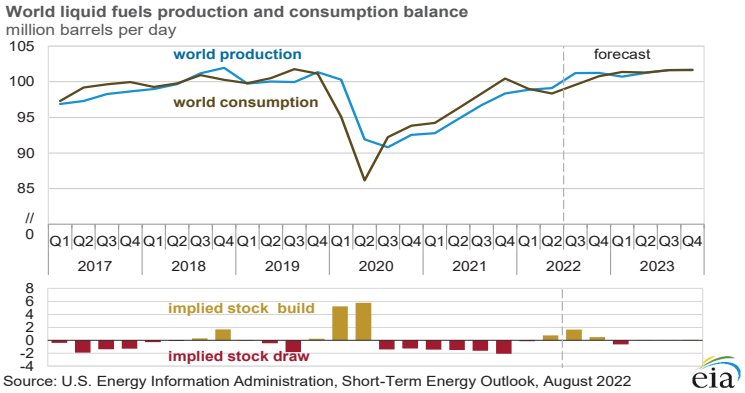
Note: Confidence interval derived from options market information for the five trading days ending Aug 4, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

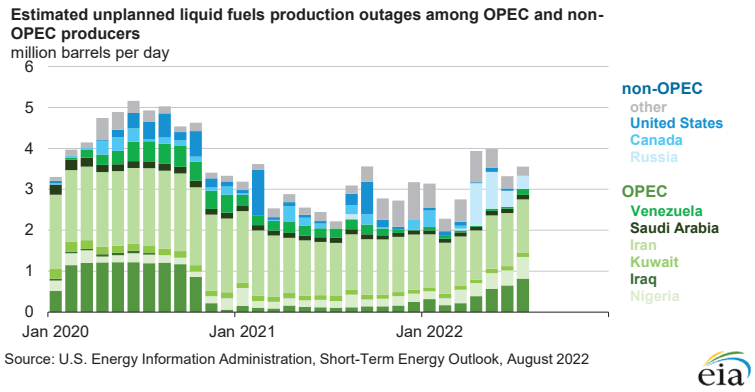
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022, CME Group, and Refinitiv an LSEG Business

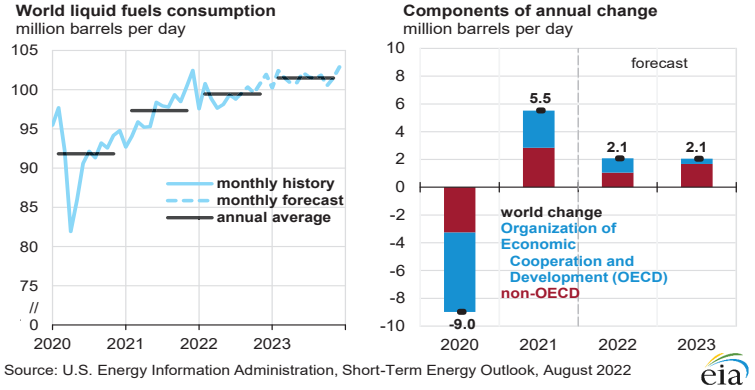
U.S. natural gas prices

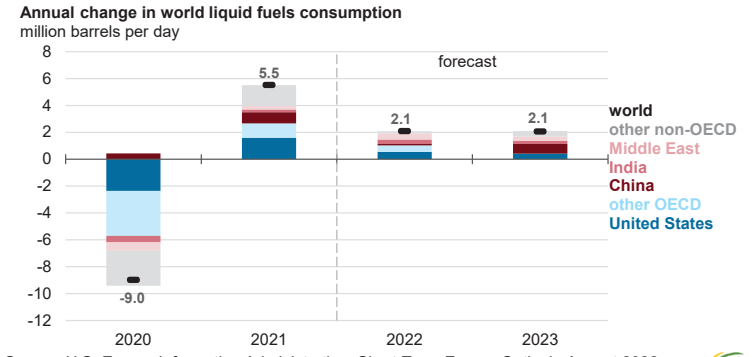


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022, and Refinitiv an LSEG Business

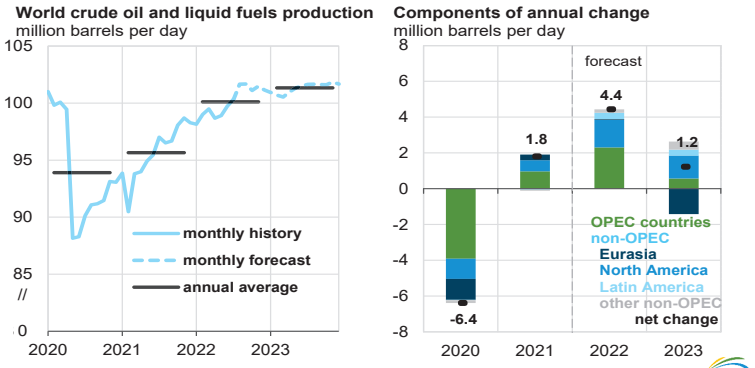

World liquid fuels production and consumption balance
million barrels per day
105
100
95
90
85
0
world production
world consumption
forecast
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2017
2018
2019
2020
2021
2022
2023
8
6
4
2
0
-2
-4
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6
5
4
3
2
1
0
Jan 2020
Jan 2021
Jan 2022
non-OPEC
other
United States
Canada
Russia
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022
eia

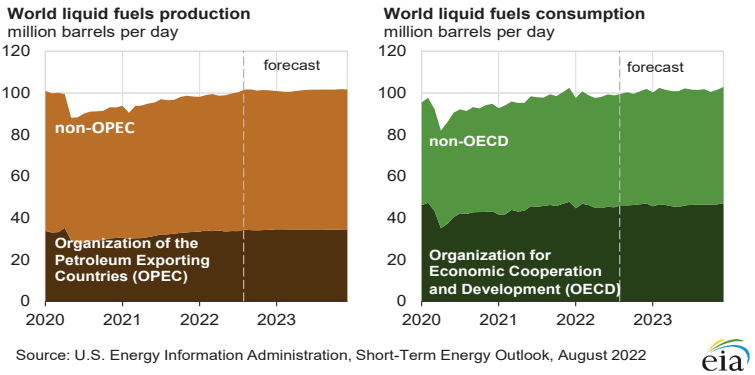

World liquid fuels consumption
million barrels per day
105
100
95
90
85
80
75
0
monthly history
monthly forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
10
8
6
4
2
0
-2
-4
-6
-8
-10
forecast
5.5
2.1
2.1
-9.0
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

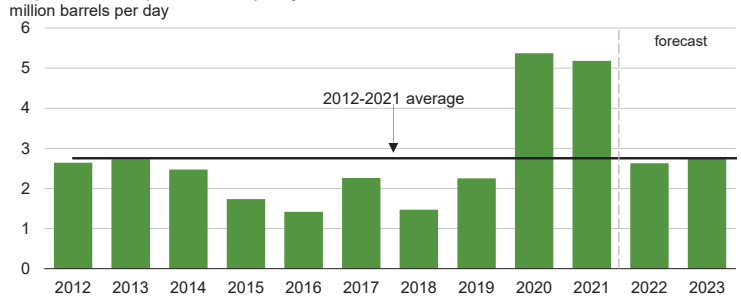


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



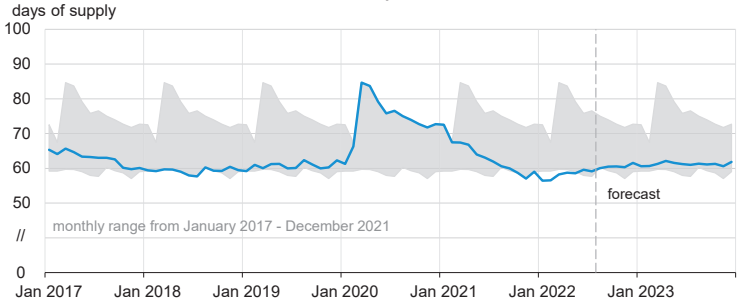
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



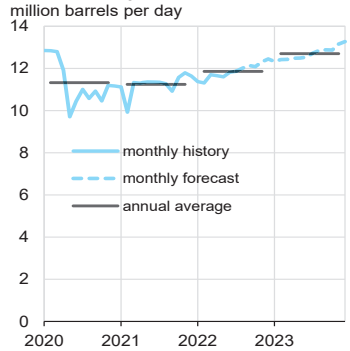
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

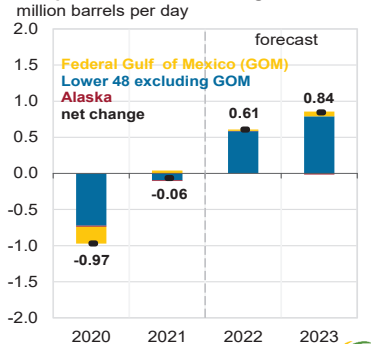


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. crude oil production
million barrels per day

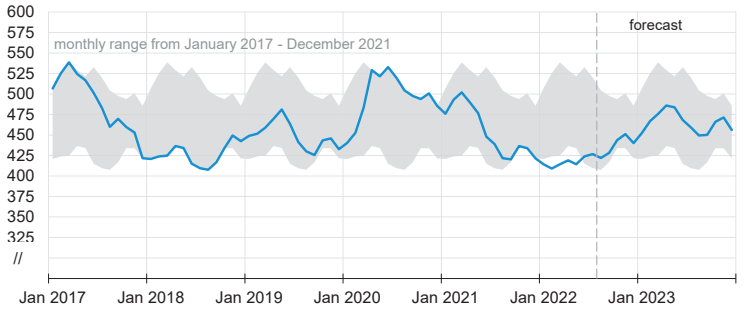


Components of annual change
million barrels per day



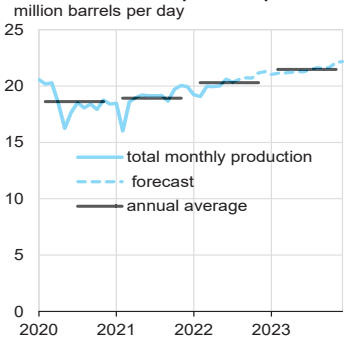
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. commercial crude oil inventories
million barrels

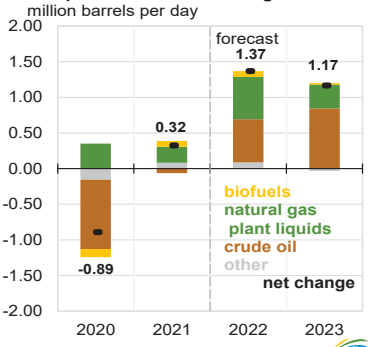


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. crude oil and liquid fuels production
million barrels per day

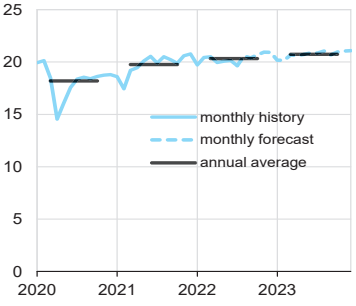


Components of annual change
million barrels per day

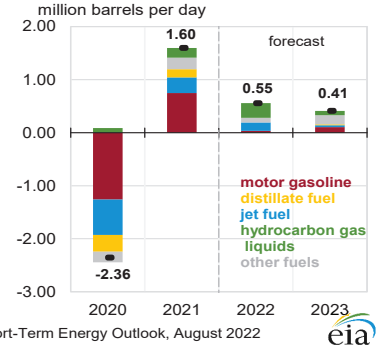


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August

U.S. liquid fuels product supplied (consumption)
million barrels per day

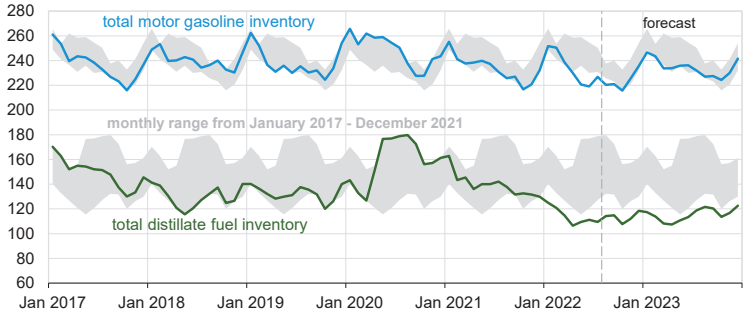


Components of annual change
million barrels per day



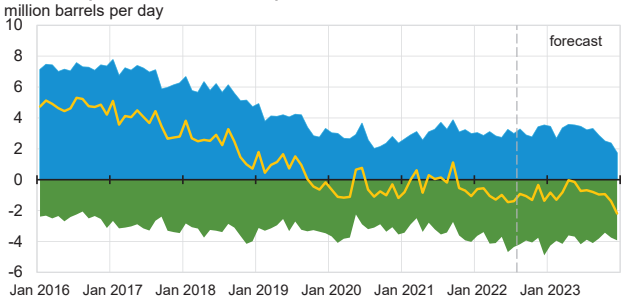
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. gasoline and distillate inventories
million barrels



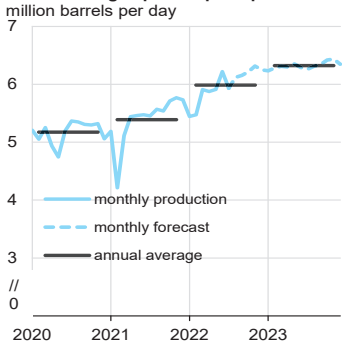
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

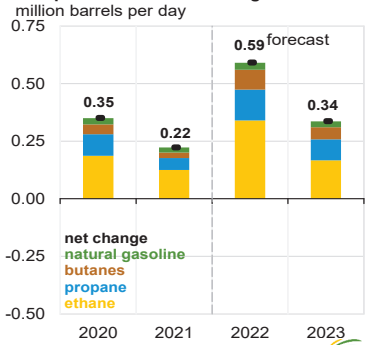


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

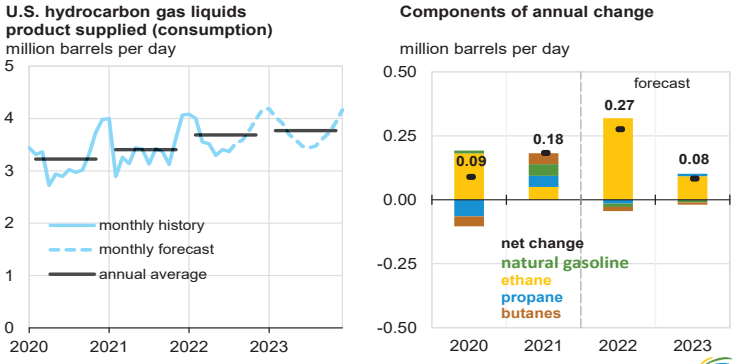
U.S. natural gas plant liquids production
million barrels per day



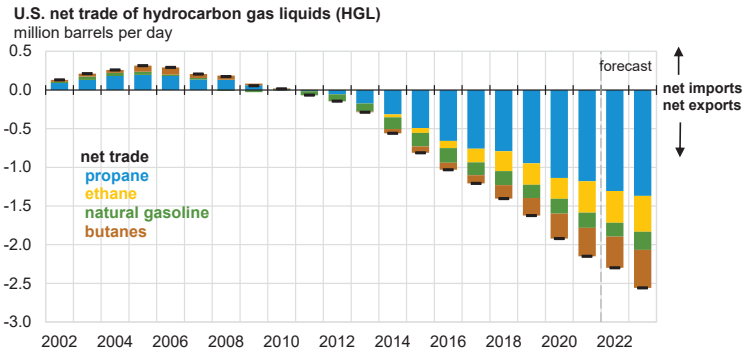
Components of annual change
million barrels per day



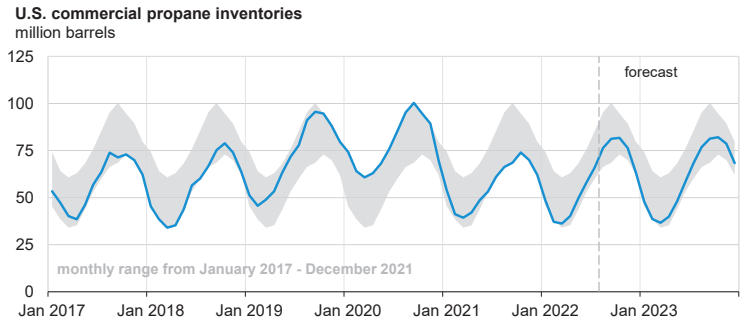
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



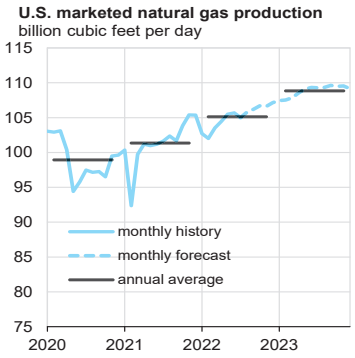
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

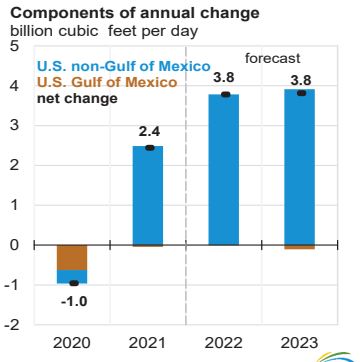


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

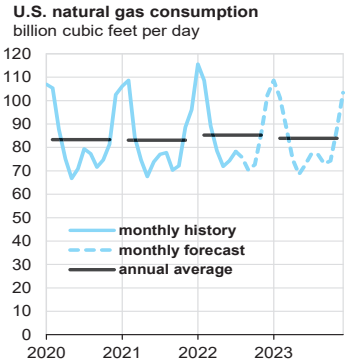


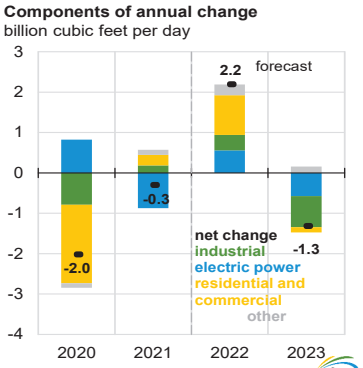
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



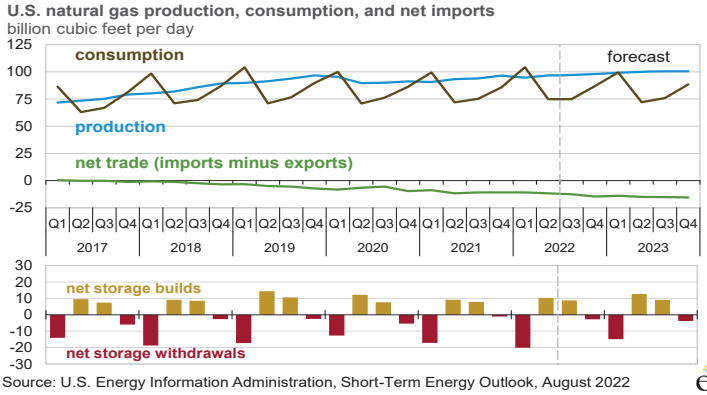


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



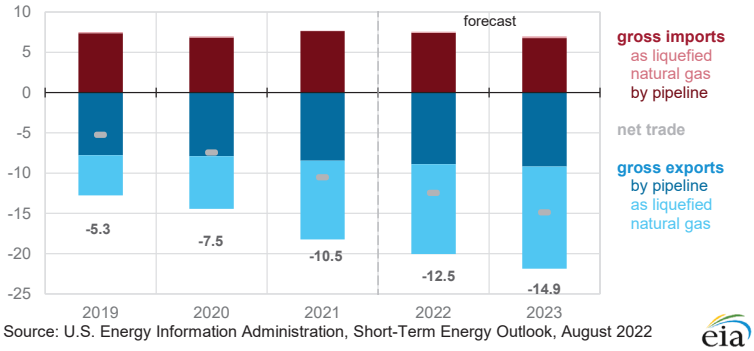


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



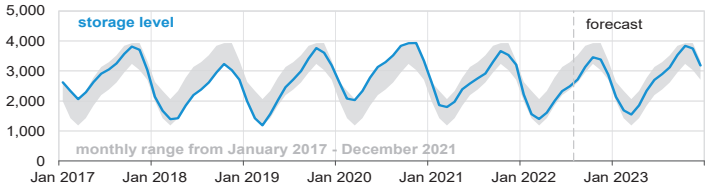
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. annual natural gas trade
billion cubic feet per day

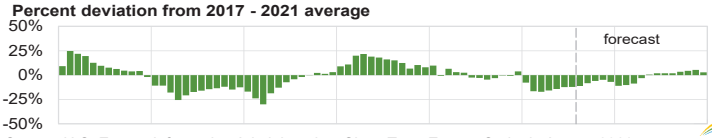


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. working natural gas in storage
billion cubic feet

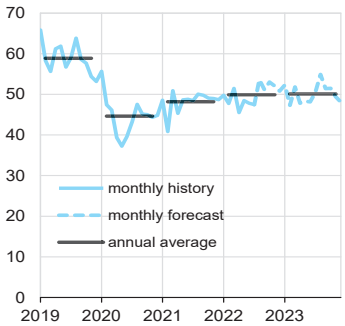


Percent deviation from 2017 - 2021 average

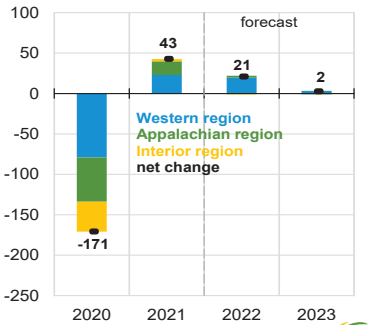


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

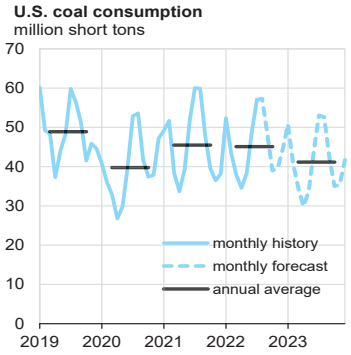
U.S. coal production
million short tons

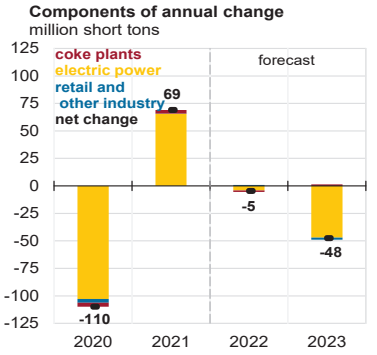


Components of annual change
million short tons

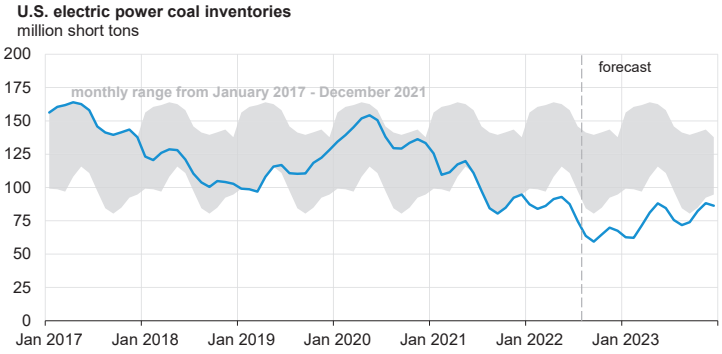


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

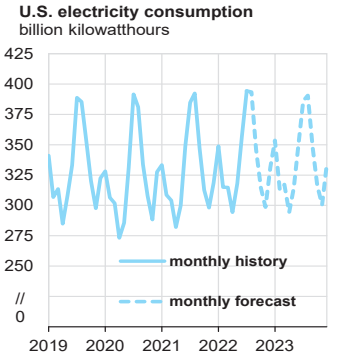


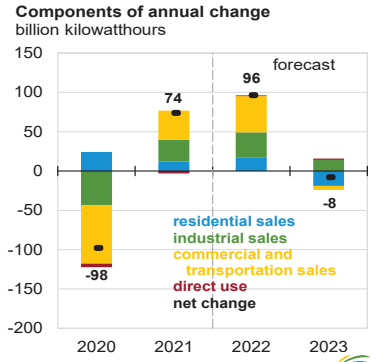


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

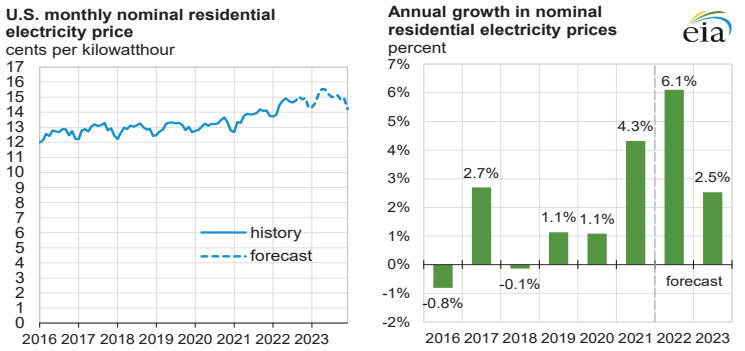


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

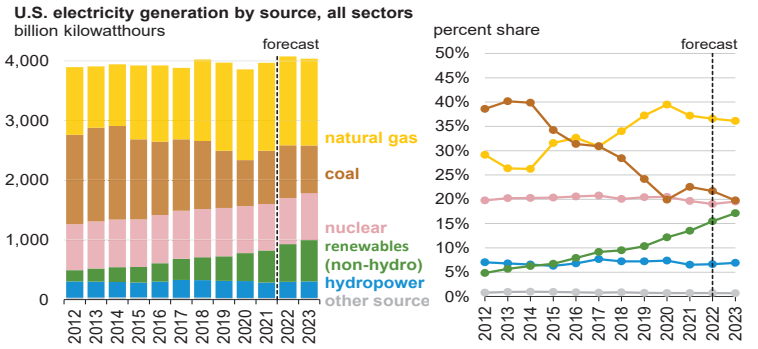




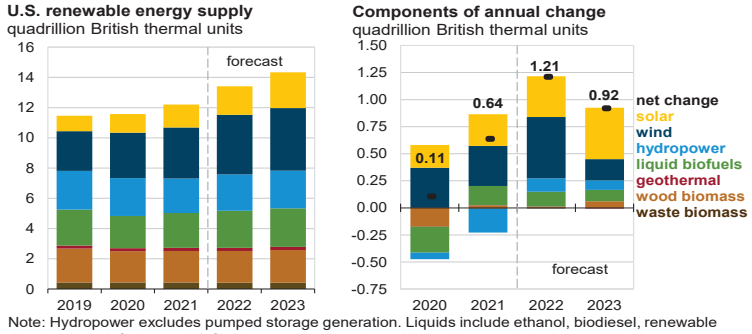
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



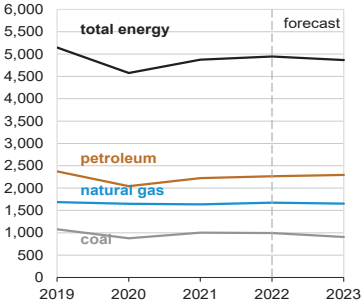
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022



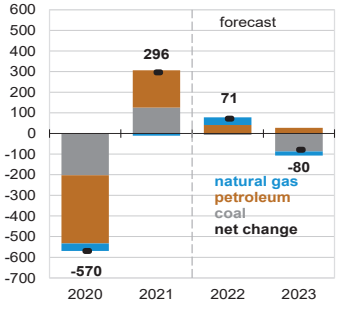
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. annual CO2 emissions by source
million metric tons

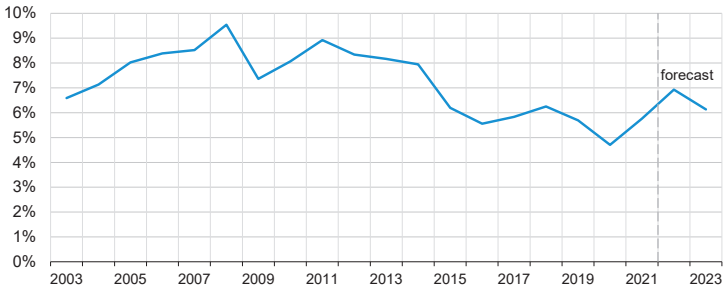


Components of annual change
million metric tons



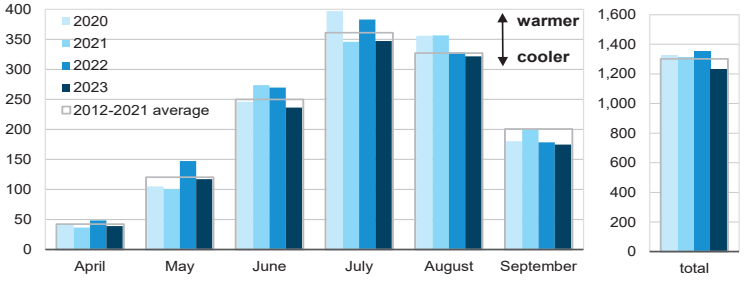
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

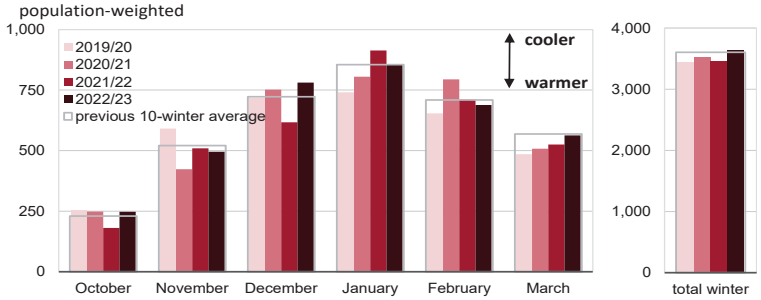
U.S. summer cooling degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

U.S. winter heating degree days
population-weighted

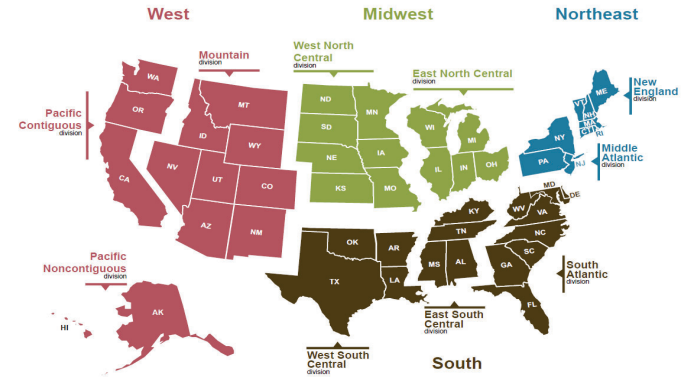


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2022

eia

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

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Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.82**	**11.34**	**11.18**	**11.66**	**11.46**	**11.69**	*12.01*	*12.28*	*12.39*	*12.50*	*12.82*	*13.10*	**11.25**	*11.86*	*12.70*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.52**	**94.60**	**96.61**	*97.02*	*98.09*	*98.90*	*100.13*	*100.52*	*100.51*	**93.55**	*96.59*	*100.02*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**149**	**142**	*152*	*156*	*151*	*144*	*157*	*149*	**578**	*599*	*601*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.06**	*20.21*	*20.85*	*20.35*	*20.74*	*20.86*	*21.03*	**19.78**	*20.34*	*20.75*
Natural Gas															
(billion cubic feet per day)	**99.44**	**71.95**	**75.10**	**85.62**	**104.30**	**74.90**	*74.81*	*86.93*	*99.34*	*71.99*	*75.80*	*88.44*	**82.97**	*85.16*	*83.84*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	**122**	*163*	*123*	*126*	*108*	*148*	*112*	**546**	*541*	*493*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.87**	**10.65**	*12.33*	*10.26*	*10.93*	*10.55*	*12.22*	*10.33*	**10.77**	*11.03*	*11.01*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.16**	**2.95**	**3.14**	**3.35**	**3.52**	*3.23*	*3.31*	*3.53*	*3.86*	*3.44*	*3.51*	**12.21**	*13.41*	*14.34*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.05**	**23.16**	**24.54**	**24.57**	**26.48**	**23.49**	*24.60*	*25.11*	*25.97*	*23.74*	*24.93*	*25.37*	**97.33**	*99.67*	*100.01*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	*98.48*	*92.30*	*90.50*	*89.50*	*88.50*	*88.00*	**68.21**	*98.71*	*89.13*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	*7.48*	*7.59*	*7.26*	*4.28*	*4.40*	*4.45*	**3.91**	*6.80*	*5.10*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.22**	*2.22*	*2.20*	*2.21*	*2.20*	*2.18*	*2.15*	**1.98**	*2.21*	*2.19*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,728**	**19,616**	*19,685*	*19,814*	*19,906*	*20,015*	*20,129*	*20,244*	**19,427**	*19,711*	*20,074*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	**3.5**	**1.3**	*1.1*	*0.0*	*0.9*	*2.0*	*2.3*	*2.2*	**5.7**	*1.5*	*1.8*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**125.9**	*127.3*	*128.4*	*129.3*	*130.0*	*130.8*	*131.7*	**118.5**	*126.3*	*130.4*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**6.8**	**7.1**	*6.7*	*5.8*	*4.5*	*3.3*	*2.8*	*2.6*	**4.2**	*6.6*	*3.3*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,152**	**15,131**	*15,141*	*15,262*	*15,406*	*15,645*	*15,872*	*16,082*	**16,032**	*15,172*	*15,751*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**0.1**	**-12.0**	**-4.3**	*-3.2*	*-1.3*	*1.7*	*3.4*	*4.8*	*5.4*	**2.3**	*-5.4*	*3.8*
Manufacturing Production Index															
(Index, 2017=100)	**96.9**	**98.3**	**99.2**	**100.6**	**101.6**	**102.7**	*103.0*	*103.9*	*103.8*	*104.3*	*104.9*	*105.3*	**98.8**	*102.8*	*104.6*
Percent change from prior year	**-0.8**	**15.8**	**5.1**	**4.5**	**4.8**	**4.5**	*3.8*	*3.2*	*2.1*	*1.6*	*1.9*	*1.4*	**5.8**	*4.1*	*1.8*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,307**	**2,149**	**493**	*70*	*1,524*	*2,106*	*488*	*77*	*1,527*	**3,936**	*4,235*	*4,198*
U.S. Cooling Degree-Days	**50**	**411**	**902**	**127**	**46**	**466**	*890*	*95*	*44*	*392*	*843*	*94*	**1,490**	*1,497*	*1,373*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	*98.48*	*92.30*	*90.50*	*89.50*	*88.50*	*88.00*	**68.21**	*98.71*	*89.13*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	**113.84**	*105.82*	*98.30*	*96.50*	*95.50*	*94.50*	*94.00*	**70.89**	*104.78*	*95.13*
U.S. Imported Average	**55.33**	**64.81**	**68.41**	**73.67**	**89.85**	**107.80**	*95.99*	*89.45*	*87.75*	*86.75*	*85.75*	*85.25*	**65.91**	*95.58*	*86.47*
U.S. Refiner Average Acquisition Cost	**57.14**	**66.11**	**70.31**	**76.37**	**92.62**	**109.58**	*96.99*	*90.54*	*88.75*	*87.75*	*86.75*	*86.25*	**67.83**	*97.47*	*87.36*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**278**	**376**	*319*	*288*	*276*	*286*	*281*	*270*	**219**	*316*	*278*
Diesel Fuel	**178**	**204**	**219**	**241**	**301**	**418**	*350*	*324*	*296*	*291*	*290*	*292*	**211**	*348*	*292*
Fuel Oil	**162**	**180**	**197**	**222**	**284**	**419**	*338*	*311*	*287*	*275*	*275*	*281*	**188**	*333*	*282*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**283**	**400**	*339*	*307*	*290*	*281*	*281*	*284*	**195**	*333*	*284*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**252**	**260**	*238*	*218*	*226*	*223*	*222*	*221*	**190**	*242*	*223*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**371**	**450**	*429*	*378*	*356*	*366*	*363*	*352*	**302**	*407*	*359*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	**460**	*440*	*391*	*369*	*379*	*376*	*366*	**311**	*418*	*373*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**432**	**549**	*502*	*439*	*422*	*413*	*407*	*414*	**329**	*481*	*414*
Heating Oil	**272**	**283**	**297**	**346**	**415**	**554**	*496*	*449*	*417*	*390*	*374*	*378*	**300**	*452*	*396*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	*7.78*	*7.89*	*7.54*	*4.45*	*4.57*	*4.62*	**4.06**	*7.07*	*5.29*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	*7.48*	*7.59*	*7.26*	*4.28*	*4.40*	*4.45*	**3.91**	*6.80*	*5.10*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.11**	**6.86**	**6.82**	**7.96**	*8.56*	*9.04*	*9.22*	*6.27*	*5.53*	*5.83*	**5.50**	*8.03*	*6.73*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	**11.42**	*12.92*	*12.21*	*12.17*	*11.88*	*10.98*	*9.56*	**8.82**	*11.15*	*11.25*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	**15.91**	*22.41*	*15.77*	*14.90*	*16.55*	*20.48*	*13.00*	**12.27**	*14.56*	*14.95*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.22**	*2.22*	*2.20*	*2.21*	*2.20*	*2.18*	*2.15*	**1.98**	*2.21*	*2.19*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.19**	*7.48*	*7.94*	*7.81*	*4.47*	*4.57*	*4.79*	**4.97**	*7.11*	*5.33*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**25.63**	*21.95*	*19.08*	*18.28*	*18.46*	*17.58*	*17.30*	**13.66**	*20.23*	*17.90*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.38**	*27.22*	*24.77*	*22.96*	*22.23*	*22.06*	*22.30*	**15.50**	*24.76*	*22.48*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.18**	*8.25*	*7.66*	*7.68*	*7.95*	*8.02*	*7.44*	**7.26**	*7.89*	*7.78*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.02**	*12.19*	*11.98*	*12.25*	*12.42*	*12.37*	*11.85*	**11.27**	*11.97*	*12.23*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**14.80**	*14.80*	*14.66*	*14.66*	*15.42*	*15.04*	*14.60*	**13.72**	*14.56*	*14.93*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.21**	**30.79**	**31.11**	**32.22**	**31.66**	**32.13**	*32.84*	*33.56*	*33.82*	*33.93*	*34.12*	*34.70*	**31.09**	*32.55*	*34.14*
U.S. (50 States)	**17.74**	**19.11**	**19.00**	**19.90**	**19.44**	**20.18**	*20.55*	*21.05*	*21.11*	*21.26*	*21.55*	*21.97*	**18.94**	*20.31*	*21.48*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.71**	*5.74*	*5.85*	*5.92*	*5.88*	*5.90*	*5.91*	**5.54**	*5.74*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	*1.89*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
Other OECD	**4.92**	**4.37**	**4.73**	**4.71**	**4.65**	**4.34**	*4.66*	*4.79*	*4.88*	*4.92*	*4.84*	*5.02*	**4.68**	*4.61*	*4.91*
Non-OECD	**62.58**	**63.99**	**65.62**	**66.13**	**67.21**	**66.98**	*68.38*	*67.68*	*66.91*	*67.33*	*67.52*	*67.01*	**64.59**	*67.57*	*67.19*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.77**	*34.11*	*34.23*	*34.58*	*34.53*	*34.53*	*34.51*	**31.66**	*33.97*	*34.54*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.34**	*28.63*	*28.71*	*29.02*	*29.10*	*29.05*	*28.99*	**26.28**	*28.47*	*29.04*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.43**	*13.92*	*13.48*	*12.66*	*12.33*	*12.27*	*12.27*	**13.75**	*13.80*	*12.38*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.19**	*5.14*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
Other Non-OECD	**13.82**	**14.42**	**14.70**	**13.82**	**13.90**	**14.59**	*15.21*	*14.78*	*14.45*	*15.22*	*15.48*	*14.94*	**14.19**	*14.62*	*15.03*
Total World Production	**92.79**	**94.79**	**96.73**	**98.35**	**98.87**	**99.11**	*101.21*	*101.24*	*100.72*	*101.26*	*101.64*	*101.71*	**95.68**	*100.12*	*101.33*
Non-OPEC Production	**62.45**	**63.91**	**64.45**	**65.24**	**65.13**	**65.34**	*67.10*	*67.01*	*66.14*	*66.73*	*67.11*	*67.19*	**64.02**	*66.15*	*66.80*
Consumption (million barrels per day) (c)															
OECD	**42.45**	**44.08**	**45.82**	**46.81**	**45.89**	**45.05**	*45.78*	*46.61*	*46.14*	*45.65*	*46.33*	*46.70*	**44.81**	*45.83*	*46.21*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.06**	*20.21*	*20.85*	*20.35*	*20.74*	*20.86*	*21.03*	**19.78**	*20.34*	*20.75*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	**0.20**	*0.20*	*0.22*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.33**	**2.36**	*2.48*	*2.48*	*2.44*	*2.39*	*2.49*	*2.47*	**2.35**	*2.41*	*2.45*
Europe	**11.91**	**12.62**	**13.83**	**13.89**	**13.08**	**13.35**	*13.67*	*13.36*	*13.13*	*13.15*	*13.55*	*13.32*	**13.07**	*13.37*	*13.29*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.73**	**3.11**	*3.21*	*3.53*	*3.77*	*3.11*	*3.14*	*3.44*	**3.42**	*3.39*	*3.36*
Other OECD	**5.89**	**5.92**	**5.90**	**6.23**	**6.30**	**5.97**	*6.01*	*6.18*	*6.23*	*6.06*	*6.09*	*6.23*	**5.99**	*6.12*	*6.15*
Non-OECD	**51.78**	**52.21**	**52.53**	**53.64**	**53.13**	**53.31**	*53.78*	*54.16*	*55.23*	*55.66*	*55.30*	*54.94*	**52.54**	*53.60*	*55.28*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.48**	**4.33**	*4.69*	*4.62*	*4.28*	*4.43*	*4.75*	*4.66*	**4.86**	*4.53*	*4.53*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.75**	**0.75**	*0.76*	*0.76*	*0.75*	*0.77*	*0.77*	*0.77*	**0.75**	*0.76*	*0.76*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.25**	**15.24**	*15.24*	*15.78*	*16.52*	*16.41*	*15.78*	*15.70*	**15.27**	*15.38*	*16.10*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.82**	**13.79**	*13.49*	*13.91*	*14.48*	*14.45*	*13.87*	*14.17*	**13.23**	*13.75*	*14.24*
Other Non-OECD	**17.68**	**18.27**	**18.87**	**18.91**	**18.83**	**19.19**	*19.61*	*19.09*	*19.21*	*19.59*	*20.13*	*19.64*	**18.44**	*19.18*	*19.64*
Total World Consumption	**94.23**	**96.29**	**98.36**	**100.45**	**99.02**	**98.36**	*99.56*	*100.76*	*101.37*	*101.30*	*101.63*	*101.64*	**97.35**	*99.43*	*101.49*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	**0.75**	**0.38**	*0.45*	*0.64*	*-0.01*	*-0.44*	*-0.11*	*0.40*	**0.53**	*0.56*	*-0.04*
Other OECD	**0.87**	**0.15**	**0.97**	**0.67**	**-0.23**	**-0.36**	*-0.68*	*-0.36*	*0.21*	*0.15*	*0.03*	*-0.15*	**0.66**	*-0.41*	*0.06*
Other Stock Draws and Balance	**0.11**	**0.84**	**0.28**	**0.66**	**-0.38**	**-0.77**	*-1.42*	*-0.76*	*0.45*	*0.33*	*0.07*	*-0.32*	**0.47**	*-0.84*	*0.13*
Total Stock Draw	**1.44**	**1.50**	**1.62**	**2.10**	**0.15**	**-0.75**	*-1.65*	*-0.47*	*0.65*	*0.04*	*-0.01*	*-0.06*	**1.67**	*-0.69*	*0.15*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	**1,154**	**1,193**	*1,240*	*1,218*	*1,223*	*1,271*	*1,283*	*1,257*	**1,194**	*1,218*	*1,257*
OECD Commercial Inventory	**2,908**	**2,864**	**2,745**	**2,636**	**2,616**	**2,688**	*2,798*	*2,810*	*2,795*	*2,829*	*2,839*	*2,826*	**2,636**	*2,810*	*2,826*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.29**	**26.42**	**26.38**	**27.51**	**27.01**	**27.79**	*28.18*	*28.77*	*28.93*	*29.01*	*29.28*	*29.68*	**26.41**	*27.94*	*29.23*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.71**	*5.74*	*5.85*	*5.92*	*5.88*	*5.90*	*5.91*	**5.54**	*5.74*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	*1.89*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
United States	**17.74**	**19.11**	**19.00**	**19.90**	**19.44**	**20.18**	*20.55*	*21.05*	*21.11*	*21.26*	*21.55*	*21.97*	**18.94**	*20.31*	*21.48*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.83**	**6.43**	*7.02*	*6.62*	*6.27*	*7.05*	*7.37*	*6.85*	**6.10**	*6.48*	*6.89*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.77**	**0.77**	*0.77*	*0.79*	*0.81*	*0.81*	*0.81*	*0.83*	**0.70**	*0.77*	*0.82*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.33**	**3.83**	*4.35*	*3.89*	*3.49*	*4.25*	*4.57*	*4.03*	**3.69**	*3.85*	*4.09*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	**0.77**	*0.75*	*0.73*	*0.69*	*0.69*	*0.67*	*0.65*	**0.76**	*0.75*	*0.67*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	**0.47**	*0.49*	*0.53*	*0.55*	*0.57*	*0.59*	*0.61*	**0.48**	*0.49*	*0.58*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.49**	**0.60**	*0.66*	*0.68*	*0.73*	*0.73*	*0.73*	*0.73*	**0.47**	*0.61*	*0.73*
Europe	**4.34**	**3.84**	**4.12**	**4.12**	**4.08**	**3.78**	*4.07*	*4.20*	*4.29*	*4.33*	*4.26*	*4.45*	**4.10**	*4.03*	*4.33*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.97**	**1.74**	*2.07*	*2.16*	*2.27*	*2.31*	*2.30*	*2.39*	**2.03**	*1.99*	*2.32*
United Kingdom	**1.08**	**0.81**	**0.93**	**0.93**	**0.96**	**0.92**	*0.88*	*0.91*	*0.90*	*0.89*	*0.81*	*0.91*	**0.94**	*0.92*	*0.88*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.43**	*13.92*	*13.48*	*12.66*	*12.33*	*12.27*	*12.27*	**13.75**	*13.80*	*12.38*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	**0.67**	*0.63*	*0.63*	*0.62*	*0.60*	*0.60*	*0.61*	**0.72**	*0.66*	*0.61*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	**1.77**	*1.89*	*1.95*	*2.03*	*1.95*	*1.95*	*2.01*	**1.87**	*1.90*	*1.98*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	**10.59**	*11.00*	*10.51*	*9.60*	*9.37*	*9.31*	*9.24*	**10.78**	*10.85*	*9.38*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.26**	*0.26*	*0.26*	*0.27*	*0.27*	*0.27*	*0.27*	**0.25**	*0.26*	*0.27*
Other Eurasia	**0.13**	**0.14**	**0.14**	**0.13**	**0.14**	**0.14**	*0.14*	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	**0.13**	*0.14*	*0.14*
Middle East	**3.10**	**3.13**	**3.17**	**3.18**	**3.25**	**3.26**	*3.25*	*3.22*	*3.24*	*3.23*	*3.23*	*3.23*	**3.15**	*3.24*	*3.23*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.05**	**1.07**	*1.05*	*1.03*	*1.04*	*1.04*	*1.04*	*1.04*	**0.98**	*1.05*	*1.04*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.85**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.95**	**9.17**	**9.24**	*9.24*	*9.30*	*9.34*	*9.36*	*9.30*	*9.33*	**9.07**	*9.24*	*9.33*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.45**	**0.46**	*0.48*	*0.48*	*0.48*	*0.47*	*0.46*	*0.46*	**0.46**	*0.47*	*0.47*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.19**	*5.14*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.88**	**0.93**	*0.90*	*0.90*	*0.90*	*0.92*	*0.89*	*0.88*	**0.89**	*0.90*	*0.90*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.84**	**0.83**	*0.85*	*0.84*	*0.84*	*0.83*	*0.82*	*0.81*	**0.86**	*0.84*	*0.82*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.61**	**0.59**	*0.63*	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	**0.61**	*0.62*	*0.64*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.21**	**0.20**	*0.20*	*0.19*	*0.19*	*0.19*	*0.18*	*0.18*	**0.21**	*0.20*	*0.19*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.40**	**1.41**	*1.42*	*1.42*	*1.41*	*1.41*	*1.40*	*1.39*	**1.44**	*1.41*	*1.40*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.66**	**0.67**	*0.66*	*0.67*	*0.65*	*0.65*	*0.65*	*0.65*	**0.66**	*0.66*	*0.65*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	**0.15**	*0.16*	*0.16*	*0.17*	*0.17*	*0.17*	*0.18*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**62.45**	**63.91**	**64.45**	**65.24**	**65.13**	**65.34**	*67.10*	*67.01*	*66.14*	*66.73*	*67.11*	*67.19*	**64.02**	*66.15*	*66.80*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Non-OPEC + OPEC non-crude	**67.71**	**69.30**	**69.89**	**70.68**	**70.68**	**70.77**	*72.58*	*72.53*	*71.70*	*72.16*	*72.59*	*72.71*	**69.40**	*71.65*	*72.30*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	**1.35**	-	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.95**	**0.97**	**1.00**	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	**1.19**	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	**0.29**	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	**0.09**	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	**0.19**	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	**2.53**	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	**4.42**	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	**2.69**	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	**0.76**	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	**1.11**	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	**10.30**	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	**3.04**	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	**0.73**	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.34**	*28.63*	*28.71*	*29.02*	*29.10*	*29.05*	*28.99*	**26.28**	*28.47*	*29.04*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.77**	*34.11*	*34.23*	*34.58*	*34.53*	*34.53*	*34.51*	**31.66**	*33.97*	*34.54*
Crude Oil Production Capacity															
Middle East	**25.21**	**25.50**	**25.50**	**25.48**	**25.48**	**25.46**	*25.52*	*25.60*	*25.90*	*26.03*	*26.03*	*26.03*	**25.42**	*25.52*	*26.00*
Other	**6.12**	**6.10**	**5.96**	**5.98**	**5.83**	**5.46**	*5.35*	*5.68*	*5.82*	*5.86*	*5.80*	*5.74*	**6.04**	*5.58*	*5.80*
OPEC Total	**31.33**	**31.59**	**31.45**	**31.46**	**31.31**	**30.92**	*30.87*	*31.28*	*31.72*	*31.89*	*31.83*	*31.77*	**31.46**	*31.10*	*31.80*
Surplus Crude Oil Production Capacity															
Middle East	**5.66**	**5.52**	**4.21**	**3.53**	**3.00**	**2.48**	*2.22*	*2.55*	*2.68*	*2.78*	*2.76*	*2.76*	**4.72**	*2.56*	*2.74*
Other	**0.59**	**0.59**	**0.40**	**0.27**	**0.12**	**0.11**	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	**0.46**	*0.07*	*0.02*
OPEC Total	**6.25**	**6.10**	**4.61**	**3.80**	**3.12**	**2.59**	*2.24*	*2.57*	*2.70*	*2.80*	*2.78*	*2.78*	**5.18**	*2.63*	*2.76*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	**2.42**	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.34**	**23.92**	**24.31**	**24.54**	**24.31**	**24.08**	*24.33*	*24.98*	*24.46*	*24.82*	*25.04*	*25.21*	**23.78**	*24.43*	*24.88*
Canada	**2.26**	**2.24**	**2.50**	**2.40**	**2.33**	**2.36**	*2.48*	*2.48*	*2.44*	*2.39*	*2.49*	*2.47*	**2.35**	*2.41*	*2.45*
Mexico	**1.62**	**1.64**	**1.60**	**1.71**	**1.75**	**1.66**	*1.64*	*1.65*	*1.66*	*1.69*	*1.68*	*1.70*	**1.64**	*1.67*	*1.68*
United States	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.06**	*20.21*	*20.85*	*20.35*	*20.74*	*20.86*	*21.03*	**19.78**	*20.34*	*20.75*
Central and South America	**5.88**	**6.02**	**6.24**	**6.36**	**6.20**	**6.25**	*6.36*	*6.37*	*6.19*	*6.33*	*6.43*	*6.37*	**6.13**	*6.29*	*6.33*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.96**	**2.97**	*3.05*	*3.05*	*2.94*	*3.00*	*3.07*	*3.06*	**2.96**	*3.01*	*3.02*
Europe	**12.65**	**13.36**	**14.57**	**14.65**	**13.83**	**14.10**	*14.43*	*14.12*	*13.88*	*13.92*	*14.32*	*14.09*	**13.82**	*14.12*	*14.05*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.48**	**4.33**	*4.69*	*4.62*	*4.28*	*4.43*	*4.75*	*4.66*	**4.86**	*4.53*	*4.53*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.32**	**3.23**	*3.51*	*3.42*	*3.16*	*3.25*	*3.53*	*3.39*	**3.61**	*3.37*	*3.34*
Middle East	**8.08**	**8.50**	**9.03**	**8.77**	**8.81**	**9.08**	*9.51*	*8.78*	*9.07*	*9.29*	*9.82*	*9.21*	**8.60**	*9.05*	*9.35*
Asia and Oceania	**36.27**	**35.38**	**34.82**	**36.71**	**36.87**	**36.00**	*35.84*	*37.31*	*38.88*	*37.90*	*36.73*	*37.40*	**35.80**	*36.50*	*37.72*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.25**	**15.24**	*15.24*	*15.78*	*16.52*	*16.41*	*15.78*	*15.70*	**15.27**	*15.38*	*16.10*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.73**	**3.11**	*3.21*	*3.53*	*3.77*	*3.11*	*3.14*	*3.44*	**3.42**	*3.39*	*3.36*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	**5.02**	*4.75*	*5.05*	*5.27*	*5.34*	*4.99*	*5.31*	**4.65**	*4.97*	*5.23*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	**4.52**	**4.51**	*4.40*	*4.59*	*4.61*	*4.62*	*4.54*	*4.70*	**4.37**	*4.51*	*4.62*
Total OECD Liquid Fuels Consumption	**42.45**	**44.08**	**45.82**	**46.81**	**45.89**	**45.05**	*45.78*	*46.61*	*46.14*	*45.65*	*46.33*	*46.70*	**44.81**	*45.83*	*46.21*
Total non-OECD Liquid Fuels Consumption	**51.78**	**52.21**	**52.53**	**53.64**	**53.13**	**53.31**	*53.78*	*54.16*	*55.23*	*55.66*	*55.30*	*54.94*	**52.54**	*53.60*	*55.28*
Total World Liquid Fuels Consumption	**94.23**	**96.29**	**98.36**	**100.45**	**99.02**	**98.36**	*99.56*	*100.76*	*101.37*	*101.30*	*101.63*	*101.64*	**97.35**	*99.43*	*101.49*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.4**	**117.5**	**119.1**	**120.7**	**121.4**	**121.4**	*122.5*	*123.4*	*124.1*	*124.8*	*126.1*	*127.4*	**118.4**	*122.2*	*125.6*
Percent change from prior year	**3.4**	**11.5**	**5.1**	**4.6**	**4.3**	**3.3**	*2.9*	*2.2*	*2.3*	*2.8*	*3.0*	*3.2*	**6.1**	*3.2*	*2.8*
OECD Index, 2015 = 100													**109.6**	*112.4*	*113.8*
Percent change from prior year													**5.5**	*2.6*	*1.3*
Non-OECD Index, 2015 = 100													**123.8**	*128.4*	*133.5*
Percent change from prior year													**6.5**	*3.6*	*4.0*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	**113.0**	*115.5*	*116.1*	*115.9*	*115.4*	*114.7*	*113.9*	**107.3**	*113.5*	*115.0*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	**6.5**	*7.4*	*6.5*	*5.8*	*2.1*	*-0.7*	*-1.9*	**-3.9**	*5.8*	*1.3*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.82**	**11.34**	**11.18**	**11.66**	**11.46**	**11.69**	*12.01*	*12.28*	*12.39*	*12.50*	*12.82*	*13.10*	**11.25**	*11.86*	*12.70*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	**0.44**	*0.44*	*0.45*	*0.44*	*0.41*	*0.43*	*0.44*	**0.44**	*0.44*	*0.43*
Federal Gulf of Mexico (b)	**1.83**	**1.80**	**1.49**	**1.71**	**1.67**	**1.69**	*1.73*	*1.81*	*1.86*	*1.83*	*1.74*	*1.74*	**1.71**	*1.72*	*1.79*
Lower 48 States (excl GOM)	**8.54**	**9.10**	**9.29**	**9.50**	**9.34**	**9.56**	*9.84*	*10.03*	*10.09*	*10.27*	*10.65*	*10.92*	**9.11**	*9.69*	*10.48*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	**3.00**	**2.92**	*3.04*	*3.23*	*3.16*	*3.52*	*3.13*	*2.19*	**3.13**	*3.05*	*3.00*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	**0.81**	*0.96*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.63*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	**0.08**	**-0.10**	*-0.05*	*-0.13*	*-0.39*	*0.08*	*0.20*	*-0.07*	**0.18**	*-0.05*	*-0.04*
Crude Oil Adjustment (d)	**0.30**	**0.57**	**0.49**	**0.51**	**0.71**	**0.73**	*0.33*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.47**	*0.48*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	**15.56**	**16.06**	*16.29*	*15.96*	*15.42*	*16.40*	*16.40*	*15.50*	**15.15**	*15.97*	*15.93*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.95**	**1.07**	*1.06*	*1.06*	*1.03*	*1.00*	*1.00*	*0.99*	**0.95**	*1.04*	*1.01*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	**5.61**	**6.00**	*6.07*	*6.26*	*6.28*	*6.31*	*6.30*	*6.40*	**5.40**	*5.99*	*6.32*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	**1.19**	**1.20**	*1.20*	*1.24*	*1.20*	*1.22*	*1.21*	*1.27*	**1.12**	*1.21*	*1.23*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	**1.01**	*1.01*	*1.02*	*0.99*	*1.00*	*0.99*	*1.02*	**0.98**	*1.02*	*1.00*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	**0.22**	**0.23**	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.21*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	**-3.74**	**-4.16**	*-4.16*	*-4.25*	*-4.13*	*-3.82*	*-3.94*	*-3.70*	**-3.29**	*-4.08*	*-3.90*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	**-2.14**	**-2.23**	*-2.34*	*-2.48*	*-2.55*	*-2.51*	*-2.59*	*-2.58*	**-2.15**	*-2.30*	*-2.56*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	**0.09**	**0.27**	*0.37*	*0.22*	*0.19*	*0.25*	*0.37*	*0.21*	**0.17**	*0.24*	*0.25*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	**-0.09**	**-0.10**	*-0.05*	*-0.03*	*-0.04*	*-0.04*	*-0.03*	*-0.02*	**-0.05**	*-0.07*	*-0.03*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	**0.40**	**0.59**	*0.46*	*0.19*	*0.37*	*0.63*	*0.38*	*0.43*	**0.60**	*0.41*	*0.45*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	**-0.76**	**-0.77**	*-0.77*	*-0.65*	*-0.73*	*-0.67*	*-0.69*	*-0.67*	**-0.71**	*-0.74*	*-0.69*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	**-0.04**	**-0.08**	*-0.03*	*-0.03*	*-0.09*	*0.03*	*0.05*	*0.06*	**0.05**	*-0.04*	*0.01*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	**-0.81**	**-1.19**	*-1.20*	*-1.01*	*-0.77*	*-1.10*	*-1.03*	*-0.88*	**-0.80**	*-1.05*	*-0.95*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	**0.14**	**0.11**	*0.10*	*0.14*	*0.03*	*0.07*	*0.04*	*0.14*	**0.09**	*0.12*	*0.07*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	**-0.75**	*-0.70*	*-0.60*	*-0.54*	*-0.48*	*-0.43*	*-0.38*	**-0.49**	*-0.65*	*-0.46*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	**0.37**	**-0.33**	*-0.46*	*0.36*	*0.34*	*-0.61*	*-0.33*	*0.35*	**0.23**	*-0.02*	*-0.06*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	**20.16**	**20.06**	*20.21*	*20.85*	*20.35*	*20.74*	*20.86*	*21.03*	**19.78**	*20.32*	*20.75*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	**3.87**	**3.40**	*3.49*	*3.97*	*4.04*	*3.59*	*3.51*	*3.94*	**3.41**	*3.68*	*3.77*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	**0.13**	**0.17**	*0.18*	*0.24*	*0.23*	*0.22*	*0.21*	*0.27*	**0.13**	*0.18*	*0.23*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	**0.13**	**0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.04*	*0.00*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	**8.47**	**8.95**	*8.91*	*8.97*	*8.56*	*9.09*	*9.12*	*8.95*	**8.80**	*8.83*	*8.93*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	**0.87**	**0.93**	*0.92*	*0.93*	*0.88*	*0.94*	*0.93*	*0.94*	**0.91**	*0.91*	*0.92*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	**1.45**	**1.58**	*1.56*	*1.53*	*1.44*	*1.59*	*1.63*	*1.60*	**1.37**	*1.53*	*1.57*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	**4.14**	**3.84**	*3.80*	*3.98*	*4.05*	*3.91*	*3.89*	*3.98*	**3.94**	*3.94*	*3.96*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	**0.38**	**0.33**	*0.34*	*0.34*	*0.30*	*0.31*	*0.32*	*0.34*	**0.31**	*0.35*	*0.32*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	**1.65**	**1.76**	*1.93*	*1.82*	*1.73*	*2.03*	*2.18*	*1.96*	**1.82**	*1.79*	*1.97*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	**20.22**	**20.06**	*20.21*	*20.85*	*20.35*	*20.74*	*20.86*	*21.03*	**19.78**	*20.34*	*20.75*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	**-0.74**	**-1.24**	*-1.12*	*-1.01*	*-0.97*	*-0.31*	*-0.81*	*-1.51*	**-0.16**	*-1.03*	*-0.90*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	**414.4**	**423.8**	*428.2*	*440.1*	*475.6*	*468.2*	*450.1*	*456.1*	**421.4**	*440.1*	*456.1*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	**142.0**	**199.0**	*241.5*	*194.7*	*155.4*	*206.6*	*248.0*	*205.7*	**188.4**	*194.7*	*205.7*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	**87.9**	**88.0**	*88.3*	*82.6*	*92.2*	*89.7*	*89.0*	*82.2*	**80.3**	*82.6*	*82.2*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	**34.1**	**30.4**	*30.4*	*30.7*	*32.8*	*31.5*	*31.3*	*31.5*	**28.6**	*30.7*	*31.5*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	**238.5**	**219.1**	*221.0*	*235.5*	*233.7*	*236.2*	*227.4*	*241.5*	**232.2**	*235.5*	*241.5*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	**17.3**	**17.6**	*19.9*	*24.0*	*21.3*	*22.9*	*24.0*	*26.8*	**17.7**	*24.0*	*26.8*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	**221.2**	**201.5**	*201.1*	*211.5*	*212.4*	*213.4*	*203.4*	*214.8*	**214.5**	*211.5*	*214.8*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	**35.6**	**39.9**	*43.1*	*39.9*	*39.2*	*40.0*	*42.5*	*39.3*	**35.8**	*39.9*	*39.3*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	**114.6**	**111.1**	*114.8*	*118.5*	*108.1*	*113.4*	*120.4*	*122.7*	**129.9**	*118.5*	*122.7*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	**27.9**	**28.4**	*28.3*	*30.3*	*30.2*	*31.1*	*29.6*	*31.1*	**25.4**	*30.3*	*31.1*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	**58.5**	**52.8**	*44.1*	*46.1*	*55.7*	*54.0*	*45.0*	*46.6*	**51.8**	*46.1*	*46.6*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	**1153.6**	**1192.6**	*1239.8*	*1218.4*	*1222.9*	*1270.6*	*1283.3*	*1256.8*	**1193.8**	*1218.4*	*1256.8*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	**492.0**	*403.3*	*365.5*	*361.7*	*353.9*	*351.3*	*340.8*	**593.7**	*365.5*	*340.8*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.32**	**2.33**	**2.43**	*2.52*	*2.65*	*2.64*	*2.68*	*2.60*	*2.66*	**2.14**	*2.48*	*2.65*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	**1.77**	**1.89**	*1.88*	*1.93*	*1.95*	*1.94*	*1.95*	*1.99*	**1.73**	*1.87*	*1.96*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	**0.93**	**1.04**	*1.00*	*1.03*	*1.05*	*1.04*	*1.06*	*1.08*	**0.92**	*1.00*	*1.05*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	**0.59**	**0.65**	*0.66*	*0.65*	*0.63*	*0.66*	*0.69*	*0.67*	**0.61**	*0.64*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.27**	**0.28**	*0.30*	*0.29*	*0.29*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.28*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	**0.29**	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	**0.24**	*0.18*	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.04**	*0.04*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.47**	**-0.50**	**-0.35**	*-0.37*	*-0.44*	*-0.46*	*-0.46*	*-0.46*	*-0.46*	**-0.40**	*-0.41*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.20**	**-1.18**	**-1.29**	*-1.32*	*-1.43*	*-1.40*	*-1.30*	*-1.37*	*-1.41*	**-1.18**	*-1.31*	*-1.37*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.34**	**-0.28**	**-0.44**	*-0.46*	*-0.43*	*-0.45*	*-0.51*	*-0.52*	*-0.48*	**-0.37**	*-0.40*	*-0.49*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.17**	**-0.16**	*-0.20*	*-0.18*	*-0.23*	*-0.24*	*-0.24*	*-0.23*	**-0.20**	*-0.18*	*-0.24*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.52**	**0.44**	**0.34**	*0.33*	*0.50*	*0.43*	*0.29*	*0.32*	*0.50*	**0.38**	*0.40*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.20**	**0.19**	*0.19*	*0.18*	*0.17*	*0.18*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.90**	**1.98**	**2.02**	*2.14*	*2.21*	*2.18*	*2.18*	*2.15*	*2.20*	**1.77**	*2.09*	*2.18*
Propane	**1.09**	**0.65**	**0.66**	**0.96**	**1.16**	**0.62**	*0.59*	*0.97*	*1.12*	*0.66*	*0.61*	*0.99*	**0.84**	*0.83*	*0.84*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	**0.30**	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.29*	**0.31**	*0.30*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	**0.23**	**0.24**	*0.22*	*0.22*	*0.20*	*0.23*	*0.22*	*0.22*	**0.24**	*0.23*	*0.22*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.21**	**0.23**	*0.25*	*0.27*	*0.24*	*0.21*	*0.23*	*0.24*	**0.25**	*0.24*	*0.23*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**64.0**	**51.1**	**53.6**	*56.6*	*59.2*	*58.2*	*62.2*	*62.0*	*63.9*	**65.4**	*55.2*	*61.6*
Propane	**39.3**	**53.2**	**68.6**	**62.1**	**36.3**	**58.2**	*81.3*	*63.2*	*36.6*	*58.3*	*81.4*	*68.3*	**62.1**	*63.2*	*68.3*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.0**	**1.2**	*1.6*	*1.6*	*1.5*	*1.7*	*1.9*	*1.8*	**1.4**	*1.6*	*1.8*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**44.4**	**35.7**	**59.7**	*76.5*	*47.4*	*37.5*	*61.9*	*79.8*	*50.7*	**44.4**	*47.4*	*50.7*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**20.7**	**19.4**	**24.0**	*24.7*	*23.7*	*20.9*	*21.9*	*22.5*	*21.6*	**20.7**	*23.7*	*21.6*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	**15.56**	**16.06**	*16.29*	*15.96*	*15.42*	*16.40*	*16.40*	*15.50*	**15.15**	*15.97*	*15.93*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.75**	**0.64**	**0.52**	*0.52*	*0.69*	*0.60*	*0.47*	*0.50*	*0.69*	**0.54**	*0.59*	*0.57*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.18**	**1.12**	**1.19**	*1.17*	*1.16*	*1.11*	*1.18*	*1.18*	*1.16*	**1.15**	*1.16*	*1.16*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.20**	**-0.12**	**0.24**	*0.37*	*0.28*	*0.08*	*0.28*	*0.38*	*0.28*	**0.16**	*0.19*	*0.26*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.28**	**0.33**	**0.84**	*0.66*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.91**	**17.53**	**18.85**	*19.01*	*18.38*	*17.68*	*19.06*	*19.04*	*18.16*	**17.69**	*18.45*	*18.49*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.95**	**1.07**	*1.06*	*1.06*	*1.03*	*1.00*	*1.00*	*0.99*	**0.95**	*1.04*	*1.01*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	**0.81**	*0.77*	*0.39*	*0.49*	*0.83*	*0.77*	*0.37*	**0.62**	*0.61*	*0.62*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.69**	**9.22**	**9.74**	*9.87*	*9.84*	*9.34*	*9.84*	*9.89*	*9.82*	**9.52**	*9.67*	*9.73*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.48**	**1.70**	*1.63*	*1.52*	*1.52*	*1.57*	*1.61*	*1.50*	**1.31**	*1.58*	*1.55*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.87**	**4.77**	**4.99**	*5.04*	*5.04*	*4.71*	*5.07*	*4.99*	*4.88*	**4.66**	*4.96*	*4.92*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.22**	**0.26**	**0.23**	*0.23*	*0.22*	*0.27*	*0.25*	*0.27*	*0.21*	**0.21**	*0.24*	*0.25*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.33**	**2.26**	**2.45**	*2.54*	*2.43*	*2.38*	*2.49*	*2.51*	*2.35*	**2.32**	*2.42*	*2.43*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.94**	**18.49**	**19.91**	*20.07*	*19.44*	*18.71*	*20.06*	*20.04*	*19.15*	**18.64**	*19.48*	*19.49*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.02**	**16.07**	**16.56**	*16.65*	*16.25*	*15.73*	*16.62*	*16.70*	*15.86*	**15.67**	*16.38*	*16.23*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.05**	**17.94**	**17.94**	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	**18.10**	*17.94*	*17.94*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.90**	**0.92**	*0.93*	*0.91*	*0.88*	*0.93*	*0.93*	*0.88*	**0.87**	*0.91*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**278**	**376**	*319*	*288*	*276*	*286*	*281*	*270*	**219**	*316*	*278*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	**438**	*415*	*367*	*343*	*357*	*353*	*348*	**294**	*397*	*350*
PADD 2	**247**	**288**	**304**	**315**	**352**	**435**	*418*	*360*	*339*	*352*	*350*	*338*	**290**	*392*	*345*
PADD 3	**228**	**267**	**282**	**298**	**340**	**415**	*381*	*338*	*321*	*332*	*328*	*316*	**271**	*369*	*324*
PADD 4	**247**	**311**	**360**	**351**	**360**	**444**	*460*	*388*	*356*	*371*	*370*	*355*	**319**	*413*	*363*
PADD 5	**312**	**366**	**391**	**410**	**452**	**543**	*519*	*466*	*440*	*440*	*435*	*420*	**372**	*496*	*434*
U.S. Average	**256**	**297**	**316**	**333**	**371**	**450**	*429*	*378*	*356*	*366*	*363*	*352*	**302**	*407*	*359*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	**460**	*440*	*391*	*369*	*379*	*376*	*366*	**311**	*418*	*373*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.9**	**52.5**	*53.3*	*58.8*	*59.2*	*60.7*	*56.4*	*62.7*	**61.8**	*58.8*	*62.7*
PADD 2	**50.7**	**50.6**	**46.9**	**50.9**	**56.5**	**47.2**	*49.1*	*50.3*	*53.0*	*50.9*	*50.4*	*49.7*	**50.9**	*50.3*	*49.7*
PADD 3	**81.9**	**81.6**	**82.9**	**81.7**	**87.1**	**83.0**	*81.5*	*86.5*	*83.7*	*87.5*	*83.8*	*88.2*	**81.7**	*86.5*	*88.2*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**8.1**	**6.3**	*7.2*	*8.1*	*8.0*	*7.9*	*7.5*	*8.3*	**8.1**	*8.1*	*8.3*
PADD 5	**31.4**	**29.0**	**30.6**	**29.6**	**29.9**	**30.1**	*29.8*	*31.7*	*29.8*	*29.3*	*29.4*	*32.6*	**29.6**	*31.7*	*32.6*
U.S. Total	**237.6**	**237.2**	**227.0**	**232.2**	**238.5**	**219.1**	*221.0*	*235.5*	*233.7*	*236.2*	*227.4*	*241.5*	**232.2**	*235.5*	*241.5*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.7**	**17.3**	**17.6**	*19.9*	*24.0*	*21.3*	*22.9*	*24.0*	*26.8*	**17.7**	*24.0*	*26.8*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**214.5**	**221.2**	**201.5**	*201.1*	*211.5*	*212.4*	*213.4*	*203.4*	*214.8*	**214.5**	*211.5*	*214.8*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.86**	**102.77**	**105.21**	*105.66*	*106.83*	*107.60*	*108.99*	*109.41*	*109.40*	**101.40**	*105.13*	*108.86*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	**0.97**	*0.79*	*0.90*	*0.93*	*0.80*	*0.76*	*0.89*	**0.97**	*0.93*	*0.85*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.04**	**2.11**	*2.14*	*2.11*	*2.13*	*2.05*	*1.92*	*1.88*	**2.11**	*2.10*	*2.00*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.73**	**99.67**	**102.14**	*102.74*	*103.82*	*104.54*	*106.14*	*106.73*	*106.63*	**98.32**	*102.10*	*106.02*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.52**	**94.60**	**96.61**	*97.02*	*98.09*	*98.90*	*100.13*	*100.52*	*100.51*	**93.55**	*96.59*	*100.02*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	**0.07**	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.15*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	**10.84**	*9.95*	*12.35*	*12.92*	*12.61*	*12.31*	*12.88*	**9.76**	*11.16*	*12.68*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.92**	**7.56**	*6.51*	*6.72*	*7.78*	*6.47*	*6.32*	*6.50*	**7.63**	*7.42*	*6.76*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	**8.57**	*9.29*	*9.23*	*9.13*	*9.03*	*9.34*	*9.24*	**8.47**	*8.88*	*9.18*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.19**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.17*	*0.17*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	**-10.26**	*-8.75*	*2.75*	*14.80*	*-12.69*	*-9.00*	*3.78*	**0.24**	*0.90*	*-0.83*
Total Supply	**99.18**	**72.53**	**75.31**	**86.86**	**104.07**	**74.74**	*75.89*	*86.36*	*99.91*	*72.62*	*76.55*	*89.04*	**83.42**	*85.19*	*84.48*
Balancing Item (b)	**0.26**	**-0.58**	**-0.21**	**-1.23**	**0.24**	**0.16**	*-1.09*	*0.57*	*-0.57*	*-0.63*	*-0.74*	*-0.60*	**-0.45**	*-0.03*	*-0.64*
Total Primary Supply	**99.44**	**71.95**	**75.10**	**85.62**	**104.30**	**74.90**	*74.81*	*86.93*	*99.34*	*71.99*	*75.80*	*88.44*	**82.97**	*85.16*	*83.84*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.62**	**14.43**	**26.09**	**7.81**	*3.42*	*16.66*	*24.59*	*7.77*	*3.86*	*16.68*	**12.75**	*13.44*	*13.18*
Commercial	**14.87**	**6.23**	**4.68**	**10.08**	**15.62**	**6.64**	*4.45*	*10.33*	*15.18*	*7.06*	*4.85*	*10.47*	**8.94**	*9.23*	*9.37*
Industrial	**23.81**	**21.46**	**21.14**	**23.44**	**25.23**	**21.96**	*20.97*	*23.25*	*22.37*	*20.33*	*21.25*	*24.30*	**22.46**	*22.84*	*22.07*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.65**	**30.63**	*38.09*	*28.32*	*28.36*	*28.86*	*37.72*	*28.44*	**30.88**	*31.44*	*30.86*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.12**	**5.24**	*5.27*	*5.33*	*5.36*	*5.43*	*5.45*	*5.45*	**5.05**	*5.24*	*5.43*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.45**	**2.47**	*2.47*	*2.90*	*3.33*	*2.38*	*2.51*	*2.95*	**2.74**	*2.82*	*2.79*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**71.95**	**75.10**	**85.62**	**104.30**	**74.90**	*74.81*	*86.93*	*99.34*	*71.99*	*75.80*	*88.44*	**82.97**	*85.16*	*83.84*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	**2,328**	*3,132*	*2,879*	*1,547*	*2,702*	*3,530*	*3,182*	**3,210**	*2,879*	*3,182*
East Region (d)	**313**	**515**	**804**	**766**	**242**	**479**	*775*	*665*	*250*	*596*	*894*	*759*	**766**	*665*	*759*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	**558**	*918*	*807*	*345*	*652*	*1,000*	*853*	**887**	*807*	*853*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	**889**	*965*	*984*	*685*	*1,029*	*1,108*	*1,092*	**1,143**	*984*	*1,092*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	**137**	*169*	*151*	*86*	*134*	*201*	*182*	**171**	*151*	*182*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	**239**	*280*	*246*	*155*	*264*	*301*	*270*	**218**	*246*	*270*
Alaska	**23**	**27**	**30**	**25**	**21**	**24**	*26*	*26*	*26*	*26*	*26*	*26*	**25**	*26*	*26*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	*7.78*	*7.89*	*7.54*	*4.45*	*4.57*	*4.62*	**4.06**	*7.07*	*5.29*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**17.69**	**20.68**	*23.73*	*19.40*	*18.88*	*19.45*	*21.68*	*17.17*	**16.12**	*18.95*	*18.65*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.79**	**15.08**	*21.40*	*15.90*	*14.97*	*16.07*	*19.63*	*13.02*	**12.55**	*14.34*	*14.85*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.81**	**14.22**	*22.29*	*13.23*	*12.26*	*14.07*	*19.83*	*10.57*	**10.19**	*11.93*	*12.45*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**11.39**	**14.74**	*22.75*	*14.30*	*12.85*	*14.54*	*19.88*	*11.13*	**10.23**	*13.06*	*12.92*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.91**	**20.06**	*28.47*	*18.05*	*16.28*	*20.08*	*25.66*	*14.83*	**15.24**	*16.80*	*17.08*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.78**	**16.88**	*26.94*	*17.88*	*15.70*	*19.75*	*24.50*	*14.78*	**11.99**	*14.17*	*16.70*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**12.64**	**18.90**	*25.92*	*16.72*	*13.77*	*18.08*	*22.74*	*13.56*	**13.22**	*15.50*	*15.19*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.33**	**12.69**	*17.71*	*12.80*	*12.62*	*13.81*	*16.33*	*10.57*	**9.77**	*11.74*	*12.41*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.06**	**17.20**	*19.62*	*19.19*	*19.66*	*19.49*	*18.88*	*17.36*	**15.25**	*17.99*	*18.83*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	**15.91**	*22.41*	*15.77*	*14.90*	*16.55*	*20.48*	*13.00*	**12.27**	*14.56*	*14.95*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.63**	**14.32**	*14.88*	*14.67*	*14.99*	*14.28*	*12.54*	*11.71*	**11.33**	*13.79*	*13.68*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.33**	**10.56**	*10.88*	*11.76*	*12.22*	*11.26*	*9.76*	*9.63*	**8.56**	*10.87*	*10.99*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.14**	**10.47**	*13.18*	*11.22*	*11.31*	*11.59*	*11.07*	*8.46*	**7.60**	*9.73*	*10.43*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.24**	**11.52**	*13.82*	*11.80*	*11.64*	*11.02*	*10.88*	*8.66*	**7.91**	*11.13*	*10.56*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.52**	**11.90**	*13.66*	*13.15*	*13.05*	*12.90*	*11.97*	*10.59*	**9.76**	*11.89*	*12.13*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.54**	**12.82**	*14.67*	*13.53*	*13.01*	*13.13*	*12.28*	*10.58*	**9.89**	*12.22*	*12.19*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.99**	**12.01**	*12.98*	*12.06*	*11.47*	*11.34*	*10.26*	*9.04*	**8.62**	*11.33*	*10.64*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.83**	**9.97**	*11.61*	*10.83*	*10.87*	*11.03*	*11.06*	*9.38*	**7.75**	*9.87*	*10.44*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.74**	**12.96**	*14.27*	*13.87*	*13.56*	*12.57*	*11.68*	*10.60*	**11.09**	*13.33*	*12.14*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	**11.42**	*12.92*	*12.21*	*12.17*	*11.88*	*10.98*	*9.56*	**8.82**	*11.15*	*11.25*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**11.09**	**11.86**	*11.55*	*12.55*	*12.98*	*11.36*	*9.01*	*9.64*	**8.73**	*11.76*	*11.10*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.16**	**9.19**	*11.36*	*12.25*	*12.61*	*10.96*	*9.23*	*9.04*	**8.24**	*10.80*	*11.08*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.72**	**9.13**	*10.31*	*10.34*	*10.60*	*8.72*	*7.37*	*7.18*	**6.90**	*9.05*	*8.91*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**8.03**	**8.19**	*8.96*	*9.57*	*9.79*	*7.28*	*6.10*	*6.34*	**5.48**	*8.69*	*7.48*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.57**	**8.52**	*9.44*	*9.75*	*9.96*	*7.15*	*6.28*	*6.55*	**5.90**	*8.74*	*7.58*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.87**	**8.81**	*9.01*	*9.35*	*9.58*	*6.83*	*5.81*	*6.13*	**5.39**	*8.43*	*7.20*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**5.46**	**7.40**	*7.93*	*8.06*	*7.88*	*4.99*	*4.72*	*4.76*	**4.80**	*7.32*	*5.56*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.07**	**8.26**	*9.37*	*9.58*	*9.85*	*8.97*	*8.28*	*7.62*	**5.99**	*8.47*	*8.73*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.81**	**8.82**	*10.58*	*11.13*	*11.28*	*9.94*	*8.55*	*8.13*	**8.54**	*9.89*	*9.56*
U.S. Average	**5.73**	**4.09**	**5.11**	**6.86**	**6.82**	**7.96**	*8.56*	*9.04*	*9.22*	*6.27*	*5.53*	*5.83*	**5.50**	*8.03*	*6.73*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**146.7**	**149.0**	**141.7**	*152.2*	*155.9*	*151.4*	*144.2*	*156.7*	*149.0*	**578.1**	*598.9*	*601.3*
Appalachia	**40.8**	**39.5**	**36.6**	**38.9**	**40.2**	**38.7**	*38.6*	*40.6*	*42.2*	*40.2*	*38.6*	*36.0*	**155.8**	*158.0*	*157.1*
Interior	**25.0**	**23.3**	**22.7**	**22.5**	**23.8**	**21.9**	*22.7*	*23.9*	*23.0*	*21.9*	*24.1*	*23.7*	**93.5**	*92.3*	*92.7*
Western	**74.5**	**80.0**	**89.0**	**85.3**	**85.0**	**81.1**	*91.0*	*91.4*	*86.2*	*82.1*	*94.0*	*89.3*	**328.8**	*348.5*	*351.6*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	**-1.1**	**-2.0**	*-1.0*	*-5.3*	*-2.2*	*-1.4*	*1.5*	*-1.8*	**-1.7**	*-9.4*	*-3.8*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	**1.4**	*1.2*	*1.1*	*1.0*	*1.2*	*1.6*	*1.4*	**5.4**	*5.0*	*5.2*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**20.2**	**23.2**	*21.4*	*22.6*	*23.1*	*25.0*	*24.1*	*25.9*	**85.2**	*87.3*	*98.1*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**10.5**	**12.9**	*11.5*	*11.6*	*12.0*	*13.2*	*12.5*	*13.3*	**45.3**	*46.5*	*51.1*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.7**	**10.3**	*9.9*	*10.9*	*11.1*	*11.7*	*11.6*	*12.6*	**39.9**	*40.8*	*47.0*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**124.9**	**129.0**	**118.0**	*131.0*	*129.2*	*127.2*	*119.1*	*135.7*	*122.7*	**496.6**	*507.1*	*504.6*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-14.0**	**8.8**	**-2.7**	*28.0*	*-8.0*	*-3.1*	*-13.3*	*10.4*	*-12.5*	**39.0**	*26.1*	*-18.3*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	**1.9**	*1.9*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**140.6**	**126.2**	**163.7**	**112.9**	**139.6**	**117.1**	*160.9*	*123.1*	*125.9*	*107.7*	*147.9*	*112.0*	**543.4**	*540.8*	*493.5*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.2**	**3.9**	*3.7*	*4.5*	*4.2*	*4.3*	*4.5*	*4.6*	**17.6**	*16.2*	*17.5*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.6**	**110.8**	*152.3*	*111.6*	*114.7*	*97.5*	*137.4*	*100.6*	**501.4**	*497.3*	*450.2*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.9**	**6.8**	*6.7*	*7.0*	*7.0*	*5.9*	*6.0*	*6.8*	**26.7**	*27.5*	*25.7*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	*0.2*	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	**0.8**	*0.8*	*0.9*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	**6.7**	*6.5*	*6.8*	*6.7*	*5.8*	*5.9*	*6.5*	**25.8**	*26.8*	*24.8*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.1**	**133.7**	**121.6**	*162.6*	*123.1*	*125.9*	*107.7*	*147.9*	*112.0*	**545.7**	*541.0*	*493.5*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-1.2**	**5.9**	**-4.5**	*-1.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-2.2**	*-0.2*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	**26.4**	**28.4**	*29.4*	*34.7*	*36.9*	*38.2*	*36.7*	*38.5*	**25.3**	*34.7*	*38.5*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**99.1**	**90.3**	**93.0**	*65.0*	*73.0*	*76.0*	*89.3*	*78.9*	*91.3*	**99.1**	*73.0*	*91.3*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.5**	*59.4*	*67.6*	*71.5*	*84.5*	*73.9*	*86.3*	**94.7**	*67.6*	*86.3*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**2.6**	**2.4**	**3.5**	*3.5*	*3.3*	*2.7*	*2.8*	*3.0*	*3.0*	**2.6**	*3.3*	*3.0*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	**1.9**	*2.0*	*1.9*	*1.7*	*1.8*	*1.8*	*1.8*	**1.7**	*1.9*	*1.8*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	**6.30**	**6.30**	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	*0.262*	*0.293*	*0.307*	*0.306*	*0.326*	*0.345*	**0.258**	*0.266*	*0.321*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.22**	*2.22*	*2.20*	*2.21*	*2.20*	*2.18*	*2.15*	**1.98**	*2.21*	*2.19*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,033**	**1,027**	*1,177*	*984*	*1,017*	*1,012*	*1,166*	*990*	**4,116**	*4,221*	*4,185*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**994**	**991**	*1,137*	*946*	*979*	*974*	*1,125*	*951*	**3,963**	*4,067*	*4,030*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**35**	**34**	*37*	*36*	*35*	*34*	*37*	*36*	**140**	*141*	*143*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*3*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**7**	**12**	*14*	*11*	*12*	*13*	*15*	*11*	**39**	*44*	*51*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,040**	**1,039**	*1,191*	*995*	*1,029*	*1,025*	*1,181*	*1,001*	**4,155**	*4,266*	*4,236*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**61**	**70**	*58*	*51*	*45*	*65*	*56*	*51*	**225**	*239*	*218*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**913**	**898**	**1,089**	**894**	**944**	**937**	*1,098*	*910*	*950*	*926*	*1,088*	*915*	**3,795**	*3,890*	*3,880*
Residential Sector	**379**	**329**	**446**	**324**	**379**	**344**	*443*	*328*	*379*	*333*	*432*	*332*	**1,477**	*1,494*	*1,475*
Commercial Sector	**304**	**321**	**377**	**322**	**322**	**338**	*384*	*328*	*323*	*335*	*381*	*327*	**1,325**	*1,371*	*1,366*
Industrial Sector	**229**	**247**	**264**	**247**	**242**	**254**	*270*	*253*	*247*	*258*	*274*	*255*	**987**	*1,019*	*1,033*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**34**	**33**	*36*	*34*	*33*	*34*	*36*	*35*	**136**	*137*	*138*
Total Consumption	**946**	**931**	**1,124**	**929**	**979**	**970**	*1,134*	*944*	*984*	*960*	*1,125*	*950*	**3,930**	*4,027*	*4,018*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,725**	**2,471**	*3,183*	*2,359*	*2,697*	*2,370*	*3,079*	*2,363*	**10,703**	*10,737*	*10,509*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.5**	*59.4*	*67.6*	*71.5*	*84.5*	*73.9*	*86.3*	**94.7**	*67.6*	*86.3*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**5.7**	**5.7**	*6.1*	*6.7*	*4.7*	*4.6*	*2.7*	*3.4*	**7.0**	*6.7*	*3.4*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**15.5**	**16.1**	*16.0*	*16.2*	*16.0*	*15.7*	*15.6*	*15.9*	**16.0**	*16.2*	*15.9*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.22**	*2.22*	*2.20*	*2.21*	*2.20*	*2.18*	*2.15*	**1.98**	*2.21*	*2.19*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.19**	*7.48*	*7.94*	*7.81*	*4.47*	*4.57*	*4.79*	**4.97**	*7.11*	*5.33*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**25.63**	*21.95*	*19.08*	*18.28*	*18.46*	*17.58*	*17.30*	**13.66**	*20.23*	*17.90*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.38**	*27.22*	*24.77*	*22.96*	*22.23*	*22.06*	*22.30*	**15.50**	*24.76*	*22.48*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**14.80**	*14.80*	*14.66*	*14.66*	*15.42*	*15.04*	*14.60*	**13.72**	*14.56*	*14.93*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.02**	*12.19*	*11.98*	*12.25*	*12.42*	*12.37*	*11.85*	**11.27**	*11.97*	*12.23*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.18**	*8.25*	*7.66*	*7.68*	*7.95*	*8.02*	*7.44*	**7.26**	*7.89*	*7.78*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	**83.19**	*121.40*	*77.76*	*70.74*	*44.28*	*57.22*	*43.72*	**189.54**	*81.27*	*53.99*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	**60.34**	*125.01*	*76.78*	*57.57*	*49.77*	*92.50*	*43.68*	**53.53**	*76.83*	*60.88*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	**73.28**	*91.49*	*96.90*	*169.61*	*55.13*	*58.09*	*79.01*	**51.81**	*94.54*	*90.46*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	**79.72**	*96.01*	*104.40*	*138.27*	*53.92*	*57.97*	*70.00*	**46.14**	*95.06*	*80.04*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	**93.00**	*103.77*	*91.87*	*99.38*	*59.75*	*66.33*	*59.99*	**45.67**	*86.74*	*71.36*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	**89.21**	*91.90*	*83.19*	*83.79*	*54.29*	*60.27*	*53.18*	**46.47**	*78.04*	*62.88*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	**72.85**	*85.58*	*61.89*	*60.04*	*40.54*	*46.33*	*37.92*	**93.88**	*64.39*	*46.21*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	**84.96**	*79.24*	*71.81*	*70.57*	*46.79*	*51.17*	*45.20*	**42.39**	*69.61*	*53.43*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	**78.70**	*69.42*	*58.15*	*56.54*	*42.67*	*45.08*	*42.06*	**37.92**	*61.84*	*46.59*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	**59.39**	*129.03*	*81.47*	*61.00*	*48.75*	*93.41*	*48.01*	**59.53**	*77.43*	*62.79*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	**60.50**	*131.03*	*58.54*	*53.24*	*56.18*	*104.69*	*41.61*	**55.44**	*72.27*	*63.93*

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**13.1**	**10.8**	*13.5*	*10.9*	*12.7*	*10.6*	*12.8*	*10.7*	**48.7**	*48.3*	*46.9*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**36.1**	**30.2**	*40.1*	*30.6*	*35.7*	*30.4*	*39.2*	*30.7*	**138.7**	*137.1*	*136.0*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.9**	**43.9**	*53.8*	*44.4*	*50.1*	*42.7*	*53.3*	*45.0*	**192.6**	*193.0*	*191.1*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**30.6**	**24.9**	*30.3*	*23.7*	*30.2*	*23.8*	*29.3*	*23.3*	**108.6**	*109.5*	*106.6*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**96.0**	**89.8**	*112.1*	*84.8*	*97.9*	*87.3*	*111.4*	*86.4*	**374.9**	*382.7*	*382.9*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**32.7**	**27.4**	*37.2*	*26.8*	*33.7*	*26.8*	*36.0*	*27.2*	**120.5**	*124.1*	*123.6*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**55.7**	**57.1**	*80.7*	*48.7*	*54.2*	*52.9*	*76.6*	*49.8*	**230.5**	*242.3*	*233.6*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**24.2**	**26.3**	*34.6*	*23.0*	*24.1*	*25.5*	*34.2*	*23.3*	**108.1**	*108.1*	*107.2*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.5**	**32.4**	*39.3*	*34.0*	*38.7*	*31.6*	*38.2*	*33.9*	**149.0**	*144.2*	*142.4*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.8*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**379.1**	**343.9**	*442.8*	*328.2*	*378.6*	*332.7*	*432.2*	*331.6*	**1,476.6**	*1,494.0*	*1,475.1*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	**12.0**	*13.7*	*11.7*	*12.1*	*12.1*	*13.4*	*11.6*	**48.5**	*49.5*	*49.2*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	**34.4**	*40.0*	*34.7*	*36.3*	*34.5*	*39.4*	*34.4*	**141.9**	*145.1*	*144.6*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**43.3**	**43.0**	*48.8*	*42.8*	*43.4*	*42.8*	*48.6*	*42.6*	**174.8**	*177.9*	*177.4*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.1**	**24.6**	*27.7*	*24.3*	*25.2*	*24.4*	*27.5*	*24.2*	**99.3**	*101.7*	*101.3*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**75.1**	**82.3**	*91.4*	*76.7*	*75.3*	*81.3*	*91.1*	*76.9*	**313.1**	*325.5*	*324.6*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.0**	**22.6**	*26.9*	*21.2*	*21.1*	*22.0*	*26.3*	*21.2*	**89.0**	*91.7*	*90.7*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**46.7**	**53.3**	*62.1*	*51.2*	*47.4*	*52.5*	*61.6*	*51.6*	**201.0**	*213.3*	*213.1*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**23.2**	**25.3**	*29.1*	*23.6*	*23.3*	*25.1*	*29.0*	*23.7*	**98.7**	*101.2*	*101.1*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.7**	**38.8**	*43.1*	*39.9*	*38.0*	*38.6*	*42.4*	*39.6*	**153.2**	*159.4*	*158.5*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	**1.3**	*1.4*	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.5*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**321.5**	**337.7**	*384.1*	*327.5*	*323.4*	*334.7*	*380.7*	*327.2*	**1,324.8**	*1,370.8*	*1,365.9*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	**3.9**	*4.1*	*3.9*	*3.9*	*3.9*	*4.1*	*3.8*	**15.8**	*15.8*	*15.7*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**17.5**	**18.1**	*20.0*	*18.6*	*18.0*	*18.4*	*20.0*	*18.5*	**73.1**	*74.1*	*74.9*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**45.9**	**47.1**	*49.6*	*47.2*	*46.8*	*47.7*	*50.4*	*47.5*	**185.5**	*189.7*	*192.4*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.0**	**24.8**	*26.5*	*25.1*	*24.8*	*24.8*	*26.4*	*25.0*	**97.9**	*100.4*	*101.0*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.3**	**37.5**	*39.4*	*37.2*	*37.2*	*38.0*	*39.8*	*37.3*	**143.7**	*150.4*	*152.3*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**24.7**	**25.8**	*26.4*	*25.3*	*24.8*	*25.9*	*26.6*	*25.3*	**99.7**	*102.2*	*102.7*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**49.8**	**52.6**	*56.9*	*54.0*	*51.8*	*55.2*	*59.8*	*56.5*	**199.7**	*213.3*	*223.2*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.9**	**21.7**	*23.3*	*20.5*	*19.9*	*21.9*	*23.7*	*20.8*	**84.4**	*85.4*	*86.3*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**19.0**	**21.1**	*22.5*	*19.8*	*18.6*	*20.5*	*21.6*	*18.8*	**82.5**	*82.4*	*79.5*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**242.1**	**253.8**	*269.8*	*252.8*	*246.8*	*257.5*	*273.6*	*254.7*	**986.8**	*1,018.5*	*1,032.7*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.2**	**26.8**	*31.5*	*26.6*	*28.7*	*26.7*	*30.5*	*26.3*	**113.4**	*114.1*	*112.3*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**90.5**	**83.5**	*100.8*	*84.7*	*90.8*	*84.1*	*99.4*	*84.4*	**356.9**	*359.5*	*358.7*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**140.3**	**134.1**	*152.3*	*134.5*	*140.4*	*133.3*	*152.5*	*135.3*	**553.4**	*561.2*	*561.5*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**79.7**	**74.2**	*84.5*	*73.1*	*80.1*	*73.0*	*83.3*	*72.4*	**305.8**	*311.5*	*308.9*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**207.7**	**209.9**	*243.2*	*198.9*	*210.7*	*206.9*	*242.5*	*200.9*	**832.7**	*859.7*	*860.9*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.4**	**75.8**	*90.5*	*73.3*	*79.6*	*74.7*	*88.9*	*73.7*	**309.2**	*318.0*	*317.0*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**152.3**	**163.1**	*199.8*	*154.0*	*153.4*	*160.6*	*198.0*	*157.9*	**631.4**	*669.1*	*670.0*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**67.3**	**73.4**	*87.0*	*67.2*	*67.4*	*72.6*	*87.0*	*67.8*	**291.4**	*294.9*	*294.8*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.4**	**92.5**	*105.0*	*93.9*	*95.4*	*90.9*	*102.3*	*92.5*	**385.5**	*386.8*	*381.1*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	**3.6**	*3.7*	*3.9*	*3.7*	*3.6*	*3.7*	*3.9*	**14.9**	*14.9*	*14.9*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**944.5**	**936.9**	*1,098.4*	*910.0*	*950.4*	*926.4*	*1,088.1*	*915.0*	**3,794.5**	*3,889.8*	*3,880.0*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.93**	**23.91**	*24.64*	*25.52*	*27.76*	*27.49*	*27.80*	*27.96*	**21.51**	*24.48*	*27.75*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.12**	**18.11**	*18.36*	*17.58*	*17.99*	*18.24*	*18.03*	*17.14*	**16.49**	*17.81*	*17.86*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.22**	**15.18**	*14.91*	*15.15*	*14.89*	*15.79*	*15.32*	*15.16*	**14.10**	*14.85*	*15.27*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.28**	**13.07**	*13.62*	*12.15*	*11.52*	*13.41*	*13.71*	*12.00*	**12.21**	*12.52*	*12.65*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.68**	**13.44**	*13.30*	*13.12*	*13.15*	*13.92*	*13.43*	*12.91*	**12.24**	*13.13*	*13.35*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**11.97**	**12.96**	*12.76*	*12.39*	*12.49*	*13.06*	*12.58*	*12.21*	**11.83**	*12.52*	*12.58*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**11.83**	**12.73**	*12.62*	*13.13*	*12.55*	*13.34*	*12.82*	*12.88*	**11.89**	*12.57*	*12.89*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.14**	**12.75**	*12.84*	*12.58*	*12.40*	*13.06*	*13.07*	*12.70*	**12.08**	*12.61*	*12.84*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**18.12**	**19.43**	*20.36*	*18.18*	*18.95*	*20.46*	*20.98*	*18.42*	**18.01**	*19.04*	*19.70*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**14.80**	*14.80*	*14.66*	*14.66*	*15.42*	*15.04*	*14.60*	**13.72**	*14.56*	*14.93*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.54**	**17.52**	*18.41*	*18.49*	*20.20*	*18.88*	*19.52*	*19.16*	**16.49**	*18.25*	*19.45*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**14.05**	**14.65**	*15.30*	*14.39*	*14.76*	*14.92*	*15.27*	*13.86*	**13.43**	*14.62*	*14.72*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.08**	**11.65**	*11.41*	*11.63*	*11.78*	*12.15*	*11.59*	*11.46*	**10.67**	*11.44*	*11.74*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.65**	**10.40**	*10.04*	*8.97*	*9.15*	*9.58*	*9.41*	*8.24*	**9.97**	*9.78*	*9.10*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.30**	**10.53**	*10.18*	*10.58*	*10.84*	*10.88*	*10.33*	*10.31*	**9.49**	*10.39*	*10.58*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.69**	**11.98**	*11.93*	*11.87*	*12.27*	*12.41*	*12.14*	*11.79*	**11.19**	*11.87*	*12.15*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**8.65**	**8.69**	*8.57*	*8.75*	*8.72*	*8.49*	*8.39*	*8.62*	**9.04**	*8.66*	*8.54*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.56**	**10.24**	*10.52*	*9.83*	*9.80*	*10.45*	*10.69*	*9.89*	**9.70**	*10.07*	*10.24*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**16.09**	**17.73**	*19.73*	*17.73*	*17.94*	*19.50*	*21.06*	*18.35*	**16.27**	*17.88*	*19.26*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.02**	*12.19*	*11.98*	*12.25*	*12.42*	*12.37*	*11.85*	**11.27**	*11.97*	*12.23*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.14**	**15.12**	*15.06*	*15.01*	*15.82*	*15.63*	*15.40*	*15.20*	**13.58**	*15.08*	*15.51*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.87**	**7.97**	*7.48*	*7.43*	*8.03*	*7.49*	*7.01*	*6.99*	**6.89**	*7.68*	*7.37*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.72**	**8.39**	*8.01*	*7.99*	*8.06*	*8.20*	*7.84*	*7.82*	**7.26**	*8.03*	*7.98*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	**7.90**	*8.33*	*7.28*	*7.42*	*7.88*	*8.33*	*7.29*	**7.35**	*7.68*	*7.74*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.85**	**7.44**	*7.36*	*7.03*	*7.07*	*7.06*	*7.10*	*6.81*	**6.64**	*7.17*	*7.01*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.35**	**7.06**	*6.80*	*6.45*	*6.55*	*6.80*	*6.61*	*6.26*	**6.04**	*6.67*	*6.56*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**6.20**	**7.13**	*7.15*	*6.53*	*6.40*	*6.64*	*6.57*	*6.06*	**6.17**	*6.76*	*6.42*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.59**	**7.21**	*7.74*	*6.66*	*6.69*	*7.25*	*7.76*	*6.65*	**6.74**	*7.08*	*7.11*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.34**	**11.94**	*13.42*	*11.48*	*10.75*	*12.27*	*13.74*	*11.69*	**11.10**	*11.86*	*12.18*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.18**	*8.25*	*7.66*	*7.68*	*7.95*	*8.02*	*7.44*	**7.26**	*7.89*	*7.78*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.48**	**19.70**	*20.61*	*20.83*	*22.91*	*21.79*	*22.41*	*22.14*	**18.21**	*20.41*	*22.33*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**14.07**	**14.43**	*14.96*	*14.00*	*14.68*	*14.48*	*14.68*	*13.54*	**13.26**	*14.39*	*14.37*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.11**	**11.66**	*11.54*	*11.51*	*11.65*	*11.90*	*11.65*	*11.41*	**10.72**	*11.45*	*11.65*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.53**	**10.46**	*10.78*	*9.42*	*9.51*	*10.25*	*10.58*	*9.12*	**9.92**	*10.07*	*9.88*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.79**	**11.22**	*11.16*	*10.99*	*11.24*	*11.46*	*11.22*	*10.77*	**10.23**	*11.05*	*11.18*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.12**	**10.66**	*10.77*	*10.19*	*10.58*	*10.70*	*10.66*	*10.04*	**9.78**	*10.45*	*10.51*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**9.01**	**9.61**	*9.80*	*9.35*	*9.29*	*9.46*	*9.55*	*9.05*	**9.17**	*9.47*	*9.35*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.61**	**10.24**	*10.70*	*9.80*	*9.81*	*10.40*	*10.83*	*9.86*	**9.73**	*10.13*	*10.27*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.75**	**16.99**	*18.60*	*16.56*	*16.94*	*18.18*	*19.47*	*17.00*	**15.83**	*17.02*	*17.93*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.49**	**12.00**	*12.27*	*11.74*	*12.02*	*12.25*	*12.34*	*11.62*	**11.18**	*11.89*	*12.07*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**337.9**	**359.5**	*451.9*	*338.6*	*332.8*	*337.7*	*445.4*	*338.8*	**1,473.6**	*1,487.9*	*1,454.7*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**217.5**	**198.1**	*272.1*	*194.6*	*202.1*	*173.7*	*244.9*	*176.0*	**892.8**	*882.4*	*796.7*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.6**	**184.8**	*202.9*	*191.2*	*194.0*	*187.8*	*207.3*	*197.9*	**778.2**	*774.6*	*787.0*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**235.5**	**243.0**	*204.8*	*216.0*	*244.0*	*270.6*	*222.4*	*232.7*	**795.2**	*899.3*	*969.7*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**71.8**	*64.2*	*57.8*	*70.8*	*81.0*	*66.2*	*60.9*	**259.0**	*270.3*	*278.9*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**118.3**	*86.2*	*118.3*	*126.5*	*124.1*	*90.3*	*123.3*	**378.6**	*442.3*	*464.2*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**42.8**	*43.4*	*29.4*	*36.3*	*55.5*	*55.0*	*38.2*	**113.9**	*144.4*	*185.0*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.3**	*6.8*	*6.4*	*6.6*	*6.3*	*6.7*	*6.3*	**27.9**	*26.2*	*26.0*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.9**	*4.2*	*4.1*	*3.8*	*3.7*	*4.2*	*3.9*	**15.7**	*16.1*	*15.6*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.2**	**-1.2**	*-1.8*	*-1.4*	*-1.2*	*-1.3*	*-1.8*	*-1.3*	**-5.1**	*-5.6*	*-5.5*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	**4.0**	*4.4*	*3.9*	*5.2*	*3.7*	*4.4*	*4.1*	**17.8**	*18.9*	*17.3*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.8**	**0.9**	*0.9*	*0.8*	*0.8*	*0.7*	*0.9*	*0.8*	**3.2**	*3.4*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.6**	**1.6**	*1.7*	*1.7*	*1.5*	*1.5*	*1.7*	*1.7*	**7.2**	*6.6*	*6.4*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**994.2**	**990.6**	*1,137.1*	*945.6*	*979.1*	*974.5*	*1,125.2*	*950.7*	**3,962.8**	*4,067.5*	*4,029.5*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**11.8**	**12.0**	*17.6*	*11.5*	*12.3*	*11.2*	*14.8*	*12.1*	**51.5**	*52.9*	*50.4*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.3**	**0.1**	*0.1*	*0.1*	*0.4*	*0.1*	*0.2*	*0.1*	**0.6**	*0.5*	*0.8*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	**5.6**	*7.3*	*7.3*	*7.1*	*5.6*	*7.3*	*6.2*	**27.1**	*27.2*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.7**	**1.5**	*1.1*	*1.7*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*6.0*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.1**	**3.1**	*2.8*	*2.8*	*3.2*	*3.2*	*2.8*	*2.9*	**11.2**	*11.9*	*12.1*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	**0.3**	*0.3*	*0.4*	*0.7*	*0.3*	*0.3*	*0.3*	**1.5**	*2.4*	*1.6*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**25.4**	**22.6**	*29.2*	*23.8*	*25.6*	*22.7*	*26.5*	*23.3*	**98.2**	*100.9*	*98.2*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.2**	**25.9**	*32.3*	*27.9*	*29.8*	*27.8*	*32.5*	*28.7*	**116.4**	*116.3*	*118.8*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.0**	**14.6**	*19.6*	*14.9*	*14.1*	*14.6*	*18.1*	*13.3*	**61.9**	*63.1*	*60.1*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	**7.0**	*6.6*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.8*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**7.1**	**6.6**	*6.6*	*6.9*	*7.2*	*7.3*	*7.3*	*7.5*	**27.9**	*27.2*	*29.3*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.2**	**2.1**	*1.7*	*2.2*	*2.5*	*2.7*	*2.1*	*2.8*	**7.1**	*8.2*	*10.1*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	**0.1**	*0.2*	*0.1*	*0.7*	*0.1*	*0.3*	*0.1*	**1.3**	*1.8*	*1.2*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**31.0**	**30.4**	*34.7*	*31.0*	*31.1*	*31.3*	*34.7*	*30.7*	**129.3**	*127.2*	*127.8*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.6**	**33.9**	*43.0*	*35.3*	*36.6*	*35.4*	*42.1*	*35.4*	**149.0**	*149.8*	*149.4*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**76.9**	**72.4**	*91.2*	*78.2*	*76.2*	*82.8*	*103.5*	*86.7*	**310.9**	*318.7*	*349.2*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**48.6**	**37.2**	*48.5*	*33.8*	*42.5*	*33.4*	*44.3*	*30.0*	**175.4**	*168.1*	*150.3*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**69.0**	**65.1**	*71.8*	*66.8*	*67.9*	*67.2*	*72.1*	*68.7*	**271.7**	*272.8*	*275.9*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	**2.3**	*1.6*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*8.5*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**13.2**	**12.9**	*10.2*	*12.3*	*14.3*	*14.2*	*11.7*	*13.6*	**42.4**	*48.5*	*53.9*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.6**	**0.4**	*0.3*	*0.5*	*0.6*	*0.4*	*0.4*	*0.6*	**2.5**	*1.9*	*2.0*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**211.0**	**190.3**	*223.6*	*193.6*	*204.2*	*200.7*	*233.6*	*201.7*	**812.1**	*818.5*	*840.2*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**200.9**	**179.8**	*211.9*	*185.0*	*199.7*	*182.3*	*210.7*	*186.0*	**770.2**	*777.7*	*778.7*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**64.1**	**65.7**	*69.7*	*56.3*	*63.9*	*59.8*	*70.8*	*56.8*	**252.3**	*255.8*	*251.3*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**32.3**	**33.9**	*44.6*	*28.4*	*32.7*	*27.7*	*41.0*	*27.4*	**137.7**	*139.1*	*128.8*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.4**	**51.3**	*55.6*	*52.4*	*52.6*	*53.9*	*58.2*	*59.1*	**212.2**	*210.7*	*223.8*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**11.9**	**9.9**	*8.9*	*9.8*	*12.6*	*10.1*	*9.2*	*10.2*	**43.9**	*40.5*	*42.1*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**5.0**	**6.6**	*6.1*	*4.8*	*5.8*	*7.6*	*7.1*	*5.5*	**19.1**	*22.6*	*26.0*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	**-0.2**	*-0.4*	*-0.3*	*-0.2*	*-0.4*	*-0.4*	*-0.3*	**-0.9**	*-1.1*	*-1.4*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.6**	**167.1**	*184.5*	*151.5*	*167.4*	*158.7*	*185.9*	*158.6*	**664.2**	*667.6*	*670.6*
Net energy for load (f)	**161.3**	**154.7**	**183.9**	**154.5**	**166.5**	**166.9**	*188.1*	*156.0*	*168.7*	*163.3*	*190.1*	*160.7*	**654.4**	*677.5*	*682.8*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**38.3**	**46.2**	*51.1*	*42.4*	*39.2*	*40.3*	*49.4*	*39.6*	**171.8**	*178.0*	*168.4*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.5**	**4.4**	*5.0*	*3.0*	*2.9*	*3.7*	*4.3*	*2.4*	**18.3**	*15.8*	*13.3*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	**7.9**	*8.0*	*7.1*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.3*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**2.9**	**3.6**	*3.4*	*2.8*	*3.8*	*4.7*	*4.3*	*3.5*	**11.0**	*12.7*	*16.3*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.7**	**0.6**	*0.8*	*0.7*	*0.8*	*0.7*	*0.8*	*0.7*	**2.8**	*2.8*	*2.8*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**52.8**	**62.8**	*68.3*	*55.9*	*53.7*	*56.3*	*66.4*	*53.8*	**232.2**	*239.8*	*230.2*
Net energy for load (f)	**52.4**	**63.8**	**72.3**	**55.6**	**54.1**	**65.7**	*68.3*	*53.0*	*50.2*	*59.8*	*68.3*	*53.2*	**244.1**	*241.1*	*231.5*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**41.8**	**44.5**	*51.5*	*38.0*	*38.6*	*46.6*	*54.0*	*42.7*	**169.7**	*175.7*	*181.8*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**64.5**	**59.0**	*83.9*	*61.0*	*60.0*	*52.9*	*71.8*	*53.2*	**267.7**	*268.4*	*238.0*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	**19.7**	*23.5*	*23.5*	*22.3*	*21.0*	*24.3*	*20.8*	**95.7**	*90.6*	*88.5*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.1**	**2.8**	*2.4*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*10.4*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**31.8**	**27.5**	*19.6*	*29.0*	*34.0*	*29.3*	*21.3*	*30.8*	**93.1**	*107.9*	*115.3*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.3**	**1.5**	*1.5*	*1.2*	*1.5*	*1.4*	*1.5*	*1.4*	**6.4**	*5.5*	*5.7*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**166.4**	**154.9**	*182.4*	*154.9*	*158.9*	*154.1*	*175.3*	*151.1*	**643.3**	*658.6*	*639.4*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**165.1**	**158.5**	*181.4*	*157.7*	*161.3*	*159.4*	*181.3*	*159.5*	**647.3**	*662.8*	*661.6*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.1**	**14.3**	*18.1*	*10.7*	*10.1*	*12.7*	*17.6*	*9.2*	**56.3**	*54.3*	*49.6*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.1**	**19.6**	*29.9*	*19.9*	*22.1*	*16.5*	*27.4*	*17.8*	**92.0**	*91.4*	*83.8*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	**4.3**	*3.9*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.1*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.6**	**3.9**	*3.6*	*3.0*	*3.9*	*4.7*	*4.2*	*3.4*	**15.5**	*15.2*	*16.3*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**28.8**	**29.5**	*24.1*	*29.4*	*30.7*	*31.1*	*25.4*	*30.3*	**93.6**	*111.9*	*117.5*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	*0.1*	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	**0.7**	*0.8*	*0.8*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.2**	**71.9**	*79.7*	*65.7*	*71.3*	*69.6*	*79.1*	*65.3*	**273.6**	*288.6*	*285.2*
Net energy for load (f)	**65.5**	**65.5**	**78.5**	**62.0**	**68.0**	**69.1**	*77.6*	*61.4*	*66.0*	*65.2*	*76.5*	*61.0*	**271.6**	*276.1*	*268.6*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**34.2**	**44.5**	*61.6*	*33.0*	*28.3*	*30.2*	*48.7*	*28.7*	**164.2**	*173.3*	*136.0*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**17.7**	**17.4**	*21.7*	*16.3*	*15.7*	*16.9*	*21.8*	*15.8*	**74.5**	*73.1*	*70.1*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	**9.9**	*10.6*	*10.9*	*10.7*	*8.9*	*11.0*	*10.1*	**40.2**	*42.4*	*40.7*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.2**	**38.2**	*30.6*	*34.4*	*36.4*	*44.8*	*35.6*	*37.6*	**106.3**	*134.4*	*154.4*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.5*	*0.4*	*0.4*	*0.4*	*0.5*	**1.4**	*1.7*	*1.7*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**110.7**	*125.0*	*95.1*	*91.7*	*101.4*	*117.6*	*92.9*	**387.1**	*425.5*	*403.6*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**110.7**	*125.0*	*95.1*	*91.7*	*101.4*	*117.6*	*92.9*	**387.1**	*425.5*	*403.6*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**19.6**	**18.1**	*30.3*	*20.7*	*24.4*	*12.6*	*27.2*	*16.8*	**90.2**	*88.7*	*81.0*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**21.6**	**18.9**	*26.9*	*23.9*	*19.5*	*16.5*	*24.5*	*21.5*	**90.5**	*91.2*	*81.9*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	**2.4**	*2.4*	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.5**	*9.7*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**39.3**	**36.9**	*32.5*	*27.7*	*33.5*	*40.4*	*30.2*	*27.7*	**121.0**	*136.4*	*132.0*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**19.1**	**19.8**	*17.0*	*18.5*	*20.0*	*21.4*	*18.2*	*19.9*	**65.5**	*74.4*	*79.6*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.7**	*0.6*	*0.5*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.2**	**96.2**	*109.2*	*93.3*	*100.0*	*92.2*	*102.7*	*88.4*	**376.4**	*400.8*	*383.3*
Net energy for load (f)	**89.9**	**86.1**	**97.7**	**89.7**	**88.0**	**88.8**	*96.3*	*87.9*	*91.0*	*86.3*	*94.5*	*87.6*	**363.4**	*361.0*	*359.4*
Southwest															
Natural Gas	**10.7**	**15.2**	**19.4**	**11.5**	**9.6**	**12.9**	*19.1*	*12.4*	*12.6*	*14.5*	*20.1*	*10.5*	**56.8**	*54.0*	*57.6*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**6.1**	**6.1**	*8.4*	*5.9*	*4.5*	*4.3*	*6.5*	*5.4*	**26.8**	*26.5*	*20.7*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	**7.5**	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.7*	*31.9*
Conventional hydropower	**2.0**	**2.3**	**1.9**	**1.5**	**1.9**	**2.1**	*2.2*	*1.8*	*2.1*	*2.5*	*2.4*	*1.9*	**7.7**	*8.0*	*9.0*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	**5.4**	*4.3*	*4.9*	*4.5*	*5.7*	*4.5*	*5.5*	**14.0**	*19.3*	*20.3*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.3*	*0.2*
Total generation	**29.8**	**34.2**	**41.5**	**31.6**	**30.4**	**34.1**	*42.9*	*32.6*	*32.1*	*34.6*	*42.1*	*30.9*	**137.1**	*139.9*	*139.7*
Net energy for load (f)	**20.5**	**26.3**	**33.2**	**22.5**	**21.2**	**27.6**	*34.7*	*23.3*	*22.9*	*27.5*	*34.2*	*23.1*	**102.5**	*106.7*	*107.7*
California															
Natural Gas	**16.7**	**17.9**	**29.4**	**21.6**	**15.8**	**13.9**	*21.6*	*19.8*	*12.3*	*11.8*	*20.7*	*21.8*	**85.6**	*71.2*	*66.6*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.5**	**1.2**	*2.8*	*2.1*	*1.4*	*1.3*	*2.7*	*2.0*	**7.6**	*6.5*	*7.4*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	**4.2**	*4.5*	*4.0*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.3*	*18.0*
Conventional hydropower	**2.4**	**4.2**	**4.9**	**2.8**	**3.6**	**5.2**	*4.8*	*2.1*	*3.5*	*7.6*	*6.9*	*3.5*	**14.4**	*15.7*	*21.6*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.7**	**21.9**	*20.3*	*16.6*	*17.7*	*24.1*	*22.8*	*18.9*	**71.1**	*75.5*	*83.4*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	**-0.1**	*0.0*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	**-0.2**	*-0.2*	*-0.1*
Total generation	**39.3**	**48.9**	**61.5**	**45.3**	**41.2**	**46.4**	*53.9*	*44.4*	*39.6*	*49.4*	*57.7*	*50.2*	**195.0**	*185.9*	*196.9*
Net energy for load (f)	**55.6**	**62.5**	**77.3**	**59.5**	**56.0**	**61.9**	*75.0*	*59.1*	*57.7*	*62.4*	*73.8*	*58.9*	**254.9**	*252.0*	*252.8*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.034**	**0.034**	*0.037*	*0.036*	*0.033*	*0.033*	*0.037*	*0.034*	**0.138**	*0.142*	*0.137*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.671**	**0.638**	*0.572*	*0.515*	*0.630*	*0.722*	*0.589*	*0.542*	**2.272**	*2.395*	*2.483*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.257**	**0.381**	*0.386*	*0.261*	*0.323*	*0.494*	*0.490*	*0.340*	**1.014**	*1.286*	*1.648*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.056**	**0.054**	*0.058*	*0.057*	*0.057*	*0.056*	*0.057*	*0.056*	**0.236**	*0.225*	*0.225*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.052**	**0.044**	*0.050*	*0.044*	*0.048*	*0.042*	*0.050*	*0.044*	**0.199**	*0.189*	*0.184*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.053**	*0.768*	*1.054*	*1.126*	*1.105*	*0.804*	*1.098*	**3.372**	*3.938*	*4.134*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.135**	**2.204**	*1.870*	*1.967*	*2.218*	*2.452*	*2.026*	*2.115*	**7.231**	*8.175*	*8.811*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.204**	*0.205*	*0.208*	*0.197*	*0.201*	*0.202*	*0.207*	**0.789**	*0.819*	*0.808*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	**0.011**	*0.012*	*0.008*	*0.009*	*0.012*	*0.013*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.042**	**0.040**	*0.040*	*0.042*	*0.041*	*0.040*	*0.040*	*0.042*	**0.160**	*0.163*	*0.163*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.315**	**0.325**	*0.353*	*0.361*	*0.351*	*0.348*	*0.360*	*0.363*	**1.342**	*1.354*	*1.421*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.576**	**0.588**	*0.617*	*0.627*	*0.606*	*0.610*	*0.623*	*0.630*	**2.361**	*2.409*	*2.468*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	**0.049**	*0.050*	*0.035*	*0.040*	*0.059*	*0.059*	*0.041*	**0.140**	*0.167*	*0.200*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.010**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.035**	*0.036*	*0.036*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	**0.020**	*0.021*	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.077**	**0.092**	*0.094*	*0.079*	*0.084*	*0.102*	*0.104*	*0.086*	**0.313**	*0.342*	*0.375*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.079**	**0.120**	*0.121*	*0.084*	*0.093*	*0.143*	*0.145*	*0.101*	**0.329**	*0.404*	*0.482*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.119**	**0.117**	*0.117*	*0.117*	*0.119*	*0.117*	*0.117*	*0.117*	**0.464**	*0.470*	*0.470*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.208**	**0.247**	*0.248*	*0.211*	*0.222*	*0.270*	*0.272*	*0.228*	**0.832**	*0.914*	*0.992*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	**0.115**	*0.119*	*0.146*	*0.138*	*0.140*	*0.136*	*0.164*	**0.372**	*0.474*	*0.577*
Ethanol (g)	**0.243**	**0.281**	**0.285**	**0.288**	**0.259**	**0.280**	*0.280*	*0.282*	*0.261*	*0.282*	*0.284*	*0.286*	**1.097**	*1.101*	*1.113*
Subtotal	**0.322**	**0.376**	**0.374**	**0.397**	**0.353**	**0.392**	*0.399*	*0.429*	*0.399*	*0.422*	*0.420*	*0.450*	**1.469**	*1.572*	*1.691*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	**0.115**	*0.119*	*0.146*	*0.138*	*0.140*	*0.136*	*0.164*	**0.372**	*0.474*	*0.577*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.204**	*0.205*	*0.208*	*0.197*	*0.201*	*0.202*	*0.207*	**0.789**	*0.819*	*0.808*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.301**	**0.270**	**0.293**	*0.292*	*0.295*	*0.273*	*0.295*	*0.297*	*0.299*	**1.146**	*1.150*	*1.163*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.051**	**0.051**	*0.054*	*0.053*	*0.050*	*0.050*	*0.054*	*0.051*	**0.206**	*0.210*	*0.206*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.674**	**0.640**	*0.574*	*0.517*	*0.633*	*0.724*	*0.592*	*0.545*	**2.283**	*2.406*	*2.494*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.378**	**0.561**	*0.569*	*0.388*	*0.466*	*0.708*	*0.706*	*0.491*	**1.519**	*1.896*	*2.371*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	**0.104**	*0.106*	*0.108*	*0.107*	*0.105*	*0.105*	*0.107*	**0.431**	*0.426*	*0.425*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.507**	**0.507**	*0.541*	*0.542*	*0.538*	*0.528*	*0.548*	*0.545*	**2.087**	*2.097*	*2.159*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.053**	*0.768*	*1.054*	*1.126*	*1.105*	*0.804*	*1.098*	**3.372**	*3.938*	*4.134*
Total Consumption	**2.950**	**3.162**	**2.953**	**3.141**	**3.349**	**3.523**	*3.227*	*3.313*	*3.528*	*3.856*	*3.444*	*3.508*	**12.206**	*13.412*	*14.337*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,161**	**5,997**	**5,980**	**5,977**	**5,931**	**5,936**	*5,933*	*5,956*	*5,935*	*5,937*	*5,879*	*5,879*	**5,977**	*5,956*	*5,879*
Waste	**3,700**	**3,680**	**3,677**	**3,674**	**3,629**	**3,634**	*3,631*	*3,653*	*3,633*	*3,635*	*3,576*	*3,576*	**3,674**	*3,653*	*3,576*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,736**	**78,796**	**78,798**	**78,798**	**78,808**	**78,812**	*78,857*	*78,880*	*78,880*	*78,889*	*78,916*	*78,926*	**78,798**	*78,880*	*78,926*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,517**	*2,517*	*2,542*	*2,542*	*2,542*	*2,542*	*2,542*	**2,483**	*2,542*	*2,542*
Large-Scale Solar (b)	**50,368**	**52,359**	**55,609**	**60,671**	**63,126**	**66,564**	*71,236*	*80,173*	*83,680*	*89,317*	*91,859*	*104,555*	**60,671**	*80,173*	*104,555*
Wind	**121,201**	**124,742**	**126,696**	**132,243**	**134,937**	**137,777**	*139,172*	*143,371*	*143,521*	*144,312*	*144,672*	*147,740*	**132,243**	*143,371*	*147,740*
Other Sectors (c)															
Biomass	**6,206**	**6,210**	**6,214**	**6,214**	**6,144**	**6,156**	*6,148*	*6,148*	*6,148*	*6,140*	*6,140*	*6,140*	**6,214**	*6,148*	*6,140*
Waste	**827**	**830**	**829**	**829**	**821**	**821**	*821*	*821*	*821*	*821*	*821*	*821*	**829**	*821*	*821*
Wood	**5,380**	**5,380**	**5,385**	**5,385**	**5,322**	**5,334**	*5,327*	*5,327*	*5,327*	*5,318*	*5,318*	*5,318*	**5,385**	*5,327*	*5,318*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	**291**	*291*	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**473**	**475**	**511**	**529**	**553**	**565**	*565*	*589*	*589*	*637*	*637*	*637*	**529**	*589*	*637*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,720**	**36,299**	*38,003*	*39,825*	*41,769*	*43,839*	*46,041*	*48,381*	**32,972**	*39,825*	*48,381*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,260**	**23,330**	*24,491*	*25,748*	*27,103*	*28,560*	*30,125*	*31,801*	**21,022**	*25,748*	*31,801*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,220**	**10,703**	*11,186*	*11,690*	*12,217*	*12,766*	*13,339*	*13,938*	**9,728**	*11,690*	*13,938*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,240**	**2,265**	*2,326*	*2,387*	*2,449*	*2,513*	*2,577*	*2,642*	**2,223**	*2,387*	*2,642*
Wind	**121**	**121**	**121**	**121**	**122**	**122**	*122*	*122*	*122*	*122*	*122*	*122*	**121**	*122*	*122*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.3**	*6.8*	*6.4*	*6.6*	*6.3*	*6.7*	*6.3*	**27.9**	*26.2*	*26.0*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.5**	**3.6**	*3.8*	*3.7*	*3.7*	*3.7*	*3.7*	*3.6*	**15.5**	*14.6*	*14.6*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**3.2**	**2.8**	*3.1*	*2.7*	*3.0*	*2.6*	*3.1*	*2.7*	**12.4**	*11.7*	*11.4*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**71.8**	*64.2*	*57.8*	*70.8*	*81.0*	*66.2*	*60.9*	**259.0**	*270.3*	*278.9*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.9**	*4.2*	*4.1*	*3.8*	*3.7*	*4.2*	*3.9*	**15.7**	*16.1*	*15.6*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**42.8**	*43.4*	*29.4*	*36.3*	*55.5*	*55.0*	*38.2*	**113.9**	*144.4*	*185.0*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**118.3**	*86.2*	*118.3*	*126.5*	*124.1*	*90.3*	*123.3*	**378.6**	*442.3*	*464.2*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.7**	**6.7**	*7.1*	*6.8*	*6.7*	*6.7*	*7.1*	*6.8*	**27.6**	*27.3*	*27.3*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**5.9**	**6.1**	*6.4*	*6.1*	*5.9*	*6.1*	*6.4*	*6.1*	**24.8**	*24.5*	*24.5*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*1.0*	*1.1*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**12.0**	**17.8**	*18.0*	*12.5*	*14.3*	*21.5*	*21.8*	*15.2*	**49.0**	*60.3*	*72.8*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.6**	**11.3**	*11.4*	*7.9*	*9.0*	*13.8*	*14.0*	*9.8*	**30.1**	*38.2*	*46.7*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	**5.3**	*5.4*	*3.7*	*4.3*	*6.3*	*6.4*	*4.4*	**15.1**	*18.0*	*21.5*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	**1.2**	*1.2*	*0.9*	*0.9*	*1.3*	*1.4*	*1.0*	**3.8**	*4.1*	*4.6*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,728**	**19,616**	*19,685*	*19,814*	*19,906*	*20,015*	*20,129*	*20,244*	**19,427**	*19,711*	*20,074*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,818**	**13,881**	**13,924**	*13,979*	*14,049*	*14,117*	*14,207*	*14,294*	*14,387*	**13,625**	*13,958*	*14,251*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,609**	**3,674**	**3,631**	*3,651*	*3,648*	*3,658*	*3,671*	*3,684*	*3,701*	**3,588**	*3,651*	*3,679*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**249**	**238**	**96**	*89*	*118*	*108*	*100*	*104*	*101*	**-20**	*135*	*103*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,359**	**3,334**	**3,307**	*3,308*	*3,325*	*3,350*	*3,357*	*3,367*	*3,378*	**3,376**	*3,319*	*3,363*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,391**	**2,361**	**2,436**	*2,453*	*2,483*	*2,521*	*2,560*	*2,598*	*2,636*	**2,308**	*2,433*	*2,579*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,741**	**3,906**	**3,934**	*3,971*	*3,976*	*4,021*	*4,057*	*4,096*	*4,140*	**3,592**	*3,947*	*4,079*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,152**	**15,131**	*15,141*	*15,262*	*15,406*	*15,645*	*15,872*	*16,082*	**16,032**	*15,172*	*15,751*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	**151.6**	*152.4*	*153.0*	*153.4*	*153.6*	*153.8*	*153.9*	**146.1**	*151.8*	*153.6*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	**3.6**	*3.6*	*3.7*	*3.9*	*4.0*	*4.2*	*4.3*	**5.4**	*3.7*	*4.1*
Housing Starts															
(millions - SAAR)	**1.58**	**1.59**	**1.57**	**1.68**	**1.72**	**1.65**	*1.55*	*1.51*	*1.51*	*1.51*	*1.50*	*1.47*	**1.61**	*1.61*	*1.50*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.1**	**99.7**	**100.5**	**101.7**	**103.0**	**104.5**	*105.1*	*105.9*	*105.8*	*106.1*	*106.6*	*106.8*	**100.0**	*104.6*	*106.3*
Manufacturing	**96.9**	**98.3**	**99.2**	**100.6**	**101.6**	**102.7**	*103.0*	*103.9*	*103.8*	*104.3*	*104.9*	*105.3*	**98.8**	*102.8*	*104.6*
Food	**104.5**	**103.3**	**102.0**	**103.5**	**105.5**	**105.1**	*105.4*	*105.7*	*105.9*	*106.3*	*106.7*	*107.2*	**103.3**	*105.4*	*106.5*
Paper	**95.0**	**96.0**	**96.0**	**95.2**	**96.4**	**97.3**	*97.2*	*98.1*	*97.6*	*97.8*	*98.0*	*98.4*	**95.5**	*97.3*	*98.0*
Petroleum and Coal Products	**86.0**	**92.3**	**93.5**	**96.0**	**94.1**	**94.5**	*94.8*	*94.9*	*94.5*	*94.7*	*94.9*	*95.1*	**92.0**	*94.6*	*94.8*
Chemicals	**94.3**	**101.1**	**101.2**	**102.6**	**102.5**	**103.4**	*103.2*	*104.6*	*104.0*	*104.5*	*105.4*	*106.0*	**99.8**	*103.4*	*104.9*
Nonmetallic Mineral Products	**97.8**	**96.0**	**97.3**	**99.1**	**102.7**	**102.4**	*101.8*	*101.7*	*101.1*	*101.3*	*101.8*	*102.9*	**97.5**	*102.2*	*101.8*
Primary Metals	**93.0**	**96.6**	**98.3**	**98.7**	**95.8**	**97.1**	*98.2*	*103.2*	*101.6*	*103.2*	*105.0*	*105.8*	**96.6**	*98.6*	*103.9*
Coal-weighted Manufacturing (a)	**91.1**	**94.9**	**95.5**	**96.6**	**96.2**	**96.7**	*96.8*	*98.9*	*97.8*	*98.6*	*99.6*	*100.1*	**94.5**	*97.2*	*99.0*
Distillate-weighted Manufacturing (a)	**100.9**	**102.2**	**102.7**	**104.2**	**105.7**	**106.3**	*106.3*	*107.1*	*106.7*	*107.1*	*107.8*	*108.4*	**102.5**	*106.3*	*107.5*
Electricity-weighted Manufacturing (a)	**93.1**	**96.4**	**96.5**	**97.6**	**98.1**	**98.9**	*99.0*	*100.7*	*100.2*	*100.9*	*101.8*	*102.3*	**95.9**	*99.2*	*101.3*
Natural Gas-weighted Manufacturing (a)	**88.8**	**94.6**	**94.1**	**95.2**	**95.3**	**95.8**	*95.6*	*97.4*	*96.5*	*97.1*	*97.9*	*98.4*	**93.1**	*96.0*	*97.5*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	**2.92**	*2.95*	*2.97*	*2.98*	*2.99*	*3.01*	*3.04*	**2.71**	*2.92*	*3.01*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.53**	**2.69**	*2.63*	*2.59*	*2.56*	*2.50*	*2.49*	*2.49*	**2.27**	*2.61*	*2.51*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	**4.21**	*3.31*	*2.96*	*2.84*	*2.87*	*2.84*	*2.79*	**2.41**	*3.41*	*2.84*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**125.9**	*127.3*	*128.4*	*129.3*	*130.0*	*130.8*	*131.7*	**118.5**	*126.3*	*130.4*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,125**	**9,368**	**8,934**	**8,373**	**9,128**	*9,305*	*9,143*	*8,587*	*9,443*	*9,630*	*9,240*	**8,843**	*8,990*	*9,228*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**597**	**658**	**667**	**656**	**698**	*720*	*674*	*666*	*695*	*716*	*701*	**615**	*687*	*695*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**356**	**413**	*399*	*371*	*360*	*405*	*408*	*383*	**334**	*385*	*389*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	**326.7**	*300.9*	*300.1*	*267.9*	*308.9*	*284.4*	*286.8*	**217.5**	*288.3*	*287.0*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	*0.262*	*0.293*	*0.307*	*0.306*	*0.326*	*0.345*	**0.258**	*0.266*	*0.321*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**570**	**578**	**562**	**556**	*567*	*580*	*557*	*571*	*581*	*583*	**2,224**	*2,265*	*2,292*
Natural Gas	**485**	**353**	**373**	**426**	**508**	**362**	*371*	*432*	*484*	*353*	*376*	*440*	**1,637**	*1,674*	*1,654*
Coal	**256**	**229**	**307**	**209**	**245**	**227**	*296*	*226*	*232*	*198*	*271*	*206*	**1,001**	*994*	*907*
Total Energy (c)	**1,260**	**1,144**	**1,252**	**1,216**	**1,318**	**1,147**	*1,237*	*1,241*	*1,275*	*1,126*	*1,231*	*1,232*	**4,872**	*4,943*	*4,864*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,001**	**1,008**	**1,026**	**1,026**	**1,020**	*1,022*	*1,028*	*1,031*	*1,035*	*1,039*	*1,044*	**1,004**	*1,024*	*1,037*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,813**	**2,802**	**2,783**	*2,792*	*2,812*	*2,824*	*2,836*	*2,849*	*2,865*	**2,765**	*2,797*	*2,843*
E. N. Central	**2,485**	**2,514**	**2,520**	**2,553**	**2,544**	**2,525**	*2,533*	*2,548*	*2,558*	*2,573*	*2,589*	*2,603*	**2,518**	*2,538*	*2,581*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,221**	**1,214**	**1,206**	*1,211*	*1,219*	*1,224*	*1,231*	*1,238*	*1,245*	**1,212**	*1,213*	*1,235*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,517**	**3,506**	**3,488**	*3,501*	*3,525*	*3,542*	*3,562*	*3,583*	*3,603*	**3,449**	*3,505*	*3,572*
E. S. Central	**836**	**842**	**846**	**861**	**858**	**852**	*854*	*858*	*861*	*865*	*870*	*874*	**846**	*856*	*868*
W. S. Central	**2,320**	**2,362**	**2,378**	**2,431**	**2,416**	**2,411**	*2,426*	*2,444*	*2,460*	*2,475*	*2,491*	*2,507*	**2,373**	*2,424*	*2,483*
Mountain	**1,274**	**1,296**	**1,303**	**1,324**	**1,316**	**1,311**	*1,316*	*1,326*	*1,334*	*1,344*	*1,354*	*1,364*	**1,299**	*1,317*	*1,349*
Pacific	**3,692**	**3,774**	**3,800**	**3,883**	**3,870**	**3,844**	*3,854*	*3,877*	*3,893*	*3,915*	*3,936*	*3,958*	**3,787**	*3,861*	*3,925*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.1**	**96.6**	**97.6**	**98.8**	**99.7**	**100.7**	*100.8*	*101.6*	*101.6*	*102.1*	*102.6*	*102.9*	**97.0**	*100.7*	*102.3*
Middle Atlantic	**92.9**	**94.1**	**94.9**	**96.2**	**97.0**	**98.1**	*98.3*	*99.2*	*99.1*	*99.4*	*99.9*	*100.2*	**94.5**	*98.2*	*99.7*
E. N. Central	**95.2**	**95.8**	**96.8**	**98.7**	**99.3**	**100.1**	*100.2*	*100.9*	*100.9*	*101.5*	*102.3*	*102.6*	**96.6**	*100.1*	*101.8*
W. N. Central	**98.1**	**99.2**	**100.2**	**101.1**	**102.4**	**103.2**	*103.3*	*104.2*	*104.2*	*104.8*	*105.5*	*106.0*	**99.7**	*103.3*	*105.1*
S. Atlantic	**99.2**	**100.4**	**101.5**	**103.0**	**103.8**	**105.2**	*105.5*	*106.3*	*106.0*	*106.4*	*107.0*	*107.4*	**101.0**	*105.2*	*106.7*
E. S. Central	**97.5**	**98.5**	**99.4**	**100.9**	**101.3**	**102.0**	*102.3*	*103.2*	*102.9*	*103.4*	*104.2*	*104.5*	**99.1**	*102.2*	*103.8*
W. S. Central	**98.3**	**100.0**	**100.9**	**102.5**	**103.9**	**105.5**	*106.1*	*107.1*	*107.0*	*107.7*	*108.4*	*108.9*	**100.4**	*105.7*	*108.0*
Mountain	**106.3**	**108.5**	**109.6**	**111.5**	**113.1**	**114.4**	*114.5*	*115.4*	*115.2*	*115.7*	*116.4*	*116.9*	**109.0**	*114.4*	*116.0*
Pacific	**94.0**	**95.6**	**96.2**	**97.4**	**98.2**	**99.3**	*99.8*	*101.0*	*101.3*	*101.8*	*102.4*	*102.8*	**95.8**	*99.6*	*102.1*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**942**	**929**	**928**	**926**	*926*	*932*	*936*	*943*	*949*	*954*	**955**	*928*	*945*
Middle Atlantic	**2,615**	**2,450**	**2,437**	**2,395**	**2,382**	**2,379**	*2,381*	*2,397*	*2,411*	*2,426*	*2,441*	*2,454*	**2,474**	*2,385*	*2,433*
E. N. Central	**2,745**	**2,524**	**2,493**	**2,472**	**2,458**	**2,444**	*2,444*	*2,457*	*2,469*	*2,487*	*2,504*	*2,518*	**2,558**	*2,451*	*2,494*
W. N. Central	**1,275**	**1,194**	**1,175**	**1,163**	**1,160**	**1,161**	*1,163*	*1,168*	*1,174*	*1,181*	*1,188*	*1,194*	**1,202**	*1,163*	*1,184*
S. Atlantic	**3,721**	**3,444**	**3,428**	**3,437**	**3,417**	**3,418**	*3,419*	*3,439*	*3,460*	*3,487*	*3,514*	*3,537*	**3,507**	*3,423*	*3,500*
E. S. Central	**1,025**	**927**	**924**	**921**	**914**	**912**	*910*	*914*	*919*	*925*	*931*	*936*	**949**	*913*	*928*
W. S. Central	**2,237**	**2,077**	**2,070**	**2,077**	**2,063**	**2,069**	*2,074*	*2,089*	*2,104*	*2,121*	*2,137*	*2,153*	**2,115**	*2,074*	*2,129*
Mountain	**1,381**	**1,280**	**1,277**	**1,284**	**1,277**	**1,275**	*1,275*	*1,284*	*1,292*	*1,304*	*1,315*	*1,325*	**1,306**	*1,278*	*1,309*
Pacific	**3,268**	**3,087**	**3,085**	**3,037**	**3,019**	**3,024**	*3,020*	*3,034*	*3,049*	*3,070*	*3,090*	*3,106*	**3,119**	*3,024*	*3,079*
Households (Thousands)															
New England	**6,056**	**6,061**	**6,058**	**6,066**	**6,073**	**6,077**	*6,081*	*6,089*	*6,097*	*6,105*	*6,112*	*6,120*	**6,066**	*6,089*	*6,120*
Middle Atlantic	**16,415**	**16,405**	**16,390**	**16,406**	**16,416**	**16,425**	*16,432*	*16,452*	*16,475*	*16,499*	*16,521*	*16,540*	**16,406**	*16,452*	*16,540*
E. N. Central	**19,076**	**19,090**	**19,096**	**19,134**	**19,159**	**19,168**	*19,175*	*19,194*	*19,218*	*19,245*	*19,270*	*19,293*	**19,134**	*19,194*	*19,293*
W. N. Central	**8,715**	**8,729**	**8,736**	**8,761**	**8,779**	**8,796**	*8,812*	*8,827*	*8,845*	*8,864*	*8,882*	*8,898*	**8,761**	*8,827*	*8,898*
S. Atlantic	**26,280**	**26,358**	**26,402**	**26,520**	**26,619**	**26,706**	*26,785*	*26,872*	*26,962*	*27,050*	*27,135*	*27,218*	**26,520**	*26,872*	*27,218*
E. S. Central	**7,813**	**7,830**	**7,839**	**7,866**	**7,888**	**7,907**	*7,924*	*7,940*	*7,958*	*7,976*	*7,994*	*8,011*	**7,866**	*7,940*	*8,011*
W. S. Central	**15,331**	**15,379**	**15,414**	**15,488**	**15,552**	**15,609**	*15,662*	*15,716*	*15,770*	*15,825*	*15,879*	*15,930*	**15,488**	*15,716*	*15,930*
Mountain	**9,611**	**9,653**	**9,688**	**9,741**	**9,786**	**9,826**	*9,864*	*9,901*	*9,941*	*9,983*	*10,022*	*10,061*	**9,741**	*9,901*	*10,061*
Pacific	**19,000**	**18,992**	**18,979**	**19,012**	**19,041**	**19,062**	*19,084*	*19,106*	*19,131*	*19,158*	*19,183*	*19,210*	**19,012**	*19,106*	*19,210*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	**7.4**	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.2**	*7.5*	*7.5*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	**19.6**	*19.7*	*19.8*	*19.8*	*19.8*	*19.8*	*19.9*	**18.8**	*19.6*	*19.8*
E. N. Central	**21.1**	**21.2**	**21.4**	**21.6**	**21.9**	**22.0**	*22.1*	*22.1*	*22.2*	*22.2*	*22.2*	*22.3*	**21.3**	*22.0*	*22.2*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	**10.7**	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.9*	**10.5**	*10.7*	*10.8*
S. Atlantic	**28.2**	**28.5**	**28.8**	**29.2**	**29.5**	**29.8**	*29.9*	*30.1*	*30.1*	*30.2*	*30.2*	*30.2*	**28.7**	*29.8*	*30.2*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	**8.4**	*8.4*	*8.5*	*8.5*	*8.5*	*8.5*	*8.5*	**8.2**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.9**	**18.1**	**18.3**	*18.4*	*18.5*	*18.5*	*18.6*	*18.6*	*18.6*	**17.5**	*18.3*	*18.6*
Mountain	**10.8**	**11.0**	**11.1**	**11.3**	**11.4**	**11.5**	*11.5*	*11.6*	*11.6*	*11.7*	*11.7*	*11.7*	**11.1**	*11.5*	*11.7*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.7**	**23.9**	*24.0*	*24.1*	*24.2*	*24.2*	*24.3*	*24.3*	**22.8**	*23.9*	*24.2*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,013**	**779**	**85**	**1,922**	**3,139**	**785**	*124*	*2,133*	*3,080*	*848*	*135*	*2,137*	**5,799**	*6,181*	*6,200*
Middle Atlantic	**2,821**	**668**	**57**	**1,726**	**2,940**	**672**	*79*	*1,965*	*2,858*	*681*	*83*	*1,969*	**5,272**	*5,656*	*5,592*
E. N. Central	**3,085**	**707**	**69**	**1,888**	**3,268**	**754**	*123*	*2,248*	*3,149*	*742*	*126*	*2,253*	**5,749**	*6,393*	*6,270*
W. N. Central	**3,228**	**720**	**89**	**2,029**	**3,486**	**792**	*152*	*2,454*	*3,249*	*716*	*168*	*2,463*	**6,066**	*6,884*	*6,596*
South Atlantic	**1,346**	**212**	**10**	**799**	**1,342**	**189**	*12*	*951*	*1,382*	*195*	*13*	*953*	**2,368**	*2,494*	*2,543*
E. S. Central	**1,790**	**315**	**19**	**1,035**	**1,822**	**248**	*19*	*1,295*	*1,812*	*263*	*22*	*1,304*	**3,159**	*3,384*	*3,401*
W. S. Central	**1,294**	**121**	**1**	**496**	**1,344**	**56**	*4*	*782*	*1,167*	*89*	*5*	*788*	**1,912**	*2,186*	*2,049*
Mountain	**2,308**	**664**	**110**	**1,634**	**2,295**	**741**	*130*	*1,837*	*2,230*	*706*	*156*	*1,854*	**4,715**	*5,003*	*4,946*
Pacific	**1,562**	**482**	**77**	**1,206**	**1,401**	**609**	*83*	*1,224*	*1,554*	*577*	*93*	*1,224*	**3,326**	*3,317*	*3,449*
U.S. Average	**2,107**	**472**	**51**	**1,307**	**2,149**	**493**	*70*	*1,524*	*2,106*	*488*	*77*	*1,527*	**3,936**	*4,235*	*4,198*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	**852**	*107*	*2,104*	*3,151*	*858*	*107*	*2,109*	**6,195**	*6,164*	*6,225*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	**684**	*71*	*1,908*	*2,945*	*692*	*71*	*1,911*	**5,572**	*5,551*	*5,619*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	**727**	*97*	*2,162*	*3,215*	*741*	*96*	*2,171*	**6,161**	*6,119*	*6,223*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	**726**	*125*	*2,357*	*3,318*	*754*	*125*	*2,367*	**6,477**	*6,427*	*6,564*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	**187**	*11*	*906*	*1,401*	*190*	*10*	*901*	**2,503**	*2,483*	*2,503*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	**243**	*15*	*1,228*	*1,809*	*251*	*14*	*1,225*	**3,267**	*3,249*	*3,299*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,144**	**93**	*3*	*754*	*1,189*	*95*	*3*	*761*	**2,015**	*1,994*	*2,048*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	**685**	*132*	*1,817*	*2,200*	*701*	*133*	*1,823*	**4,877**	*4,816*	*4,858*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,455**	**522**	*79*	*1,136*	*1,439*	*523*	*79*	*1,142*	**3,242**	*3,192*	*3,183*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,096**	**479**	*62*	*1,473*	*2,133*	*486*	*62*	*1,475*	**4,147**	*4,110*	*4,156*
Cooling Degree Days															
New England	**0**	**143**	**457**	**6**	**0**	**79**	*472*	*2*	*0*	*87*	*416*	*2*	**606**	*554*	*505*
Middle Atlantic	**0**	**183**	**625**	**23**	**0**	**151**	*599*	*5*	*0*	*156*	*544*	*5*	**831**	*755*	*705*
E. N. Central	**2**	**250**	**629**	**30**	**1**	**256**	*544*	*7*	*0*	*209*	*528*	*6*	**911**	*808*	*744*
W. N. Central	**8**	**311**	**747**	**23**	**3**	**301**	*696*	*10*	*3*	*255*	*647*	*9*	**1,089**	*1,010*	*913*
South Atlantic	**154**	**615**	**1,169**	**284**	**155**	**713**	*1,175*	*235*	*125*	*643*	*1,150*	*234*	**2,222**	*2,277*	*2,153*
E. S. Central	**40**	**434**	**1,014**	**126**	**29**	**606**	*1,095*	*67*	*28*	*489*	*1,018*	*62*	**1,614**	*1,797*	*1,596*
W. S. Central	**90**	**768**	**1,472**	**315**	**56**	**1,096**	*1,599*	*209*	*88*	*836*	*1,472*	*199*	**2,645**	*2,960*	*2,596*
Mountain	**10**	**527**	**965**	**68**	**17**	**470**	*940*	*74*	*17*	*413*	*908*	*71*	**1,571**	*1,501*	*1,410*
Pacific	**24**	**254**	**707**	**57**	**31**	**217**	*606*	*62*	*25*	*169*	*578*	*62*	**1,042**	*915*	*833*
U.S. Average	**50**	**411**	**902**	**127**	**46**	**466**	*890*	*95*	*44*	*392*	*843*	*94*	**1,490**	*1,497*	*1,373*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	**87**	*471*	*2*	*0*	*87*	*470*	*2*	**555**	*561*	*560*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	**162**	*608*	*8*	*0*	*159*	*605*	*8*	**779**	*779*	*773*
E. N. Central	**3**	**234**	**572**	**7**	**3**	**238**	*571*	*9*	*1*	*234*	*560*	*10*	**816**	*821*	*805*
W. N. Central	**7**	**294**	**686**	**10**	**7**	**299**	*681*	*11*	*4*	*291*	*670*	*12*	**997**	*999*	*977*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	**668**	*1,188*	*269*	*144*	*675*	*1,190*	*273*	**2,276**	*2,272*	*2,283*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	**518**	*1,057*	*84*	*36*	*521*	*1,062*	*86*	**1,713**	*1,702*	*1,706*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	**853**	*1,536*	*224*	*101*	*861*	*1,542*	*226*	**2,772**	*2,726*	*2,730*
Mountain	**24**	**441**	**949**	**85**	**23**	**458**	*946*	*84*	*23*	*456*	*943*	*82*	**1,499**	*1,511*	*1,505*
Pacific	**31**	**193**	**648**	**86**	**31**	**208**	*665*	*85*	*32*	*214*	*660*	*84*	**959**	*989*	*989*
U.S. Average	**52**	**413**	**892**	**104**	**53**	**412**	*889*	*109*	*50*	*415*	*888*	*110*	**1,461**	*1,463*	*1,464*

- = no data available

Notes: EIA completed modeling and analysis for this report on August 4, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the August 2022 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Jun 2022	Jul 2022	Jun 2022 – Jul 2022 Average	Jun 2021 – Jul 2021 Average	2019 – 2021 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	99.7	100.3	100.0	96.2	96.6
Global Petroleum and Other Liquids Consumption (b)	99.3	98.8	99.1	98.2	96.7
Biofuels Production (c)	3.0	3.1	3.1	3.1	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.6	3.6	3.6	3.6	3.2
Iran Liquid Fuels Consumption	1.8	1.9	1.8	1.8	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	93.2	93.5	93.4	89.6	90.7
Consumption (d)	94.9	94.4	94.7	93.8	92.2
Production minus Consumption	-1.8	-0.9	-1.3	-4.2	-1.6
World Inventory Net Withdrawals Including Iran	-0.4	-1.5	-1.0	1.9	0.0
Estimated OECD Inventory Level (e) (million barrels)	2,688	2,728	2,708	2,850	2,943
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	2.5	2.1	2.3	5.2	4.3

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Jun 2022	Jul 2022	Jun 2022 – Jul 2022 Average	Jun 2021 – Jul 2021 Average	2019 – 2021 Average
Brent Front Month Futures Price ($ per barrel)	117.50	105.12	111.46	73.84	59.44
WTI Front Month Futures Price ($ per barrel)	114.34	99.38	107.04	71.88	54.82
Dubai Front Month Futures Price ($ per barrel)	113.16	103.16	108.28	72.28	58.86
Brent 1st - 13th Month Futures Spread ($ per barrel)	20.40	17.44	18.96	6.12	1.80
WTI 1st - 13th Month Futures Spread ($ per barrel)	21.42	17.01	19.27	7.26	1.37
RBOB Front Month Futures Price ($ per gallon)	3.99	3.34	3.67	2.24	1.67
Heating Oil Front Month Futures Price ($ per gallon)	4.30	3.64	3.98	2.12	1.75
RBOB - Brent Futures Crack Spread ($ per gallon)	1.19	0.84	1.02	0.48	0.25
Heating Oil - Brent Futures Crack Spread ($ per gallon)	1.51	1.14	1.33	0.37	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics & Analysis
U.S. Energy Information Administration

September 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The Brent crude oil spot price in our forecast averages $98 per barrel (b) in the fourth quarter of 2022 (4Q22) and $97/b in 2023. The possibility of petroleum supply disruptions and slower-than-expected crude oil production growth continues to create the potential for higher oil prices, while the possibility of slower-than-forecast economic growth creates the potential for lower prices.

- U.S. crude oil production in our forecast averages 11.8 million barrels per day (b/d) in 2022 and 12.6 million b/d in 2023, which would set a record for the most U.S. crude oil production during a year. The current record is 12.3 million b/d, set in 2019.

- We estimate that 99.4 million b/d of petroleum and liquid fuels was consumed globally in August 2022, up by 1.6 million b/d from August 2021. We forecast that global consumption will rise by an average of 2.1 million b/d for all of 2022 and by an average of 2.0 million b/d in 2023. As a result of high natural gas prices globally, we increased our forecast for oil consumption in 4Q22 and 1Q23 as electricity providers, particularly in Europe, may switch to oil-based generating fuels.

- We expect retail gasoline prices will average $3.60 per gallon (gal) in 4Q22 and $3.61/gal in 2023. Retail diesel prices in our forecast average $4.90/gal in 4Q22 and $4.28/gal in 2023.

Natural gas

- In August, the Henry Hub spot price averaged $8.80 per million British thermal units (MMBtu), up from $7.28/MMBtu in July. Natural gas prices rose in August because of continued strong demand for natural gas in the electric power sector, which has kept natural gas inventories below their five-year (2017–2021) average. We expect the Henry Hub price to average about $9/MMBtu in 4Q22 and then fall to an average of about $6/MMBtu in 2023 as U.S. natural gas production rises.

- U.S. natural gas inventories ended August at 2.7 trillion cubic feet (Tcf), which was 12% below the five-year average. We forecast that inventories will end the injection season (April through October) at more than 3.4 Tcf, which would be 7% below the five-year average.

- U.S. LNG exports in our forecast average 11.7 billion cubic feet per day (Bcf/d) in 4Q22, up 1.7 Bcf/d from 3Q22. Factors that will affect the volume of LNG exports in the coming months include the planned outage at Cove Point in October and Freeport LNG resuming partial operations by mid- to late-November. We forecast LNG exports will average 12.3 Bcf/d in 2023.

- U.S. consumption of natural gas in our forecast averages 86.6 Bcf/d in 2022, up 3.6 Bcf/d from 2021, driven by increases across all consuming sectors. We expect consumption to fall by 1.9 Bcf/d in 2023 because of declines in consumption in the industrial and electric power sectors.

- Dry natural gas production has been rising relatively steadily since 1Q22, when it averaged 94.6 Bcf/d. We forecast U.S. dry natural gas production to average 99.0 Bcf/d in 4Q22 and then rise to 100.4 Bcf/d for 2023.

Electricity, coal, renewables, and emissions

- We expect U.S. sales of electricity to ultimate customers to rise by 2.6% in 2022, mostly because of more economic activity but also because of slightly hotter summer weather in than last year much of the country. We forecast U.S. sales of electricity to fall by 0.4% in 2023.

- The largest increases in U.S. electricity generation in our forecast come from renewable energy sources, mostly solar and wind. We expect renewable sources will provide 22% of U.S. generation in 2022 and 24% in 2023, up from 20% in 2021.

- Natural gas fuels 37% of U.S. electricity generation in 2022, a share similar to 2021, and we forecast it to fall to 36% in 2023. Coal-fired electricity generation in our forecast provides 21% of the U.S. total in 2022 and 19% in 2023. Growing generation from renewable sources limits growth in natural gas generation while coal's generation share declines due to the expected retirement of coal-fired capacity.

- We forecast the U.S. residential price of electricity will average 14.8 cents per kilowatthour in 2022, up 7.5% from 2021. Higher retail electricity prices largely reflect an increase in wholesale power prices driven by rising natural gas prices. The Southwest region has the lowest forecast wholesale prices in 2022, averaging $69 per megawatthour (MWh), up 25% from 2021. The highest forecast wholesale prices are at more than $100/MWh in ISO New England (up 96% from 2021) and New York ISO (up 124% from 2021).

- U.S. coal production in the forecast increases by 22 million short tons (MMst) in 2022 to total 600 MMst for the year. We expect production will total 590 MMst in 2023.

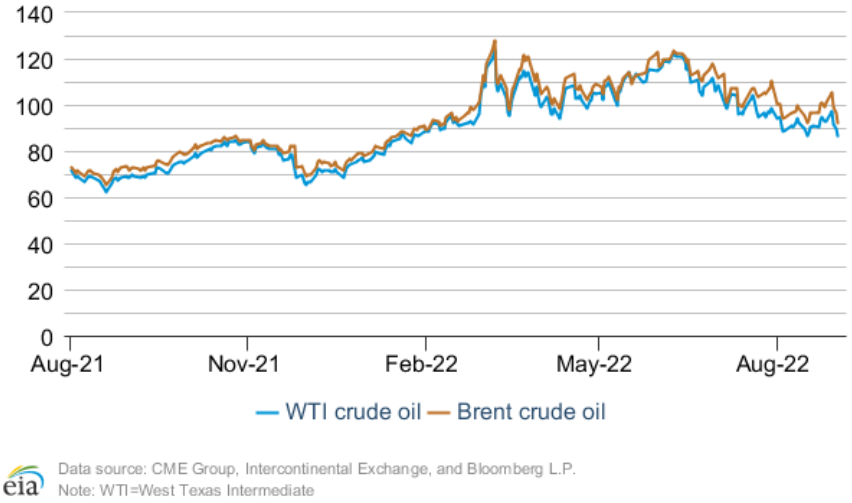
- We expect energy-related carbon dioxide (CO_2) emissions in the United States to increase by 1.7% in 2022 and then to decrease 1.8% back to around 2021 levels in 2023.

Petroleum and Natural Gas Markets Review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $92.36 per barrel (b) on September 1, a decrease of $7.67/b from the August 1 price of $100.03/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $7.28/b during the same period, settling at $86.61/b on September 1 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



eia Data source: CME Group, Intercontinental Exchange, and Bloomberg L.P.
Note: WTI=West Texas Intermediate

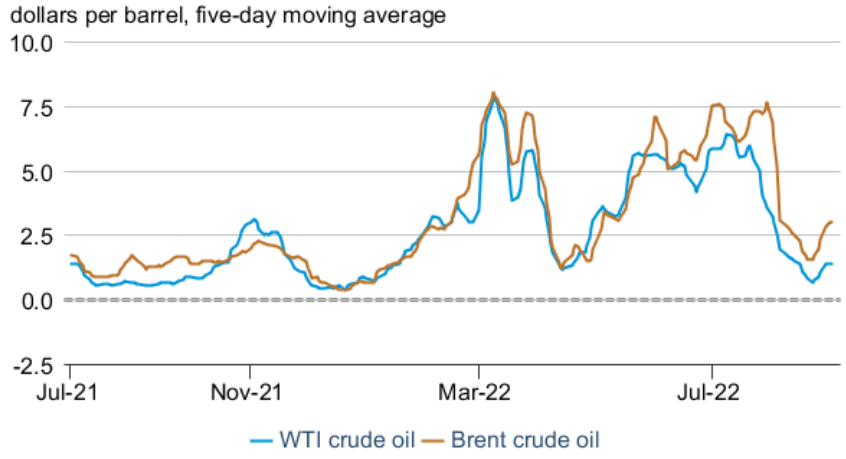
Crude oil prices were lower on average in August than they were in July before ending with a rapid decrease in the week before Labor Day. From August 29 through September 1, the Brent crude oil price decreased $13/b and the WTI price decreased $10/b. The monthly average Brent front-month futures price was $98/b in August, about $7/b lower than in July, and the WTI price was $91/b, $8/b lower than in July. The lower prices in August likely reflected overall increases in global petroleum inventories. The increase in inventories came with ongoing growth in global production of crude oil and other liquid fuels, which we estimate reached 101 million barrels per day (b/d) in August, the highest global production since December 2019.

We estimate that crude oil prices will generally remain near August average levels through the end of 2023. Although we expect average crude oil prices to mostly remain between $90/b–$100/b through next year, the possibility for significant volatility around those averages is high. Recent events contributing to increased uncertainty in the crude oil market and in our forecast include:

- The impact of the recent OPEC decision to reduce crude oil production by 0.1 million b/d in October and whether there will be further production cuts in the future
- The threat of increasing conflict following the outbreak of violent clashes in the Libyan capital of Tripoli
- Uncertainty around the potential expiration of the current coordinated petroleum release from strategic reserves in November
- The potential return to an Iran nuclear deal that could lift sanctions on the country and allow Iran's crude oil exports into the market
- The risk of hurricanes that could result in potential production outages and limited export traffic along the U.S. Gulf Coast

Crude oil front-month to third-month futures price spread: The front-month to third-month crude oil futures price spread (1-3 spread) is a measure of market backwardation, a market environment that encourages crude oil to flow out of inventories and into the market **(Figure 2)**. Backwardation occurs when crude oil futures contract prices in the near term are higher than crude oil prices in the long term. In response to Russia's full-scale invasion of Ukraine in the spring, the 1-3 spread for Brent increased from an average of $1/b in January to nearly $7/b in March. Following a decline in April, it returned to near $7/b levels in July. In August, the spread narrowed to $3/b, the narrowest spread since April. The decrease in backwardation in August suggests that the market call to draw oil from inventories has decreased since midsummer, indicating market conditions that are more balanced between supply and demand than earlier this year.

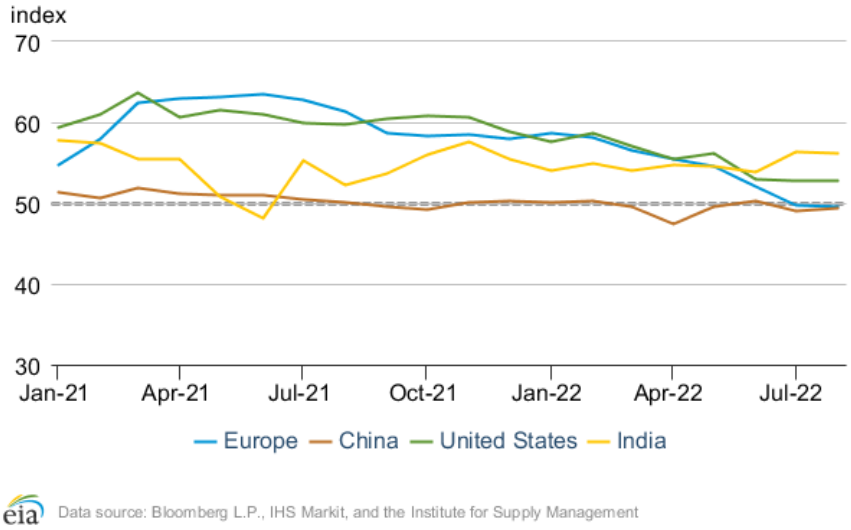
Figure 2. Crude oil front-month to third-month futures price spread



Data sources: CME Group, Intercontinental Exchange, and Bloomberg L.P.
Note: WTI=West Texas Intermediate

Manufacturing Purchasing Managers' Index: Regional Purchasing Managers' Indexes (PMIs) for manufacturing in July decreased in the United States, Europe, and China **(Figure 3**). A PMI serves as an indicator of increasing or decreasing manufacturing activities. An index rating above 50 represents growth in activity while a rating below 50 indicates a contraction. The U.S. manufacturing PMI decreased in July to 52.8, its lowest rating since June 2020, suggesting a slowing rate of growth. In Europe, the PMI value dropped to 49.8, also its lowest rating since June 2020, while the drop below 50 also suggests market contraction. The latest Europe and U.S. PMIs suggest that these conditions have continued into August, contributing to further concerns about economic conditions and petroleum demand. The low PMI signals a weakening economic environment in Europe, further exacerbated by the decreasing value of the euro, which fell to parity with the U.S. dollar in late August.

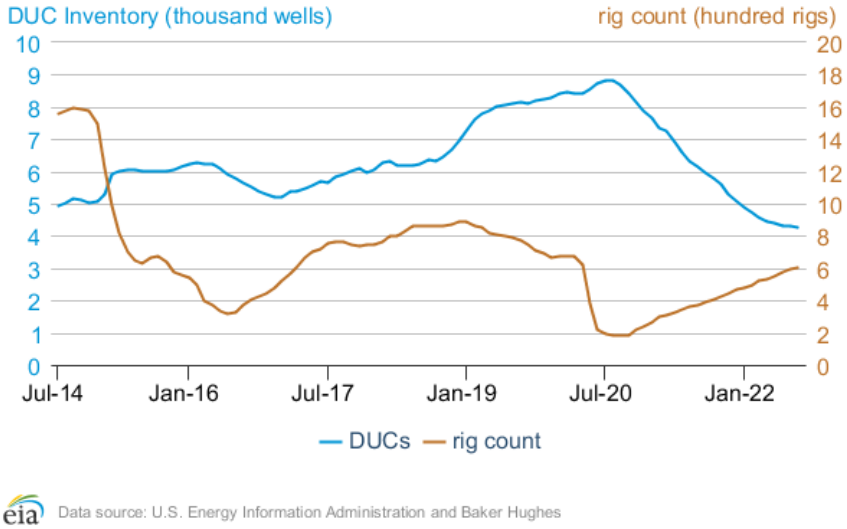
Figure 3. Regional Manufacturing Purchasing Managers' Index (PMI)



eia Data source: Bloomberg L.P., IHS Markit, and the Institute for Supply Management

U.S. drilled but uncompleted wells and rig count: Since July 2020, the number of U.S. wells that are drilled but uncompleted (DUCs) has been decreasing and has fallen below the number in 2014 (the earliest year in our dataset) in 2022 **(Figure 4)**. DUCs are oil and natural gas wells that have undergone their drilling phase but have not yet undergone casing, cementing, and other procedures that are necessary to establish a fully operational well. Prior to the onset of the COVID-19 pandemic, the number of DUCs had been steadily growing since 2017 in the United States, driven primarily by new production in the Permian Basin. Since July 2020, however, the number of DUCs has been decreasing at a relatively steady pace. At the same time, the Baker Hughes rotary rig count for oil producing wells has been increasing, rising above 600 rigs in July, the highest it has been since March 2020.

Figure 4. U.S. drilled but uncompleted wells (DUC) and rig count



eia Data source: U.S. Energy Information Administration and Baker Hughes

The number of DUCs serves as an indicator of the relative supply of wells that may be transitioned to operational status, and the increasing rig count reflects the higher number of wells being drilled. Growth in crude oil production in the United States since 2021 has largely consisted of completing wells from the available DUCs, while new drilling in response to high crude oil prices appears to be lagging the rate of completion. Continued U.S. production increases are likely to continue drawing on available DUCs that are viable candidates for completion at current prices. Continued increases in rig counts will contribute to more drilled wells, which could soon outpace well completions and increase the number of DUCs. However, on September 2, the latest weekly rig count indicated a decrease in 9 rigs from the previous week, down to 596, the largest week-on-week decrease since September 2021.

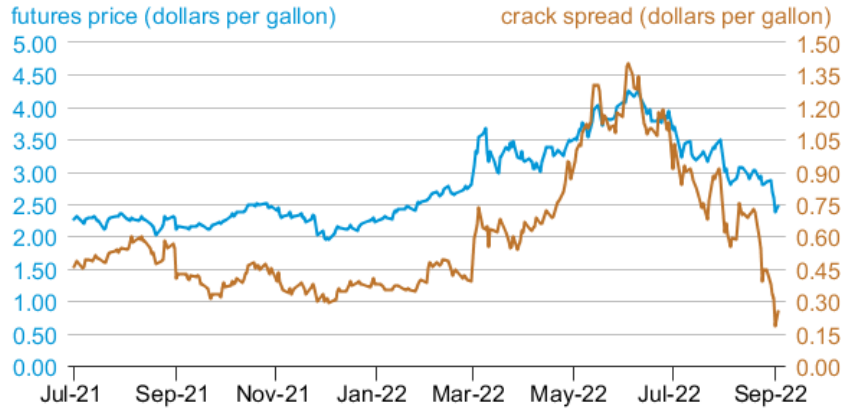
Our August *Drilling Productivity Report* showed the smallest monthly percentage decline in DUCs since July 2020. We currently forecast that U.S. crude oil production will increase to 12.2 million b/d in the fourth quarter and will rise to an average of 12.6 million b/d in 2023. This increase would constitute an annual increase of 0.5 million b/d in 2022 and an additional increase of 0.9 million b/d in 2023.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $2.39 per gallon (gal) on September 1, down 61 cents/gal from August 1 **(Figure 5)**. The RBOB-Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at $0.19/gal on September 1, down 43 cents/gal during the same period. The RBOB–Brent crack spread declined by 12 cents/gal on September 1 when the front-month RBOB contract rolled over to October delivery, which reflects winter grade gasoline that is cheaper for refineries to produce. Before the contract roll over, the RBOB–Brent crack spread had already decreased from an average of 85 cents/gal in

July to an average of 58 cents/gal in August, which could be the result of less-than-average seasonal demand and anticipation of the contract roll-over.

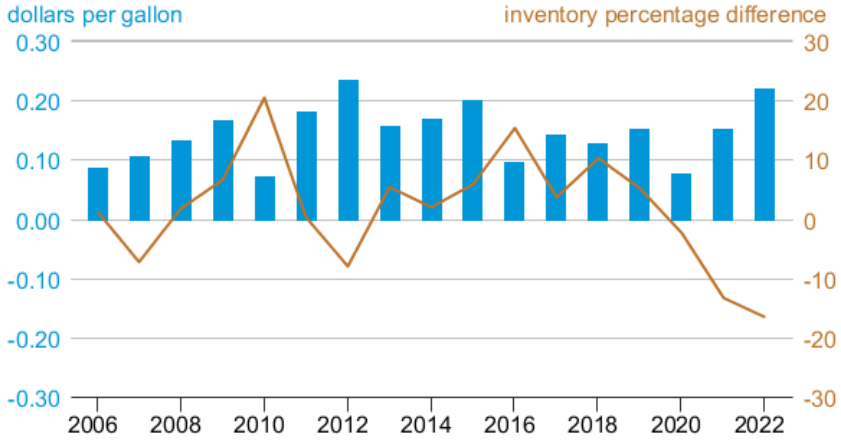
Figure 5. Historical RBOB front-month futures prices and crack spreads



Data source: CME Group and Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

The front-month RBOB contract for September delivery sold at an average premium of 22 cents/gal to the second-month contract for October delivery during August trading. This price spread was the second-highest inflation-adjusted price spread since 2006, when the RBOB futures contract began trading **(Figure 6)**. Most of this premium was due to the difference between winter and summer grade gasoline, but market fundamentals also affected the spread. Typically, when inventories are lower, this premium is greater because low inventories add more pressure to prices in near-term contracts than long-term contracts. This dynamic occurs because low inventories occur during tight market conditions in which demand must be met from inventories, and, under these conditions, purchasers are willing to pay a premium to secure needed supply. We estimate that gasoline inventories in the East Coast (PADD 1) were 16% below their five-year (2017–2021) average at the end of August. In 2012, the year with the highest average front-month to second-month price spread, inventories were also below their five-year average, albeit by not as much as this year.

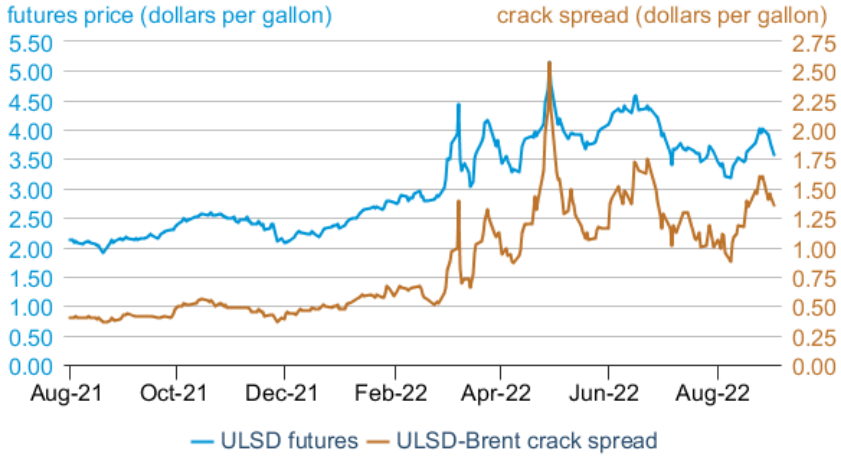
Figure 6. August front-month to 2nd month RBOB price spread and PADD 1 gasoline stocks compared with five-year average



Source: CME Group and Bloomberg L.P.
Note: Prices are based on inflation-adjusted monthly averages. Real prices are adjusted using the CPI.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $3.56/gal on September 1, a 12 cents/gal (4%) increase from August 1 **(Figure 7)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 30 cents/gal (29%) during the same period and settled at $1.36/gal on September 1.

Figure 7. Historical ULSD front-month futures prices and crack spreads



Data source: CME Group and Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

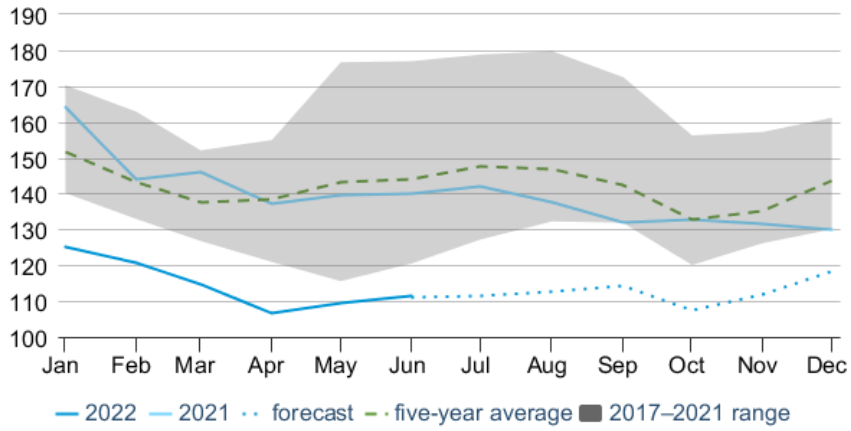
ULSD prices increased this month as rapidly increasing natural gas prices in Europe and Asia increased demand for distillate fuel as a substitute fuel for power generation in those markets amid low distillate stocks globally. From August 8 to August 26, ULSD prices increased by 83 cents/gal (26%). This increase in ULSD prices occurred despite slowing economic and trucking activity in the United States. A recent decline in the American Trucking Association's *Truck Tonnage Index* suggests less consumption of goods, less home construction, and slower

manufacturing activity contributed to a slight decline in diesel fuel demand. Although changes in crude oil prices normally account for most changes in ULSD prices, as crude oil is the single largest input cost for producing ULSD, the Brent crude oil price increased only 4% between August 8 and August 26. Because ULSD prices increased by more than crude oil prices, it resulted in the ULSD-Brent crack spread increasing by 73 cents/gal (83%) over the same period.

ULSD prices rose in August primarily due to increased interest in fuel switching from natural gas to distillate fuel oil caused by rising natural gas prices in Europe. From August 8 to August 26, front-month natural gas prices at the Dutch Title Transfer Facility (TTF) increased by 72%, reaching a record high. High natural gas prices are making it economical for European operators to switch from natural gas to distillate fuel oil in electricity generation. From August 26 to September 1, ULSD prices declined by 45 cents/gal (11%) as natural gas prices declined and concerns around an economic slowdown that could reduce distillate demand regained the focus of the market.

U.S. distillate inventories: Inventories in the United States began the year at 130 million barrels, 14% less than their five-year average **(Figure 8)**. As of June 2022, inventories decreased to 111 million barrels or 23% below the five-year average. We forecast U.S. distillate inventories will build to 118 million barrels or 17% below the five-year average by the end of this year, and will remain below their previous five-year low.

Figure 8. U.S. distillate inventory



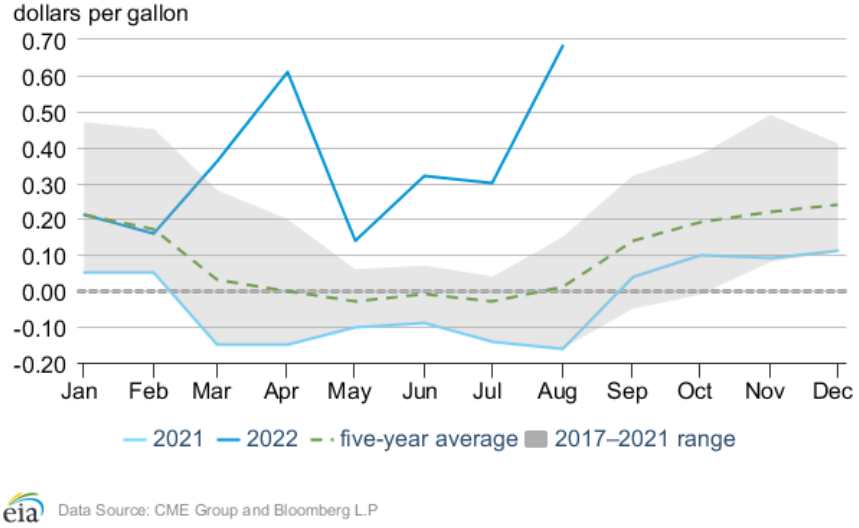
Data source: EIA *Petroleum Supply Monthly* and Short-Term Energy Outlook, September 2022

Western sanctions against Russia's petroleum product exports following its full-scale invasion of Ukraine in February have been a major driver of global distillate markets and subsequent inventory draws this year. Low inventories in New England (PADD 1A), the Central Atlantic (PADD 1B), and the Midwest (PADD 2) suggest both higher and more volatile ULSD prices in the coming months. In the Midwest, where distillate fuel is widely used for harvesting crops, *Weekly Petroleum Status Report* data for the week ending August 26 shows distillate inventories are

17% below the five-year average. In New England and the Central Atlantic, where heating oil is used as a primary source of heat in some homes, inventories are 56% below the five-year average.

ULSD-RBOB future price spread: ULSD front-month futures prices traded at an average monthly premium to RBOB of 68 cents/gal in August, the highest premium in real terms since November 2008 **(Figure 9)**. Although front-month ULSD and RBOB futures typically follow seasonal trends (RBOB trades at a premium in the summer, and ULSD trades at a premium in the winter), global demand for distillate and reduced exports from Russia, a major supplier of distillate fuel and natural gas to Europe, have disrupted this trend. This increased demand for distillate, as well as a concurrent decline in gasoline demand, has encouraged refiners to maximize distillate production. The monthly ULSD-Brent crack spread this August of $1.27/gal is 87 cents/gal (222%) higher than last August while the RBOB-Brent crack spread of 58 cents/gal is only 3 cents/gal (6%) higher compared with last year. Looking forward, we forecast that the combination of the upcoming switch to winter grade gasoline, which is less expensive for refiners to produce, and the typical decline in gasoline demand after the summer driving season will contribute to declining refiner margins for gasoline. We forecast diesel fuel refiner margins will remain above August levels through the end of the year.

Figure 9. ULSD-RBOB front-month futures price spread



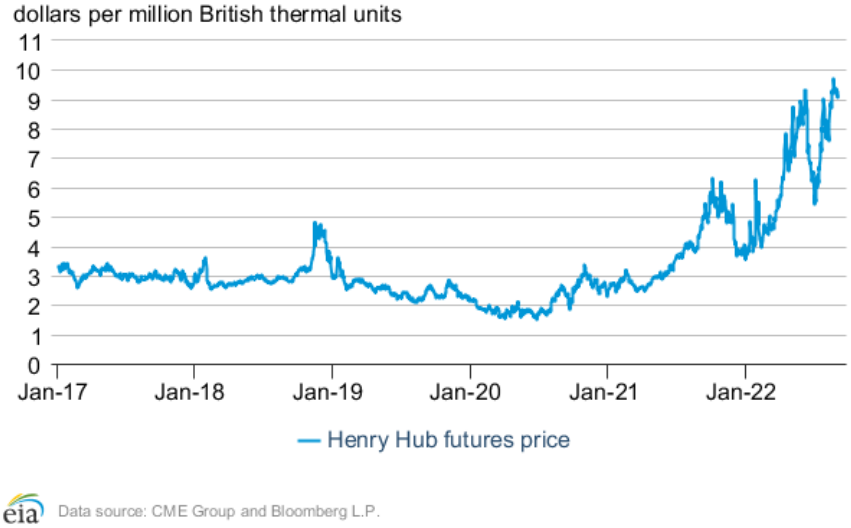
eia Data Source: CME Group and Bloomberg L.P

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub closed at $9.26 per million British thermal units (MMBtu) on September 1, 2022, which was up 12% (98 cents/MMBtu) from August 1, 2022 **(Figure 10)**. Closing prices for front-month natural gas futures averaged $8.78/MMBtu during August, the highest August monthly average in real terms since 2008. Natural gas prices remained elevated throughout August as inventories remained below the five-year (2017–2021) average, and consumption in the electric power

sector remained strong. Hotter-than-normal temperatures in much of the country increased demand for air conditioning, and constraints in the coal market limited coal-fired electricity generation, both increasing consumption of natural gas to produce electricity.

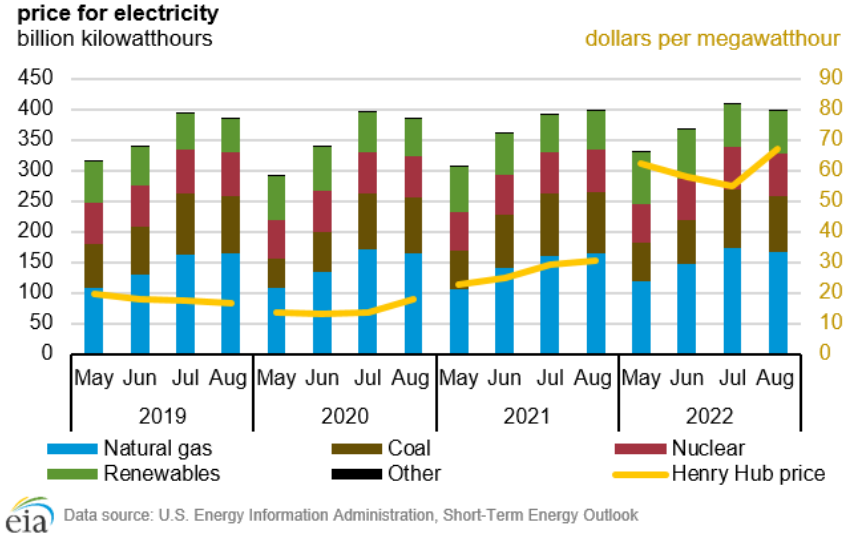
Figure 10. Historical nominal front-month U.S. natural gas prices



eia Data source: CME Group and Bloomberg L.P.

The United States generates more electricity during the summer compared with other times of the year. This summer, the percentage share of electricity generation from natural gas has been similar to previous years, despite high natural gas prices that have more than doubled from the same time last year **(Figure 11)**. Previously, high natural gas prices would have resulted in more coal-fired electricity generation. However, coal-fired power plants have been limited in their ability to increase power generation due to historically low inventories, constraints in fuel delivery to coal plants, and continued coal capacity retirements. Even as the capacity for renewable electricity generation has increased over recent years, power providers continue to use natural gas-fired electricity generation most often to meet fluctuations in electricity demand.

Figure 11. May-Aug electricity generation by fuel source and natural gas price for electricity



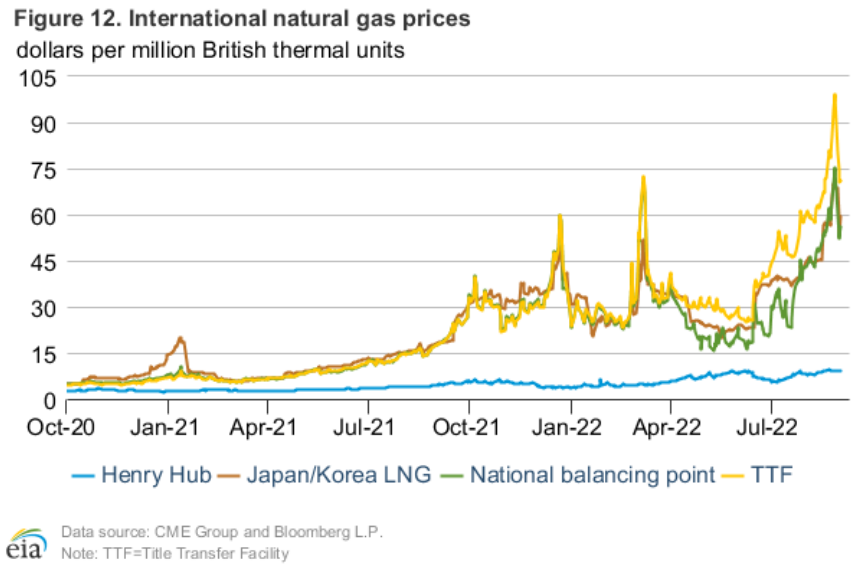
In the United States, natural gas is the most common fuel source used by power providers to quickly increase or decrease power supply to meet electricity demand from moment to moment. This instantaneous balance is crucial in U.S. power markets due to the lack of large-scale electricity storage. Most natural gas-fired turbine power plants can increase or decrease their electricity generation in a matter of minutes. In contrast, other sources of generation, such as nuclear power plants, generally provide a stable amount of electricity at all hours of the day, while renewable sources such as wind turbines and solar power facilities provide a fluctuating amount of electricity based on weather conditions. Natural gas was key to meeting electricity demand peaks throughout the country during the hot July, especially in Texas, where several records were set for daily peak electricity demand.

International natural gas prices: Real prices for natural gas futures for delivery at the Title Transfer Facility (TTF) in the Netherlands set a record high at more than $99/MMBtu in late August **(Figure 12)**. Prices in East Asia reached a record high of more than $69/MMBtu in August. International natural gas prices have been rising since June amid several factors:

- The June shutdown of the Freeport LNG facility in South Texas reduced global supply of liquefied natural gas (LNG) by about 2 billion cubic feet per day (Bcf/d). Prior to the shutdown, LNG exports from Freeport in the first five months of 2022 accounted for approximately 17% of total U.S. LNG exports.

- Natural gas pipeline exports from Russia to Europe have declined in 2022, reaching 1.2 Bcf/d in mid-July, the least in nearly 40 years.

- On August 19, Gazprom announced the Nord Stream 1 pipeline (which delivers natural gas from Russia to Europe) would be offline for three days for unplanned maintenance from August 31 to September 2.



Europe finished the 2021–2022 winter heating season with natural gas inventories at 26% full compared with the five-year average of 34%, according to data from Gas Infrastructure Europe's (GIE) Aggregated Gas Storage Inventory (AGSI+). Because of limitations in and uncertainty about natural gas pipeline imports from Russia, Europe has been importing record amounts of LNG in 2022 to refill inventory before the upcoming winter. The recent supply constraints affecting the global LNG market and the reduced pipeline flows into Europe have contributed to the increase in the TTF futures price and the increase in the price premium for LNG cargoes delivered to Europe relative to LNG cargoes delivered to East Asia.

Strong demand for LNG in Europe continues to drive high international natural gas prices. The percentage of U.S. LNG exports to Europe has increased in 2022, averaging 69% in the first half of 2022 compared with 32% in the first half of 2021. U.S. facilities exported LNG at close to their combined capacity in August (excluding the offline Freeport LNG facility), with capacity utilization averaging 93% across all operating facilities.

Notable forecast changes

- We have updated several of the equations in the natural gas model, including those that forecast residential and commercial consumption of natural gas, natural gas pipeline imports and exports, and natural gas production in Alaska. The changes include updating the variables and sample periods on which these regression equations are evaluated. We also updated the liquefied natural gas imports forecast to better reflect recent trends. These changes contributed to 1.4 billion cubic feet per day (Bcf/d) more forecast consumption of natural gas in 2022 and 0.8 Bcf/d more consumption in 2023. In addition, we have increased our forecast for production of natural gas in Alaska by just under 0.1 Bcf/d in both years, and we have lowered our forecast of net exports of

natural gas by 0.7 Bcf/d in 2022 and by 0.5 Bcf/d in 2023, mostly because of more expected pipeline imports.

- You can find more information in the detailed table of forecast changes.

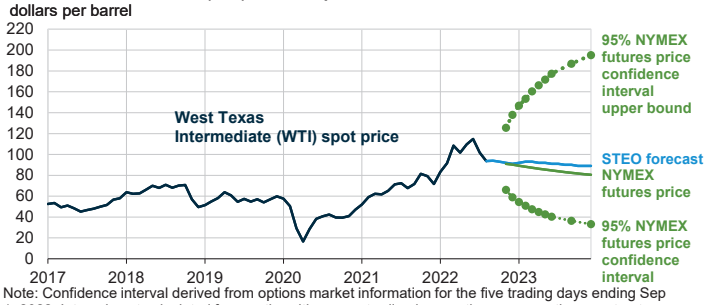
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Short-Term Energy Outlook
Chart Gallery

September 7, 2022

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

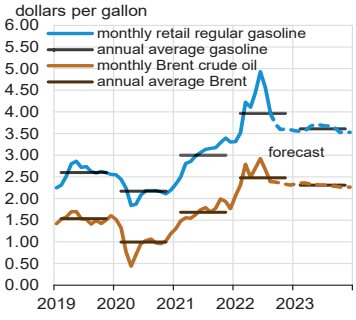


Note: Confidence interval derived from options market information for the five trading days ending Sep 1, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

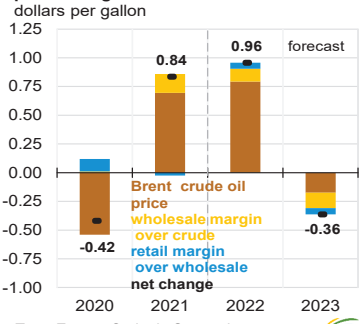
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



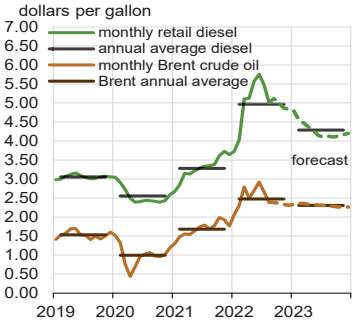
Components of annual gasoline price changes
dollars per gallon



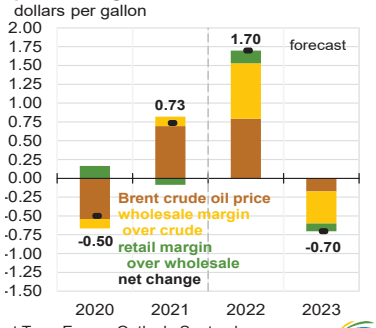
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices



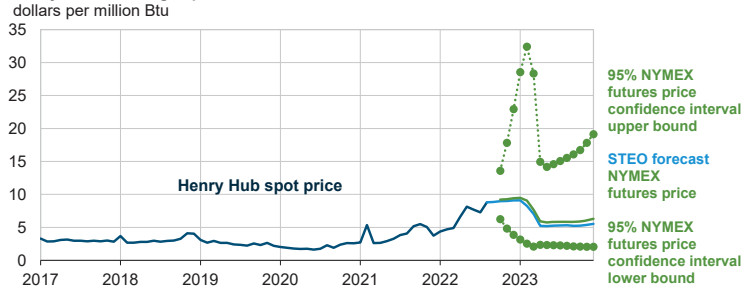
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

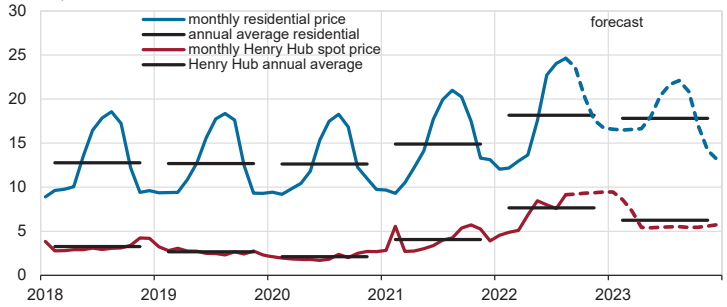


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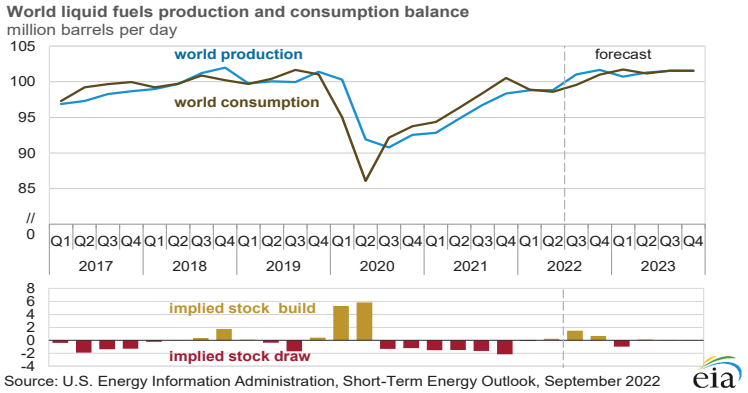
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, CME Group, and Refinitiv an LSEG Business

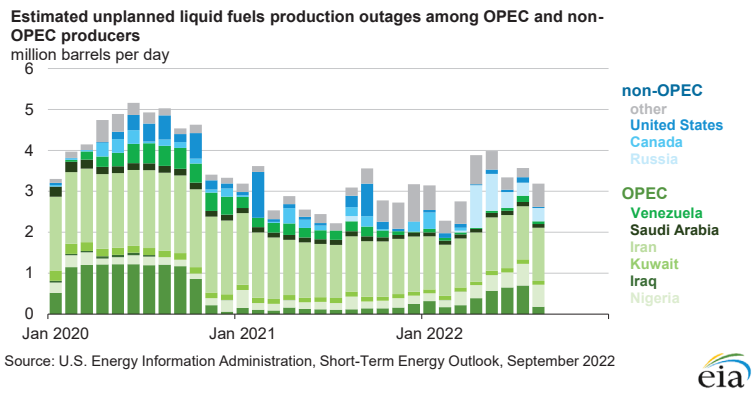
U.S. natural gas prices

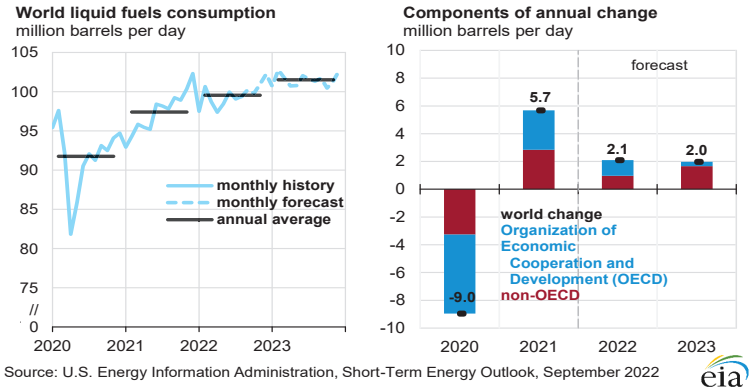
dollars per thousand cubic feet

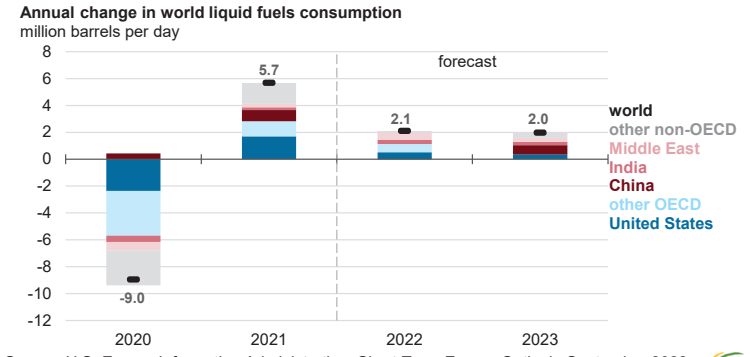


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, and Refinitiv an LSEG Business

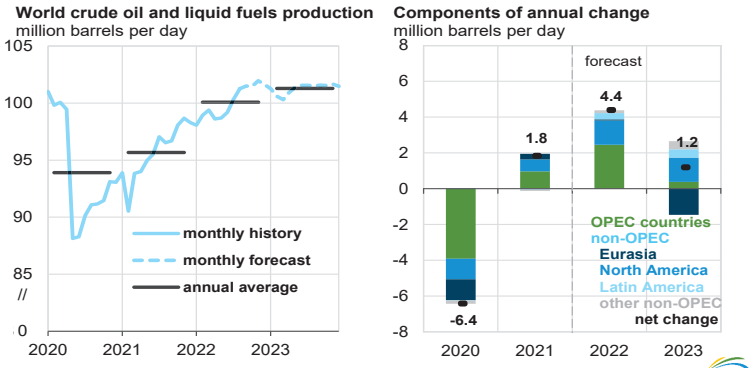

World liquid fuels production and consumption balance
million barrels per day
105
100
95
90
85
0
world production
world consumption
forecast
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2017
2018
2019
2020
2021
2022
2023
8
6
4
2
0
-2
-4
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6
5
4
3
2
1
0
Jan 2020
Jan 2021
Jan 2022
non-OPEC
other
United States
Canada
Russia
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia

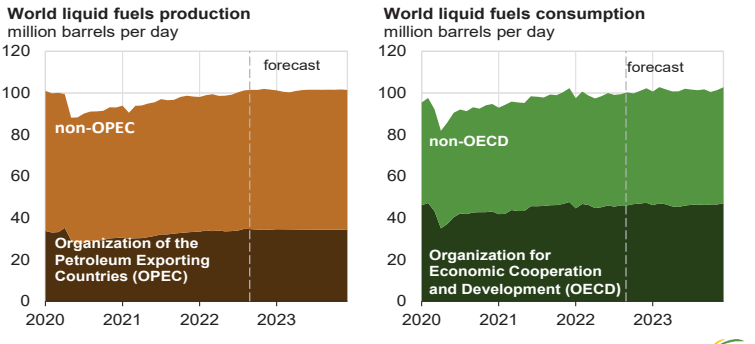

World liquid fuels consumption
million barrels per day
105
100
95
90
85
80
75
0
monthly history
monthly forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
10
8
6
4
2
0
-2
-4
-6
-8
-10
forecast
5.7
2.1
2.0
-9.0
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

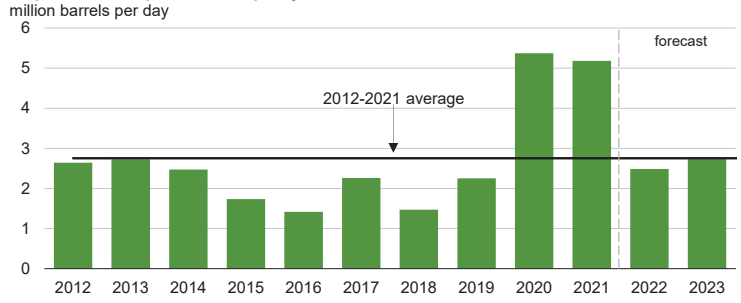


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



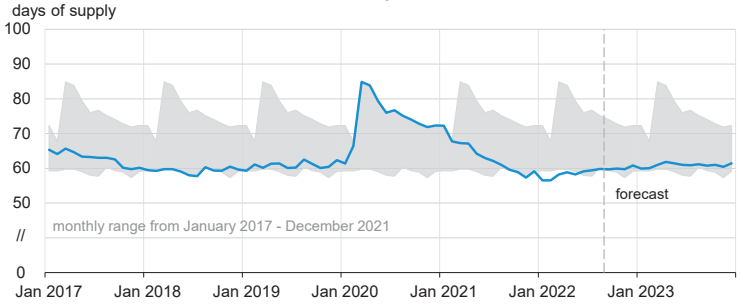
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



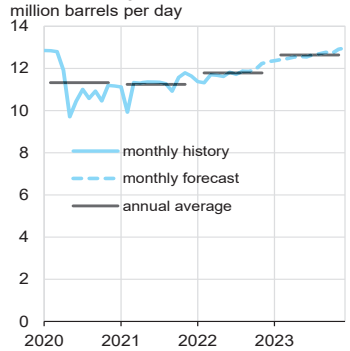
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

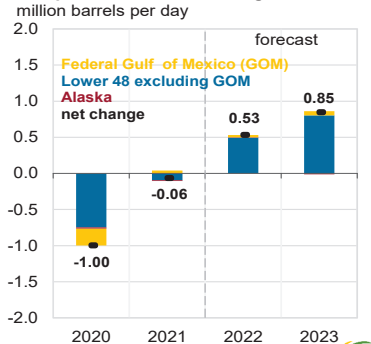


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

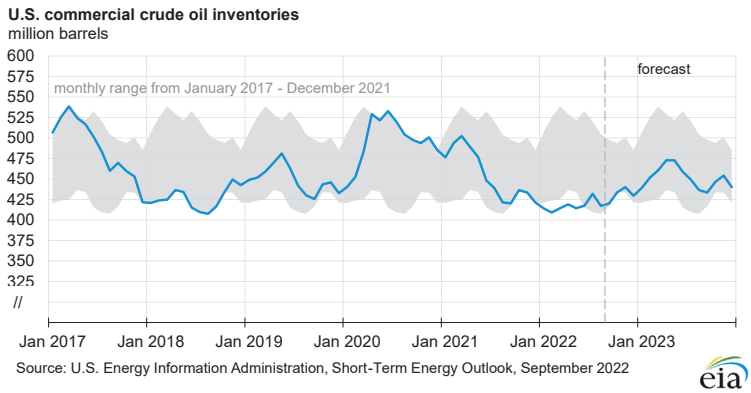
U.S. crude oil production
million barrels per day

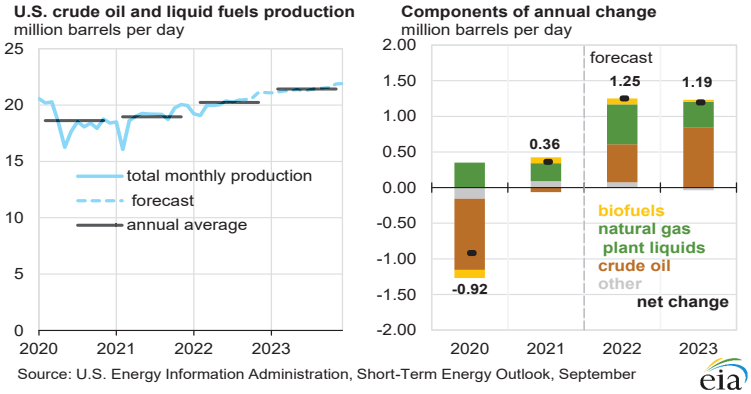


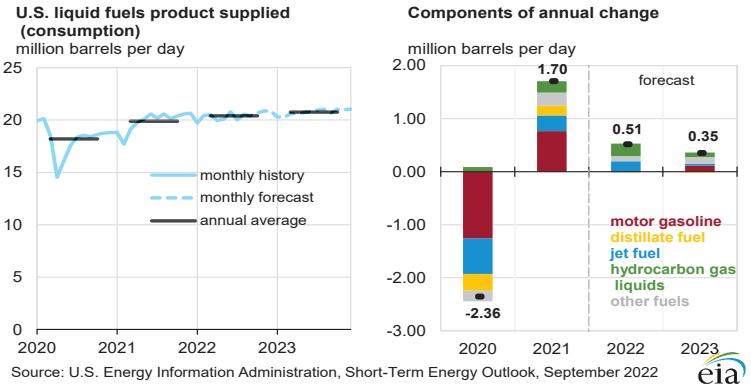
Components of annual change
million barrels per day



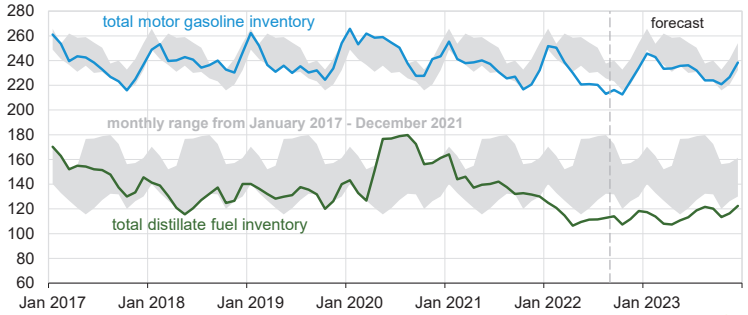
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022


U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from January 2017 - December 2021
forecast
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia


U.S. crude oil and liquid fuels production
million barrels per day
25
20
15
10
5
0
total monthly production
forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
forecast
1.25
1.19
0.36
-0.92
biofuels
natural gas
plant liquids
crude oil
other
net change
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September
eia

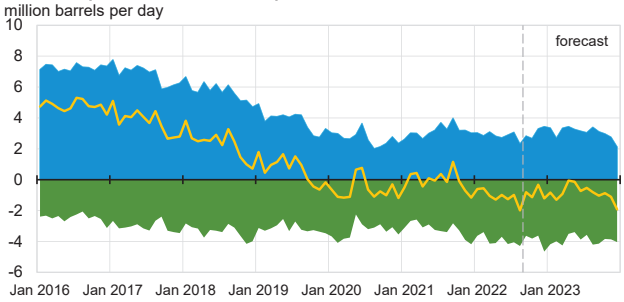

U.S. liquid fuels product supplied (consumption)
million barrels per day
25
20
15
10
5
0
monthly history
monthly forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
2.00
1.00
0.00
-1.00
-2.00
-3.00
1.70
forecast
0.51
0.35
-2.36
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia

U.S. gasoline and distillate inventories
million barrels



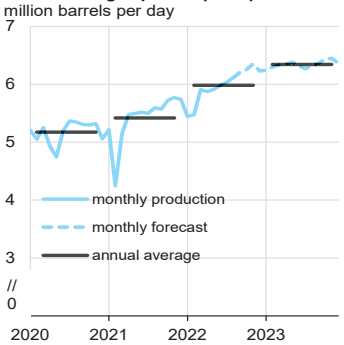
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

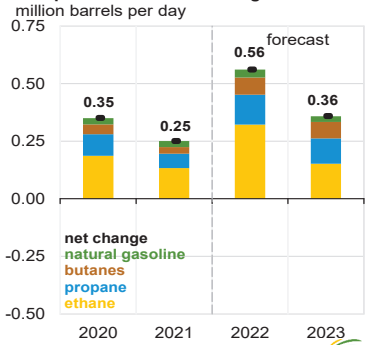


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

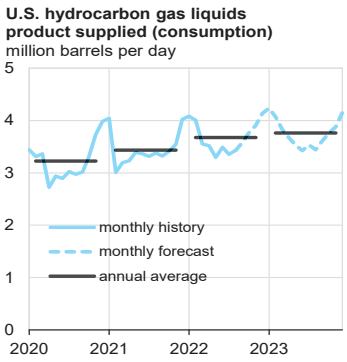
U.S. natural gas plant liquids production
million barrels per day

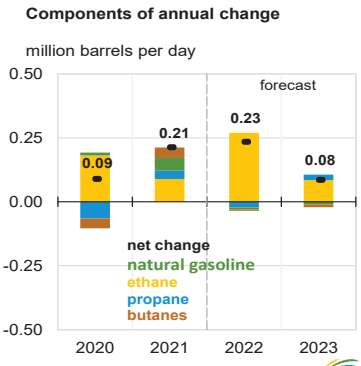


Components of annual change
million barrels per day

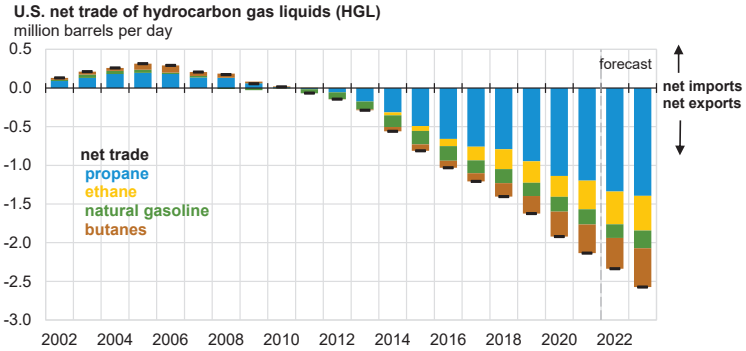


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

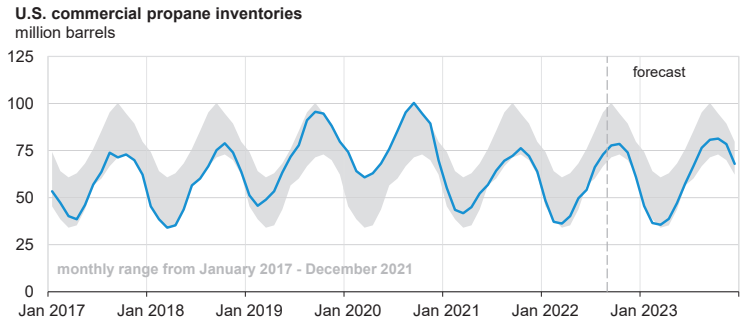




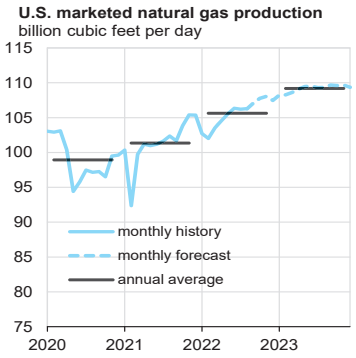
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

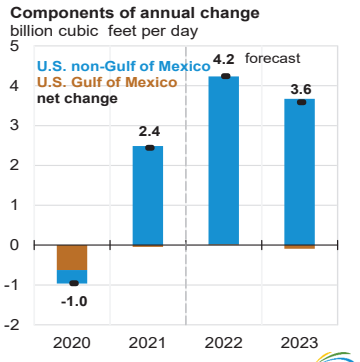


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

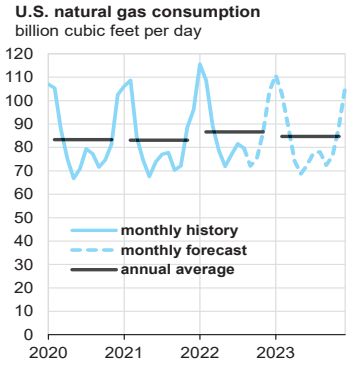


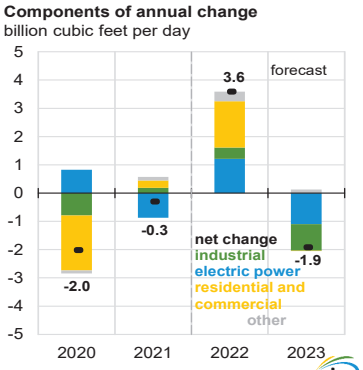
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



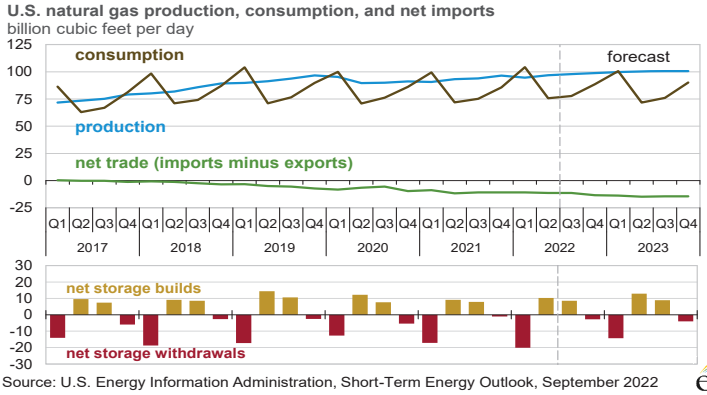


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

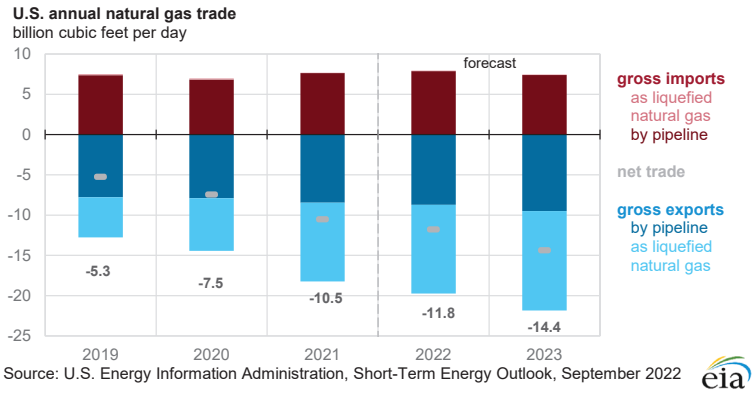




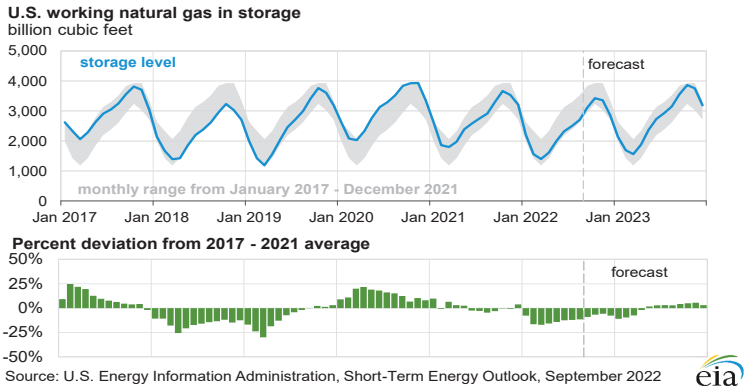
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



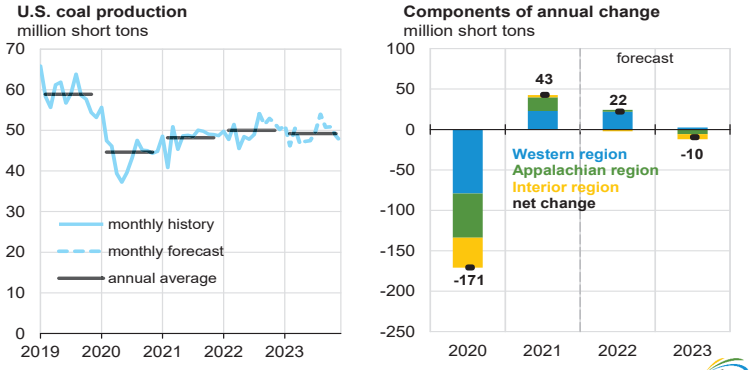
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



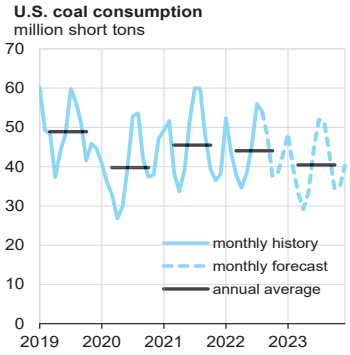
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

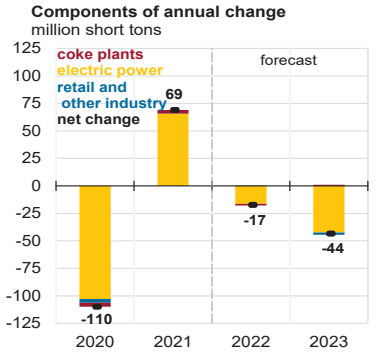


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

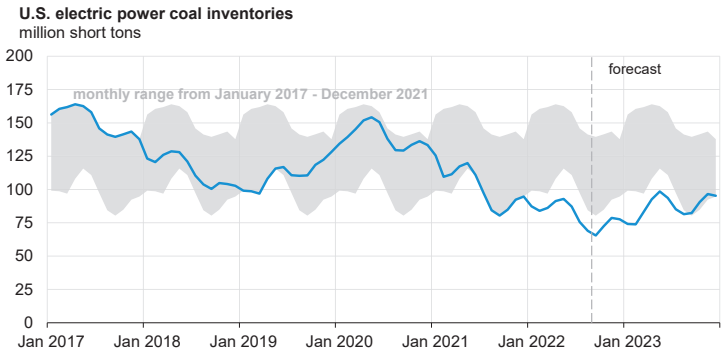


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

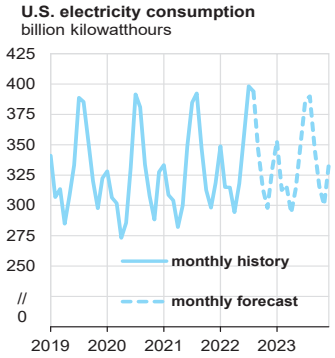


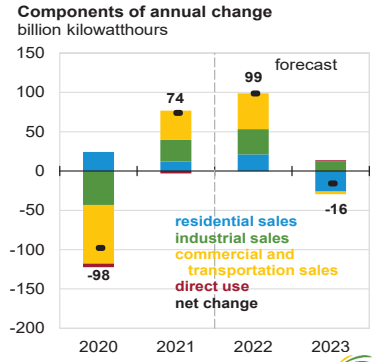


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

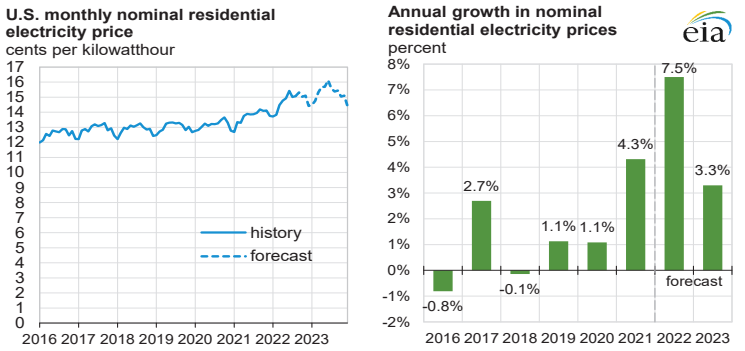


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

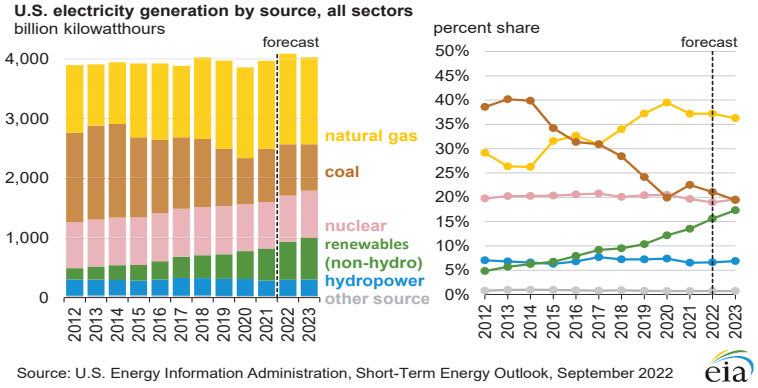




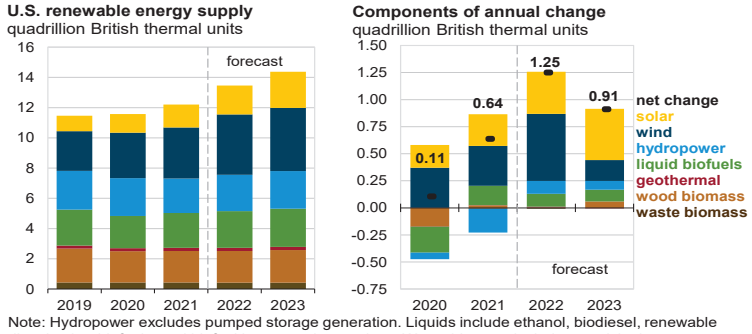
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

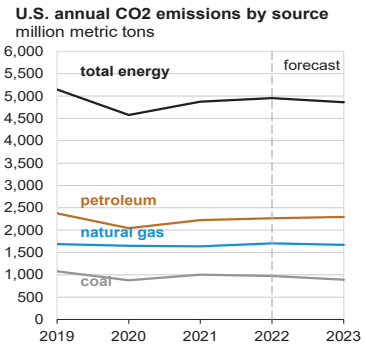


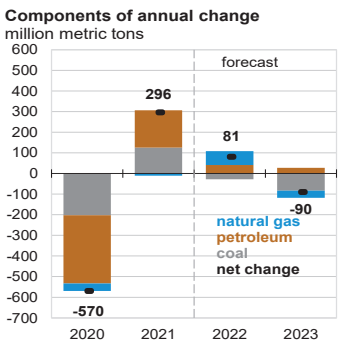
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



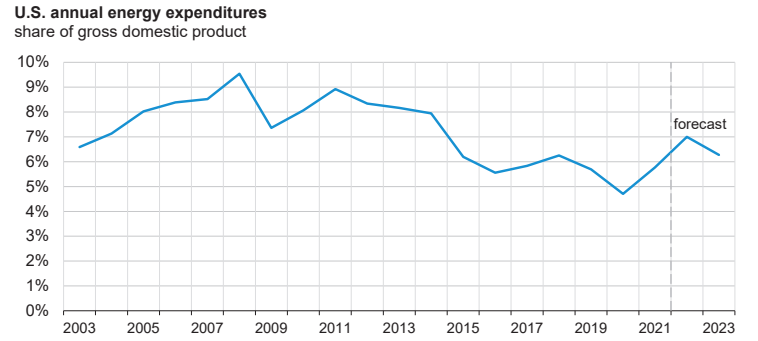
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

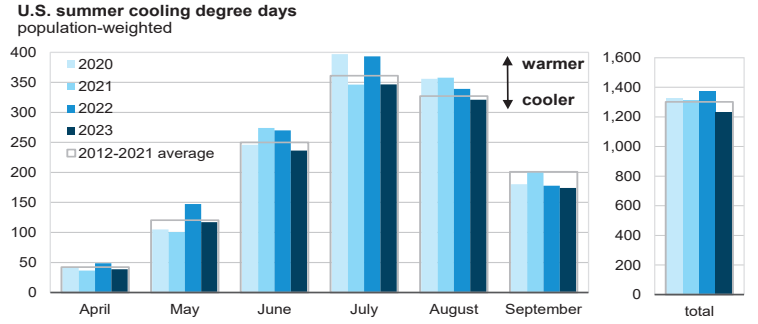




Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



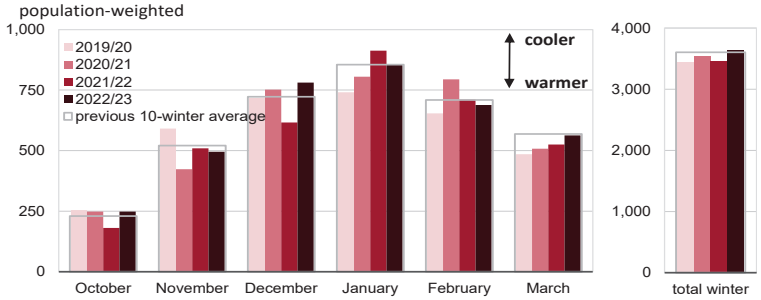
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

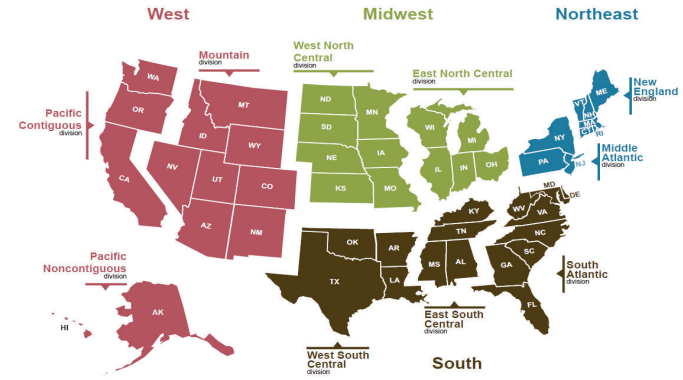
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.70**	*11.81*	*12.16*	*12.42*	*12.55*	*12.70*	*12.87*	**11.25**	*11.79*	*12.63*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.52**	**94.60**	**96.87**	*97.85*	*98.99*	*99.65*	*100.51*	*100.59*	*100.67*	**93.55**	*97.09*	*100.36*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**149**	**142**	*154*	*155*	*148*	*141*	*154*	*147*	**578**	*600*	*590*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	*20.32*	*20.81*	*20.39*	*20.71*	*20.88*	*21.02*	**19.89**	*20.40*	*20.75*
Natural Gas															
(billion cubic feet per day)	**99.44**	**71.95**	**75.10**	**85.62**	**104.30**	**75.77**	*77.83*	*88.59*	*100.70*	*71.76*	*76.11*	*90.16*	**82.97**	*86.56*	*84.63*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	**118**	*158*	*119*	*121*	*108*	*147*	*110*	**546**	*528*	*485*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.87**	**10.65**	*12.38*	*10.24*	*10.92*	*10.53*	*12.21*	*10.32*	**10.77**	*11.04*	*10.99*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.16**	**2.95**	**3.14**	**3.35**	**3.56**	*3.24*	*3.31*	*3.52*	*3.89*	*3.46*	*3.50*	**12.21**	*13.45*	*14.37*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.05**	**23.16**	**24.54**	**24.57**	**26.48**	**23.68**	*24.79*	*25.17*	*26.02*	*23.75*	*24.95*	*25.49*	**97.33**	*100.12*	*100.20*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	*96.27*	*91.98*	*92.67*	*91.65*	*90.32*	*89.00*	**68.21**	*98.07*	*90.91*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	*8.31*	*9.03*	*8.14*	*5.23*	*5.28*	*5.39*	**3.91**	*7.37*	*6.01*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	*2.31*	*2.29*	*2.29*	*2.28*	*2.26*	*2.23*	**1.98**	*2.26*	*2.26*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,728**	**19,682**	*19,708*	*19,766*	*19,856*	*19,969*	*20,090*	*20,199*	**19,427**	*19,721*	*20,029*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	**3.5**	**1.6**	*1.2*	*-0.2*	*0.7*	*1.5*	*1.9*	*2.2*	**5.7**	*1.5*	*1.6*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**126.4**	*127.8*	*129.3*	*130.3*	*131.1*	*131.9*	*132.8*	**118.5**	*126.8*	*131.5*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**6.8**	**7.5**	*7.2*	*6.6*	*5.3*	*3.8*	*3.2*	*2.7*	**4.2**	*7.0*	*3.7*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,152**	**15,134**	*15,171*	*15,303*	*15,411*	*15,640*	*15,865*	*16,069*	**16,032**	*15,190*	*15,746*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**0.1**	**-12.0**	**-4.3**	*-3.0*	*-1.0*	*1.7*	*3.3*	*4.6*	*5.0*	**2.3**	*-5.3*	*3.7*
Manufacturing Production Index															
(Index, 2017=100)	**96.9**	**98.3**	**99.2**	**100.6**	**101.6**	**102.6**	*102.4*	*102.1*	*102.0*	*102.4*	*103.0*	*103.3*	**98.8**	*102.2*	*102.7*
Percent change from prior year	**-0.8**	**15.8**	**5.1**	**4.5**	**4.8**	**4.4**	*3.2*	*1.4*	*0.4*	*-0.2*	*0.6*	*1.2*	**5.8**	*3.4*	*0.5*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,306**	**2,148**	**492**	*67*	*1,524*	*2,106*	*487*	*78*	*1,532*	**3,936**	*4,231*	*4,202*
U.S. Cooling Degree-Days	**50**	**411**	**904**	**128**	**47**	**466**	*910*	*95*	*43*	*392*	*842*	*93*	**1,493**	*1,518*	*1,370*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	*96.27*	*91.98*	*92.67*	*91.65*	*90.32*	*89.00*	**68.21**	*98.07*	*90.91*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	**113.84**	*103.89*	*97.98*	*98.67*	*97.65*	*96.32*	*95.00*	**70.89**	*104.21*	*96.91*
U.S. Imported Average	**55.29**	**64.75**	**68.42**	**73.66**	**89.85**	**105.87**	*94.21*	*89.17*	*89.88*	*88.93*	*87.57*	*86.25*	**65.92**	*94.54*	*88.24*
U.S. Refiner Average Acquisition Cost	**57.14**	**66.11**	**70.31**	**76.36**	**92.62**	**109.64**	*94.90*	*90.23*	*90.90*	*89.91*	*88.59*	*87.25*	**67.83**	*96.90*	*89.14*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**278**	**376**	*308*	*273*	*274*	*288*	*283*	*270*	**219**	*309*	*279*
Diesel Fuel	**178**	**204**	**219**	**241**	**301**	**418**	*371*	*364*	*331*	*299*	*294*	*294*	**211**	*364*	*304*
Fuel Oil	**162**	**180**	**197**	**222**	**284**	**419**	*359*	*345*	*312*	*284*	*285*	*284*	**188**	*350*	*299*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**283**	**400**	*352*	*347*	*324*	*288*	*285*	*286*	**195**	*347*	*295*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**252**	**260**	*234*	*216*	*230*	*228*	*227*	*224*	**190**	*241*	*227*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**371**	**450**	*409*	*360*	*356*	*369*	*366*	*353*	**302**	*398*	*361*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	**460**	*420*	*372*	*369*	*383*	*380*	*367*	**311**	*409*	*375*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**432**	**549**	*520*	*490*	*461*	*426*	*411*	*416*	**329**	*499*	*428*
Heating Oil	**272**	**283**	**297**	**346**	**415**	**554**	*511*	*475*	*441*	*401*	*384*	*382*	**300**	*461*	*411*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	*8.64*	*9.38*	*8.45*	*5.43*	*5.49*	*5.60*	**4.06**	*7.66*	*6.24*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	*8.31*	*9.03*	*8.14*	*5.23*	*5.28*	*5.39*	**3.91**	*7.37*	*6.01*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.11**	**6.86**	**6.82**	**8.20**	*9.19*	*10.37*	*10.34*	*7.17*	*6.46*	*6.77*	**5.50**	*8.56*	*7.70*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	**11.62**	*13.51*	*13.23*	*13.36*	*12.85*	*11.95*	*10.52*	**8.82**	*11.61*	*12.24*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	**16.31**	*24.06*	*17.58*	*16.54*	*17.83*	*21.51*	*14.11*	**12.27**	*15.40*	*16.36*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	*2.31*	*2.29*	*2.29*	*2.28*	*2.26*	*2.23*	**1.98**	*2.26*	*2.26*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.38**	*8.41*	*9.37*	*8.72*	*5.44*	*5.47*	*5.73*	**4.97**	*7.78*	*6.27*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**26.17**	*22.56*	*19.80*	*19.16*	*19.00*	*17.91*	*17.51*	**13.66**	*20.61*	*18.45*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	*28.50*	*27.76*	*25.69*	*22.95*	*22.38*	*22.48*	**15.50**	*25.71*	*23.71*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	*8.47*	*7.79*	*7.75*	*8.25*	*8.23*	*7.56*	**7.26**	*8.03*	*7.96*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	*12.34*	*12.05*	*12.36*	*12.89*	*12.63*	*12.00*	**11.27**	*12.11*	*12.48*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	*15.12*	*14.82*	*14.81*	*15.86*	*15.47*	*14.81*	**13.72**	*14.75*	*15.24*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.26**	**30.85**	**31.15**	**32.23**	**31.60**	**31.86**	*32.62*	*33.38*	*33.80*	*33.91*	*33.94*	*34.43*	**31.13**	*32.37*	*34.02*
U.S. (50 States)	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	*20.40*	*20.94*	*21.16*	*21.32*	*21.44*	*21.77*	**18.98**	*20.23*	*21.43*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.53**	*5.72*	*5.85*	*5.92*	*5.88*	*5.90*	*5.92*	**5.54**	*5.69*	*5.91*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	*1.89*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
Other OECD	**4.92**	**4.37**	**4.73**	**4.71**	**4.58**	**4.32**	*4.60*	*4.72*	*4.81*	*4.84*	*4.77*	*4.95*	**4.68**	*4.56*	*4.84*
Non-OECD	**62.57**	**63.98**	**65.61**	**66.11**	**67.20**	**66.97**	*68.41*	*68.30*	*66.92*	*67.38*	*67.60*	*67.13*	**64.58**	*67.72*	*67.26*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.78**	*34.50*	*34.41*	*34.60*	*34.48*	*34.43*	*34.44*	**31.66**	*34.11*	*34.49*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.33**	*29.02*	*28.89*	*29.04*	*29.05*	*28.95*	*28.92*	**26.28**	*28.61*	*28.99*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.45**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.43**	*13.58*	*13.88*	*12.50*	*12.30*	*12.30*	*12.30*	**13.75**	*13.82*	*12.35*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.19**	*5.13*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
Other Non-OECD	**13.81**	**14.41**	**14.69**	**13.80**	**13.89**	**14.58**	*15.21*	*14.83*	*14.59*	*15.36*	*15.63*	*15.10*	**14.18**	*14.63*	*15.17*
Total World Production	**92.83**	**94.83**	**96.76**	**98.34**	**98.80**	**98.83**	*101.03*	*101.68*	*100.72*	*101.30*	*101.55*	*101.56*	**95.71**	*100.09*	*101.28*
Non-OPEC Production	**62.48**	**63.95**	**64.47**	**65.24**	**65.05**	**65.04**	*66.52*	*67.27*	*66.12*	*66.82*	*67.11*	*67.12*	**64.05**	*65.98*	*66.79*
Consumption (million barrels per day) (c)															
OECD	**42.59**	**44.14**	**45.87**	**46.89**	**45.85**	**45.34**	*45.87*	*46.99*	*46.59*	*45.63*	*46.36*	*46.70*	**44.89**	*46.01*	*46.32*
U.S. (50 States)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	*20.32*	*20.81*	*20.39*	*20.71*	*20.88*	*21.02*	**19.89**	*20.40*	*20.75*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	**0.20**	*0.20*	*0.22*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.26**	**2.19**	*2.44*	*2.47*	*2.44*	*2.38*	*2.49*	*2.46*	**2.28**	*2.34*	*2.44*
Europe	**11.96**	**12.67**	**13.88**	**13.94**	**13.15**	**13.42**	*13.69*	*13.77*	*13.52*	*13.14*	*13.54*	*13.30*	**13.12**	*13.51*	*13.37*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**2.99**	*3.17*	*3.51*	*3.77*	*3.11*	*3.14*	*3.44*	**3.41**	*3.34*	*3.36*
Other OECD	**5.89**	**5.93**	**5.90**	**6.23**	**6.30**	**6.28**	*6.04*	*6.22*	*6.25*	*6.09*	*6.12*	*6.26*	**5.99**	*6.21*	*6.18*
Non-OECD	**51.78**	**52.21**	**52.53**	**53.64**	**53.06**	**53.25**	*53.70*	*54.03*	*55.12*	*55.55*	*55.20*	*54.83*	**52.54**	*53.51*	*55.17*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.48**	**4.33**	*4.69*	*4.62*	*4.28*	*4.44*	*4.75*	*4.67*	**4.86**	*4.53*	*4.54*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.75**	**0.75**	*0.76*	*0.76*	*0.75*	*0.77*	*0.77*	*0.77*	**0.75**	*0.76*	*0.76*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.14**	**15.12**	*15.13*	*15.67*	*16.37*	*16.27*	*15.64*	*15.56*	**15.27**	*15.27*	*15.96*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.82**	**13.78**	*13.46*	*13.89*	*14.46*	*14.43*	*13.85*	*14.15*	**13.23**	*13.74*	*14.22*
Other Non-OECD	**17.68**	**18.27**	**18.87**	**18.91**	**18.88**	**19.26**	*19.66*	*19.09*	*19.26*	*19.64*	*20.18*	*19.68*	**18.44**	*19.22*	*19.69*
Total World Consumption	**94.37**	**96.34**	**98.40**	**100.53**	**98.91**	**98.59**	*99.57*	*101.01*	*101.71*	*101.18*	*101.56*	*101.54*	**97.43**	*99.53*	*101.50*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.36**	**0.51**	**0.37**	**0.83**	**0.81**	**0.51**	*0.41*	*0.60*	*0.02*	*-0.52*	*0.00*	*0.39*	**0.52**	*0.58*	*-0.03*
Other OECD	**0.87**	**0.15**	**0.97**	**0.67**	**-0.12**	**-0.62**	*-0.60*	*-0.41*	*0.32*	*0.12*	*0.00*	*-0.13*	**0.66**	*-0.44*	*0.08*
Other Stock Draws and Balance	**0.31**	**0.86**	**0.31**	**0.68**	**-0.57**	**-0.13**	*-1.27*	*-0.85*	*0.66*	*0.28*	*0.01*	*-0.28*	**0.54**	*-0.71*	*0.16*
Total Stock Draw	**1.55**	**1.52**	**1.65**	**2.18**	**0.12**	**-0.24**	*-1.46*	*-0.66*	*0.99*	*-0.12*	*0.01*	*-0.02*	**1.72**	*-0.56*	*0.21*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,311**	**1,281**	**1,251**	**1,199**	**1,154**	**1,180**	*1,222*	*1,204*	*1,207*	*1,262*	*1,265*	*1,239*	**1,199**	*1,204*	*1,239*
OECD Commercial Inventory	**2,917**	**2,874**	**2,755**	**2,641**	**2,607**	**2,689**	*2,787*	*2,808*	*2,782*	*2,826*	*2,828*	*2,815*	**2,641**	*2,808*	*2,815*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.34**	**26.47**	**26.42**	**27.52**	**27.02**	**27.54**	*28.01*	*28.66*	*28.99*	*29.07*	*29.17*	*29.48*	**26.44**	*27.81*	*29.18*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.53**	*5.72*	*5.85*	*5.92*	*5.88*	*5.90*	*5.92*	**5.54**	*5.69*	*5.91*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	*1.89*	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
United States	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	*20.40*	*20.94*	*21.16*	*21.32*	*21.44*	*21.77*	**18.98**	*20.23*	*21.43*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.83**	**6.41**	*6.99*	*6.62*	*6.39*	*7.16*	*7.49*	*7.00*	**6.10**	*6.47*	*7.01*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.77**	**0.78**	*0.80*	*0.81*	*0.85*	*0.86*	*0.88*	*0.90*	**0.70**	*0.79*	*0.87*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.33**	**3.79**	*4.28*	*3.82*	*3.49*	*4.22*	*4.52*	*3.98*	**3.69**	*3.81*	*4.06*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	**0.77**	*0.78*	*0.77*	*0.77*	*0.77*	*0.78*	*0.77*	**0.76**	*0.77*	*0.77*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	**0.47**	*0.49*	*0.53*	*0.55*	*0.57*	*0.59*	*0.61*	**0.48**	*0.49*	*0.58*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.49**	**0.60**	*0.65*	*0.68*	*0.73*	*0.73*	*0.72*	*0.73*	**0.47**	*0.61*	*0.73*
Europe	**4.34**	**3.84**	**4.12**	**4.12**	**4.01**	**3.74**	*4.03*	*4.17*	*4.27*	*4.30*	*4.23*	*4.42*	**4.10**	*3.99*	*4.30*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.98**	**1.74**	*2.01*	*2.13*	*2.24*	*2.28*	*2.28*	*2.36*	**2.03**	*1.96*	*2.29*
United Kingdom	**1.08**	**0.81**	**0.93**	**0.93**	**0.96**	**0.90**	*0.90*	*0.91*	*0.90*	*0.89*	*0.81*	*0.91*	**0.94**	*0.92*	*0.88*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.43**	*13.58*	*13.88*	*12.50*	*12.30*	*12.30*	*12.30*	**13.75**	*13.82*	*12.35*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	**0.67**	*0.67*	*0.66*	*0.65*	*0.64*	*0.64*	*0.65*	**0.72**	*0.67*	*0.64*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	**1.77**	*1.56*	*1.95*	*2.02*	*1.94*	*1.95*	*2.01*	**1.87**	*1.82*	*1.98*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	**10.59**	*10.95*	*10.87*	*9.41*	*9.30*	*9.31*	*9.24*	**10.78**	*10.93*	*9.32*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.26**	*0.26*	*0.26*	*0.27*	*0.27*	*0.27*	*0.27*	**0.25**	*0.26*	*0.27*
Other Eurasia	**0.13**	**0.14**	**0.14**	**0.13**	**0.13**	**0.14**	*0.14*	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	**0.13**	*0.14*	*0.14*
Middle East	**3.09**	**3.12**	**3.16**	**3.17**	**3.23**	**3.26**	*3.23*	*3.21*	*3.22*	*3.22*	*3.21*	*3.21*	**3.13**	*3.23*	*3.21*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.05**	**1.07**	*1.06*	*1.04*	*1.04*	*1.04*	*1.04*	*1.04*	**0.98**	*1.05*	*1.04*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.85**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.95**	**9.17**	**9.21**	*9.24*	*9.28*	*9.32*	*9.34*	*9.29*	*9.30*	**9.07**	*9.23*	*9.31*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.45**	**0.47**	*0.47*	*0.44*	*0.43*	*0.43*	*0.42*	*0.41*	**0.46**	*0.46*	*0.42*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.19**	*5.13*	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.17*	*5.25*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.88**	**0.90**	*0.90*	*0.89*	*0.89*	*0.91*	*0.88*	*0.87*	**0.89**	*0.89*	*0.89*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.84**	**0.83**	*0.85*	*0.84*	*0.84*	*0.83*	*0.82*	*0.81*	**0.86**	*0.84*	*0.83*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.61**	**0.60**	*0.66*	*0.68*	*0.69*	*0.68*	*0.67*	*0.67*	**0.61**	*0.64*	*0.68*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.21**	**0.20**	*0.20*	*0.19*	*0.19*	*0.19*	*0.18*	*0.18*	**0.21**	*0.20*	*0.19*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.40**	**1.46**	*1.44*	*1.45*	*1.43*	*1.43*	*1.41*	*1.41*	**1.44**	*1.44*	*1.42*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.66**	**0.68**	*0.67*	*0.67*	*0.67*	*0.66*	*0.66*	*0.67*	**0.66**	*0.67*	*0.67*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	**0.15**	*0.16*	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**62.48**	**63.95**	**64.47**	**65.24**	**65.05**	**65.04**	*66.52*	*67.27*	*66.12*	*66.82*	*67.11*	*67.12*	**64.05**	*65.98*	*66.79*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.45**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Non-OPEC + OPEC non-crude	**67.75**	**69.34**	**69.92**	**70.68**	**70.60**	**70.50**	*72.00*	*72.79*	*71.68*	*72.25*	*72.59*	*72.64*	**69.43**	*71.48*	*72.29*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	**1.33**	-	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.95**	**0.97**	**1.00**	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	**1.19**	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	**0.29**	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	**0.09**	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	**0.19**	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	**2.53**	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	**4.42**	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	**2.69**	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	**0.76**	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	**1.11**	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	**10.30**	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	**3.04**	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	**0.72**	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.33**	*29.02*	*28.89*	*29.04*	*29.05*	*28.95*	*28.92*	**26.28**	*28.61*	*28.99*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.45**	*5.48*	*5.52*	*5.56*	*5.43*	*5.48*	*5.52*	**5.38**	*5.50*	*5.50*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.78**	*34.50*	*34.41*	*34.60*	*34.48*	*34.43*	*34.44*	**31.66**	*34.11*	*34.49*
Crude Oil Production Capacity															
Middle East	**25.21**	**25.50**	**25.50**	**25.48**	**25.48**	**25.46**	*25.52*	*25.60*	*25.90*	*26.03*	*26.03*	*26.03*	**25.42**	*25.52*	*26.00*
Other	**6.12**	**6.10**	**5.96**	**5.98**	**5.83**	**5.46**	*5.38*	*5.66*	*5.74*	*5.78*	*5.70*	*5.67*	**6.04**	*5.58*	*5.72*
OPEC Total	**31.33**	**31.59**	**31.45**	**31.46**	**31.31**	**30.92**	*30.90*	*31.26*	*31.64*	*31.81*	*31.73*	*31.70*	**31.46**	*31.10*	*31.72*
Surplus Crude Oil Production Capacity															
Middle East	**5.66**	**5.52**	**4.21**	**3.53**	**3.00**	**2.48**	*1.87*	*2.35*	*2.58*	*2.74*	*2.76*	*2.76*	**4.72**	*2.42*	*2.71*
Other	**0.59**	**0.59**	**0.40**	**0.27**	**0.12**	**0.11**	*0.01*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	**0.46**	*0.06*	*0.02*
OPEC Total	**6.25**	**6.10**	**4.61**	**3.80**	**3.12**	**2.59**	*1.88*	*2.37*	*2.60*	*2.76*	*2.78*	*2.78*	**5.18**	*2.49*	*2.73*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	**2.42**	-	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.40**	**23.95**	**24.34**	**24.60**	**24.24**	**24.35**	*24.44*	*24.96*	*24.52*	*24.81*	*25.09*	*25.21*	**23.83**	*24.50*	*24.91*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.26**	**2.19**	*2.44*	*2.47*	*2.44*	*2.38*	*2.49*	*2.46*	**2.28**	*2.34*	*2.44*
Mexico	**1.63**	**1.66**	**1.61**	**1.72**	**1.76**	**1.88**	*1.67*	*1.68*	*1.69*	*1.71*	*1.71*	*1.72*	**1.65**	*1.75*	*1.71*
United States	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	*20.32*	*20.81*	*20.39*	*20.71*	*20.88*	*21.02*	**19.89**	*20.40*	*20.75*
Central and South America	**5.89**	**6.03**	**6.25**	**6.37**	**6.21**	**6.28**	*6.35*	*6.36*	*6.18*	*6.31*	*6.42*	*6.36*	**6.14**	*6.30*	*6.32*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.95**	**2.96**	*3.04*	*3.04*	*2.93*	*2.99*	*3.06*	*3.05*	**2.96**	*3.00*	*3.01*
Europe	**12.70**	**13.41**	**14.62**	**14.70**	**13.90**	**14.17**	*14.44*	*14.54*	*14.27*	*13.90*	*14.31*	*14.08*	**13.87**	*14.26*	*14.14*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.48**	**4.33**	*4.69*	*4.62*	*4.28*	*4.44*	*4.75*	*4.67*	**4.86**	*4.53*	*4.54*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.32**	**3.23**	*3.50*	*3.41*	*3.16*	*3.25*	*3.54*	*3.40*	**3.61**	*3.37*	*3.34*
Middle East	**8.08**	**8.50**	**9.04**	**8.78**	**8.88**	**9.19**	*9.58*	*8.84*	*9.13*	*9.36*	*9.89*	*9.27*	**8.60**	*9.12*	*9.41*
Asia and Oceania	**36.28**	**35.34**	**34.78**	**36.67**	**36.69**	**35.77**	*35.67*	*37.17*	*38.72*	*37.74*	*36.58*	*37.25*	**35.76**	*36.32*	*37.56*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.14**	**15.12**	*15.13*	*15.67*	*16.37*	*16.27*	*15.64*	*15.56*	**15.27**	*15.27*	*15.96*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**2.99**	*3.17*	*3.51*	*3.77*	*3.11*	*3.14*	*3.44*	**3.41**	*3.34*	*3.36*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	**5.02**	*4.75*	*5.04*	*5.27*	*5.33*	*4.98*	*5.30*	**4.65**	*4.97*	*5.22*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	**4.51**	**4.50**	*4.40*	*4.53*	*4.60*	*4.62*	*4.53*	*4.70*	**4.37**	*4.49*	*4.61*
Total OECD Liquid Fuels Consumption	**42.59**	**44.14**	**45.87**	**46.89**	**45.85**	**45.34**	*45.87*	*46.99*	*46.59*	*45.63*	*46.36*	*46.70*	**44.89**	*46.01*	*46.32*
Total non-OECD Liquid Fuels Consumption	**51.78**	**52.21**	**52.53**	**53.64**	**53.06**	**53.25**	*53.70*	*54.03*	*55.12*	*55.55*	*55.20*	*54.83*	**52.54**	*53.51*	*55.17*
Total World Liquid Fuels Consumption	**94.37**	**96.34**	**98.40**	**100.53**	**98.91**	**98.59**	*99.57*	*101.01*	*101.71*	*101.18*	*101.56*	*101.54*	**97.43**	*99.53*	*101.50*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.5**	**117.5**	**119.1**	**120.7**	**121.4**	**121.3**	*122.2*	*123.1*	*123.9*	*124.7*	*125.7*	*126.9*	**118.4**	*122.0*	*125.3*
Percent change from prior year	**3.4**	**11.5**	**5.1**	**4.6**	**4.3**	**3.2**	*2.7*	*1.9*	*2.0*	*2.8*	*2.9*	*3.1*	**6.1**	*3.0*	*2.7*
OECD Index, 2015 = 100													**109.6**	*112.4*	*113.7*
Percent change from prior year													**5.5**	*2.6*	*1.1*
Non-OECD Index, 2015 = 100													**123.8**	*128.0*	*133.2*
Percent change from prior year													**6.5**	*3.4*	*4.0*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	**113.0**	*115.5*	*116.0*	*115.9*	*115.5*	*114.9*	*114.2*	**107.3**	*113.5*	*115.1*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	**6.5**	*7.5*	*6.4*	*5.8*	*2.2*	*-0.5*	*-1.6*	**-3.9**	*5.8*	*1.4*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.70**	*11.81*	*12.16*	*12.42*	*12.55*	*12.70*	*12.87*	**11.25**	*11.79*	*12.63*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	**0.44**	*0.44*	*0.45*	*0.44*	*0.40*	*0.43*	*0.44*	**0.44**	*0.44*	*0.43*
Federal Gulf of Mexico (b)	**1.83**	**1.80**	**1.49**	**1.71**	**1.67**	**1.72**	*1.75*	*1.82*	*1.87*	*1.84*	*1.75*	*1.73*	**1.71**	*1.74*	*1.80*
Lower 48 States (excl GOM)	**8.54**	**9.10**	**9.29**	**9.50**	**9.35**	**9.54**	*9.62*	*9.90*	*10.10*	*10.31*	*10.52*	*10.70*	**9.11**	*9.60*	*10.41*
Crude Oil Net Imports (c)	**2.88**	**2.94**	**3.64**	**3.13**	**3.00**	**2.81**	*2.74*	*3.13*	*3.14*	*3.28*	*3.19*	*2.62*	**3.15**	*2.92*	*3.06*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	**0.80**	*0.87*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.60*	*0.07*
Commercial Inventory Net Withdrawals	**-0.19**	**0.60**	**0.30**	**-0.01**	**0.08**	**-0.03**	*-0.03*	*-0.10*	*-0.34*	*0.02*	*0.28*	*-0.07*	**0.18**	*-0.02*	*-0.03*
Crude Oil Adjustment (d)	**0.30**	**0.59**	**0.44**	**0.44**	**0.71**	**0.81**	*0.77*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.44**	*0.61*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	*16.16*	*15.76*	*15.48*	*16.15*	*16.42*	*15.69*	**15.15**	*15.89*	*15.94*
Other Supply															
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	*1.06*	*1.05*	*1.03*	*0.98*	*0.99*	*0.99*	**0.96**	*1.03*	*1.00*
Natural Gas Plant Liquids Production	**4.89**	**5.50**	**5.56**	**5.74**	**5.61**	**5.92**	*6.12*	*6.28*	*6.29*	*6.35*	*6.32*	*6.42*	**5.42**	*5.99*	*6.34*
Renewables and Oxygenate Production (e)	**1.04**	**1.13**	**1.11**	**1.24**	**1.19**	**1.20**	*1.19*	*1.24*	*1.21*	*1.22*	*1.22*	*1.27*	**1.13**	*1.21*	*1.23*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	**1.01**	*1.01*	*1.02*	*1.00*	*1.00*	*0.99*	*1.02*	**0.98**	*1.01*	*1.00*
Petroleum Products Adjustment (f)	**0.20**	**0.22**	**0.22**	**0.23**	**0.22**	**0.23**	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-2.79**	**-3.07**	**-3.19**	**-3.79**	**-3.74**	**-3.99**	*-4.00*	*-4.03*	*-4.15*	*-3.59*	*-3.97*	*-3.92*	**-3.21**	*-3.94*	*-3.91*
Hydrocarbon Gas Liquids	**-1.95**	**-2.25**	**-2.15**	**-2.18**	**-2.14**	**-2.31**	*-2.39*	*-2.51*	*-2.55*	*-2.58*	*-2.58*	*-2.60*	**-2.14**	*-2.34*	*-2.57*
Unfinished Oils	**0.18**	**0.30**	**0.25**	**0.10**	**0.09**	**0.25**	*0.38*	*0.22*	*0.18*	*0.25*	*0.37*	*0.21*	**0.21**	*0.24*	*0.26*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.05**	**-0.09**	**-0.10**	*-0.07*	*-0.05*	*-0.06*	*-0.04*	*-0.04*	*-0.04*	**-0.05**	*-0.08*	*-0.04*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.67**	**0.43**	**0.40**	**0.60**	*0.49*	*0.23*	*0.38*	*0.63*	*0.35*	*0.43*	**0.61**	*0.43*	*0.45*
Finished Motor Gasoline	**-0.64**	**-0.64**	**-0.68**	**-0.88**	**-0.76**	**-0.73**	*-0.68*	*-0.46*	*-0.60*	*-0.53*	*-0.64*	*-0.70*	**-0.71**	*-0.66*	*-0.62*
Jet Fuel	**0.03**	**0.08**	**0.08**	**0.01**	**-0.04**	**-0.06**	*-0.03*	*-0.04*	*-0.08*	*0.09*	*0.07*	*0.05*	**0.05**	*-0.04*	*0.03*
Distillate Fuel Oil	**-0.48**	**-0.87**	**-0.91**	**-0.86**	**-0.81**	**-1.15**	*-1.25*	*-1.01*	*-0.90*	*-1.09*	*-1.14*	*-1.02*	**-0.78**	*-1.05*	*-1.04*
Residual Fuel Oil	**0.07**	**0.05**	**0.08**	**0.15**	**0.14**	**0.10**	*0.09*	*0.14*	*0.04*	*0.08*	*0.04*	*0.14*	**0.09**	*0.12*	*0.07*
Other Oils (g)	**-0.48**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	**-0.59**	*-0.53*	*-0.56*	*-0.56*	*-0.41*	*-0.41*	*-0.39*	**-0.49**	*-0.56*	*-0.44*
Product Inventory Net Withdrawals	**0.55**	**-0.27**	**0.03**	**0.58**	**0.42**	**-0.25**	*-0.43*	*0.29*	*0.32*	*-0.62*	*-0.30*	*0.35*	**0.22**	*0.01*	*-0.07*
Total Supply	**18.54**	**20.13**	**20.30**	**20.53**	**20.22**	**20.27**	*20.32*	*20.81*	*20.39*	*20.71*	*20.88*	*21.02*	**19.88**	*20.40*	*20.75*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.43**	**3.33**	**3.34**	**3.66**	**3.87**	**3.43**	*3.46*	*3.94*	*4.04*	*3.54*	*3.53*	*3.93*	**3.44**	*3.67*	*3.76*
Other HC/Oxygenates	**0.11**	**0.13**	**0.13**	**0.16**	**0.13**	**0.17**	*0.16*	*0.22*	*0.21*	*0.21*	*0.21*	*0.26*	**0.13**	*0.17*	*0.22*
Unfinished Oils	**0.08**	**0.07**	**-0.05**	**0.00**	**0.13**	**0.04**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.02**	*0.04*	*0.00*
Motor Gasoline	**8.04**	**9.09**	**9.14**	**8.98**	**8.47**	**9.00**	*8.88*	*8.95*	*8.59*	*9.09*	*9.13*	*8.96*	**8.82**	*8.83*	*8.94*
Fuel Ethanol blended into Motor Gasoline	**0.81**	**0.93**	**0.94**	**0.95**	**0.87**	**0.93**	*0.91*	*0.92*	*0.88*	*0.93*	*0.93*	*0.94*	**0.91**	*0.91*	*0.92*
Jet Fuel	**1.12**	**1.34**	**1.52**	**1.50**	**1.45**	**1.61**	*1.62*	*1.55*	*1.48*	*1.64*	*1.64*	*1.60*	**1.37**	*1.56*	*1.59*
Distillate Fuel Oil	**3.99**	**3.96**	**3.90**	**4.03**	**4.14**	**3.89**	*3.82*	*3.98*	*4.04*	*3.90*	*3.87*	*3.96*	**3.97**	*3.96*	*3.94*
Residual Fuel Oil	**0.26**	**0.25**	**0.35**	**0.40**	**0.38**	**0.31**	*0.34*	*0.34*	*0.31*	*0.31*	*0.32*	*0.34*	**0.31**	*0.34*	*0.32*
Other Oils (g)	**1.54**	**1.95**	**1.98**	**1.81**	**1.65**	**1.82**	*2.05*	*1.82*	*1.73*	*2.03*	*2.18*	*1.97*	**1.82**	*1.83*	*1.98*
Total Consumption	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	*20.32*	*20.81*	*20.39*	*20.71*	*20.88*	*21.02*	**19.89**	*20.40*	*20.75*
Total Petroleum and Other Liquids Net Imports	**0.09**	**-0.13**	**0.45**	**-0.65**	**-0.74**	**-1.18**	*-1.26*	*-0.90*	*-1.01*	*-0.31*	*-0.79*	*-1.30*	**-0.06**	*-1.02*	*-0.85*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**502.5**	**448.1**	**420.3**	**421.2**	**414.4**	**417.5**	*420.0*	*429.6*	*460.4*	*458.8*	*433.5*	*440.1*	**421.2**	*429.6*	*440.1*
Hydrocarbon Gas Liquids	**176.9**	**205.3**	**235.5**	**193.1**	**142.0**	**186.7**	*233.2*	*189.2*	*151.7*	*204.4*	*246.3*	*204.6*	**193.1**	*189.2*	*204.6*
Unfinished Oils	**92.5**	**92.3**	**89.5**	**79.7**	**87.9**	**88.8**	*88.6*	*82.6*	*92.1*	*89.5*	*89.0*	*82.2*	**79.7**	*82.6*	*82.2*
Other HC/Oxygenates	**29.3**	**27.7**	**25.7**	**28.7**	**34.1**	**29.4**	*29.8*	*30.1*	*32.1*	*30.9*	*30.7*	*31.0*	**28.7**	*30.1*	*31.0*
Total Motor Gasoline	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	*216.3*	*234.1*	*233.3*	*236.1*	*224.0*	*238.4*	**232.2**	*234.1*	*238.4*
Finished Motor Gasoline	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	*19.7*	*24.0*	*21.3*	*22.9*	*23.7*	*26.4*	**17.8**	*24.0*	*26.4*
Motor Gasoline Blend Comp.	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	*196.5*	*210.1*	*212.0*	*213.2*	*200.4*	*212.0*	**214.4**	*210.1*	*212.0*
Jet Fuel	**39.1**	**44.7**	**42.0**	**35.8**	**35.6**	**39.3**	*40.1*	*37.5*	*37.4*	*38.6*	*41.3*	*38.2*	**35.8**	*37.5*	*38.2*
Distillate Fuel Oil	**146.1**	**140.1**	**132.1**	**130.0**	**114.6**	**111.4**	*114.1*	*118.4*	*108.1*	*113.3*	*120.2*	*122.4*	**130.0**	*118.4*	*122.4*
Residual Fuel Oil	**30.9**	**31.5**	**27.8**	**25.8**	**27.9**	**29.2**	*28.6*	*30.5*	*30.3*	*31.2*	*29.8*	*31.2*	**25.8**	*30.5*	*31.2*
Other Oils (g)	**55.8**	**54.3**	**51.0**	**52.2**	**58.5**	**56.4**	*51.1*	*52.5*	*61.5*	*59.3*	*49.9*	*51.3*	**52.2**	*52.5*	*51.3*
Total Commercial Inventory	**1310.9**	**1281.4**	**1250.9**	**1198.6**	**1153.6**	**1179.7**	*1221.8*	*1204.5*	*1206.9*	*1262.1*	*1264.7*	*1239.3*	**1198.6**	*1204.5*	*1239.3*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	**493.3**	*413.2*	*375.4*	*371.6*	*363.8*	*361.2*	*350.7*	**593.7**	*375.4*	*350.7*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**2.20**	**2.19**	**2.32**	**2.33**	**2.43**	*2.52*	*2.61*	*2.62*	*2.66*	*2.58*	*2.63*	**2.15**	*2.47*	*2.62*
Propane	**1.63**	**1.76**	**1.77**	**1.82**	**1.77**	**1.85**	*1.91*	*1.96*	*1.98*	*1.97*	*1.98*	*2.02*	**1.74**	*1.87*	*1.98*
Butanes	**0.86**	**0.93**	**0.94**	**0.96**	**0.93**	**0.98**	*1.02*	*1.05*	*1.06*	*1.05*	*1.07*	*1.09*	**0.92**	*1.00*	*1.07*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.66**	**0.64**	**0.59**	**0.67**	*0.67*	*0.65*	*0.64*	*0.67*	*0.69*	*0.67*	**0.61**	*0.64*	*0.67*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.27**	**0.29**	*0.30*	*0.29*	*0.29*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.28*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	**0.28**	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	**0.25**	*0.18*	*-0.19*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.04**	*0.04*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.31**	**-0.38**	**-0.37**	**-0.41**	**-0.50**	**-0.40**	*-0.36*	*-0.43*	*-0.45*	*-0.45*	*-0.45*	*-0.45*	**-0.37**	*-0.42*	*-0.45*
Propane/Propylene	**-1.08**	**-1.26**	**-1.22**	**-1.24**	**-1.18**	**-1.33**	*-1.38*	*-1.46*	*-1.40*	*-1.37*	*-1.37*	*-1.44*	**-1.20**	*-1.34*	*-1.39*
Butanes/Butylenes	**-0.34**	**-0.41**	**-0.38**	**-0.35**	**-0.28**	**-0.41**	*-0.45*	*-0.45*	*-0.47*	*-0.53*	*-0.53*	*-0.48*	**-0.37**	*-0.40*	*-0.50*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.17**	**-0.17**	*-0.19*	*-0.16*	*-0.22*	*-0.23*	*-0.24*	*-0.23*	**-0.20**	*-0.18*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.40**	**0.29**	**0.31**	**0.53**	**0.44**	**0.31**	*0.33*	*0.49*	*0.42*	*0.28*	*0.31*	*0.51*	**0.38**	*0.39*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.20**	**0.20**	*0.19*	*0.19*	*0.17*	*0.19*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.55**	**1.86**	**1.83**	**1.98**	**1.98**	**2.03**	*2.13*	*2.16*	*2.17*	*2.16*	*2.14*	*2.18*	**1.81**	*2.08*	*2.16*
Propane	**1.11**	**0.61**	**0.65**	**0.95**	**1.16**	**0.60**	*0.55*	*0.96*	*1.12*	*0.62*	*0.63*	*0.99*	**0.83**	*0.82*	*0.84*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	**0.29**	*0.29*	*0.29*	*0.30*	*0.30*	*0.30*	*0.29*	**0.31**	*0.29*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.26**	**0.20**	**0.23**	**0.26**	*0.22*	*0.23*	*0.20*	*0.24*	*0.23*	*0.22*	**0.24**	*0.23*	*0.22*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.21**	**0.24**	*0.26*	*0.29*	*0.25*	*0.22*	*0.24*	*0.25*	**0.26**	*0.25*	*0.24*
HGL Inventories (million barrels)															
Ethane	**70.4**	**72.3**	**69.8**	**67.4**	**51.1**	**51.7**	*50.9*	*54.8*	*54.3*	*59.2*	*59.5*	*61.7*	**70.0**	*52.1*	*58.7*
Propane	**41.8**	**56.8**	**72.2**	**63.9**	**36.3**	**54.1**	*77.7*	*61.0*	*35.6*	*57.6*	*80.8*	*68.0*	**63.9**	*61.0*	*68.0*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.0**	**1.2**	*1.6*	*1.6*	*1.5*	*1.7*	*1.9*	*1.8*	**1.4**	*1.6*	*1.8*
Butanes/Butylenes	**37.7**	**54.7**	**69.9**	**43.9**	**35.7**	**58.8**	*78.4*	*49.5*	*39.6*	*64.2*	*82.1*	*53.0*	**43.9**	*49.5*	*53.0*
Natural Gasoline (Pentanes Plus)	**23.0**	**22.5**	**22.5**	**20.7**	**19.4**	**22.7**	*23.3*	*22.4*	*19.8*	*20.9*	*21.6*	*20.7*	**20.7**	*22.4*	*20.7*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	*16.16*	*15.76*	*15.48*	*16.15*	*16.42*	*15.69*	**15.15**	*15.89*	*15.94*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.76**	**0.64**	**0.50**	*0.51*	*0.68*	*0.60*	*0.47*	*0.50*	*0.69*	**0.55**	*0.59*	*0.56*
Other Hydrocarbons/Oxygenates	**1.06**	**1.19**	**1.20**	**1.18**	**1.12**	**1.20**	*1.18*	*1.16*	*1.11*	*1.18*	*1.18*	*1.17*	**1.16**	*1.16*	*1.16*
Unfinished Oils	**-0.07**	**0.24**	**0.32**	**0.21**	**-0.12**	**0.21**	*0.37*	*0.28*	*0.08*	*0.28*	*0.38*	*0.28*	**0.18**	*0.19*	*0.26*
Motor Gasoline Blend Components	**0.70**	**0.92**	**0.82**	**0.28**	**0.33**	**0.84**	*0.73*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.55*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.03**	**18.43**	**18.41**	**17.92**	**17.53**	**18.84**	*18.95*	*18.18*	*17.74*	*18.80*	*19.07*	*18.35*	**17.71**	*18.38*	*18.49*
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	*1.06*	*1.05*	*1.03*	*0.98*	*0.99*	*0.99*	**0.96**	*1.03*	*1.00*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	**0.84**	*0.77*	*0.39*	*0.49*	*0.83*	*0.77*	*0.37*	**0.62**	*0.62*	*0.62*
Finished Motor Gasoline	**8.75**	**9.83**	**9.83**	**9.70**	**9.22**	**9.74**	*9.73*	*9.63*	*9.24*	*9.70*	*9.84*	*9.86*	**9.53**	*9.58*	*9.66*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.48**	**1.71**	*1.66*	*1.56*	*1.56*	*1.56*	*1.61*	*1.52*	**1.31**	*1.60*	*1.56*
Distillate Fuel	**4.30**	**4.77**	**4.72**	**4.87**	**4.77**	**5.00**	*5.10*	*5.04*	*4.83*	*5.04*	*5.09*	*5.01*	**4.67**	*4.98*	*4.99*
Residual Fuel	**0.20**	**0.21**	**0.22**	**0.23**	**0.26**	**0.22**	*0.24*	*0.22*	*0.27*	*0.24*	*0.26*	*0.22*	**0.21**	*0.24*	*0.25*
Other Oils (a)	**2.10**	**2.43**	**2.44**	**2.33**	**2.26**	**2.39**	*2.52*	*2.40*	*2.39*	*2.41*	*2.49*	*2.38*	**2.32**	*2.39*	*2.42*
Total Refinery and Blender Net Production	**16.88**	**19.41**	**19.37**	**18.96**	**18.49**	**19.90**	*20.01*	*19.23*	*18.78*	*19.78*	*20.06*	*19.34*	**18.66**	*19.41*	*19.49*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.23**	**16.02**	**16.07**	**16.61**	*16.56*	*16.08*	*15.79*	*16.40*	*16.72*	*16.02*	**15.67**	*16.33*	*16.23*
Refinery Operable Distillation Capacity	**18.13**	**18.13**	**18.13**	**18.05**	**17.94**	**17.94**	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	**18.11**	*17.94*	*17.94*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.90**	**0.93**	*0.92*	*0.90*	*0.88*	*0.91*	*0.93*	*0.89*	**0.87**	*0.91*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**278**	**376**	*308*	*273*	*274*	*288*	*283*	*270*	**219**	*309*	*279*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	**438**	*400*	*351*	*349*	*362*	*358*	*347*	**294**	*389*	*354*
PADD 2	**247**	**288**	**304**	**315**	**352**	**436**	*394*	*341*	*336*	*355*	*354*	*341*	**290**	*381*	*347*
PADD 3	**227**	**267**	**282**	**298**	**340**	**414**	*357*	*316*	*319*	*333*	*330*	*316*	**270**	*356*	*325*
PADD 4	**247**	**311**	**360**	**351**	**360**	**446**	*435*	*366*	*352*	*372*	*375*	*358*	**319**	*402*	*364*
PADD 5	**312**	**366**	**391**	**410**	**452**	**543**	*501*	*449*	*439*	*442*	*436*	*419*	**372**	*487*	*434*
U.S. Average	**256**	**297**	**316**	**333**	**371**	**450**	*409*	*360*	*356*	*369*	*366*	*353*	**302**	*398*	*361*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	**460**	*420*	*372*	*369*	*383*	*380*	*367*	**311**	*409*	*375*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.9**	**53.6**	*53.6*	*58.9*	*59.2*	*60.7*	*56.4*	*62.7*	**61.8**	*58.9*	*62.7*
PADD 2	**50.6**	**50.6**	**46.8**	**50.7**	**56.5**	**46.7**	*47.5*	*50.0*	*52.9*	*50.8*	*50.1*	*49.4*	**50.7**	*50.0*	*49.4*
PADD 3	**82.1**	**81.6**	**83.0**	**81.7**	**87.1**	**83.9**	*80.4*	*86.3*	*83.7*	*87.5*	*81.1*	*85.6*	**81.7**	*86.3*	*85.6*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**8.1**	**6.4**	*6.9*	*8.0*	*8.0*	*7.9*	*7.4*	*8.3*	**8.1**	*8.0*	*8.3*
PADD 5	**31.5**	**29.0**	**30.6**	**29.7**	**29.9**	**30.3**	*27.8*	*30.9*	*29.5*	*29.2*	*29.1*	*32.3*	**29.7**	*30.9*	*32.3*
U.S. Total	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	*216.3*	*234.1*	*233.3*	*236.1*	*224.0*	*238.4*	**232.2**	*234.1*	*238.4*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	*19.7*	*24.0*	*21.3*	*22.9*	*23.7*	*26.4*	**17.8**	*24.0*	*26.4*
Gasoline Blending Components Inventories															
U.S. Total	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	*196.5*	*210.1*	*212.0*	*213.2*	*200.4*	*212.0*	**214.4**	*210.1*	*212.0*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.86**	**102.77**	**105.47**	*106.52*	*107.76*	*108.38*	*109.35*	*109.44*	*109.54*	**101.40**	*105.65*	*109.18*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	**1.00**	*0.88*	*0.99*	*1.00*	*0.92*	*0.84*	*0.98*	**0.97**	*0.98*	*0.94*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.04**	**2.10**	*2.21*	*2.17*	*2.19*	*2.11*	*1.97*	*1.90*	**2.11**	*2.13*	*2.04*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.73**	**99.67**	**102.37**	*103.43*	*104.60*	*105.19*	*106.33*	*106.63*	*106.66*	**98.32**	*102.53*	*106.21*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.52**	**94.60**	**96.87**	*97.85*	*98.99*	*99.65*	*100.51*	*100.59*	*100.67*	**93.55**	*97.09*	*100.36*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	**0.01**	*0.04*	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.06**	*0.06*	*0.06*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	**10.80**	*10.01*	*11.75*	*12.47*	*12.53*	*12.10*	*12.28*	**9.76**	*11.01*	*12.34*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.92**	**7.79**	*7.32*	*7.49*	*8.26*	*6.85*	*7.04*	*7.46*	**7.63**	*7.88*	*7.40*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	**8.44**	*8.78*	*9.24*	*9.65*	*9.10*	*9.44*	*9.75*	**8.47**	*8.72*	*9.49*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.19**	**0.13**	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.16*	*0.17*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	**-10.23**	*-8.50*	*2.75*	*14.32*	*-12.84*	*-8.94*	*3.96*	**0.24**	*0.97*	*-0.93*
Total Supply	**99.18**	**72.53**	**75.31**	**86.86**	**104.07**	**75.33**	*78.08*	*88.48*	*100.37*	*73.09*	*77.35*	*90.29*	**83.42**	*86.43*	*85.23*
Balancing Item (b)	**0.26**	**-0.58**	**-0.21**	**-1.23**	**0.24**	**0.43**	*-0.25*	*0.11*	*0.33*	*-1.33*	*-1.24*	*-0.13*	**-0.45**	*0.13*	*-0.60*
Total Primary Supply	**99.44**	**71.95**	**75.10**	**85.62**	**104.30**	**75.77**	*77.83*	*88.59*	*100.70*	*71.76*	*76.11*	*90.16*	**82.97**	*86.56*	*84.63*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.62**	**14.43**	**26.09**	**7.87**	*4.05*	*16.76*	*25.54*	*7.92*	*4.29*	*16.94*	**12.75**	*13.64*	*13.62*
Commercial	**14.87**	**6.23**	**4.68**	**10.08**	**15.62**	**6.72**	*5.04*	*11.46*	*15.23*	*6.75*	*5.22*	*11.66*	**8.94**	*9.69*	*9.69*
Industrial	**23.81**	**21.46**	**21.14**	**23.44**	**25.23**	**22.15**	*21.19*	*22.90*	*22.16*	*20.41*	*21.12*	*23.96*	**22.46**	*22.86*	*21.91*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.65**	**31.12**	*39.52*	*29.00*	*28.84*	*28.71*	*37.36*	*28.98*	**30.88**	*32.09*	*30.99*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.12**	**5.26**	*5.31*	*5.37*	*5.40*	*5.45*	*5.46*	*5.46*	**5.05**	*5.27*	*5.44*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.45**	**2.50**	*2.57*	*2.96*	*3.38*	*2.37*	*2.52*	*3.01*	**2.74**	*2.87*	*2.82*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**71.95**	**75.10**	**85.62**	**104.30**	**75.77**	*77.83*	*88.59*	*100.70*	*71.76*	*76.11*	*90.16*	**82.97**	*86.56*	*84.63*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	**2,324**	*3,106*	*2,853*	*1,564*	*2,732*	*3,555*	*3,190*	**3,210**	*2,853*	*3,190*
East Region (d)	**313**	**515**	**804**	**766**	**242**	**479**	*752*	*649*	*252*	*598*	*895*	*760*	**766**	*649*	*760*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	**558**	*912*	*804*	*352*	*667*	*1,008*	*857*	**887**	*804*	*857*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	**889**	*987*	*999*	*711*	*1,056*	*1,132*	*1,101*	**1,143**	*999*	*1,101*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	**137**	*170*	*146*	*80*	*130*	*198*	*180*	**171**	*146*	*180*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	**239**	*258*	*228*	*142*	*255*	*295*	*265*	**218**	*228*	*265*
Alaska	**23**	**27**	**30**	**25**	**21**	**24**	*27*	*27*	*27*	*27*	*27*	*27*	**25**	*27*	*27*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	*8.64*	*9.38*	*8.45*	*5.43*	*5.49*	*5.60*	**4.06**	*7.66*	*6.24*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**17.69**	**21.04**	*25.50*	*21.01*	*20.43*	*20.83*	*22.95*	*18.36*	**16.12**	*19.55*	*20.05*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.79**	**15.57**	*23.12*	*17.47*	*16.35*	*17.17*	*20.62*	*14.01*	**12.55**	*14.79*	*16.02*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.81**	**14.81**	*24.98*	*15.49*	*14.00*	*15.54*	*21.05*	*11.72*	**10.19**	*12.54*	*13.90*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**11.39**	**15.23**	*24.72*	*16.07*	*14.28*	*15.72*	*20.91*	*12.13*	**10.23**	*13.49*	*14.12*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.91**	**21.04**	*31.38*	*20.36*	*18.00*	*21.44*	*26.77*	*15.88*	**15.24**	*17.49*	*18.49*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.78**	**17.23**	*27.45*	*19.43*	*17.08*	*20.72*	*25.45*	*15.76*	**11.99**	*14.32*	*17.93*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**12.64**	**19.55**	*27.05*	*18.22*	*15.18*	*19.01*	*23.72*	*14.46*	**13.22**	*15.96*	*16.36*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.33**	**12.92**	*18.08*	*13.68*	*13.66*	*14.73*	*17.25*	*11.46*	**9.77**	*11.97*	*13.37*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.06**	**17.62**	*20.72*	*20.30*	*20.84*	*20.41*	*19.78*	*18.28*	**15.25**	*18.51*	*19.85*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.81**	**12.32**	**16.31**	*24.06*	*17.58*	*16.54*	*17.83*	*21.51*	*14.11*	**12.27**	*15.40*	*16.36*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.63**	**14.45**	*15.38*	*15.65*	*16.14*	*15.26*	*13.51*	*12.65*	**11.33**	*14.20*	*14.73*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.33**	**10.80**	*11.82*	*12.91*	*13.40*	*12.30*	*10.76*	*10.60*	**8.56**	*11.38*	*12.07*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.14**	**10.47**	*12.92*	*12.01*	*12.47*	*12.53*	*12.04*	*9.42*	**7.60**	*9.95*	*11.48*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.24**	**11.70**	*14.55*	*12.98*	*12.88*	*11.99*	*11.84*	*9.61*	**7.91**	*11.55*	*11.66*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.52**	**12.16**	*14.34*	*14.26*	*14.27*	*13.86*	*12.94*	*11.54*	**9.76**	*12.34*	*13.20*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.54**	**13.01**	*15.22*	*14.54*	*14.21*	*14.11*	*13.25*	*11.50*	**9.89**	*12.63*	*13.24*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.99**	**12.28**	*13.54*	*13.12*	*12.77*	*12.32*	*11.24*	*9.98*	**8.62**	*11.75*	*11.74*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.83**	**10.07**	*11.94*	*11.48*	*11.73*	*11.87*	*11.94*	*10.26*	**7.75**	*10.10*	*11.31*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.74**	**13.38**	*15.36*	*15.03*	*14.79*	*13.63*	*12.70*	*11.58*	**11.09**	*13.89*	*13.22*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	**9.98**	**11.62**	*13.51*	*13.23*	*13.36*	*12.85*	*11.95*	*10.52*	**8.82**	*11.61*	*12.24*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**11.09**	**11.97**	*11.90*	*13.56*	*14.19*	*12.29*	*9.97*	*10.59*	**8.73**	*12.15*	*12.14*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.16**	**9.06**	*11.85*	*13.41*	*13.86*	*11.96*	*10.19*	*9.98*	**8.24**	*11.26*	*12.18*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.72**	**9.64**	*11.75*	*11.74*	*11.87*	*9.63*	*8.31*	*8.13*	**6.90**	*9.73*	*9.99*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**8.03**	**8.51**	*9.80*	*10.87*	*11.02*	*8.22*	*7.04*	*7.28*	**5.48**	*9.30*	*8.50*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.57**	**8.90**	*10.02*	*11.15*	*11.17*	*7.99*	*7.23*	*7.49*	**5.90**	*9.29*	*8.58*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.87**	**9.15**	*9.64*	*10.75*	*10.80*	*7.69*	*6.76*	*7.08*	**5.39**	*9.01*	*8.21*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**5.46**	**7.47**	*8.59*	*9.52*	*8.96*	*5.87*	*5.65*	*5.71*	**4.80**	*7.93*	*6.52*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.07**	**8.39**	*9.79*	*10.39*	*10.82*	*9.88*	*9.21*	*8.55*	**5.99**	*8.80*	*9.67*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.81**	**8.83**	*10.76*	*11.95*	*12.37*	*10.83*	*9.48*	*9.06*	**8.54**	*10.18*	*10.54*
U.S. Average	**5.73**	**4.09**	**5.11**	**6.86**	**6.82**	**8.20**	*9.19*	*10.37*	*10.34*	*7.17*	*6.46*	*6.77*	**5.50**	*8.56*	*7.70*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**146.7**	**149.0**	**141.7**	*154.5*	*154.9*	*148.0*	*141.3*	*154.3*	*146.8*	**578.1**	*600.1*	*590.4*
Appalachia	**40.8**	**39.5**	**36.6**	**38.9**	**40.2**	**38.7**	*39.0*	*40.3*	*41.1*	*39.0*	*37.4*	*34.9*	**155.8**	*158.2*	*152.4*
Interior	**25.0**	**23.3**	**22.7**	**22.5**	**23.8**	**21.9**	*22.6*	*22.9*	*21.4*	*20.0*	*22.0*	*21.5*	**93.5**	*91.2*	*84.9*
Western	**74.5**	**80.0**	**89.0**	**85.3**	**85.0**	**81.1**	*92.8*	*91.7*	*85.5*	*82.3*	*94.9*	*90.4*	**328.8**	*350.7*	*353.2*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	**-1.1**	**-2.0**	*-0.9*	*-5.4*	*-2.3*	*-1.5*	*1.4*	*-1.9*	**-1.7**	*-9.3*	*-4.3*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	**1.6**	*1.6*	*1.3*	*1.1*	*1.2*	*1.6*	*1.4*	**5.4**	*5.9*	*5.3*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**20.2**	**23.0**	*20.9*	*22.2*	*22.8*	*24.7*	*23.7*	*25.5*	**85.2**	*86.2*	*96.6*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**10.5**	**13.1**	*11.7*	*11.6*	*11.9*	*13.1*	*12.4*	*13.1*	**45.3**	*46.9*	*50.6*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.7**	**9.9**	*9.1*	*10.6*	*10.8*	*11.5*	*11.3*	*12.4*	**39.9**	*39.3*	*46.0*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**124.9**	**129.0**	**118.4**	*134.4*	*128.6*	*124.1*	*116.4*	*133.6*	*120.8*	**496.6**	*510.4*	*494.9*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-14.0**	**8.8**	**-2.5**	*21.7*	*-11.8*	*-4.9*	*-10.6*	*11.2*	*-13.0*	**39.0**	*16.1*	*-17.3*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	**1.9**	*1.9*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**140.6**	**126.2**	**163.7**	**112.9**	**139.6**	**117.8**	*158.0*	*118.7*	*121.0*	*107.6*	*146.6*	*109.6*	**543.4**	*534.1*	*484.8*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.2**	**3.9**	*3.7*	*4.4*	*4.1*	*4.2*	*4.4*	*4.5*	**17.6**	*16.2*	*17.1*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.6**	**107.4**	*147.5*	*107.6*	*110.2*	*97.7*	*136.4*	*98.4*	**501.4**	*485.1*	*442.7*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.9**	**6.8**	*6.6*	*6.8*	*6.8*	*5.7*	*5.8*	*6.6*	**26.7**	*27.1*	*24.9*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	*0.2*	*0.3*	*0.4*	*0.2*	*0.2*	*0.3*	**0.8**	*0.9*	*1.1*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	**6.7**	*6.4*	*6.5*	*6.4*	*5.5*	*5.7*	*6.3*	**25.8**	*26.2*	*23.9*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.1**	**133.7**	**118.1**	*157.8*	*118.7*	*121.0*	*107.6*	*146.6*	*109.6*	**545.7**	*528.3*	*484.8*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-1.2**	**5.9**	**-0.3**	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-2.2**	*5.8*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	**26.4**	**28.4**	*29.2*	*34.6*	*36.9*	*38.3*	*37.0*	*38.9*	**25.3**	*34.6*	*38.9*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**99.1**	**90.3**	**92.8**	*71.2*	*83.0*	*87.8*	*98.4*	*87.2*	*100.2*	**99.1**	*83.0*	*100.2*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.3**	*65.5*	*77.6*	*83.3*	*93.7*	*82.3*	*95.3*	**94.7**	*77.6*	*95.3*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**2.6**	**2.4**	**3.5**	*3.4*	*3.3*	*2.7*	*2.8*	*3.0*	*3.0*	**2.6**	*3.3*	*3.0*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	**1.9**	*2.0*	*1.9*	*1.7*	*1.8*	*1.8*	*1.8*	**1.7**	*1.9*	*1.8*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.08**	**6.08**	**6.08**	**6.08**	**6.05**	**6.05**	*6.05*	*6.05*	*5.98*	*5.98*	*5.98*	*5.98*	**6.08**	*6.05*	*5.98*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	*0.261*	*0.286*	*0.298*	*0.298*	*0.319*	*0.337*	**0.258**	*0.263*	*0.313*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	*2.31*	*2.29*	*2.29*	*2.28*	*2.26*	*2.23*	**1.98**	*2.26*	*2.26*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,033**	**1,028**	*1,189*	*983*	*1,014*	*1,011*	*1,162*	*989*	**4,116**	*4,232*	*4,176*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**994**	**991**	*1,149*	*946*	*977*	*974*	*1,121*	*950*	**3,963**	*4,080*	*4,022*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**35**	**33**	*36*	*35*	*34*	*34*	*37*	*36*	**140**	*139*	*141*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*3*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**7**	**13**	*11*	*9*	*11*	*12*	*14*	*11*	**39**	*40*	*49*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,040**	**1,040**	*1,200*	*993*	*1,025*	*1,023*	*1,176*	*1,001*	**4,155**	*4,272*	*4,225*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**61**	**71**	*61*	*51*	*43*	*65*	*53*	*51*	**225**	*244*	*212*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**913**	**898**	**1,089**	**894**	**944**	**937**	*1,104*	*908*	*949*	*925*	*1,087*	*914*	**3,795**	*3,893*	*3,876*
Residential Sector	**379**	**329**	**446**	**324**	**379**	**346**	*445*	*328*	*378*	*334*	*429*	*331*	**1,477**	*1,498*	*1,472*
Commercial Sector	**304**	**321**	**377**	**322**	**322**	**335**	*386*	*328*	*324*	*333*	*382*	*328*	**1,325**	*1,370*	*1,367*
Industrial Sector	**229**	**247**	**264**	**247**	**242**	**255**	*272*	*251*	*246*	*257*	*275*	*254*	**987**	*1,019*	*1,031*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**34**	**33**	*35*	*34*	*33*	*33*	*36*	*35*	**136**	*135*	*137*
Total Consumption	**946**	**931**	**1,124**	**929**	**979**	**969**	*1,139*	*942*	*982*	*958*	*1,123*	*949*	**3,930**	*4,029*	*4,013*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,725**	**2,487**	*3,197*	*2,357*	*2,693*	*2,379*	*3,058*	*2,357*	**10,703**	*10,766*	*10,487*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.3**	*65.5*	*77.6*	*83.3*	*93.7*	*82.3*	*95.3*	**94.7**	*77.6*	*95.3*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**5.7**	**5.8**	*6.1*	*6.8*	*4.8*	*4.7*	*2.8*	*3.5*	**7.0**	*6.8*	*3.5*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**15.5**	**15.4**	*15.3*	*15.6*	*15.4*	*15.3*	*15.2*	*15.5*	**16.0**	*15.6*	*15.5*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	*2.31*	*2.29*	*2.29*	*2.28*	*2.26*	*2.23*	**1.98**	*2.26*	*2.26*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.38**	*8.41*	*9.37*	*8.72*	*5.44*	*5.47*	*5.73*	**4.97**	*7.78*	*6.27*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**26.17**	*22.56*	*19.80*	*19.16*	*19.00*	*17.91*	*17.51*	**13.66**	*20.61*	*18.45*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	*28.50*	*27.76*	*25.69*	*22.95*	*22.38*	*22.48*	**15.50**	*25.71*	*23.71*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	*15.12*	*14.82*	*14.81*	*15.86*	*15.47*	*14.81*	**13.72**	*14.75*	*15.24*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	*12.34*	*12.05*	*12.36*	*12.89*	*12.63*	*12.00*	**11.27**	*12.11*	*12.48*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	*8.47*	*7.79*	*7.75*	*8.25*	*8.23*	*7.56*	**7.26**	*8.03*	*7.96*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	**83.19**	*136.71*	*87.90*	*76.18*	*50.85*	*65.50*	*49.75*	**189.54**	*87.63*	*60.57*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	**60.34**	*113.56*	*74.11*	*65.40*	*57.74*	*97.18*	*48.30*	**53.53**	*73.30*	*67.15*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	**73.28**	*109.01*	*107.14*	*168.62*	*54.35*	*60.15*	*87.27*	**51.81**	*101.48*	*92.60*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	**79.72**	*118.19*	*115.66*	*158.10*	*62.02*	*65.52*	*81.09*	**46.14**	*103.42*	*91.68*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	**93.00**	*114.42*	*108.50*	*113.79*	*70.94*	*76.61*	*70.88*	**45.67**	*93.56*	*83.05*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	**89.21**	*104.05*	*101.93*	*95.50*	*65.67*	*71.24*	*64.06*	**46.47**	*85.77*	*74.12*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	**72.85**	*102.72*	*77.86*	*73.31*	*50.98*	*56.48*	*47.78*	**93.88**	*72.67*	*57.14*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	**84.96**	*91.87*	*90.18*	*83.98*	*59.32*	*61.80*	*55.91*	**42.39**	*77.37*	*65.25*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	**78.70**	*86.56*	*79.60*	*71.59*	*56.05*	*56.19*	*51.83*	**37.92**	*71.49*	*58.92*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	**59.39**	*113.05*	*76.61*	*69.25*	*57.95*	*100.83*	*52.49*	**59.53**	*72.22*	*70.13*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	**60.50**	*113.10*	*63.71*	*53.52*	*52.95*	*89.84*	*41.81*	**55.44**	*69.08*	*59.53*

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**13.1**	**10.5**	*13.9*	*10.8*	*12.7*	*10.4*	*12.6*	*10.7*	**48.7**	*48.4*	*46.4*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**36.1**	**30.0**	*41.3*	*30.6*	*35.7*	*30.1*	*38.8*	*30.7*	**138.7**	*138.0*	*135.3*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.9**	**43.8**	*53.4*	*44.3*	*50.1*	*42.5*	*53.1*	*44.8*	**192.6**	*192.4*	*190.5*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**30.6**	**24.7**	*30.3*	*23.7*	*30.2*	*23.6*	*29.4*	*23.3*	**108.6**	*109.4*	*106.5*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**96.0**	**91.6**	*112.4*	*84.6*	*97.5*	*88.6*	*110.5*	*86.1*	**374.9**	*384.5*	*382.7*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**32.7**	**27.7**	*36.7*	*26.8*	*33.7*	*27.0*	*35.7*	*27.2*	**120.5**	*123.9*	*123.6*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**55.7**	**57.9**	*80.0*	*48.4*	*54.0*	*53.5*	*75.2*	*49.6*	**230.5**	*242.0*	*232.4*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**24.2**	**26.3**	*34.7*	*23.0*	*24.1*	*25.5*	*34.1*	*23.3*	**108.1**	*108.1*	*107.0*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.5**	**32.4**	*40.9*	*34.4*	*38.8*	*31.6*	*38.5*	*33.8*	**149.0**	*146.2*	*142.6*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.8*	*4.8*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**379.1**	**346.0**	*444.7*	*327.8*	*378.0*	*333.9*	*429.1*	*330.7*	**1,476.6**	*1,497.7*	*1,471.7*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	**11.8**	*13.8*	*11.7*	*12.1*	*11.9*	*13.3*	*11.6*	**48.5**	*49.4*	*49.0*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	**34.3**	*40.4*	*34.8*	*36.4*	*34.5*	*39.4*	*34.5*	**141.9**	*145.5*	*144.8*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**43.3**	**42.9**	*49.0*	*42.9*	*43.5*	*42.7*	*49.1*	*42.7*	**174.8**	*178.0*	*178.0*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.1**	**24.6**	*27.7*	*24.3*	*25.2*	*24.5*	*27.6*	*24.3*	**99.3**	*101.7*	*101.6*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**75.1**	**82.5**	*91.7*	*76.9*	*75.4*	*81.7*	*91.2*	*77.1*	**313.1**	*326.2*	*325.5*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.0**	**22.4**	*26.5*	*21.2*	*21.2*	*22.0*	*26.0*	*21.2*	**89.0**	*91.1*	*90.4*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**46.7**	**51.7**	*62.1*	*51.4*	*47.5*	*51.1*	*61.5*	*51.9*	**201.0**	*211.9*	*212.0*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**23.2**	**25.4**	*29.2*	*23.7*	*23.4*	*25.3*	*29.1*	*23.8*	**98.7**	*101.5*	*101.6*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.7**	**37.9**	*44.2*	*39.9*	*38.0*	*37.8*	*43.1*	*39.7*	**153.2**	*159.6*	*158.6*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	**1.3**	*1.4*	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.5*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**321.5**	**334.7**	*385.9*	*328.2*	*324.1*	*332.7*	*381.8*	*328.3*	**1,324.8**	*1,370.4*	*1,366.9*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	**3.9**	*4.1*	*3.8*	*3.8*	*3.8*	*4.1*	*3.8*	**15.8**	*15.7*	*15.5*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**17.5**	**18.2**	*20.0*	*18.6*	*18.0*	*18.6*	*20.0*	*18.5*	**73.1**	*74.3*	*75.1*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**45.9**	**47.0**	*49.9*	*46.3*	*46.3*	*47.1*	*50.4*	*47.0*	**185.5**	*189.1*	*190.8*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.0**	**24.8**	*26.6*	*24.9*	*24.7*	*24.7*	*26.5*	*24.9*	**97.9**	*100.3*	*100.8*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.3**	**37.4**	*39.4*	*36.8*	*37.1*	*37.7*	*39.8*	*37.2*	**143.7**	*150.1*	*151.7*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**24.7**	**25.8**	*26.3*	*25.0*	*24.6*	*25.7*	*26.4*	*25.1*	**99.7**	*101.8*	*101.8*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**49.8**	**53.4**	*57.9*	*54.0*	*51.7*	*55.9*	*60.8*	*56.6*	**199.7**	*215.1*	*225.0*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.9**	**21.7**	*23.2*	*20.3*	*19.8*	*21.8*	*23.5*	*20.7*	**84.4**	*85.2*	*85.8*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**19.0**	**21.0**	*22.9*	*19.8*	*18.6*	*20.4*	*22.0*	*18.9*	**82.5**	*82.8*	*80.0*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**242.1**	**254.6**	*271.6*	*250.7*	*245.7*	*256.9*	*274.7*	*253.9*	**986.8**	*1,019.0*	*1,031.2*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.2**	**26.3**	*31.9*	*26.5*	*28.7*	*26.2*	*30.2*	*26.2*	**113.4**	*114.0*	*111.3*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**90.5**	**83.3**	*102.4*	*84.7*	*90.9*	*83.9*	*99.0*	*84.5*	**356.9**	*361.0*	*358.3*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**140.3**	**133.8**	*152.3*	*133.6*	*140.0*	*132.4*	*152.7*	*134.7*	**553.4**	*560.0*	*559.8*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**79.7**	**74.1**	*84.7*	*73.0*	*80.1*	*72.8*	*83.5*	*72.5*	**305.8**	*311.4*	*309.0*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**207.7**	**211.8**	*243.8*	*198.6*	*210.3*	*208.3*	*241.7*	*200.6*	**832.7**	*861.9*	*860.9*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.4**	**76.0**	*89.6*	*72.9*	*79.4*	*74.7*	*88.2*	*73.5*	**309.2**	*316.8*	*315.8*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**152.3**	**163.0**	*200.0*	*153.8*	*153.3*	*160.5*	*197.6*	*158.2*	**631.4**	*669.1*	*669.6*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**67.3**	**73.4**	*87.2*	*67.1*	*67.3*	*72.6*	*86.8*	*67.8*	**291.4**	*294.9*	*294.5*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.4**	**91.5**	*108.2*	*94.3*	*95.6*	*90.0*	*103.8*	*92.6*	**385.5**	*389.4*	*382.0*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	**3.6**	*3.7*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*14.9*	*14.9*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**944.5**	**936.9**	*1,103.8*	*908.3*	*949.4*	*925.0*	*1,087.1*	*914.4*	**3,794.5**	*3,893.4*	*3,876.1*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.93**	**24.31**	*25.24*	*25.81*	*28.00*	*28.20*	*28.75*	*28.45*	**21.51**	*24.81*	*28.35*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.12**	**18.31**	*18.60*	*17.83*	*18.22*	*18.65*	*18.47*	*17.39*	**16.49**	*17.98*	*18.20*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.22**	**15.51**	*15.28*	*15.27*	*14.99*	*16.27*	*15.82*	*15.38*	**14.10**	*15.05*	*15.60*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.28**	**13.27**	*13.66*	*12.20*	*11.60*	*13.72*	*13.86*	*12.09*	**12.21**	*12.59*	*12.80*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.68**	**13.61**	*13.46*	*13.25*	*13.35*	*14.32*	*13.81*	*13.15*	**12.24**	*13.25*	*13.66*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**11.97**	**13.08**	*13.00*	*12.59*	*12.66*	*13.35*	*12.91*	*12.40*	**11.83**	*12.66*	*12.83*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**11.83**	**12.97**	*13.05*	*13.39*	*12.73*	*13.70*	*13.34*	*13.18*	**11.89**	*12.82*	*13.25*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.14**	**12.86**	*13.04*	*12.69*	*12.46*	*13.22*	*13.31*	*12.84*	**12.08**	*12.72*	*12.99*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**18.12**	**20.58**	*20.67*	*18.16*	*18.95*	*21.72*	*21.38*	*18.45*	**18.01**	*19.39*	*20.10*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	*15.12*	*14.82*	*14.81*	*15.86*	*15.47*	*14.81*	**13.72**	*14.75*	*15.24*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.54**	**17.56**	*18.42*	*18.55*	*20.31*	*19.04*	*19.68*	*19.27*	**16.49**	*18.28*	*19.59*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**14.05**	**14.93**	*15.61*	*14.53*	*14.95*	*15.42*	*15.72*	*14.07*	**13.43**	*14.81*	*15.06*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.08**	**11.85**	*11.49*	*11.69*	*11.92*	*12.55*	*11.85*	*11.64*	**10.67**	*11.53*	*11.98*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.65**	**10.70**	*10.18*	*9.06*	*9.28*	*9.96*	*9.49*	*8.21*	**9.97**	*9.91*	*9.25*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.30**	**10.87**	*10.29*	*10.67*	*11.02*	*11.48*	*10.63*	*10.52*	**9.49**	*10.53*	*10.91*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.69**	**12.20**	*12.31*	*12.07*	*12.44*	*12.80*	*12.65*	*12.06*	**11.19**	*12.08*	*12.50*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**8.65**	**9.60**	*8.48*	*8.77*	*8.77*	*9.43*	*8.35*	*8.70*	**9.04**	*8.86*	*8.79*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.56**	**10.32**	*10.64*	*9.87*	*9.82*	*10.53*	*10.82*	*9.93*	**9.70**	*10.13*	*10.31*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**16.09**	**17.77**	*19.99*	*17.70*	*17.90*	*19.57*	*21.42*	*18.56*	**16.27**	*17.97*	*19.42*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	*12.34*	*12.05*	*12.36*	*12.89*	*12.63*	*12.00*	**11.27**	*12.11*	*12.48*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.14**	**15.21**	*15.25*	*15.10*	*15.90*	*15.79*	*15.63*	*15.29*	**13.58**	*15.18*	*15.65*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.87**	**8.28**	*7.74*	*7.54*	*8.12*	*7.90*	*7.26*	*7.10*	**6.89**	*7.85*	*7.59*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.72**	**8.55**	*8.22*	*8.12*	*8.14*	*8.45*	*8.07*	*7.95*	**7.26**	*8.16*	*8.15*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	**7.98**	*8.38*	*7.36*	*7.47*	*8.04*	*8.40*	*7.36*	**7.35**	*7.74*	*7.83*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.85**	**8.08**	*7.57*	*7.20*	*7.20*	*7.84*	*7.29*	*6.93*	**6.64**	*7.43*	*7.32*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.35**	**7.36**	*7.23*	*6.63*	*6.65*	*7.20*	*7.04*	*6.42*	**6.04**	*6.90*	*6.83*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**6.20**	**7.26**	*7.46*	*6.71*	*6.49*	*6.87*	*6.87*	*6.22*	**6.17**	*6.93*	*6.62*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.59**	**7.27**	*7.81*	*6.70*	*6.70*	*7.29*	*7.82*	*6.67*	**6.74**	*7.12*	*7.15*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.34**	**11.97**	*13.43*	*11.51*	*10.77*	*12.30*	*13.76*	*11.71*	**11.10**	*11.89*	*12.21*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	*8.47*	*7.79*	*7.75*	*8.25*	*8.23*	*7.56*	**7.26**	*8.03*	*7.96*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.48**	**19.88**	*20.95*	*20.99*	*23.07*	*22.16*	*22.89*	*22.39*	**18.21**	*20.59*	*22.65*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**14.07**	**14.67**	*15.27*	*14.18*	*14.87*	*14.90*	*15.07*	*13.74*	**13.26**	*14.57*	*14.67*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.11**	**11.89**	*11.74*	*11.64*	*11.76*	*12.28*	*11.98*	*11.59*	**10.72**	*11.60*	*11.90*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.53**	**10.65**	*10.86*	*9.50*	*9.60*	*10.52*	*10.68*	*9.16*	**9.92**	*10.15*	*10.01*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.79**	**11.56**	*11.31*	*11.12*	*11.43*	*12.02*	*11.53*	*10.98*	**10.23**	*11.20*	*11.50*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.12**	**10.88**	*11.10*	*10.40*	*10.74*	*11.07*	*11.08*	*10.26*	**9.78**	*10.64*	*10.80*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**9.01**	**10.03**	*10.01*	*9.50*	*9.39*	*9.96*	*9.80*	*9.22*	**9.17**	*9.67*	*9.61*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.61**	**10.32**	*10.84*	*9.87*	*9.85*	*10.50*	*10.98*	*9.93*	**9.73**	*10.21*	*10.36*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.75**	**17.42**	*18.84*	*16.55*	*16.92*	*18.66*	*19.76*	*17.10*	**15.83**	*17.20*	*18.15*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.49**	**12.28**	*12.50*	*11.87*	*12.14*	*12.67*	*12.64*	*11.78*	**11.18**	*12.06*	*12.32*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**337.9**	**365.1**	*468.3*	*346.0*	*338.0*	*335.7*	*440.8*	*344.2*	**1,473.6**	*1,517.3*	*1,458.6*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**217.5**	**189.1**	*265.4*	*187.1*	*194.9*	*170.7*	*244.3*	*170.4*	**892.8**	*859.2*	*780.3*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.6**	**184.3**	*203.0*	*190.7*	*194.0*	*187.8*	*207.3*	*197.9*	**778.2**	*773.6*	*787.0*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**235.5**	**247.1**	*207.0*	*216.7*	*243.3*	*274.9*	*223.8*	*232.6*	**795.2**	*906.4*	*974.6*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**70.8**	*64.0*	*58.1*	*70.3*	*80.6*	*65.9*	*60.7*	**259.0**	*269.4*	*277.6*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**121.7**	*88.4*	*118.6*	*127.0*	*127.9*	*91.8*	*123.2*	**378.6**	*448.3*	*470.0*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**44.3**	*43.4*	*29.4*	*35.5*	*56.2*	*54.8*	*38.5*	**113.9**	*145.9*	*184.9*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.5**	*6.8*	*6.4*	*6.6*	*6.3*	*6.7*	*6.3*	**27.9**	*26.5*	*26.1*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.8**	*4.4*	*4.2*	*3.8*	*3.8*	*4.5*	*3.9*	**15.7**	*16.3*	*16.1*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.2**	**-1.3**	*-1.8*	*-1.4*	*-1.2*	*-1.5*	*-1.7*	*-1.3*	**-5.1**	*-5.7*	*-5.6*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	**4.1**	*4.4*	*3.9*	*5.5*	*3.7*	*4.4*	*4.1*	**17.8**	*19.0*	*17.7*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.8**	**0.9**	*0.9*	*0.8*	*0.8*	*0.7*	*0.9*	*0.8*	**3.2**	*3.4*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.6**	**1.6**	*1.7*	*1.8*	*1.5*	*1.6*	*1.6*	*1.7*	**7.2**	*6.7*	*6.4*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**994.2**	**990.9**	*1,149.1*	*945.6*	*976.9*	*973.6*	*1,121.4*	*950.3*	**3,962.8**	*4,079.8*	*4,022.2*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**11.8**	**12.4**	*18.3*	*12.0*	*12.2*	*12.0*	*15.2*	*12.0*	**51.5**	*54.6*	*51.4*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.3**	**0.0**	*0.2*	*0.3*	*0.3*	*0.2*	*0.2*	*0.2*	**0.6**	*0.7*	*0.8*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	**5.6**	*7.3*	*7.3*	*7.1*	*5.6*	*7.3*	*6.2*	**27.1**	*27.2*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.7**	**1.4**	*1.0*	*1.7*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*5.9*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.1**	**3.2**	*2.8*	*2.8*	*3.1*	*3.3*	*2.8*	*2.9*	**11.2**	*11.9*	*12.0*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	**0.4**	*0.3*	*0.4*	*1.0*	*0.3*	*0.3*	*0.3*	**1.5**	*2.4*	*1.9*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**25.4**	**23.0**	*29.9*	*24.5*	*25.8*	*23.6*	*26.9*	*23.3*	**98.2**	*102.8*	*99.6*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.2**	**26.0**	*33.8*	*28.6*	*30.2*	*28.0*	*32.5*	*28.9*	**116.4**	*118.5*	*119.6*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.0**	**15.5**	*19.8*	*15.4*	*14.3*	*16.7*	*19.4*	*14.0*	**61.9**	*64.7*	*64.4*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	**7.0**	*6.5*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.8*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**7.1**	**6.6**	*6.7*	*6.9*	*7.2*	*7.3*	*7.3*	*7.5*	**27.9**	*27.3*	*29.4*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.2**	**2.1**	*1.7*	*2.2*	*2.5*	*2.7*	*2.1*	*2.8*	**7.1**	*8.2*	*10.1*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	**0.1**	*0.2*	*0.1*	*0.7*	*0.1*	*0.3*	*0.1*	**1.3**	*1.8*	*1.2*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**31.0**	**31.4**	*35.0*	*31.5*	*31.4*	*33.3*	*36.1*	*31.4*	**129.3**	*128.9*	*132.1*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.6**	**34.0**	*43.8*	*35.5*	*36.6*	*35.5*	*41.8*	*35.4*	**149.0**	*150.9*	*149.4*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**76.9**	**74.4**	*90.6*	*72.0*	*77.6*	*76.3*	*92.5*	*78.3*	**310.9**	*313.9*	*324.7*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**48.6**	**35.4**	*46.0*	*29.6*	*40.7*	*31.5*	*41.4*	*26.4*	**175.4**	*159.6*	*139.9*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**69.0**	**65.1**	*71.0*	*66.8*	*67.9*	*67.1*	*72.1*	*68.7*	**271.7**	*271.9*	*275.8*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	**2.2**	*1.5*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*8.4*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**13.2**	**12.9**	*9.8*	*11.6*	*14.2*	*13.8*	*11.0*	*12.9*	**42.4**	*47.5*	*52.0*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.6**	**0.4**	*0.4*	*0.5*	*0.6*	*0.3*	*0.4*	*0.6*	**2.5**	*1.9*	*1.9*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**211.0**	**190.4**	*219.2*	*182.6*	*203.6*	*191.7*	*219.0*	*189.0*	**812.1**	*803.1*	*803.3*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**200.9**	**180.1**	*214.4*	*185.6*	*199.7*	*182.3*	*209.8*	*185.7*	**770.2**	*781.0*	*777.5*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**64.1**	**67.5**	*77.2*	*62.0*	*64.6*	*58.4*	*73.3*	*63.1*	**252.3**	*270.8*	*259.4*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**32.3**	**32.8**	*44.1*	*28.6*	*30.4*	*28.4*	*44.2*	*28.2*	**137.7**	*137.8*	*131.2*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.4**	**51.1**	*56.2*	*51.9*	*52.6*	*54.0*	*58.2*	*59.1*	**212.2**	*210.6*	*223.9*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**11.9**	**9.8**	*8.7*	*9.8*	*12.6*	*10.1*	*9.2*	*10.2*	**43.9**	*40.2*	*42.1*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**5.0**	**7.0**	*6.4*	*5.0*	*5.7*	*7.9*	*7.1*	*5.6*	**19.1**	*23.4*	*26.3*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	**-0.3**	*-0.4*	*-0.3*	*-0.2*	*-0.4*	*-0.4*	*-0.3*	**-0.9**	*-1.2*	*-1.3*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.6**	**167.9**	*192.2*	*157.1*	*165.8*	*158.3*	*191.6*	*165.8*	**664.2**	*681.7*	*681.5*
Net energy for load (f)	**161.3**	**154.7**	**183.9**	**154.5**	**166.5**	**168.4**	*185.2*	*151.8*	*165.2*	*162.0*	*187.2*	*159.5*	**654.4**	*671.9*	*673.9*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**38.3**	**46.7**	*51.9*	*43.6*	*38.1*	*45.2*	*53.6*	*43.2*	**171.8**	*180.5*	*180.0*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.5**	**4.2**	*4.6*	*3.0*	*2.7*	*3.9*	*3.8*	*2.4*	**18.3**	*15.4*	*12.9*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	**7.9**	*8.0*	*7.1*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.3*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**2.9**	**3.7**	*3.7*	*2.9*	*3.7*	*5.3*	*4.7*	*3.7*	**11.0**	*13.3*	*17.4*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.7**	**0.6**	*0.8*	*0.7*	*0.7*	*0.6*	*0.8*	*0.7*	**2.8**	*2.8*	*2.9*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**52.8**	**63.1**	*69.1*	*57.4*	*52.4*	*62.0*	*70.5*	*57.8*	**232.2**	*242.4*	*242.6*
Net energy for load (f)	**52.4**	**63.8**	**72.3**	**55.6**	**54.1**	**66.2**	*71.8*	*53.3*	*50.2*	*60.1*	*68.0*	*53.3*	**244.1**	*245.4*	*231.5*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**41.8**	**47.3**	*54.6*	*41.4*	*41.0*	*47.1*	*54.1*	*44.0*	**169.7**	*185.1*	*186.1*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**64.5**	**54.0**	*82.2*	*58.9*	*58.4*	*51.8*	*70.8*	*51.2*	**267.7**	*259.5*	*232.1*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	**19.6**	*23.7*	*23.6*	*22.3*	*21.0*	*24.3*	*20.8*	**95.7**	*90.7*	*88.5*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.1**	**2.9**	*2.5*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*10.6*	*10.2*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**31.8**	**28.7**	*19.5*	*29.2*	*34.1*	*30.5*	*21.0*	*30.7*	**93.1**	*109.3*	*116.2*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.3**	**1.6**	*1.5*	*1.2*	*1.5*	*1.4*	*1.5*	*1.4*	**6.4**	*5.7*	*5.7*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**166.4**	**154.1**	*184.0*	*156.5*	*159.8*	*154.7*	*174.0*	*150.3*	**643.3**	*660.9*	*638.8*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**165.1**	**158.8**	*181.9*	*158.6*	*161.7*	*159.7*	*181.0*	*159.6*	**647.3**	*664.4*	*662.0*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.1**	**14.0**	*20.0*	*11.0*	*10.5*	*12.0*	*17.2*	*9.6*	**56.3**	*56.2*	*49.3*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.1**	**20.5**	*30.0*	*19.3*	*21.5*	*16.6*	*27.2*	*17.8*	**92.0**	*91.8*	*83.1*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	**4.3**	*3.8*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.0*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.6**	**4.1**	*4.0*	*3.1*	*3.9*	*4.7*	*4.2*	*3.5*	**15.5**	*15.9*	*16.3*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**28.8**	**29.8**	*24.4*	*29.4*	*30.6*	*31.4*	*25.4*	*30.4*	**93.6**	*112.5*	*117.8*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	**0.3**	*0.1*	*0.2*	*0.2*	*0.3*	*0.1*	*0.2*	**0.7**	*0.8*	*0.9*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.2**	**73.0**	*82.3*	*65.6*	*71.0*	*69.3*	*78.6*	*65.8*	**273.6**	*292.1*	*284.7*
Net energy for load (f)	**65.5**	**65.5**	**78.5**	**62.0**	**68.0**	**69.5**	*80.9*	*61.6*	*66.1*	*65.2*	*76.4*	*61.1*	**271.6**	*279.9*	*268.8*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**34.2**	**43.2**	*61.3*	*33.7*	*28.7*	*29.5*	*47.8*	*29.6*	**164.2**	*172.4*	*135.5*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**17.7**	**16.8**	*20.6*	*16.1*	*15.4*	*16.6*	*21.5*	*15.6*	**74.5**	*71.2*	*69.0*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	**9.9**	*10.6*	*10.9*	*10.7*	*9.0*	*11.0*	*10.1*	**40.2**	*42.4*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.1**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.2**	**39.4**	*32.1*	*34.3*	*36.6*	*46.3*	*36.8*	*37.6*	**106.3**	*137.0*	*157.3*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.5*	*0.4*	*0.4*	*0.4*	*0.5*	**1.4**	*1.7*	*1.7*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**109.9**	*125.1*	*95.5*	*92.0*	*101.9*	*117.6*	*93.4*	**387.1**	*425.1*	*404.9*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**109.9**	*125.1*	*95.5*	*92.0*	*101.9*	*117.6*	*93.4*	**387.1**	*425.1*	*404.9*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**19.6**	**15.4**	*28.1*	*22.0*	*25.2*	*11.3*	*23.8*	*18.3*	**90.2**	*85.0*	*78.5*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**21.6**	**18.1**	*25.4*	*23.4*	*19.2*	*16.1*	*24.1*	*21.3*	**90.5**	*88.4*	*80.7*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	**2.3**	*2.5*	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.5**	*9.7*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**39.3**	**36.0**	*32.4*	*28.3*	*33.5*	*40.3*	*30.3*	*27.8*	**121.0**	*136.0*	*131.8*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**19.1**	**20.5**	*16.3*	*18.8*	*20.1*	*21.7*	*17.5*	*20.2*	**65.5**	*74.6*	*79.5*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.7**	*0.6*	*0.4*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.2**	**92.5**	*104.8*	*94.9*	*100.5*	*90.8*	*98.1*	*90.0*	**376.4**	*394.3*	*379.3*
Net energy for load (f)	**89.9**	**86.1**	**97.8**	**89.7**	**88.0**	**86.7**	*102.2*	*89.5*	*91.9*	*86.6*	*95.7*	*88.2*	**363.5**	*366.5*	*362.4*
Southwest															
Natural Gas	**10.7**	**15.2**	**19.4**	**11.5**	**9.6**	**12.9**	*20.9*	*10.9*	*12.3*	*13.9*	*20.0*	*10.9*	**56.8**	*54.3*	*57.1*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**6.1**	**6.3**	*8.9*	*5.6*	*4.5*	*4.1*	*7.7*	*5.0*	**26.8**	*26.9*	*21.4*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	**7.5**	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.7*	*31.9*
Conventional hydropower	**2.0**	**2.3**	**1.9**	**1.5**	**1.9**	**2.0**	*2.1*	*1.7*	*2.1*	*2.5*	*2.4*	*1.9*	**7.7**	*7.7*	*8.9*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	**5.7**	*4.3*	*5.0*	*4.4*	*6.0*	*4.5*	*5.4*	**14.0**	*19.6*	*20.3*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**29.8**	**34.2**	**41.5**	**31.6**	**30.4**	**34.4**	*45.0*	*30.7*	*31.8*	*34.1*	*43.3*	*30.8*	**137.1**	*140.5*	*139.9*
Net energy for load (f)	**20.5**	**26.3**	**33.3**	**22.5**	**21.2**	**26.9**	*33.0*	*21.8*	*21.4*	*26.2*	*33.1*	*22.1*	**102.6**	*102.9*	*102.8*
California															
Natural Gas	**16.7**	**17.9**	**29.4**	**21.6**	**15.8**	**15.4**	*25.1*	*21.3*	*12.6*	*12.8*	*23.3*	*20.5*	**85.6**	*77.6*	*69.2*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.5**	**0.7**	*3.0*	*2.0*	*1.4*	*1.2*	*3.0*	*1.9*	**7.6**	*6.2*	*7.5*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	**4.1**	*4.6*	*4.0*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.3*	*18.0*
Conventional hydropower	**2.4**	**4.2**	**4.9**	**2.8**	**3.6**	**5.2**	*4.5*	*1.7*	*3.1*	*7.3*	*6.7*	*3.3*	**14.4**	*15.0*	*20.4*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.7**	**22.8**	*21.6*	*16.7*	*17.7*	*24.8*	*24.5*	*19.1*	**71.1**	*77.7*	*86.0*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	**-0.2**	*0.0*	*-0.1*	*0.0*	*-0.2*	*0.0*	*-0.1*	**-0.2**	*-0.3*	*-0.3*
Total generation	**39.3**	**48.9**	**61.5**	**45.3**	**41.2**	**48.0**	*58.8*	*45.6*	*39.3*	*50.6*	*62.1*	*48.9*	**195.0**	*193.6*	*200.8*
Net energy for load (f)	**55.6**	**62.6**	**77.5**	**59.5**	**56.0**	**61.2**	*75.8*	*59.9*	*58.3*	*62.6*	*74.6*	*59.3*	**255.1**	*252.9*	*254.8*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

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Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.034**	**0.033**	*0.038*	*0.036*	*0.034*	*0.033*	*0.040*	*0.034*	**0.138**	*0.143*	*0.141*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.671**	**0.633**	*0.570*	*0.517*	*0.626*	*0.718*	*0.587*	*0.541*	**2.272**	*2.392*	*2.472*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.257**	**0.394**	*0.386*	*0.262*	*0.316*	*0.500*	*0.488*	*0.342*	**1.014**	*1.299*	*1.647*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.056**	**0.053**	*0.058*	*0.057*	*0.057*	*0.056*	*0.056*	*0.055*	**0.236**	*0.223*	*0.224*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.052**	**0.047**	*0.049*	*0.044*	*0.047*	*0.043*	*0.049*	*0.044*	**0.199**	*0.192*	*0.184*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.084**	*0.788*	*1.056*	*1.131*	*1.139*	*0.817*	*1.097*	**3.372**	*3.992*	*4.185*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.135**	**2.245**	*1.889*	*1.973*	*2.211*	*2.490*	*2.038*	*2.114*	**7.231**	*8.241*	*8.852*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.202**	*0.203*	*0.208*	*0.198*	*0.201*	*0.202*	*0.208*	**0.789**	*0.816*	*0.810*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	**0.011**	*0.012*	*0.008*	*0.009*	*0.012*	*0.013*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.042**	**0.040**	*0.039*	*0.042*	*0.041*	*0.040*	*0.040*	*0.042*	**0.160**	*0.163*	*0.163*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.315**	**0.324**	*0.348*	*0.358*	*0.348*	*0.346*	*0.358*	*0.361*	**1.342**	*1.345*	*1.413*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.576**	**0.587**	*0.610*	*0.624*	*0.604*	*0.608*	*0.621*	*0.628*	**2.361**	*2.397*	*2.462*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	**0.049**	*0.049*	*0.034*	*0.039*	*0.058*	*0.058*	*0.041*	**0.140**	*0.165*	*0.196*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.010**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.035**	*0.036*	*0.037*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	**0.021**	*0.021*	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.077**	**0.092**	*0.093*	*0.078*	*0.083*	*0.102*	*0.103*	*0.085*	**0.313**	*0.340*	*0.372*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.079**	**0.119**	*0.121*	*0.084*	*0.095*	*0.147*	*0.149*	*0.104*	**0.329**	*0.403*	*0.495*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.119**	**0.119**	*0.117*	*0.117*	*0.119*	*0.119*	*0.117*	*0.117*	**0.464**	*0.472*	*0.472*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.208**	**0.248**	*0.248*	*0.211*	*0.224*	*0.275*	*0.276*	*0.231*	**0.832**	*0.915*	*1.006*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	**0.117**	*0.114*	*0.138*	*0.132*	*0.137*	*0.134*	*0.158*	**0.372**	*0.462*	*0.561*
Ethanol (g)	**0.242**	**0.281**	**0.285**	**0.289**	**0.259**	**0.281**	*0.278*	*0.282*	*0.262*	*0.282*	*0.285*	*0.286*	**1.098**	*1.099*	*1.114*
Subtotal	**0.322**	**0.376**	**0.374**	**0.398**	**0.353**	**0.389**	*0.396*	*0.420*	*0.393*	*0.419*	*0.419*	*0.444*	**1.470**	*1.558*	*1.675*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.094**	**0.117**	*0.114*	*0.138*	*0.132*	*0.137*	*0.134*	*0.158*	**0.372**	*0.462*	*0.561*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.202**	*0.203*	*0.208*	*0.198*	*0.201*	*0.202*	*0.208*	**0.789**	*0.816*	*0.810*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.302**	**0.271**	**0.293**	*0.290*	*0.294*	*0.274*	*0.294*	*0.297*	*0.299*	**1.147**	*1.148*	*1.164*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.051**	**0.052**	*0.056*	*0.054*	*0.051*	*0.050*	*0.057*	*0.052*	**0.206**	*0.212*	*0.209*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.674**	**0.636**	*0.572*	*0.520*	*0.629*	*0.721*	*0.590*	*0.543*	**2.283**	*2.403*	*2.483*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.378**	**0.573**	*0.567*	*0.388*	*0.459*	*0.717*	*0.708*	*0.496*	**1.519**	*1.907*	*2.380*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	**0.103**	*0.106*	*0.108*	*0.107*	*0.105*	*0.105*	*0.106*	**0.431**	*0.424*	*0.423*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.507**	**0.511**	*0.535*	*0.539*	*0.535*	*0.529*	*0.546*	*0.543*	**2.087**	*2.093*	*2.152*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.084**	*0.788*	*1.056*	*1.131*	*1.139*	*0.817*	*1.097*	**3.372**	*3.992*	*4.185*
Total Consumption	**2.950**	**3.162**	**2.953**	**3.142**	**3.349**	**3.561**	*3.236*	*3.306*	*3.516*	*3.894*	*3.457*	*3.502*	**12.207**	*13.452*	*14.368*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,161**	**5,997**	**5,980**	**5,977**	**5,931**	**5,936**	*5,933*	*5,956*	*5,935*	*5,937*	*5,879*	*5,879*	**5,977**	*5,956*	*5,879*
Waste	**3,700**	**3,680**	**3,677**	**3,674**	**3,629**	**3,634**	*3,631*	*3,653*	*3,633*	*3,635*	*3,576*	*3,576*	**3,674**	*3,653*	*3,576*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,736**	**78,796**	**78,798**	**78,798**	**78,808**	**78,812**	*78,857*	*78,880*	*78,880*	*78,889*	*78,916*	*78,926*	**78,798**	*78,880*	*78,926*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,517**	*2,517*	*2,542*	*2,542*	*2,542*	*2,542*	*2,542*	**2,483**	*2,542*	*2,542*
Large-Scale Solar (b)	**50,368**	**52,359**	**55,609**	**60,671**	**63,126**	**66,564**	*71,236*	*80,173*	*83,680*	*89,317*	*91,859*	*104,555*	**60,671**	*80,173*	*104,555*
Wind	**121,201**	**124,742**	**126,696**	**132,243**	**134,937**	**137,777**	*139,172*	*143,371*	*143,521*	*144,312*	*144,672*	*147,740*	**132,243**	*143,371*	*147,740*
Other Sectors (c)															
Biomass	**6,206**	**6,210**	**6,214**	**6,214**	**6,144**	**6,156**	*6,148*	*6,148*	*6,148*	*6,140*	*6,140*	*6,140*	**6,214**	*6,148*	*6,140*
Waste	**827**	**830**	**829**	**829**	**821**	**821**	*821*	*821*	*821*	*821*	*821*	*821*	**829**	*821*	*821*
Wood	**5,380**	**5,380**	**5,385**	**5,385**	**5,322**	**5,334**	*5,327*	*5,327*	*5,327*	*5,318*	*5,318*	*5,318*	**5,385**	*5,327*	*5,318*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	**291**	*291*	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**473**	**475**	**511**	**529**	**553**	**565**	*565*	*589*	*589*	*637*	*637*	*637*	**529**	*589*	*637*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,720**	**36,197**	*38,095*	*40,124*	*42,266*	*44,532*	*46,928*	*49,462*	**32,972**	*40,124*	*49,462*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,260**	**23,446**	*24,808*	*26,280*	*27,843*	*29,506*	*31,275*	*33,156*	**21,022**	*26,280*	*33,156*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,220**	**10,496**	*10,971*	*11,466*	*11,984*	*12,524*	*13,087*	*13,675*	**9,728**	*11,466*	*13,675*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,240**	**2,256**	*2,316*	*2,377*	*2,439*	*2,502*	*2,566*	*2,631*	**2,223**	*2,377*	*2,631*
Wind	**121**	**121**	**121**	**121**	**122**	**122**	*122*	*122*	*122*	*122*	*122*	*122*	**121**	*122*	*122*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.5**	*6.8*	*6.4*	*6.6*	*6.3*	*6.7*	*6.3*	**27.9**	*26.5*	*26.1*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.5**	**3.6**	*3.8*	*3.7*	*3.7*	*3.7*	*3.7*	*3.6*	**15.5**	*14.6*	*14.6*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**3.2**	**3.0**	*3.1*	*2.7*	*3.0*	*2.7*	*3.1*	*2.7*	**12.4**	*11.9*	*11.4*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**70.8**	*64.0*	*58.1*	*70.3*	*80.6*	*65.9*	*60.7*	**259.0**	*269.4*	*277.6*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.8**	*4.4*	*4.2*	*3.8*	*3.8*	*4.5*	*3.9*	**15.7**	*16.3*	*16.1*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**44.3**	*43.4*	*29.4*	*35.5*	*56.2*	*54.8*	*38.5*	**113.9**	*145.9*	*184.9*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**121.7**	*88.4*	*118.6*	*127.0*	*127.9*	*91.8*	*123.2*	**378.6**	*448.3*	*470.0*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.7**	**6.8**	*7.1*	*6.8*	*6.7*	*6.8*	*7.1*	*6.8*	**27.6**	*27.4*	*27.4*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**5.9**	**6.1**	*6.4*	*6.1*	*5.9*	*6.1*	*6.4*	*6.1*	**24.8**	*24.5*	*24.5*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	*0.3*	*0.3*	*0.2*	*0.3*	*0.3*	*0.3*	**0.8**	*1.0*	*1.1*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**12.0**	**17.7**	*17.9*	*12.5*	*14.4*	*21.8*	*22.2*	*15.5*	**49.0**	*60.0*	*73.9*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.6**	**11.2**	*11.4*	*8.0*	*9.2*	*14.2*	*14.5*	*10.2*	**30.1**	*38.1*	*48.2*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	**5.2**	*5.3*	*3.7*	*4.2*	*6.2*	*6.3*	*4.4*	**15.1**	*17.7*	*21.1*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	**1.2**	*1.2*	*0.9*	*0.9*	*1.3*	*1.4*	*0.9*	**3.8**	*4.1*	*4.6*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,728**	**19,682**	*19,708*	*19,766*	*19,856*	*19,969*	*20,090*	*20,199*	**19,427**	*19,721*	*20,029*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,818**	**13,881**	**13,917**	*13,967*	*14,030*	*14,118*	*14,219*	*14,313*	*14,402*	**13,625**	*13,949*	*14,263*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,609**	**3,674**	**3,638**	*3,598*	*3,579*	*3,585*	*3,601*	*3,618*	*3,640*	**3,588**	*3,622*	*3,611*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**249**	**238**	**118**	*103*	*92*	*103*	*103*	*108*	*99*	**-20**	*138*	*103*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,359**	**3,334**	**3,318**	*3,315*	*3,327*	*3,354*	*3,363*	*3,375*	*3,388*	**3,376**	*3,324*	*3,370*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,391**	**2,361**	**2,461**	*2,493*	*2,523*	*2,544*	*2,568*	*2,600*	*2,636*	**2,308**	*2,460*	*2,587*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,741**	**3,906**	**3,936**	*3,947*	*3,965*	*4,034*	*4,075*	*4,114*	*4,162*	**3,592**	*3,938*	*4,096*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,152**	**15,134**	*15,171*	*15,303*	*15,411*	*15,640*	*15,865*	*16,069*	**16,032**	*15,190*	*15,746*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	**151.6**	*152.8*	*153.3*	*153.6*	*153.9*	*154.1*	*154.2*	**146.1**	*152.0*	*153.9*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	**3.6**	*3.5*	*3.6*	*3.8*	*3.9*	*4.0*	*4.1*	**5.4**	*3.6*	*4.0*
Housing Starts															
(millions - SAAR)	**1.58**	**1.59**	**1.57**	**1.68**	**1.72**	**1.66**	*1.46*	*1.46*	*1.39*	*1.40*	*1.40*	*1.40*	**1.61**	*1.58*	*1.40*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.1**	**99.7**	**100.5**	**101.7**	**102.9**	**104.2**	*104.6*	*104.6*	*104.8*	*104.9*	*105.3*	*105.4*	**100.0**	*104.1*	*105.1*
Manufacturing	**96.9**	**98.3**	**99.2**	**100.6**	**101.6**	**102.6**	*102.4*	*102.1*	*102.0*	*102.4*	*103.0*	*103.3*	**98.8**	*102.2*	*102.7*
Food	**104.5**	**103.3**	**102.0**	**103.5**	**105.5**	**105.1**	*104.7*	*105.1*	*105.2*	*105.6*	*106.0*	*106.5*	**103.3**	*105.1*	*105.8*
Paper	**95.0**	**96.0**	**96.0**	**95.2**	**96.4**	**97.3**	*96.4*	*96.3*	*96.2*	*96.3*	*97.0*	*97.3*	**95.5**	*96.6*	*96.7*
Petroleum and Coal Products	**86.0**	**92.3**	**93.5**	**96.0**	**94.2**	**94.5**	*94.2*	*95.0*	*95.2*	*95.3*	*95.5*	*95.5*	**92.0**	*94.5*	*95.4*
Chemicals	**94.3**	**101.1**	**101.2**	**102.6**	**102.4**	**103.4**	*103.8*	*103.4*	*103.6*	*104.1*	*105.3*	*105.6*	**99.8**	*103.2*	*104.6*
Nonmetallic Mineral Products	**97.8**	**96.0**	**97.3**	**99.1**	**102.8**	**103.0**	*103.3*	*102.2*	*101.8*	*101.7*	*102.2*	*102.9*	**97.5**	*102.8*	*102.2*
Primary Metals	**93.0**	**96.6**	**98.3**	**98.7**	**95.7**	**97.6**	*96.4*	*96.5*	*98.0*	*99.4*	*102.0*	*102.2*	**96.6**	*96.6*	*100.4*
Coal-weighted Manufacturing (a)	**91.1**	**94.9**	**95.5**	**96.6**	**96.2**	**97.0**	*96.5*	*96.3*	*96.8*	*97.4*	*98.7*	*98.9*	**94.5**	*96.5*	*97.9*
Distillate-weighted Manufacturing (a)	**100.9**	**102.2**	**102.7**	**104.2**	**105.7**	**106.2**	*106.0*	*105.5*	*105.5*	*105.8*	*106.5*	*106.9*	**102.5**	*105.8*	*106.2*
Electricity-weighted Manufacturing (a)	**93.1**	**96.4**	**96.5**	**97.6**	**98.0**	**98.9**	*98.7*	*98.4*	*98.8*	*99.5*	*100.7*	*100.9*	**95.9**	*98.5*	*100.0*
Natural Gas-weighted Manufacturing (a)	**88.8**	**94.6**	**94.1**	**95.2**	**95.3**	**95.8**	*95.6*	*95.3*	*95.5*	*96.1*	*97.3*	*97.4*	**93.1**	*95.5*	*96.6*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	**2.92**	*2.96*	*2.99*	*3.01*	*3.02*	*3.04*	*3.06*	**2.71**	*2.93*	*3.03*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.53**	**2.74**	*2.67*	*2.65*	*2.59*	*2.52*	*2.51*	*2.51*	**2.27**	*2.65*	*2.53*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	**4.21**	*3.30*	*2.99*	*2.94*	*2.91*	*2.87*	*2.81*	**2.41**	*3.42*	*2.88*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**126.4**	*127.8*	*129.3*	*130.3*	*131.1*	*131.9*	*132.8*	**118.5**	*126.8*	*131.5*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,125**	**9,368**	**8,934**	**8,373**	**9,160**	*9,258*	*9,114*	*8,604*	*9,445*	*9,656*	*9,251*	**8,843**	*8,979*	*9,242*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**597**	**658**	**667**	**656**	**691**	*728*	*692*	*698*	*724*	*724*	*705*	**615**	*692*	*713*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**356**	**417**	*401*	*371*	*361*	*406*	*410*	*386*	**334**	*386*	*391*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	**327.1**	*303.8*	*303.4*	*267.9*	*302.9*	*277.0*	*279.6*	**217.5**	*290.0*	*281.8*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	*0.261*	*0.286*	*0.298*	*0.298*	*0.319*	*0.337*	**0.258**	*0.263*	*0.313*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**570**	**578**	**562**	**559**	*566*	*579*	*560*	*572*	*580*	*582*	**2,224**	*2,265*	*2,293*
Natural Gas	**485**	**353**	**373**	**426**	**508**	**368**	*386*	*440*	*491*	*352*	*378*	*448*	**1,637**	*1,704*	*1,669*
Coal	**256**	**229**	**307**	**209**	**245**	**224**	*287*	*218*	*222*	*198*	*268*	*201*	**1,001**	*973*	*890*
Total Energy (c)	**1,260**	**1,144**	**1,252**	**1,216**	**1,318**	**1,154**	*1,241*	*1,239*	*1,275*	*1,125*	*1,229*	*1,234*	**4,872**	*4,953*	*4,863*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,002**	**1,008**	**1,027**	**1,026**	**1,023**	*1,023*	*1,025*	*1,028*	*1,033*	*1,038*	*1,042*	**1,004**	*1,024*	*1,035*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,814**	**2,802**	**2,793**	*2,796*	*2,806*	*2,817*	*2,830*	*2,844*	*2,859*	**2,766**	*2,800*	*2,838*
E. N. Central	**2,486**	**2,515**	**2,520**	**2,554**	**2,545**	**2,534**	*2,532*	*2,539*	*2,549*	*2,562*	*2,578*	*2,591*	**2,519**	*2,537*	*2,570*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,221**	**1,215**	**1,211**	*1,212*	*1,215*	*1,221*	*1,228*	*1,235*	*1,242*	**1,212**	*1,213*	*1,231*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,518**	**3,507**	**3,500**	*3,506*	*3,515*	*3,532*	*3,552*	*3,575*	*3,594*	**3,450**	*3,507*	*3,563*
E. S. Central	**836**	**843**	**847**	**862**	**858**	**854**	*856*	*858*	*861*	*866*	*871*	*875*	**847**	*857*	*869*
W. S. Central	**2,321**	**2,362**	**2,378**	**2,432**	**2,417**	**2,421**	*2,434*	*2,444*	*2,459*	*2,474*	*2,490*	*2,506*	**2,373**	*2,429*	*2,482*
Mountain	**1,274**	**1,297**	**1,303**	**1,324**	**1,316**	**1,315**	*1,318*	*1,322*	*1,331*	*1,341*	*1,351*	*1,361*	**1,299**	*1,318*	*1,346*
Pacific	**3,693**	**3,774**	**3,800**	**3,884**	**3,871**	**3,860**	*3,862*	*3,871*	*3,887*	*3,910*	*3,934*	*3,955*	**3,788**	*3,866*	*3,922*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.2**	**96.7**	**97.4**	**98.4**	**99.3**	**100.2**	*99.6*	*99.2*	*99.2*	*99.6*	*100.2*	*100.4*	**96.9**	*99.6*	*99.9*
Middle Atlantic	**93.0**	**94.2**	**94.7**	**95.8**	**96.6**	**97.4**	*97.4*	*97.1*	*97.0*	*97.1*	*97.6*	*97.7*	**94.4**	*97.1*	*97.4*
E. N. Central	**95.4**	**95.9**	**96.6**	**98.3**	**98.9**	**99.5**	*99.1*	*98.7*	*98.7*	*99.1*	*99.7*	*99.9*	**96.5**	*99.0*	*99.3*
W. N. Central	**98.3**	**99.3**	**100.0**	**100.7**	**102.0**	**102.6**	*102.5*	*102.0*	*101.8*	*102.3*	*103.0*	*103.4*	**99.6**	*102.3*	*102.6*
S. Atlantic	**99.3**	**100.4**	**101.3**	**102.6**	**103.4**	**104.7**	*104.5*	*104.1*	*103.8*	*104.1*	*104.6*	*104.9*	**100.9**	*104.2*	*104.3*
E. S. Central	**97.7**	**98.6**	**99.2**	**100.5**	**100.8**	**101.4**	*101.3*	*101.0*	*100.8*	*101.2*	*101.9*	*102.1*	**99.0**	*101.1*	*101.5*
W. S. Central	**98.5**	**100.0**	**100.6**	**102.1**	**103.4**	**105.1**	*105.3*	*105.0*	*104.9*	*105.5*	*106.2*	*106.5*	**100.3**	*104.7*	*105.8*
Mountain	**106.5**	**108.5**	**109.4**	**111.1**	**112.6**	**114.0**	*113.7*	*113.3*	*113.1*	*113.5*	*114.2*	*114.6*	**108.9**	*113.4*	*113.9*
Pacific	**94.1**	**95.7**	**96.0**	**97.0**	**97.7**	**98.8**	*98.8*	*98.7*	*99.0*	*99.4*	*100.1*	*100.4*	**95.7**	*98.5*	*99.7*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**942**	**929**	**928**	**925**	*928*	*930*	*936*	*942*	*947*	*952*	**955**	*928*	*944*
Middle Atlantic	**2,616**	**2,449**	**2,437**	**2,395**	**2,382**	**2,378**	*2,384*	*2,394*	*2,411*	*2,426*	*2,439*	*2,452*	**2,474**	*2,385*	*2,432*
E. N. Central	**2,746**	**2,524**	**2,493**	**2,472**	**2,458**	**2,445**	*2,446*	*2,453*	*2,469*	*2,484*	*2,499*	*2,513*	**2,559**	*2,451*	*2,491*
W. N. Central	**1,275**	**1,194**	**1,175**	**1,163**	**1,160**	**1,163**	*1,167*	*1,171*	*1,177*	*1,182*	*1,188*	*1,194*	**1,202**	*1,165*	*1,185*
S. Atlantic	**3,723**	**3,443**	**3,428**	**3,437**	**3,417**	**3,418**	*3,426*	*3,440*	*3,462*	*3,486*	*3,512*	*3,534*	**3,508**	*3,425*	*3,499*
E. S. Central	**1,025**	**927**	**924**	**921**	**914**	**912**	*912*	*914*	*920*	*926*	*931*	*935*	**949**	*913*	*928*
W. S. Central	**2,237**	**2,076**	**2,069**	**2,077**	**2,063**	**2,069**	*2,078*	*2,088*	*2,104*	*2,119*	*2,134*	*2,149*	**2,115**	*2,074*	*2,126*
Mountain	**1,381**	**1,280**	**1,277**	**1,284**	**1,277**	**1,276**	*1,280*	*1,287*	*1,293*	*1,303*	*1,314*	*1,323*	**1,306**	*1,280*	*1,308*
Pacific	**3,269**	**3,086**	**3,085**	**3,037**	**3,019**	**3,023**	*3,026*	*3,089*	*3,053*	*3,073*	*3,092*	*3,107*	**3,119**	*3,039*	*3,081*
Households (Thousands)															
New England	**6,056**	**6,061**	**6,058**	**6,067**	**6,073**	**6,077**	*6,077*	*6,084*	*6,093*	*6,103*	*6,111*	*6,119*	**6,067**	*6,084*	*6,119*
Middle Atlantic	**16,415**	**16,405**	**16,390**	**16,407**	**16,417**	**16,425**	*16,425*	*16,442*	*16,469*	*16,495*	*16,519*	*16,540*	**16,407**	*16,442*	*16,540*
E. N. Central	**19,076**	**19,090**	**19,095**	**19,133**	**19,159**	**19,168**	*19,166*	*19,183*	*19,211*	*19,241*	*19,269*	*19,295*	**19,133**	*19,183*	*19,295*
W. N. Central	**8,715**	**8,729**	**8,736**	**8,760**	**8,778**	**8,795**	*8,807*	*8,822*	*8,841*	*8,862*	*8,881*	*8,899*	**8,760**	*8,822*	*8,899*
S. Atlantic	**26,280**	**26,358**	**26,403**	**26,521**	**26,620**	**26,709**	*26,777*	*26,860*	*26,956*	*27,049*	*27,137*	*27,225*	**26,521**	*26,860*	*27,225*
E. S. Central	**7,813**	**7,830**	**7,839**	**7,866**	**7,888**	**7,906**	*7,920*	*7,935*	*7,955*	*7,975*	*7,993*	*8,011*	**7,866**	*7,935*	*8,011*
W. S. Central	**15,331**	**15,379**	**15,414**	**15,487**	**15,551**	**15,608**	*15,655*	*15,706*	*15,764*	*15,821*	*15,877*	*15,931*	**15,487**	*15,706*	*15,931*
Mountain	**9,611**	**9,653**	**9,688**	**9,741**	**9,786**	**9,825**	*9,859*	*9,895*	*9,937*	*9,982*	*10,022*	*10,063*	**9,741**	*9,895*	*10,063*
Pacific	**19,000**	**18,992**	**18,979**	**19,011**	**19,040**	**19,059**	*19,072*	*19,091*	*19,120*	*19,150*	*19,176*	*19,203*	**19,011**	*19,091*	*19,203*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	**7.4**	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.2**	*7.4*	*7.5*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	**19.6**	*19.7*	*19.8*	*19.9*	*19.9*	*19.9*	*19.9*	**18.8**	*19.6*	*19.9*
E. N. Central	**21.1**	**21.2**	**21.5**	**21.6**	**21.8**	**21.9**	*22.1*	*22.1*	*22.2*	*22.2*	*22.2*	*22.2*	**21.4**	*22.0*	*22.2*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	**10.7**	*10.8*	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	**10.5**	*10.7*	*10.9*
S. Atlantic	**28.2**	**28.5**	**28.9**	**29.2**	**29.5**	**29.8**	*30.0*	*30.1*	*30.2*	*30.2*	*30.3*	*30.3*	**28.7**	*29.8*	*30.2*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	**8.4**	*8.5*	*8.5*	*8.5*	*8.5*	*8.5*	*8.5*	**8.2**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.8**	**18.1**	**18.3**	*18.4*	*18.5*	*18.5*	*18.6*	*18.6*	*18.6*	**17.5**	*18.3*	*18.6*
Mountain	**10.8**	**11.0**	**11.2**	**11.3**	**11.4**	**11.5**	*11.6*	*11.6*	*11.6*	*11.7*	*11.7*	*11.7*	**11.1**	*11.5*	*11.7*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.6**	**23.9**	*24.1*	*24.2*	*24.2*	*24.3*	*24.3*	*24.3*	**22.8**	*23.9*	*24.3*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,013**	**778**	**85**	**1,922**	**3,139**	**785**	*118*	*2,132*	*3,080*	*848*	*136*	*2,126*	**5,798**	*6,174*	*6,190*
Middle Atlantic	**2,822**	**667**	**56**	**1,725**	**2,938**	**669**	*82*	*1,962*	*2,857*	*681*	*85*	*1,962*	**5,271**	*5,650*	*5,584*
E. N. Central	**3,085**	**708**	**69**	**1,887**	**3,270**	**754**	*117*	*2,245*	*3,149*	*742*	*126*	*2,251*	**5,749**	*6,385*	*6,268*
W. N. Central	**3,227**	**719**	**88**	**2,027**	**3,485**	**793**	*135*	*2,443*	*3,249*	*716*	*169*	*2,473*	**6,061**	*6,856*	*6,606*
South Atlantic	**1,346**	**212**	**10**	**798**	**1,341**	**189**	*13*	*951*	*1,382*	*195*	*14*	*957*	**2,366**	*2,493*	*2,548*
E. S. Central	**1,788**	**314**	**19**	**1,036**	**1,821**	**247**	*18*	*1,297*	*1,812*	*263*	*22*	*1,318*	**3,157**	*3,384*	*3,415*
W. S. Central	**1,295**	**121**	**1**	**495**	**1,344**	**56**	*4*	*783*	*1,165*	*89*	*5*	*804*	**1,913**	*2,187*	*2,063*
Mountain	**2,309**	**664**	**110**	**1,634**	**2,296**	**738**	*121*	*1,834*	*2,229*	*707*	*156*	*1,869*	**4,717**	*4,990*	*4,961*
Pacific	**1,562**	**482**	**77**	**1,206**	**1,399**	**609**	*76*	*1,237*	*1,557*	*576*	*95*	*1,227*	**3,326**	*3,321*	*3,455*
U.S. Average	**2,107**	**472**	**51**	**1,306**	**2,148**	**492**	*67*	*1,524*	*2,106*	*487*	*78*	*1,532*	**3,936**	*4,231*	*4,202*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	**852**	*107*	*2,104*	*3,151*	*858*	*106*	*2,109*	**6,195**	*6,164*	*6,225*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	**684**	*71*	*1,908*	*2,944*	*692*	*71*	*1,911*	**5,572**	*5,550*	*5,618*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	**727**	*97*	*2,162*	*3,215*	*742*	*95*	*2,170*	**6,161**	*6,119*	*6,222*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	**726**	*125*	*2,357*	*3,318*	*755*	*123*	*2,366*	**6,477**	*6,427*	*6,561*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	**187**	*11*	*905*	*1,401*	*190*	*10*	*901*	**2,503**	*2,483*	*2,502*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	**243**	*15*	*1,228*	*1,809*	*250*	*14*	*1,226*	**3,267**	*3,248*	*3,299*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	**93**	*3*	*754*	*1,189*	*95*	*3*	*761*	**2,015**	*1,994*	*2,048*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	**685**	*132*	*1,817*	*2,201*	*701*	*133*	*1,823*	**4,877**	*4,816*	*4,857*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,455**	**522**	*79*	*1,136*	*1,439*	*523*	*78*	*1,143*	**3,242**	*3,192*	*3,183*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,096**	**479**	*62*	*1,473*	*2,133*	*486*	*62*	*1,475*	**4,147**	*4,110*	*4,155*
Cooling Degree Days															
New England	**0**	**144**	**457**	**6**	**0**	**80**	*533*	*2*	*0*	*87*	*413*	*2*	**607**	*615*	*502*
Middle Atlantic	**0**	**183**	**628**	**23**	**0**	**154**	*654*	*5*	*0*	*156*	*541*	*5*	**834**	*813*	*702*
E. N. Central	**2**	**250**	**629**	**30**	**1**	**256**	*534*	*7*	*0*	*209*	*527*	*6*	**911**	*798*	*743*
W. N. Central	**8**	**311**	**746**	**23**	**3**	**304**	*698*	*10*	*3*	*255*	*647*	*9*	**1,089**	*1,015*	*913*
South Atlantic	**153**	**615**	**1,171**	**285**	**156**	**713**	*1,181*	*234*	*125*	*643*	*1,147*	*232*	**2,224**	*2,284*	*2,147*
E. S. Central	**40**	**435**	**1,017**	**127**	**28**	**602**	*1,082*	*67*	*27*	*488*	*1,016*	*60*	**1,621**	*1,778*	*1,593*
W. S. Central	**90**	**768**	**1,471**	**315**	**56**	**1,095**	*1,612*	*207*	*88*	*836*	*1,472*	*195*	**2,644**	*2,971*	*2,592*
Mountain	**10**	**528**	**966**	**69**	**17**	**471**	*947*	*74*	*17*	*413*	*907*	*71*	**1,573**	*1,509*	*1,409*
Pacific	**24**	**255**	**715**	**59**	**31**	**217**	*668*	*62*	*25*	*169*	*577*	*62*	**1,053**	*978*	*832*
U.S. Average	**50**	**411**	**904**	**128**	**47**	**466**	*910*	*95*	*43*	*392*	*842*	*93*	**1,493**	*1,518*	*1,370*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	**87**	*472*	*2*	*0*	*88*	*476*	*2*	**555**	*561*	*566*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	**162**	*608*	*8*	*0*	*160*	*611*	*8*	**779**	*779*	*779*
E. N. Central	**3**	**234**	**572**	**7**	**3**	**238**	*571*	*9*	*1*	*234*	*559*	*10*	**816**	*821*	*804*
W. N. Central	**7**	**294**	**686**	**10**	**7**	**299**	*681*	*11*	*4*	*292*	*670*	*12*	**997**	*999*	*978*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	**668**	*1,188*	*269*	*144*	*675*	*1,191*	*273*	**2,276**	*2,272*	*2,284*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	**518**	*1,057*	*84*	*36*	*521*	*1,061*	*87*	**1,713**	*1,703*	*1,704*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	**853**	*1,536*	*224*	*101*	*861*	*1,543*	*226*	**2,772**	*2,726*	*2,731*
Mountain	**24**	**441**	**949**	**85**	**23**	**459**	*946*	*84*	*23*	*456*	*944*	*83*	**1,499**	*1,511*	*1,506*
Pacific	**31**	**193**	**648**	**86**	**31**	**208**	*666*	*85*	*32*	*214*	*667*	*84*	**959**	*991*	*997*
U.S. Average	**52**	**413**	**892**	**104**	**53**	**412**	*889*	*109*	*50*	*415*	*890*	*110*	**1,461**	*1,463*	*1,466*

- = no data available

Notes: EIA completed modeling and analysis for this report on September 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics & Analysis
U.S. Energy Information Administration

October 2022

Short-Term Energy Outlook

Forecast highlights

Winter Fuels Outlook

- In our *Winter Fuels Outlook*, we forecast that average household expenditures for home heating fuels will increase this winter because of both higher expected fuel costs and higher energy consumption due to colder temperatures. Compared with last winter, in nominal terms, we forecast expenditures for homes that heat with natural gas will rise by 28%, heating oil by 27%, electricity by 10%, and propane 5% from October–March.

Global liquid fuels

- The Brent crude oil spot price in our forecast averages $93 per barrel (b) in the fourth quarter of 2022 (4Q22) and $95/b in 2023. Potential petroleum supply disruptions and slower-than-expected crude oil production growth could lead to higher oil prices, while the possibility of slower-than-forecast economic growth may contribute to lower prices.
- OPEC+ announced a production cut of 2 million barrels per day (b/d) on October 5. OPEC crude oil production in our forecast falls from an average of 29.6 million barrels per day (b/d) in September to an average of 28.6 million b/d over 4Q22 and 1Q23.
- U.S. crude oil production in our forecast averages 11.7 million b/d in 2022 and 12.4 million b/d in 2023, which would surpass the record high set in 2019.
- We forecast that global consumption of liquid fuels will rise by an average of 2.1 million b/d for all of 2022 and by an average of 1.5 million b/d in 2023.
- U.S. retail gasoline prices in our forecast average $3.80 per gallon (gal) in 4Q22 and $3.57/gal in 2023. Retail diesel prices average $4.86/gal in 4Q22 and $4.29/gal in 2023.
- We expect U.S. gasoline consumption in 2022 to average 8.8 million b/d, down 40,000 b/d from 2021, and we expect it to stay near that level in 2023, with rising fuel efficiency offsetting price- and economy-driven increases in transportation demand.

Natural gas

- We expect the Henry Hub natural gas spot price to average about $7.40 per million British thermal units (MMBtu) in 4Q22 and then fall below $6.00/MMBtu in 2023 as U.S. natural gas production rises.

- We forecast that U.S. natural gas inventories will end the injection season (April–October) at nearly 3.5 Tcf, which would be 6% below the five-year (2017–2021) average.
- U.S. consumption of natural gas will average 87.9 billion cubic feet per day (Bcf/d) in 2022, up 3.9 Bcf/d from 2021, reflecting more consumption across almost all sectors. Consumption falls by 2.6 Bcf/d in the 2023 forecast because of lower consumption in the electric power and industrial sectors.
- In 3Q22, U.S. dry natural gas production averaged 98.5 Bcf/d, up from 95.1 in 1Q22. We forecast natural gas production to average 99.1 Bcf/d in 4Q22 and 99.6 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

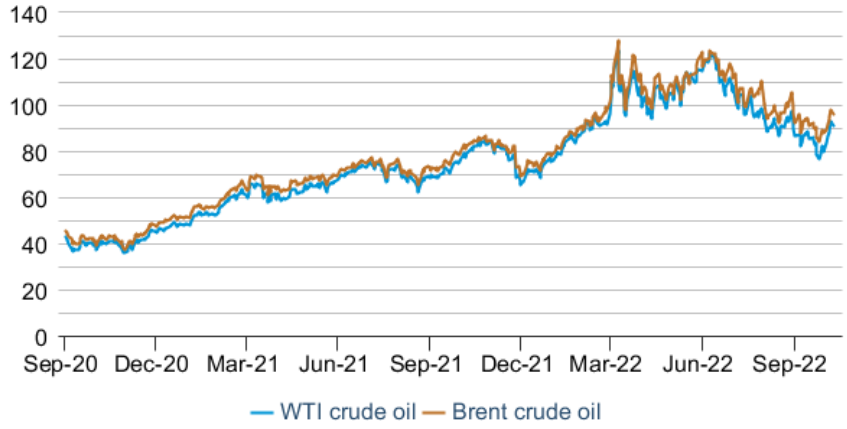
- We expect U.S. sales of electricity to ultimate customers to rise by 2.7% in 2022, mostly because of more economic activity but also because of slightly hotter summer weather than last year. We forecast U.S. sales of electricity to fall by 0.9% in 2023.
- Increases in U.S. electricity generation in our forecast come almost entirely from solar and wind. We expect renewable sources will provide 22% of U.S. generation in 2022 and 24% in 2023, up from 20% in 2021.
- Natural gas fuels 38% of U.S. electricity generation in 2022, up from 37% in 2021, but we forecast it to fall back to 36% in 2023. Coal-fired electricity generation falls from 23% of the U.S. total last year to 20% in 2022 and 19% in 2023. Growing generation from renewable sources limits growth in natural gas-fired generation, and coal's generation share declines because of the expected retirement of some coal-fired capacity.
- We forecast that wholesale electricity prices at major power trading hubs will be about 20-60% higher on average this winter. The highest wholesale electricity prices are likely to be in New England because of possible natural gas pipeline constraints, reduced fuel inventories for power generation, and uncertainty regarding LNG shipments given the tight global supply conditions.
- We forecast the U.S. residential price of electricity will average 14.9 cents per kilowatthour in 2022, up 8% from 2021. Higher retail electricity prices largely reflect an increase in wholesale power prices, which are driven by higher natural gas prices.
- U.S. coal production in the forecast increases by 20 million short tons (MMst) in 2022 to total 598 MMst for the year. We expect coal production will fall to 581 MMst in 2023.
- We expect energy-related carbon dioxide emissions in the United States to increase by 1.5% in 2022 and then to decrease 2.3% in 2023 to just under 2021 levels.

Petroleum and Natural Gas Markets Review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $94.42 per barrel (b) on October 6, an increase of $2.06/b from the September 1 price of $92.36/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $1.84/b during the same period, settling at $88.45/b on October 6 **(Figure 1)**. These price increases are mostly attributable to expectations around crude oil production cuts by OPEC+ producers, which were announced at 2 million b/d on October 5. From September 30 to October 6, the front-month futures price for Brent crude oil increased by $6.46/b and the front-month futures price for WTI crude oil increased by $8.96/b.

Figure 1. Crude oil front-month futures prices



Data source: CME Group, Intercontinental Exchange, and Bloomberg L.P.
Note: WTI=West Texas Intermediate

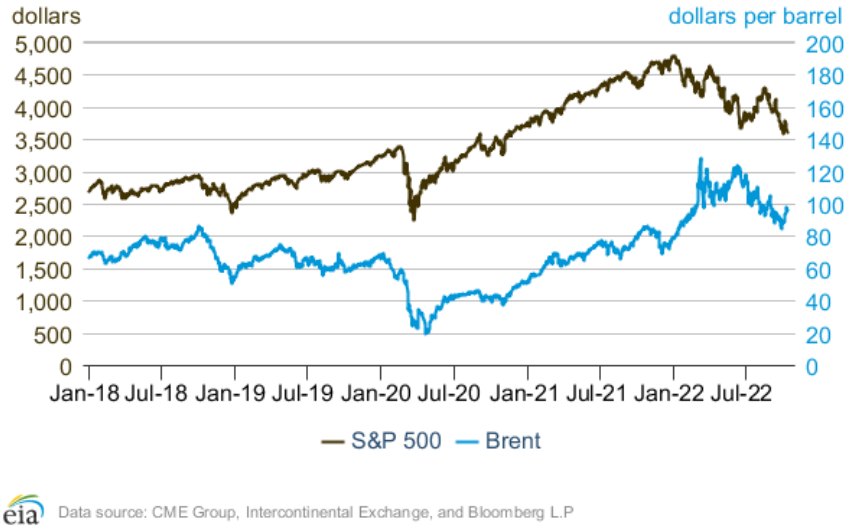
Prior to the OPEC+ announcement and the speculation of cuts in the days immediately preceding the announcement, crude oil prices were generally decreasing due to increasing concerns around weakening global economic conditions. In addition, the 180 million barrel Strategic Petroleum Reserve release conducted in recent months may also have relieved supply concerns. The front-month futures price for Brent crude oil averaged $7/b lower in September than in August. September marked the third consecutive month in which the Brent crude oil futures price decreased, bringing the total decrease to $27/b in those three months. These decreases in crude oil prices have not affected all countries evenly, however, because Brent crude oil is priced in U.S. dollars. Investors have increasingly purchased U.S. financial assets as a result of the Federal Reserve raising interest rates to curb inflation and because investors seek out U.S. currency as a safe-haven asset during uncertain economic conditions. This trend has led to the U.S. dollar increasing to its highest value since 2002. For countries using other currencies, including many of the globe's emerging markets, the strengthening U.S. dollar makes it more expensive to convert local currency into the U.S. dollars necessary to import crude oil. A

strengthening dollar also creates additional macroeconomic uncertainty by raising debt servicing costs for countries holding U.S. dollar-denominated debt.

With macroeconomic uncertainty rising, Oxford Economics lowered its forecast for global GDP growth to 2.2% for 2023, down from 2.7% last month. We use Oxford Economics' forecast as an input into our global oil demand model. This reduction in forecast GDP led us to lower our forecast for global petroleum demand in 2023 by 0.5 million b/d compared with the September *Short-Term Energy Outlook*.

Brent price and S&P 500: In the past few years, the price of Brent crude oil has often, but not always, moved in the same direction as the value of the S&P 500, an equity index of widely traded U.S. public companies. For example, from the second half of 2020 (2H20) through 2021, the Brent crude oil price and the value of the S&P 500 both increased as economic growth was reflected in the rising profitability of companies as well as in rising demand for oil **(Figure 2)**.

Figure 2. S&P 500 and Brent crude oil prices



eia Data source: CME Group, Intercontinental Exchange, and Bloomberg L.P

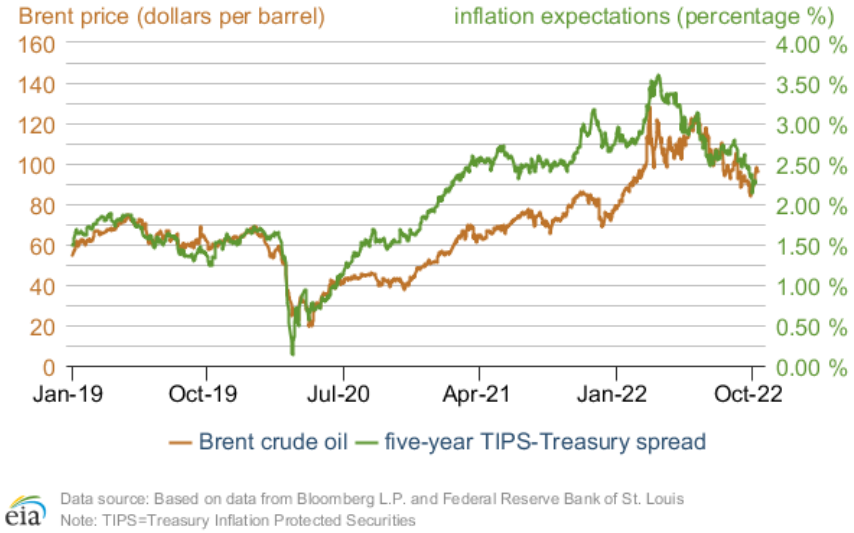
Oil prices and equities began moving in opposite directions in early 2022, when the price of crude oil continued increasing as Russia's full-scale invasion of Ukraine intensified global petroleum supply concerns. These price increases contributed to higher inflation and input costs for companies, leading to a decline in the S&P 500. As the Federal Reserve has increased interest rates to curb inflation, borrowing costs for companies have grown and expectations for economic growth have declined, putting further downward pressure on the S&P 500. However, from July to September 2022, the price of Brent crude oil resumed a positive relationship with equity prices, with both declining as concerns about global economic conditions also reduced expectations of petroleum demand growth, accompanied by pressure from the strong US dollar (discussed above).

Brent price and inflation expectations: Inflation expectations also often move together with crude oil prices. One measure of inflation expectations is the percentage difference between

yields for five-year Treasury Inflation-Protected Securities (TIPS) and U.S. treasury bonds. This spread indicates expectations for what the inflation rate will be in five years. Inflation expectations peaked in March at 3.6% **(Figure 3)**, decreasing in recent months in part due to:

- Inflation, as measured by the U.S. Consumer Price Index, has flattened and slightly decreased recently, in part because energy-sector inflation has slowed down as oil prices have dropped; and
- Expectations for future economic activity, which have also fallen.

Figure 3. Crude oil and inflation expectations

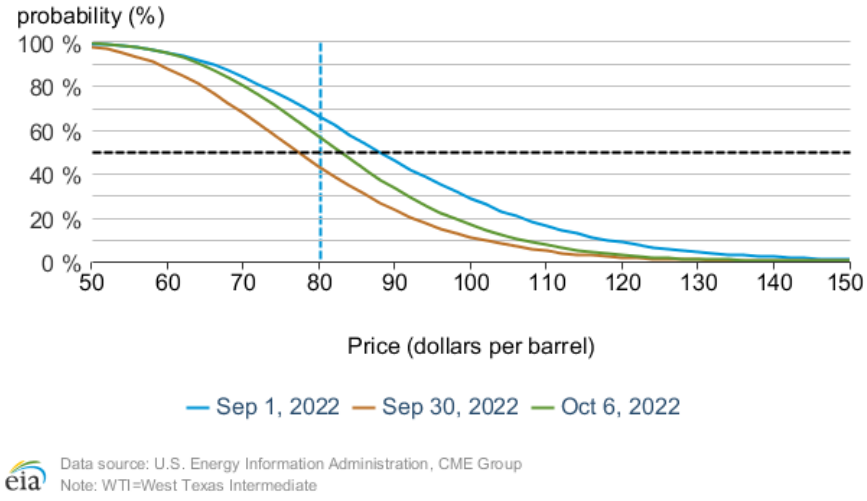


eia Data source: Based on data from Bloomberg L.P. and Federal Reserve Bank of St. Louis
Note: TIPS=Treasury Inflation Protected Securities

Although the price of Brent crude oil continued to increase from April to June when inflation expectations were decreasing, persistent concerns about economic conditions and petroleum demand have contributed to crude oil prices decreasing with inflation expectations from July through September.

Market-derived probabilities: Crude oil prices have been subject to high levels of uncertainty due to geopolitical factors, uncertain OPEC+ production, and concerns that a global recession could reduce crude oil demand. Market-derived price probabilities that are based on futures and options prices reflect this price uncertainty. They also reflect the downward price movements in September and the upward price movements in October. As of September 30, the probability of the December 2022 WTI contract expiring at more than $80/b was 43%, a decrease from 66% on September 1 **(Figure 4)**. The probability of the December 2022 WTI contract expiring above $90/b was 23% on September 30, and the probability of it expiring above $100/b was 11%. Conversely, there was also a 32% chance of the December WTI crude oil contract expiring at or below $70/b as of September 30. But in October, when crude oil prices began to rise in anticipation of OPEC production cuts, higher future crude oil prices became more likely. As of October 6, the probability of WTI expiring above $80/b was 57% and the probability of it expiring above $90/b was 33%, both increases from September 30 but decreases from September 1.

Figure 4. Probability of June 2022 WTI futures contracts expiring above different price levels



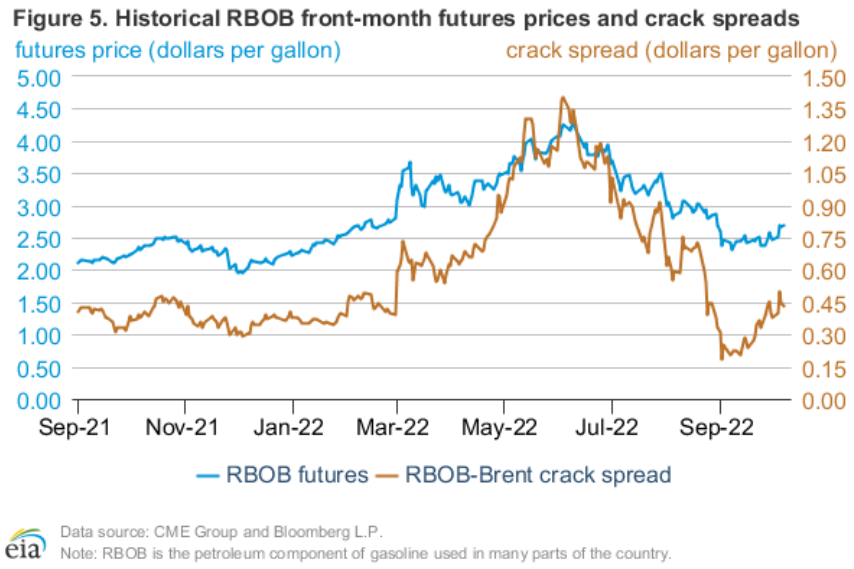
Data source: U.S. Energy Information Administration, CME Group
Note: WTI=West Texas Intermediate

We forecast the WTI crude oil price to be $85/b in December and $87/b in January. We expect the WTI crude oil price to increase to an average of $89/b in 2023, and we expect the Brent crude oil price to be $6/b higher than the WTI price throughout 2023.

We forecast oil prices to generally remain near current levels in 2023 with Brent averaging $95/b. We lowered our price forecast for 2023 by $2/b compared with last month's forecast, which largely reflected a 0.5 million b/d reduction in our forecast for global oil consumption in response to a lower forecast for global GDP from Oxford Economics. Lower oil consumption resulted in us lowering our price forecast in early 2023. We also reduced our forecast for global oil production by 0.6 million b/d in 2023, with the largest downward revision for next year in 4Q23. As a result of lower production at the end of next year, we forecast Brent prices will end 2023 higher than previously expected, despite a lower crude oil price forecast on average for next year. Our forecast had already included a reduction in OPEC+ crude oil production that was largely consistent with the cuts the group announced on October 5. Accounting for these changes, global oil markets are relatively balanced in our 2023 forecast. The possibility of petroleum supply disruptions and slower-than-expected crude oil production growth continues to create the potential for higher oil prices, while the possibility of slower-than-forecast economic growth creates the potential for lower prices.

Petroleum products

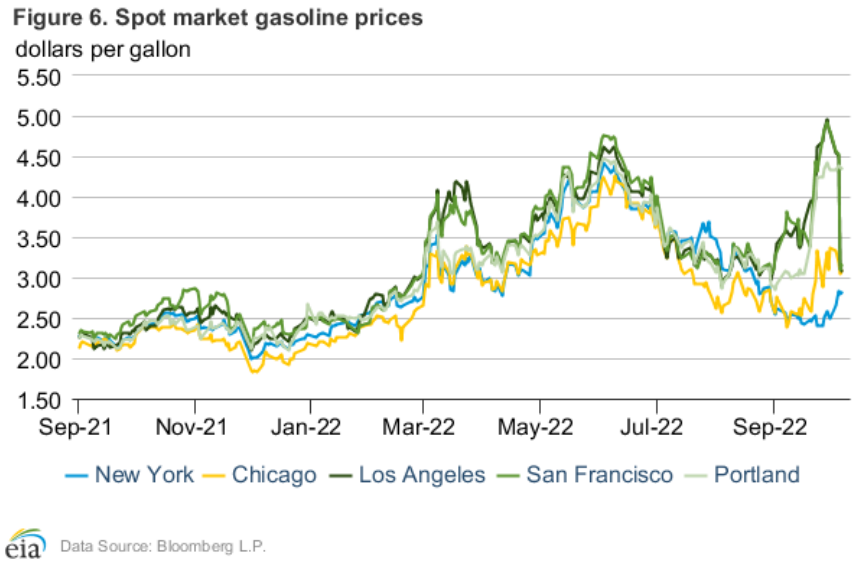
Gasoline prices: The front-month futures price of RBOB (reformulated blendstock for oxygenate blending, the petroleum component of gasoline used in many parts of the country) settled at $2.68 per gallon (gal) on October 6, up 30 cents/gal from September 1 **(Figure 5)**. The RBOB-Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at 43 cents/gal on October 6, up 25 cents/gal since September 1.



RBOB prices started September at their lowest level since January after the RBOB front-month contract rolled over to October delivery, which reflects winter grade gasoline that is cheaper for refiners to produce. Through the end of September, RBOB prices increased by more than crude oil prices as higher gasoline export levels offset lower-than-average domestic gasoline consumption amid low inventory levels. We estimate U.S. gasoline consumption averaged 8.8 million barrels a day (b/d) in September, which is 2% (0.2 million b/d) lower than the five-year (2017–2021) average for that month. U.S. gasoline exports for the four weeks ending September 30 averaged 1.0 million b/d according to EIA's *Weekly Petroleum Status Report* (WPSR). If confirmed in monthly data, this level would be 32% (240,000 b/d) higher than the five-year average export volume for September. We estimate gasoline inventories declined by 3% (7.2 million barrels) to 208 million barrels in September, which is 10% below the five-year average and the lowest end-of-September level since 2012.

Declining crude oil prices contributed to the RBOB-Brent crack spread increasing in September after reaching its lowest level since February 2021 on September 1. The average RBOB-Brent crack spread in September was 30 cents/gal, 29 cents/gal lower than in August but still 7 cents/gal higher than the five-year average for September. From September 30 to October 6, RBOB prices rose by 8%, and Brent crude oil prices increased by 7% over the same period.

Spot market gasoline prices: Although West Coast spot market prices for gasoline are typically priced higher than in other parts of the country, West Coast premiums in late September increased to more than $2/gal on average over New York RBOB prices. In September, spot gasoline prices in Los Angeles, San Francisco, and Portland increased by at least 50% while prices in New York decreased by 4% over the same time period **(Figure 6)**.

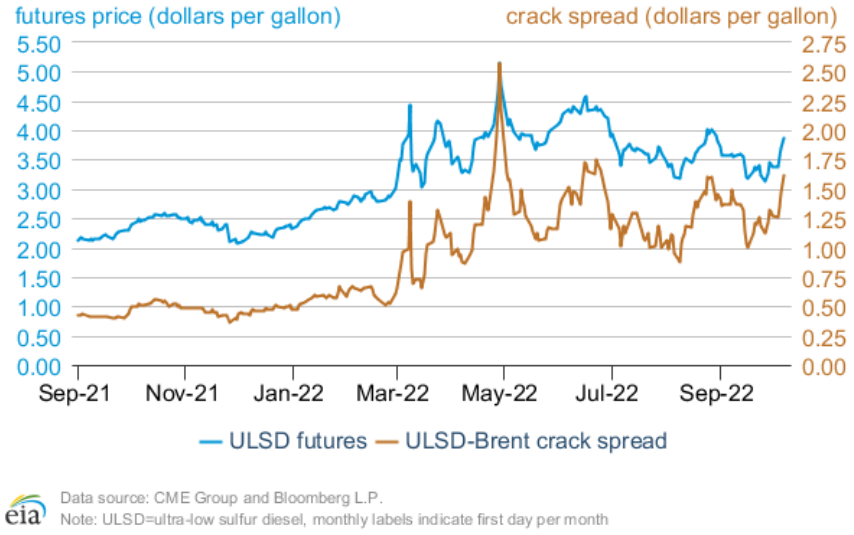


Multiple refinery outages for planned and unplanned maintenance on the West Coast, amid West Coast gasoline inventories at their lowest level since May 2012, contributed to the price increase along with lower imports. Gasoline imports to the West Coast, which have historically increased supplies during past instances of market tightness, did not materialize in a substantial way through the end of September. *WPSR* data show West Coast gasoline imports averaged 30,000 b/d for the four weeks ending September 30, after unusually low import levels in the second half of July and all of August. This lack of imports contributed to an increase in West Coast retail gasoline prices, which rose 17% (84 cents/gal) from September 19 to October 3. The California Air Resources Board issued a notice on September 30 to allow the early sale of winter-blend gasoline to help reduce high prices. From October 4 to October 6, West Coast premiums over New York RBOB declined by 92 cents/gal on average as some refinery capacity came back online in California and expectations rose for an increase in short-term imports.

In the Midwest, a similar situation is developing as unplanned outages at two refineries led to an increase in the Chicago spot gasoline price by 30% in September. Subsequently, Midwest retail gasoline prices increased 6% (20 cents/gal) from September 19 to October 3.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $3.86/gal on October 6, a 30 cents/gal increase from September 1 **(Figure 7)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 25 cents/gal during the same period and settled at $1.62/gal on October 6.

Figure 7. Historical ULSD front-month futures prices and crack spreads



Data source: CME Group and Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel, monthly labels indicate first day per month

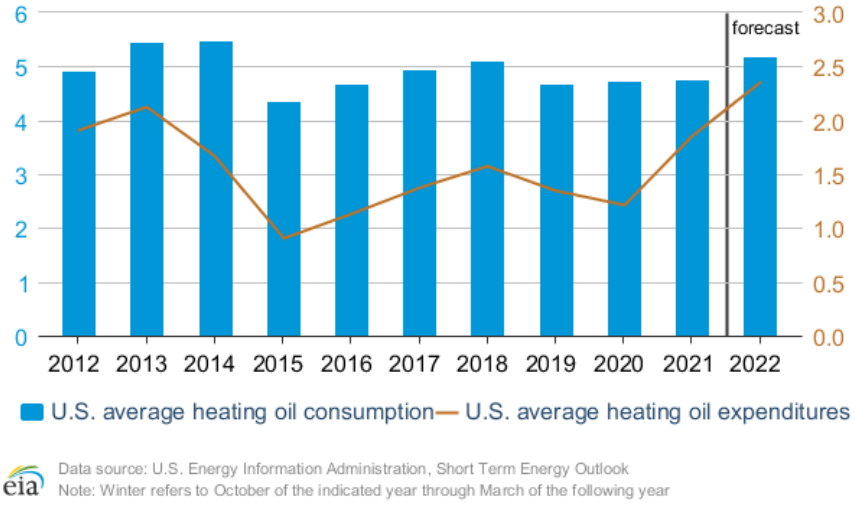
ULSD prices and crack spreads both decreased in September on a monthly average basis in response to lower estimated demand in the United States and broader expectations of wavering economic activity. In addition to lower crude oil prices in September, we estimate monthly average distillate consumption in September was 3.7 million b/d, the lowest consumption so far in 2022, likely because of lower trucking and industrial demand related to decreasing economic expectations. We expect distillate consumption to increase in the fourth quarter of 2022, primarily in response to seasonal factors, including agricultural demand brought on by the fall harvest season and winter demand for distillate heating oil. These seasonal factors along with rising crude oil prices are likely contributing to the sharp increase in distillate prices in early October. Agricultural demand is primarily concentrated in the Midwest, and heating demand for distillate is primarily in the Northeast. Distillate inventories in the Midwest and Northeast have both been below their five-year lows through the summer of 2022, so transport constraints between Gulf Coast producers and these regions present the potential for relatively higher distillate prices in these markets.

We expect downward pressure on distillate prices and crack spreads, related to economic conditions, to continue through the end of 2022 and the first half of 2023, but we still forecast distillate crack spreads to remain well above historical levels through the end of the year. The potential for further low demand related to uncertain economic conditions, as well as potential variability in harvest or heating oil demand, are all significant factors in our forecast. Changes in distillate net exports present an additional source of uncertainty, which could mean fewer distillate imports into the United States (primarily to the East Coast) as well as further calls on U.S. distillate exports (mostly from the Gulf Coast) from international markets.

U.S. heating oil expenditures: In the 2022−2023 winter season (October 2022 through March 2023), we currently estimate U.S. average household heating oil consumption—most of which occurs in the Northeast—will be 519 gallons, which would be the most since the 2014−2015

winter season **(Figure 8)**. High heating oil prices going into this winter, combined with higher forecast consumption result in our expectation that heating oil expenditures will be about $2,350 this winter, for homes in which heating oil is the primary space heating fuel. Expenditures at that level would be the highest since 2013−2014 winter season when adjusted for inflation.

Figure 8. U.S. winter household heating oil consumption and expenditures

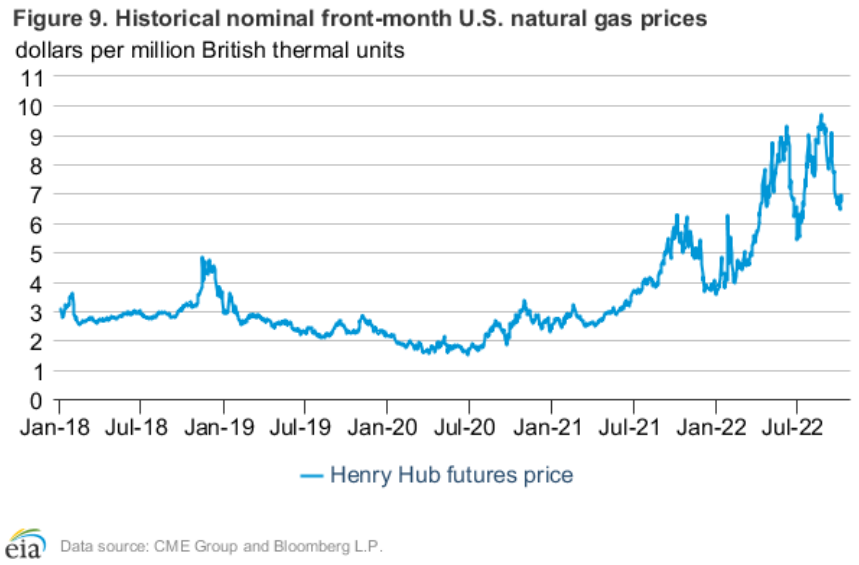


Data source: U.S. Energy Information Administration, Short Term Energy Outlook
Note: Winter refers to October of the indicated year through March of the following year

The high estimated consumption this winter is a result of our estimates for higher heating degree days, based on the current winter outlook from the National Oceanic and Atmospheric Administration (NOAA). For more information, please see our *Winter Fuels Outlook*.

Natural Gas

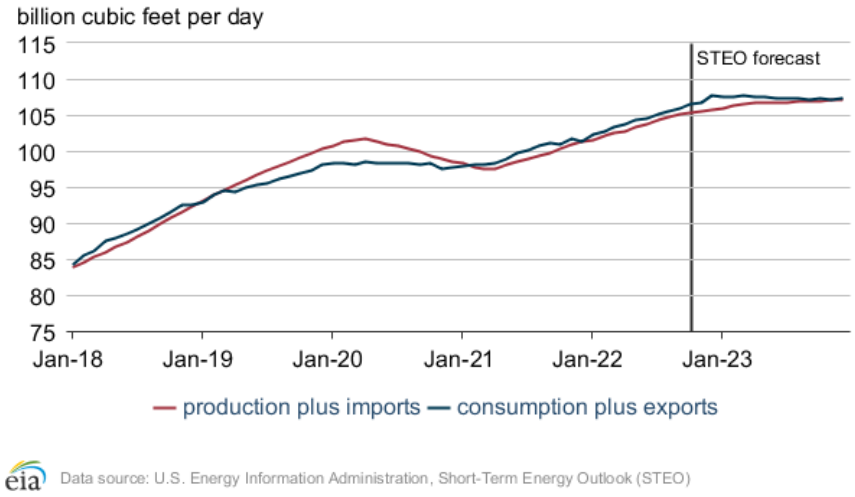
Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $6.97 per million British thermal units (MMBtu) on October 6, 2022, down $2.29/MMBtu from September 1, 2022 **(Figure 9)**. The price for front-month natural gas futures contracts averaged $7.76/MMBtu in September, compared with $8.78/MMBtu in August.



We estimate U.S. dry natural gas production in September reached a record-high 98.8 billion cubic feet per day (Bcf/d). The record production contributed to September's natural gas stock builds of 428 Bcf, which were 20% higher than the five-year (2017–2021) average. Despite the above-average builds, natural gas inventories at the end of the month were 3,135 Bcf, which is 8%, or 280 Bcf, below the five-year average. U.S. liquefied natural gas (LNG) exports averaged 10.1 Bcf/d in September, as liquefaction terminals other than the off-line Freeport terminal operated near full capacity.

***Supply and demand balance*:** When natural gas supply (production plus imports) is lower than natural gas demand (consumption plus exports), natural gas prices tend to increase as more natural gas is pulled from storage to meet demand. The 12-month rolling average of natural gas demand has exceeded supply since February 2021 **(Figure 10),** which has contributed to an elevated Henry Hub spot price that doubled between June 2021 and July 2022. Monthly storage inventories have remained below the five-year average since June 2021, except for in December 2021 when unusually warm weather led to lower-than-normal storage withdrawals. We expect the Henry Hub spot price to remain elevated until the second quarter of 2023 when we forecast the 12-month rolling average of supply to rise closer to average demand and inventories to rise above the five-year average.

Figure 10. Natural gas production plus imports and consumption plus exports, 12-month moving average

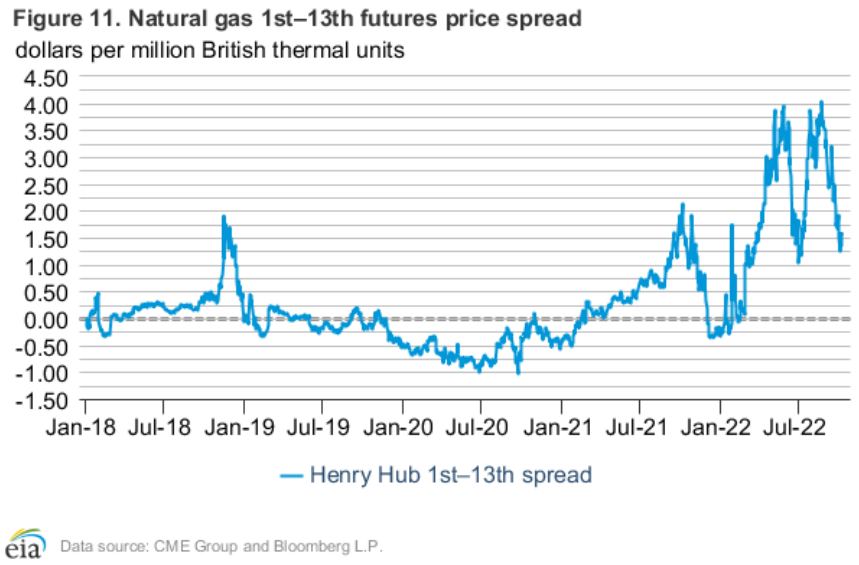


eia Data source: U.S. Energy Information Administration, Short-Term Energy Outlook (STEO)

As a result of higher forecast natural gas prices and consumption, we expect households that use natural gas as their primary space heating fuel will spend 28% more this winter (October 2022 through March 2023) than they spent last winter. Nearly half of all U.S. households heat primarily with natural gas. We expect average household winter consumption to be 58 thousand cubic feet (Mcf), up 5% from last winter. For more information, please see our *Winter Fuels Outlook*.

We forecast the Henry Hub spot price will start to decline in the first half of 2023 as producers continue to increase supply. In the first three quarters of 2022, U.S. dry natural gas production grew steadily. We forecast dry natural gas production to continue to increase, averaging 99.1 Bcf/d in 4Q22.

***Futures price spreads*:** Natural gas futures contracts allow natural gas to be bought and sold for delivery at specific dates in the future corresponding to the start of each month. The natural gas 1st–13th month spread represents the difference between the price of natural gas sold for delivery 1 month from now compared to natural gas sold for delivery 13 months from now. The natural gas 1st–13th month price spread averaged $2.32/MMBtu in September, down nearly $1.13 from the record-high monthly average of $3.45/MMBtu set in August **(Figure 11).** The 1st–13th price spread has averaged over $2.00/MMBtu every month since April. During that time, natural gas prices have remained elevated, averaging $7.74/MMBtu, and natural gas inventories remained 8% or more below the five-year average.



When the 1st–13th price spread is positive, known as backwardation, near-term contract prices for the current month are higher than longer-dated contract prices for natural gas delivery one year further in the future. This difference reflects a market that puts greater value on natural gas sold for delivery one month from now compared with natural gas sold for delivery at the same time next year, encouraging market participants to sell natural gas from inventories instead of storing for future sales. Often, this situation occurs when natural gas demand is greater than supply, drawing inventories below the five-year range. The high 1st–13th price spread since April 2022 reflects the highest annual natural gas demand on record, driven by the electric power sector and high LNG export levels. High demand is keeping inventories at a deficit to the five-year average. Dry natural gas production has increased since April but not by enough to significantly reduce the storage deficit to the five-year average. As a result, the 1st–13th price spread has remained at its highest monthly levels on record.

We expect natural gas spot prices to remain elevated in late 2022 before falling in 2023. We forecast the Henry Hub spot price to average about $7.40/MMBtu in 4Q22, then fall below $6.00/MMBtu in 2023 as U.S. natural gas production rises.

Notable forecast changes

- Global oil production for 2023 in our forecast averages 100.7 million barrels per day (b/d). Our production forecast is 0.6 million b/d lower than in the September STEO and reflects announced cuts from OPEC+ as well as lower forecast crude oil production in the United States.
- Our forecast for global oil consumption forecast for 2023 is 101.0 million b/d, which is 0.5 million b/d lower than in the September STEO and reflects Oxford Economics

lowering its forecast for global GDP growth in 2023 to 2.2% this month from 2.7% last month.

- We expect U.S. crude oil production will average 12.4 million b/d in 2023, which is down from a forecast of 12.6 million b/d last month. Lower crude oil production in the forecast reflects lower crude oil prices in 4Q22 than we previously expected.
- Our 2023 forecast for U.S. gasoline consumption was revised down by 0.1 million b/d. The downward revision reflects lower forecast vehicle miles traveled as a result of lower expected employment growth, based on forecasts from S&P Global, next year as well as higher expected growth in vehicle fuel efficiency.
- We forecast the Henry Hub natural gas spot price will average about $7.40 per million British thermal units (MMBtu) in 4Q22, which is about $1.60/MMBtu less than we forecast in the September STEO. The forecast largely reflects price declines in September that lowered the starting point for our forecast, amid slightly higher expectations for U.S. production in late 2022.
- We raised our forecast for electricity generation by natural gas-fired power plants as a result of lower natural gas prices in recent weeks. We forecast natural gas-fired generation will rise by 5% in 2022, compared with expected growth of 3% in the previous STEO. We have also lowered our forecast for coal-fired generation, which is now expected to fall by almost 7% in 2022 compared with a forecast decline of 4% in the previous STEO.
- You can find more information in the detailed table of forecast changes.

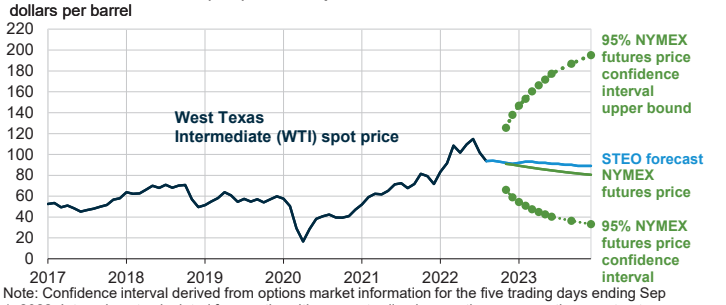
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

Short-Term Energy Outlook
Chart Gallery

September 7, 2022

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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

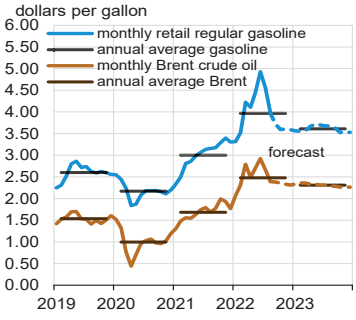


Note: Confidence interval derived from options market information for the five trading days ending Sep 1, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

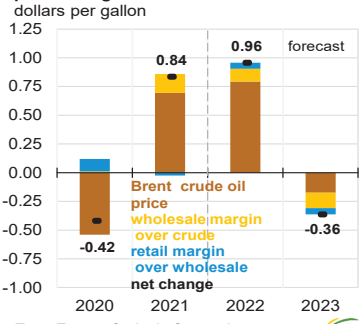
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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U.S. gasoline and crude oil prices
dollars per gallon



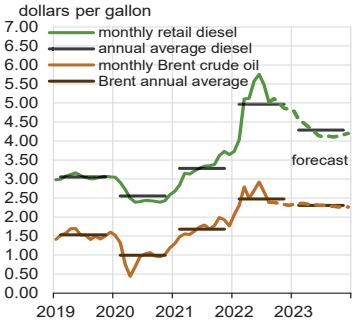
Components of annual gasoline price changes
dollars per gallon



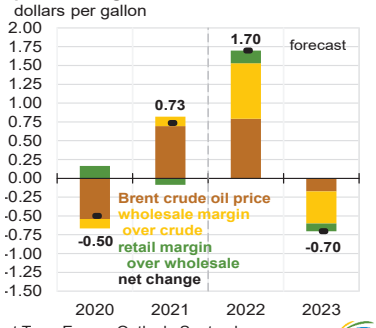
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, and Refinitiv an LSEG Business

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U.S. diesel and crude oil prices



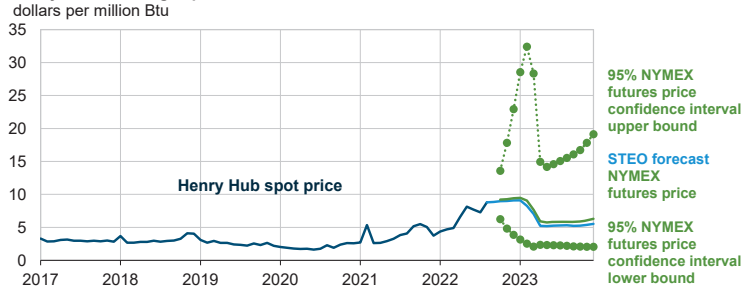
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

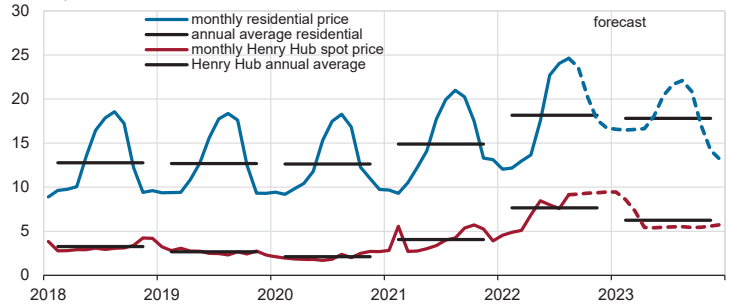


Note: Confidence interval derived from options market information for the five trading days ending Sep 1, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

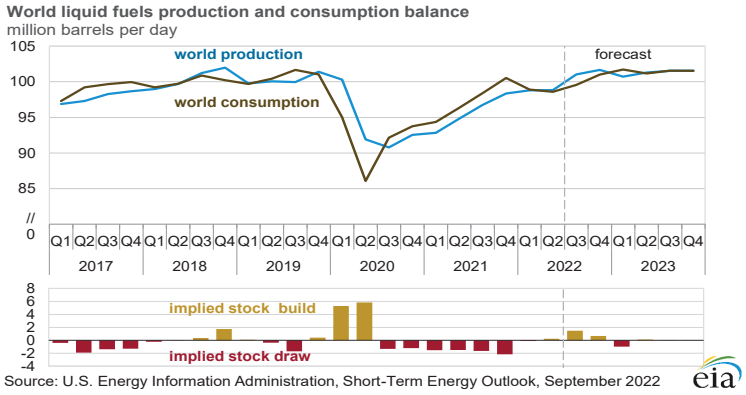
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, CME Group, and Refinitiv an LSEG Business

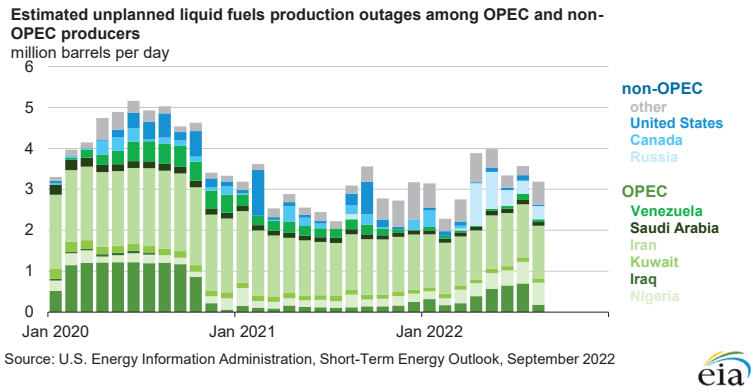
U.S. natural gas prices

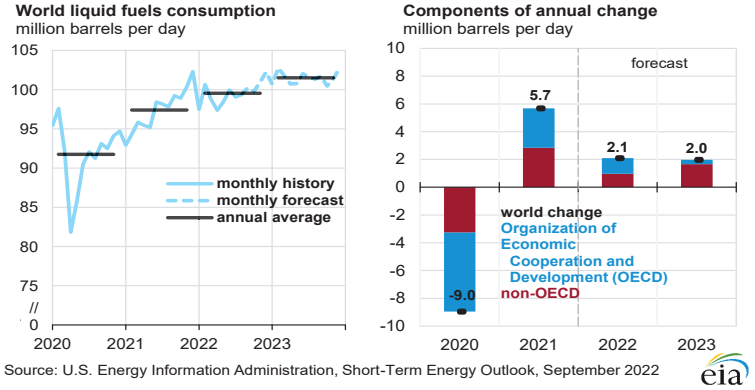
dollars per thousand cubic feet

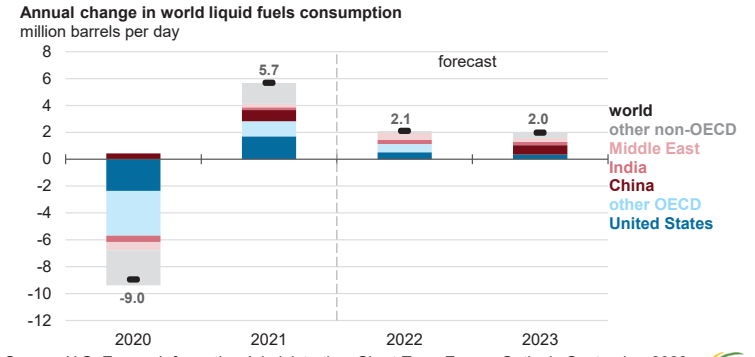


Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022, and Refinitiv an LSEG Business

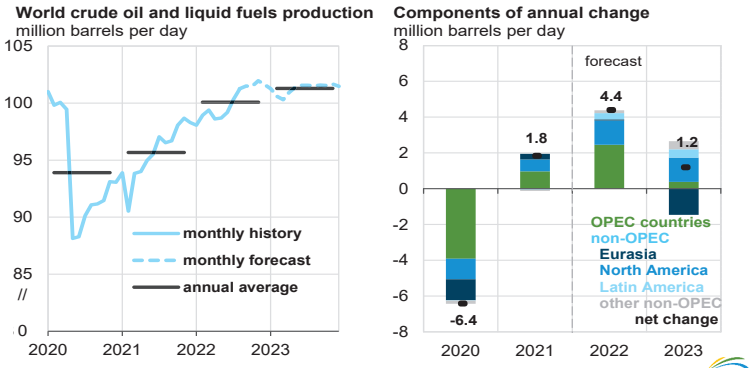

World liquid fuels production and consumption balance
million barrels per day
105
100
95
90
85
0
world production
world consumption
forecast
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2017
2018
2019
2020
2021
2022
2023
8
6
4
2
0
-2
-4
implied stock build
implied stock draw
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia


Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day
6
5
4
3
2
1
0
Jan 2020
Jan 2021
Jan 2022
non-OPEC
other
United States
Canada
Russia
OPEC
Venezuela
Saudi Arabia
Iran
Kuwait
Iraq
Nigeria
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia

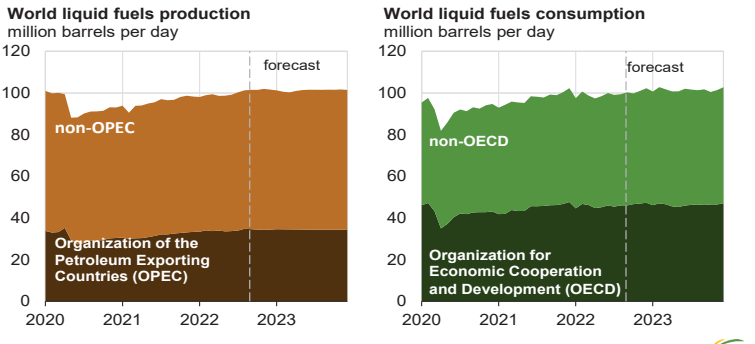

World liquid fuels consumption
million barrels per day
105
100
95
90
85
80
75
0
monthly history
monthly forecast
annual average
2020
2021
2022
2023
Components of annual change
million barrels per day
10
8
6
4
2
0
-2
-4
-6
-8
-10
forecast
5.7
2.1
2.0
-9.0
world change
Organization of Economic Cooperation and Development (OECD)
non-OECD
2020
2021
2022
2023
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022
eia



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

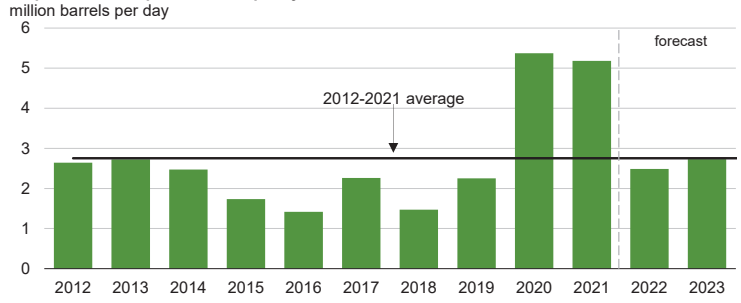


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



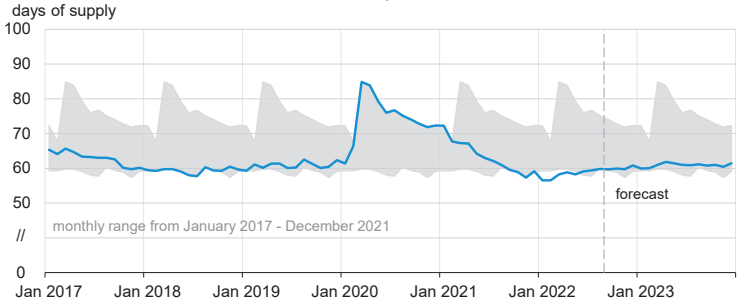
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



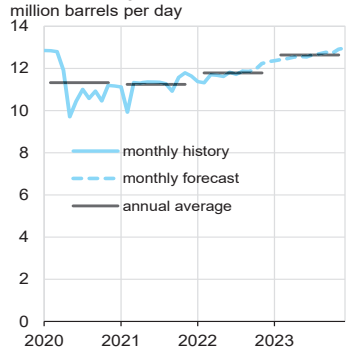
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids
days of supply

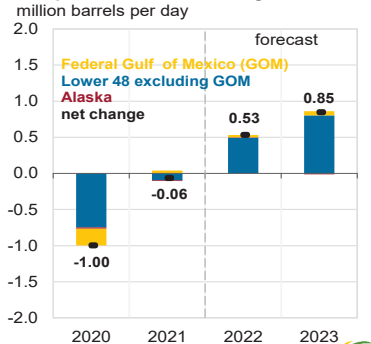


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. crude oil production
million barrels per day

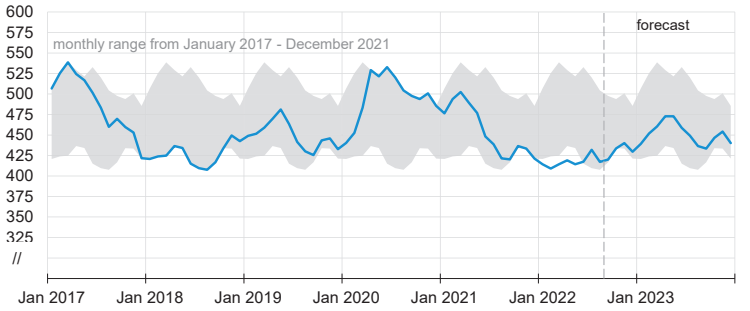


Components of annual change
million barrels per day



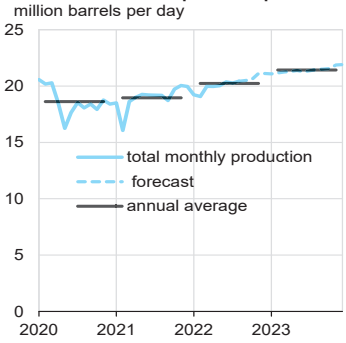
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. commercial crude oil inventories
million barrels

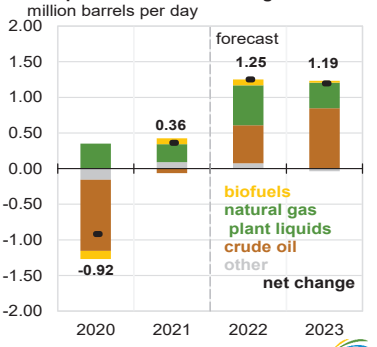


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. crude oil and liquid fuels production
million barrels per day

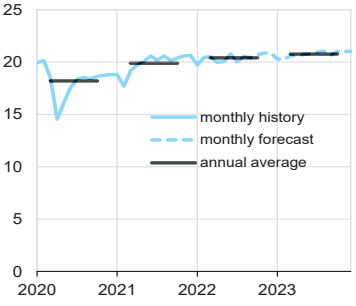


Components of annual change
million barrels per day

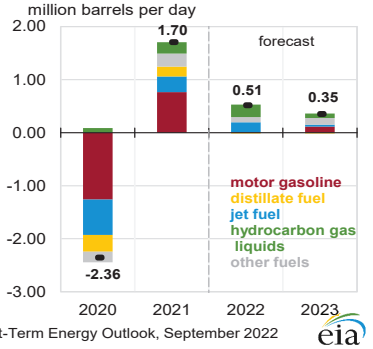


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September

U.S. liquid fuels product supplied (consumption)
million barrels per day

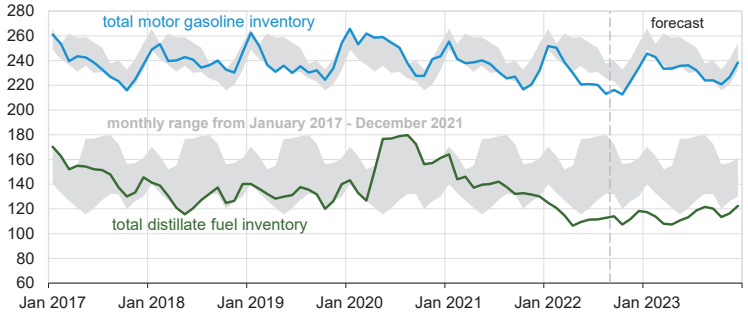


Components of annual change
million barrels per day



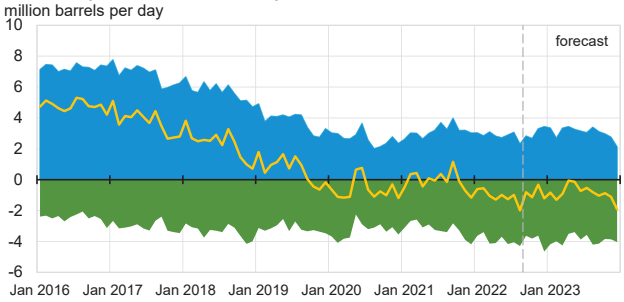
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. gasoline and distillate inventories
million barrels



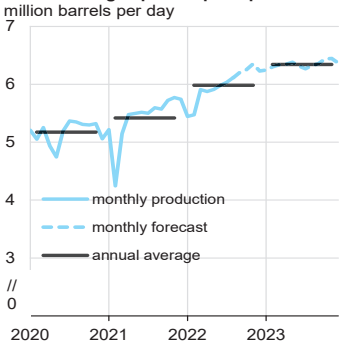
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. net imports of crude oil and liquid fuels
million barrels per day

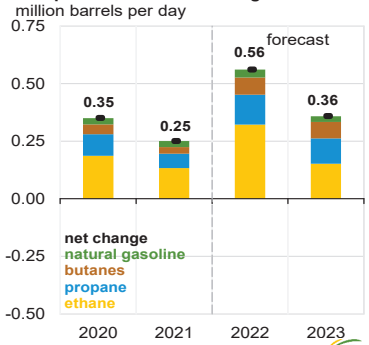


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

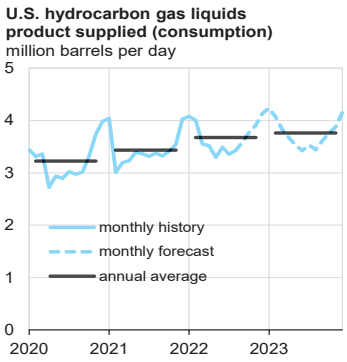
U.S. natural gas plant liquids production
million barrels per day

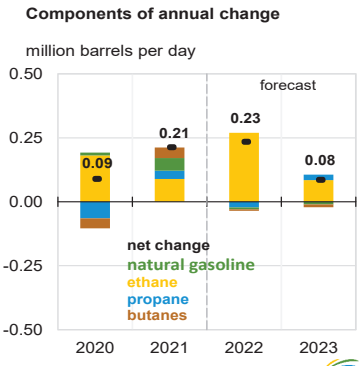


Components of annual change
million barrels per day

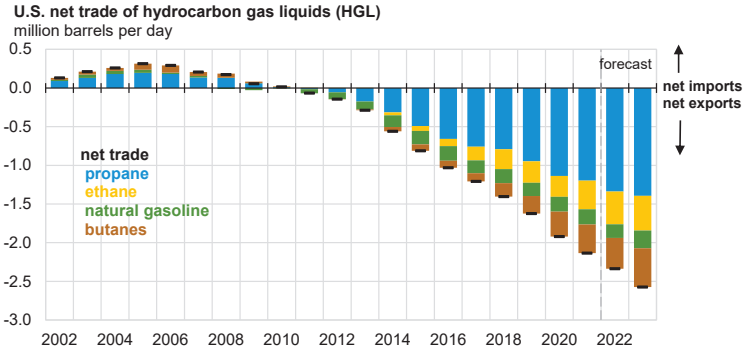


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

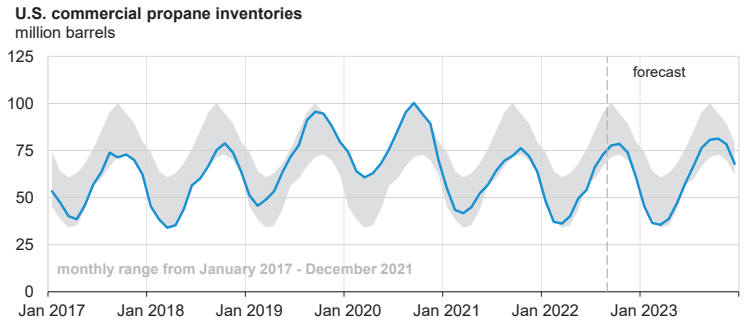




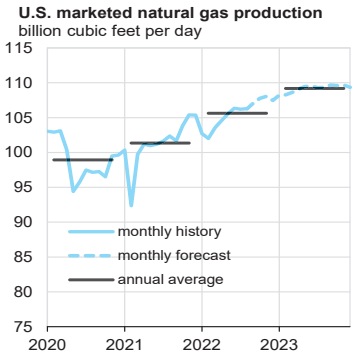
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

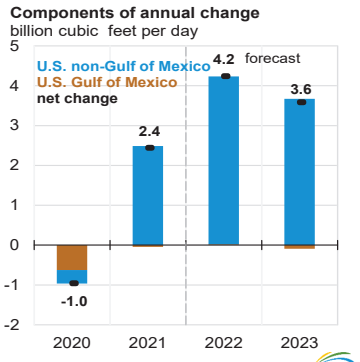


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

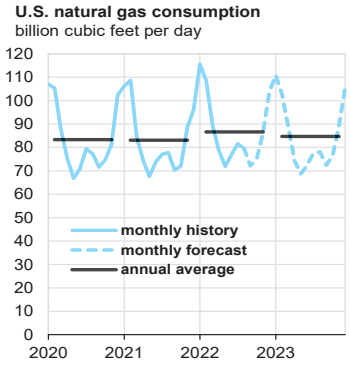


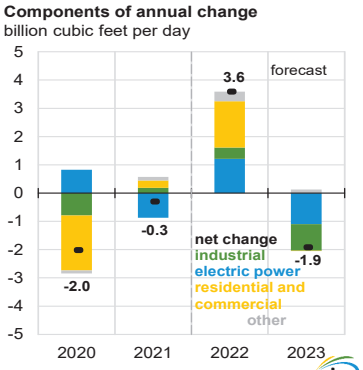
Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



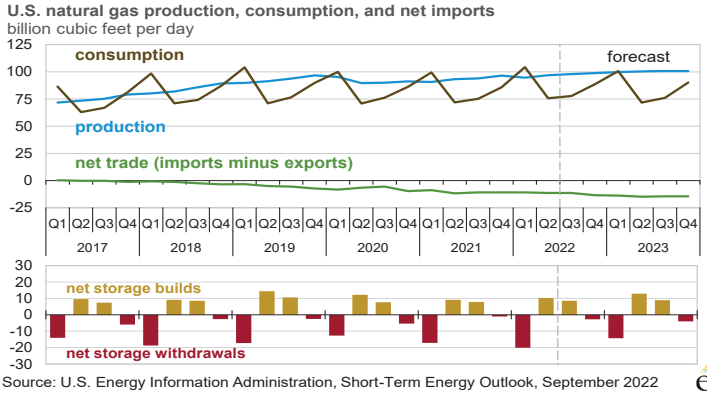


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

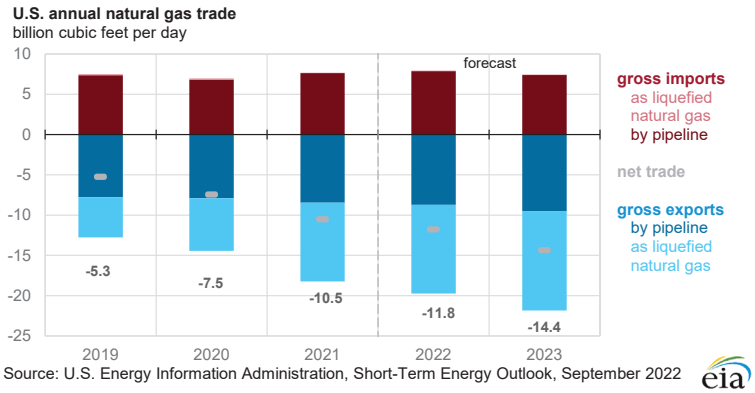




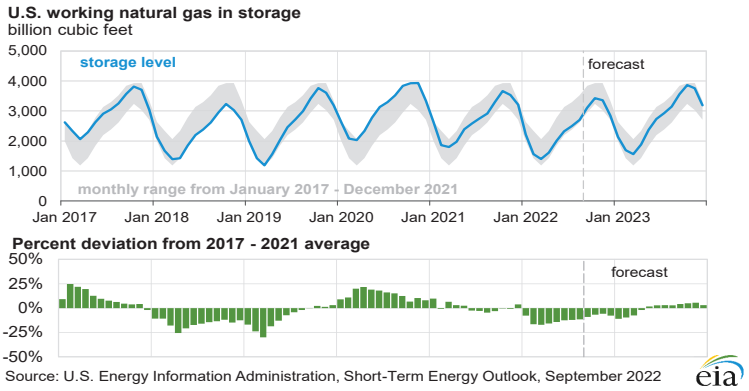
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



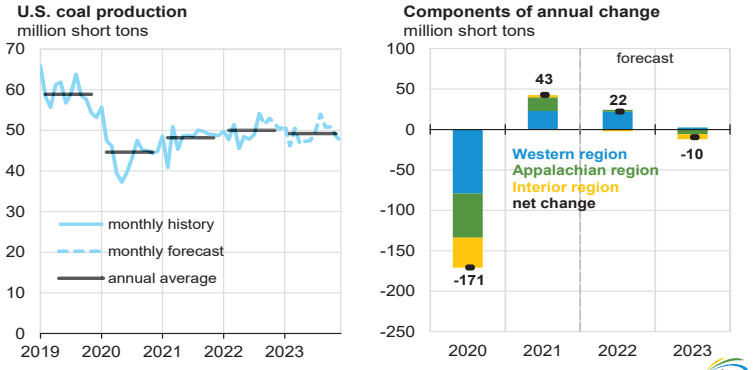
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



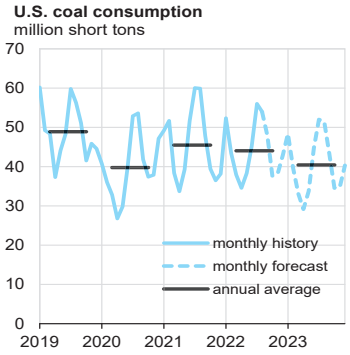
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

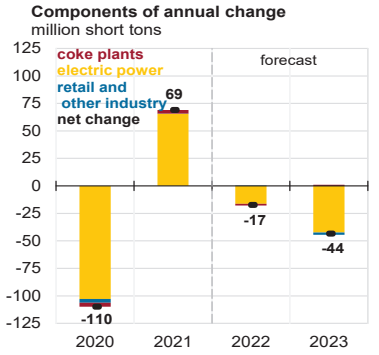


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

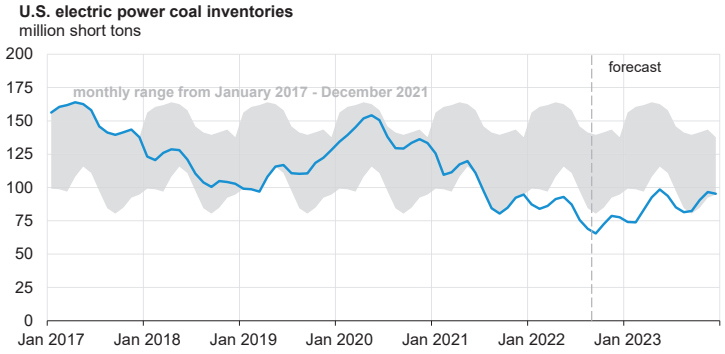


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

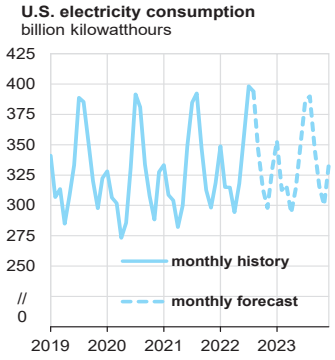


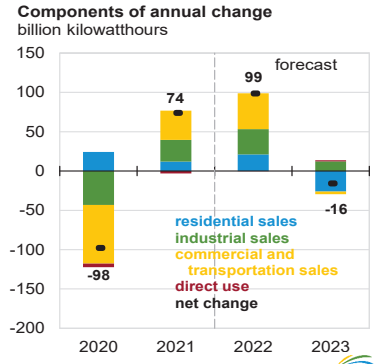


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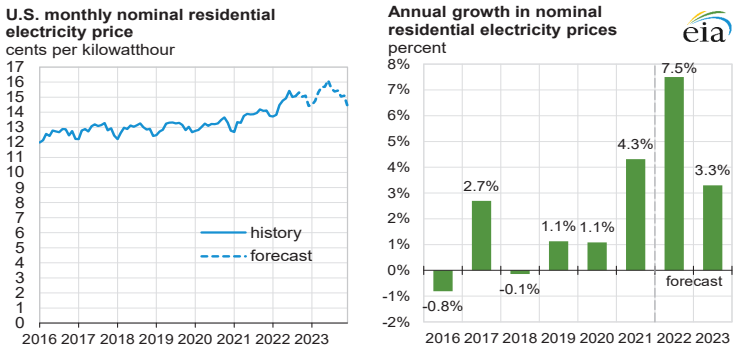


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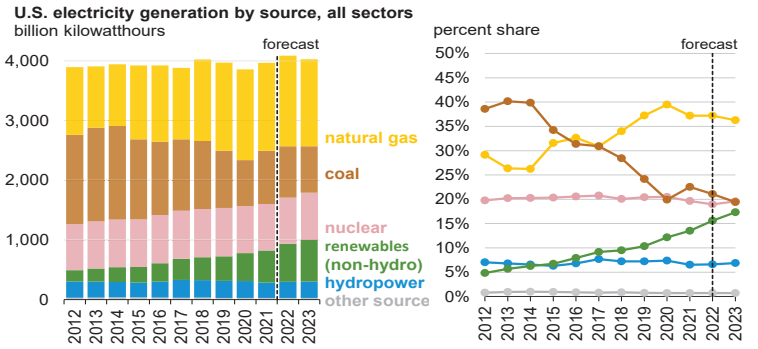




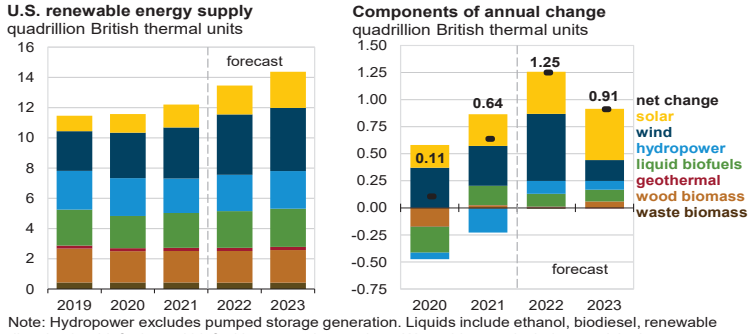
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

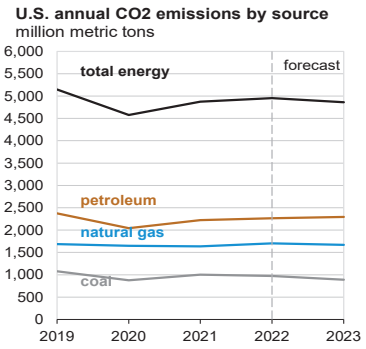


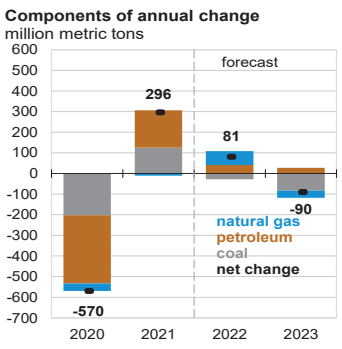
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



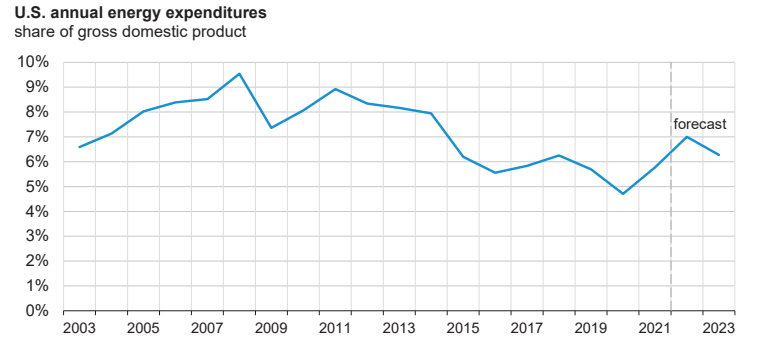
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

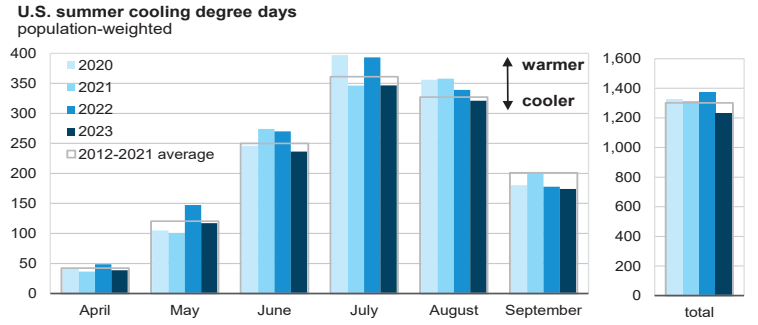




Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



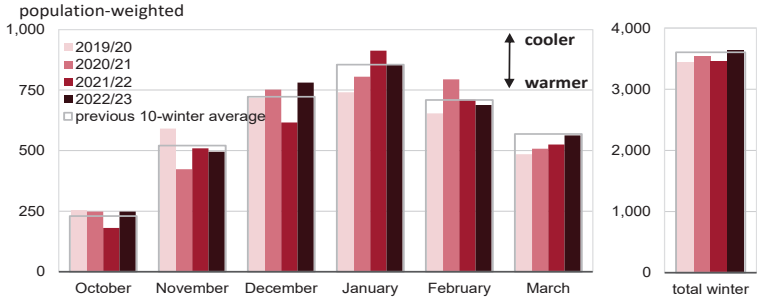
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

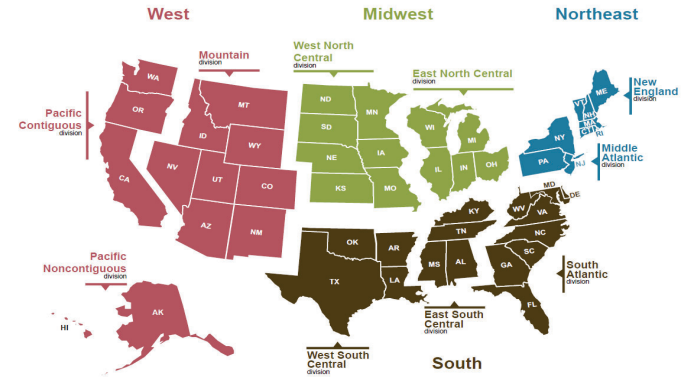
U.S. winter heating degree days
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2022

U.S. Census regions and divisions



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

Fuel / Region	Winter of							Forecast	
	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	% Change
Natural Gas									
Northeast									
Consumption (Mcf**)	57.4	61.5	65.3	66.8	61.1	62.2	62.4	65.2	4.5
Price ($/mcf)	10.18	10.70	11.37	11.67	11.72	11.77	14.29	16.78	17.4
Expenditures ($)	584	659	742	780	716	732	892	1,094	22.7
Midwest									
Consumption (Mcf)	63.6	64.8	73.9	76.9	69.7	70.6	70.3	73.5	4.5
Price ($/mcf)	7.55	8.28	7.83	7.82	7.44	7.80	10.85	13.80	27.1
Expenditures ($)	480	536	578	601	519	551	763	1,013	32.9
South									
Consumption (Mcf)	40.3	38.0	45.6	46.0	41.4	44.8	42.7	45.8	7.3
Price ($/mcf)	10.72	12.04	11.23	10.61	11.03	11.40	14.38	16.60	15.4
Expenditures ($)	432	457	512	488	457	511	614	761	23.9
West									
Consumption (Mcf)	44.7	45.6	43.9	48.8	47.4	46.6	45.6	47.8	4.9
Price ($/mcf)	9.92	10.68	10.25	10.14	10.44	11.38	14.17	17.46	23.2
Expenditures ($)	444	488	450	495	495	530	645	834	29.3
U.S. Average									
Consumption (Mcf)	51.8	53.0	57.6	60.2	55.5	56.4	55.6	58.4	4.9
Price ($/mcf)	9.28	10.06	9.81	9.72	9.72	10.17	13.02	15.95	22.5
Expenditures ($)	481	533	565	586	539	573	724	931	28.5
Heating Oil									
U.S. Average									
Consumption (gallons)	436.8	468.5	495.8	512.4	467.7	475.3	477.0	518.8	8.7
Price ($/gallon)	2.06	2.41	2.78	3.07	2.89	2.55	3.90	4.54	16.4
Expenditures ($)	901	1,129	1,377	1,571	1,352	1,212	1,859	2,354	26.6
Electricity									
Northeast									
Consumption (kWh***)	7,705	8,051	8,345	8,482	8,014	8,178	8,116	8,346	2.8
Price ($/kwh)	0.164	0.165	0.169	0.169	0.172	0.172	0.186	0.201	8.1
Expenditures ($)	1,263	1,324	1,407	1,435	1,375	1,406	1,510	1,679	11.2
Midwest									
Consumption (kWh)	9,366	9,479	10,382	10,710	10,004	10,152	10,031	10,338	3.1
Price ($/kwh)	0.122	0.124	0.124	0.123	0.125	0.127	0.133	0.139	4.7
Expenditures ($)	1,138	1,173	1,289	1,320	1,247	1,285	1,332	1,437	7.9
South									
Consumption (kWh)	8,786	8,515	9,549	9,542	8,903	9,467	9,092	9,542	4.9
Price ($/kwh)	0.110	0.111	0.112	0.113	0.114	0.116	0.123	0.131	6.5
Expenditures ($)	968	949	1,065	1,074	1,018	1,096	1,118	1,249	11.8
West									
Consumption (kWh)	8,444	8,565	8,334	8,993	8,813	8,747	8,547	8,857	3.6
Price ($/kwh)	0.130	0.132	0.136	0.136	0.138	0.147	0.157	0.163	3.9
Expenditures ($)	1,096	1,129	1,131	1,223	1,214	1,289	1,338	1,440	7.6
U.S. Average									
Consumption (kWh)	8,457	8,425	9,051	9,260	8,741	9,053	8,833	9,189	4.0
Price ($/kwh)	0.124	0.125	0.126	0.127	0.128	0.131	0.140	0.148	5.9
Expenditures ($)	1,044	1,055	1,142	1,174	1,123	1,188	1,233	1,359	10.2

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

Fuel / Region	Winter of 15-16	16-17	17-18	18-19	19-20	20-21	21-22	Forecast 22-23	% Change
Propane									
Northeast									
Consumption (gallons)	505.7	542.6	569.3	585.9	538.3	545.6	547.8	571.2	4.3
Price* ($/gallon)	2.71	3.03	3.24	3.19	2.50	2.51	3.33	3.45	3.6
Expenditures ($)	1,371	1,644	1,844	1,869	1,346	1,369	1,825	1,971	8.0
Midwest									
Consumption (gallons)	618.3	629.0	715.1	746.9	679.4	685.1	681.5	710.7	4.3
Price* ($/gallon)	1.47	1.58	1.82	1.72	1.53	1.56	2.30	2.32	0.5
Expenditures ($)	909	994	1,302	1,285	1,039	1,069	1,570	1,646	4.8
South									
Consumption (gallons)	448.9	428.0	504.5	504.5	458.7	493.0	471.8	505.8	7.2
Price* ($/gallon)	2.27	2.45	2.59	2.63	2.31	2.33	3.09	2.99	-3.4
Expenditures ($)	1,020	1,047	1,308	1,326	1,062	1,146	1,460	1,513	3.6
Number of households by primary space heating fuel (thousands)									
Northeast									
Natural gas	11,845	11,975	12,124	12,281	12,320	12,122	12,239	12,471	1.9
Heating oil	4,946	4,804	4,756	4,623	4,674	4,531	4,183	4,056	-3.1
Propane	888	938	983	1,027	1,038	1,127	1,189	1,157	-2.7
Electricity	3,266	3,343	3,405	3,517	3,518	3,720	3,927	3,940	0.3
Wood	514	474	472	450	455	433	381	357	-6.3
Other/None	435	435	443	451	459	520	555	556	0.2
Midwest									
Natural gas	18,181	18,174	18,241	18,266	18,338	18,198	18,064	18,030	-0.2
Heating oil	300	285	277	270	274	261	235	224	-4.6
Propane	2,069	2,049	2,104	2,176	2,182	2,201	2,210	2,195	-0.7
Electricity	5,725	5,848	5,948	6,021	6,020	6,225	6,580	6,773	2.9
Wood	585	550	525	499	510	482	415	383	-7.8
Other/None	353	358	360	348	352	374	394	414	5.0
South									
Natural gas	13,959	13,932	13,986	14,061	14,237	14,226	14,200	14,371	1.2
Heating oil	652	619	609	579	584	559	506	498	-1.6
Propane	1,899	1,860	1,853	1,863	1,910	1,908	1,912	1,947	1.9
Electricity	29,522	29,903	30,348	30,751	31,020	31,530	32,265	32,729	1.4
Wood	552	510	485	473	487	437	382	385	0.8
Other/None	413	427	434	454	483	588	634	609	-3.9
West									
Natural gas	15,251	15,362	15,489	15,551	15,692	15,452	15,327	15,474	1.0
Heating oil	219	213	213	214	216	209	192	182	-5.3
Propane	919	931	957	975	996	1,036	1,041	1,028	-1.2
Electricity	9,191	9,311	9,439	9,604	9,692	10,131	10,441	10,430	-0.1
Wood	716	697	685	671	684	635	596	621	4.3
Other/None	1,085	1,056	1,085	1,095	1,071	1,085	1,165	1,268	8.8
U.S. Totals									
Natural gas	59,235	59,444	59,839	60,160	60,588	59,997	59,831	60,345	0.9
Heating oil	6,118	5,921	5,855	5,686	5,749	5,561	5,117	4,960	-3.1
Propane	5,776	5,778	5,897	6,042	6,126	6,272	6,351	6,327	-0.4
Electricity	47,703	48,404	49,141	49,893	50,250	51,606	53,212	53,872	1.2
Wood	2,367	2,230	2,167	2,093	2,137	1,988	1,774	1,746	-1.6
Other/None	2,285	2,275	2,323	2,348	2,365	2,566	2,749	2,848	3.6
Heating degree days									
Northeast	4,320	4,699	5,014	5,165	4,658	4,747	4,769	5,017	5.2
Midwest	4,689	4,792	5,577	5,846	5,228	5,296	5,267	5,540	5.2
South	2,015	1,884	2,353	2,361	2,074	2,284	2,156	2,356	9.3
West	2,958	3,043	2,890	3,300	3,189	3,107	3,027	3,217	6.3
U.S. Average	3,209	3,264	3,622	3,801	3,444	3,530	3,455	3,671	6.3

Note: Winter covers the period October 1 through March 31. Fuel prices are nominal prices. Fuel consumption per household is based only on households that use that fuel as the primary space-heating fuel. Included in fuel consumption is consumption for water heating, appliances, electronics, and lighting (electricity). Per-household consumption based on EIA's 2015 Residential Energy Consumption Surveys corrected for actual and projected heating degree days. Number of households using heating oil includes kerosene.

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.69**	**11.83**	*11.99*	*12.27*	*12.29*	*12.36*	*12.50*	**11.25**	*11.75*	*12.36*
Dry Natural Gas Production															
(billion cubic feet per day)	**91.14**	**94.43**	**95.14**	**97.49**	**95.10**	**97.55**	**98.48**	*99.05*	*99.20*	*99.57*	*99.73*	*100.00*	**94.57**	*97.56*	*99.63*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**149**	**142**	**153**	*154*	*148*	*137*	*151*	*145*	**578**	*598*	*581*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.15**	*20.76*	*20.22*	*20.52*	*20.61*	*20.81*	**19.89**	*20.35*	*20.54*
Natural Gas															
(billion cubic feet per day)	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**80.07**	*90.20*	*102.96*	*73.04*	*75.71*	*89.74*	**84.01**	*87.89*	*85.30*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	**118**	**148**	*119*	*121*	*108*	*148*	*111*	**546**	*518*	*487*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.87**	**10.65**	**12.43**	*10.25*	*10.94*	*10.52*	*12.12*	*10.26*	**10.77**	*11.05*	*10.96*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.17**	**2.96**	**3.14**	**3.35**	**3.55**	**3.23**	*3.28*	*3.49*	*3.86*	*3.46*	*3.48*	**12.22**	*13.41*	*14.29*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.11**	**23.21**	**24.58**	**24.61**	**26.48**	**23.64**	**24.81**	*25.20*	*26.04*	*23.68*	*24.74*	*25.27*	**97.52**	*100.12*	*99.73*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	**93.07**	*85.98*	*87.30*	*87.35*	*89.00*	*90.65*	**68.21**	*95.74*	*88.58*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	**7.99**	*7.41*	*7.12*	*5.27*	*5.31*	*5.39*	**3.91**	*6.88*	*5.77*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.58**	*2.53*	*2.53*	*2.50*	*2.48*	*2.45*	**1.98**	*2.39*	*2.49*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,728**	**19,699**	**19,757**	*19,832*	*19,900*	*19,974*	*20,058*	*20,142*	**19,427**	*19,754*	*20,019*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.5**	**3.5**	**1.7**	**1.4**	*0.1*	*0.9*	*1.4*	*1.5*	*1.6*	**5.7**	*1.7*	*1.3*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**126.4**	**127.5**	*129.2*	*130.2*	*131.0*	*131.8*	*132.7*	**118.5**	*126.7*	*131.4*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**6.8**	**7.5**	**6.9**	*6.5*	*5.2*	*3.6*	*3.4*	*2.7*	**4.2**	*7.0*	*3.7*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,152**	**15,130**	**15,156**	*15,252*	*15,655*	*15,698*	*15,837*	*15,994*	**16,032**	*15,173*	*15,796*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**0.1**	**-12.0**	**-4.3**	**-3.1**	*-1.4*	*3.3*	*3.8*	*4.5*	*4.9*	**2.3**	*-5.4*	*4.1*
Manufacturing Production Index															
(Index, 2017=100)	**96.9**	**98.3**	**99.2**	**100.6**	**101.5**	**102.5**	**102.6**	*102.8*	*102.9*	*103.2*	*103.6*	*103.9*	**98.8**	*102.4*	*103.4*
Percent change from prior year	**-0.8**	**15.8**	**5.1**	**4.5**	**4.8**	**4.2**	**3.5**	*2.1*	*1.3*	*0.7*	*0.9*	*1.1*	**5.8**	*3.6*	*1.0*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,307**	**2,148**	**492**	**68**	*1,538*	*2,133*	*497*	*78*	*1,529*	**3,936**	*4,246*	*4,237*
U.S. Cooling Degree-Days	**50**	**410**	**902**	**127**	**46**	**465**	**945**	*97*	*43*	*388*	*836*	*92*	**1,489**	*1,553*	*1,360*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	**93.07**	*85.98*	*87.30*	*87.35*	*89.00*	*90.65*	**68.21**	*95.74*	*88.58*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	**113.84**	**100.53**	*92.98*	*93.30*	*93.35*	*95.00*	*96.65*	**70.89**	*102.09*	*94.58*
U.S. Imported Average	**55.29**	**64.75**	**68.42**	**73.66**	**89.85**	**107.44**	**91.03**	*83.28*	*84.52*	*84.59*	*86.24*	*87.87*	**65.92**	*92.45*	*85.84*
U.S. Refiner Average Acquisition Cost	**57.14**	**66.11**	**70.31**	**76.36**	**92.62**	**109.87**	**93.00**	*84.24*	*85.55*	*85.59*	*87.23*	*88.92*	**67.83**	*94.98*	*86.85*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**278**	**376**	**311**	*303*	*272*	*278*	*277*	*270*	**219**	*318*	*274*
Diesel Fuel	**178**	**204**	**219**	**241**	**301**	**418**	**356**	*352*	*332*	*303*	*294*	*299*	**211**	*358*	*307*
Fuel Oil	**162**	**180**	**197**	**222**	**284**	**419**	**340**	*335*	*321*	*292*	*283*	*290*	**188**	*343*	*307*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**283**	**400**	**340**	*345*	*331*	*301*	*286*	*291*	**195**	*343*	*301*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**252**	**260**	**230**	*202*	*217*	*217*	*222*	*226*	**190**	*234*	*221*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**371**	**450**	**408**	*380*	*354*	*359*	*359*	*355*	**302**	*403*	*357*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	**460**	**419**	*393*	*367*	*372*	*372*	*369*	**311**	*414*	*370*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**432**	**549**	**516**	*486*	*457*	*428*	*413*	*420*	**329**	*497*	*429*
Heating Oil	**272**	**283**	**297**	**346**	**415**	**555**	**494**	*466*	*445*	*406*	*385*	*405*	**300**	*457*	*421*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	**8.30**	*7.70*	*7.40*	*5.48*	*5.51*	*5.60*	**4.06**	*7.15*	*6.00*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	**7.99**	*7.41*	*7.12*	*5.27*	*5.31*	*5.39*	**3.91**	*6.88*	*5.77*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.79**	**4.13**	**5.09**	**6.82**	**6.82**	**8.25**	**8.91**	*9.00*	*9.11*	*6.97*	*6.44*	*6.77*	**5.51**	*8.17*	*7.35*
Commercial Sector	**7.54**	**8.86**	**10.15**	**10.27**	**10.00**	**11.71**	**13.49**	*12.54*	*12.27*	*12.08*	*11.64*	*10.39*	**8.83**	*11.42*	*11.60*
Residential Sector	**9.71**	**13.82**	**20.27**	**13.71**	**12.32**	**16.57**	**24.20**	*16.65*	*15.28*	*17.11*	*21.23*	*13.97*	**12.21**	*15.14*	*15.60*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.58**	*2.53*	*2.53*	*2.50*	*2.48*	*2.45*	**1.98**	*2.39*	*2.49*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.38**	**8.20**	*7.79*	*7.72*	*5.52*	*5.55*	*5.79*	**4.97**	*7.37*	*6.11*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**26.18**	**25.65**	*19.18*	*18.60*	*18.51*	*17.58*	*17.60*	**13.66**	*21.22*	*18.10*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	**26.94**	*26.78*	*25.66*	*23.27*	*22.45*	*22.81*	**15.50**	*25.22*	*23.84*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	**8.93**	*7.80*	*7.72*	*8.26*	*8.69*	*7.65*	**7.26**	*8.16*	*8.09*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	**12.70**	*12.06*	*12.31*	*12.81*	*12.93*	*12.00*	**11.27**	*12.21*	*12.53*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	**15.44**	*14.86*	*14.76*	*15.81*	*15.78*	*14.87*	**13.72**	*14.86*	*15.32*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.26**	**30.85**	**31.15**	**32.23**	**31.66**	**31.87**	**32.54**	*33.19*	*33.63*	*33.67*	*33.60*	*34.09*	**31.13**	*32.32*	*33.75*
U.S. (50 States)	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	**20.36**	*20.72*	*20.93*	*21.01*	*21.03*	*21.37*	**18.98**	*20.16*	*21.09*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.53**	**5.72**	*5.85*	*5.92*	*5.88*	*5.90*	*5.92*	**5.54**	*5.69*	*5.91*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	**1.89**	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
Other OECD	**4.92**	**4.37**	**4.73**	**4.71**	**4.65**	**4.34**	**4.56**	*4.75*	*4.87*	*4.91*	*4.83*	*5.01*	**4.68**	*4.58*	*4.91*
Non-OECD	**62.57**	**63.98**	**65.61**	**66.11**	**67.21**	**66.78**	**68.64**	*67.68*	*66.46*	*67.16*	*67.56*	*66.74*	**64.58**	*67.58*	*66.98*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.80**	**34.68**	*34.08*	*34.32*	*34.43*	*34.55*	*34.20*	**31.66**	*34.08*	*34.37*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.36**	**29.20**	*28.56*	*28.73*	*28.96*	*29.05*	*28.66*	**26.28**	*28.58*	*28.85*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.44**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.33**	**13.70**	*13.67*	*12.42*	*12.25*	*12.27*	*12.28*	**13.75**	*13.77*	*12.31*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.16**	**5.14**	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.16*	*5.25*
Other Non-OECD	**13.81**	**14.41**	**14.69**	**13.80**	**13.90**	**14.49**	**15.12**	*14.74*	*14.51*	*15.23*	*15.50*	*14.98*	**14.18**	*14.57*	*15.06*
Total World Production	**92.83**	**94.83**	**96.76**	**98.34**	**98.87**	**98.65**	**101.18**	*100.86*	*100.09*	*100.83*	*101.16*	*100.83*	**95.71**	*99.90*	*100.73*
Non-OPEC Production	**62.48**	**63.95**	**64.47**	**65.24**	**65.13**	**64.86**	**66.50**	*66.78*	*65.78*	*66.40*	*66.61*	*66.63*	**64.05**	*65.82*	*66.36*
Consumption (million barrels per day) (c)															
OECD	**42.59**	**44.14**	**45.87**	**46.89**	**45.85**	**45.42**	**45.69**	*46.86*	*46.24*	*45.27*	*45.91*	*46.31*	**44.89**	*45.96*	*45.93*
U.S. (50 States)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.15**	*20.76*	*20.22*	*20.52*	*20.61*	*20.81*	**19.89**	*20.35*	*20.54*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	**0.20**	**0.20**	*0.22*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.26**	**2.19**	**2.36**	*2.37*	*2.30*	*2.25*	*2.34*	*2.32*	**2.28**	*2.30*	*2.30*
Europe	**11.96**	**12.67**	**13.88**	**13.94**	**13.15**	**13.42**	**13.77**	*13.80*	*13.57*	*13.19*	*13.59*	*13.35*	**13.12**	*13.54*	*13.42*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**3.03**	**3.16**	*3.49*	*3.72*	*3.06*	*3.09*	*3.39*	**3.41**	*3.34*	*3.31*
Other OECD	**5.89**	**5.93**	**5.90**	**6.23**	**6.30**	**6.32**	**6.04**	*6.22*	*6.22*	*6.05*	*6.08*	*6.22*	**5.99**	*6.22*	*6.14*
Non-OECD	**51.78**	**52.21**	**52.53**	**53.64**	**53.13**	**53.37**	**53.85**	*54.03*	*55.04*	*55.47*	*55.12*	*54.76*	**52.54**	*53.60*	*55.10*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.55**	**4.40**	**4.76**	*4.69*	*4.29*	*4.44*	*4.76*	*4.67*	**4.86**	*4.60*	*4.54*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.76**	**0.76**	**0.76**	*0.77*	*0.75*	*0.77*	*0.77*	*0.78*	**0.75**	*0.76*	*0.77*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.14**	**15.12**	**15.11**	*15.56*	*16.35*	*16.24*	*15.62*	*15.54*	**15.27**	*15.23*	*15.93*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.80**	**13.81**	**13.50**	*13.88*	*14.41*	*14.39*	*13.81*	*14.10*	**13.23**	*13.75*	*14.18*
Other Non-OECD	**17.68**	**18.27**	**18.87**	**18.91**	**18.89**	**19.27**	**19.72**	*19.13*	*19.24*	*19.63*	*20.17*	*19.67*	**18.44**	*19.25*	*19.68*
Total World Consumption	**94.37**	**96.34**	**98.40**	**100.53**	**98.98**	**98.79**	**99.54**	*100.89*	*101.27*	*100.74*	*101.03*	*101.07*	**97.43**	*99.55*	*101.03*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.36**	**0.51**	**0.37**	**0.83**	**0.81**	**0.51**	**0.43**	*0.55*	*0.00*	*-0.36*	*-0.06*	*0.49*	**0.52**	*0.57*	*0.02*
Other OECD	**0.87**	**0.15**	**0.97**	**0.67**	**-0.12**	**-0.19**	**-0.66**	*-0.17*	*0.38*	*0.09*	*-0.02*	*-0.08*	**0.66**	*-0.29*	*0.09*
Other Stock Draws and Balance	**0.31**	**0.86**	**0.31**	**0.68**	**-0.57**	**-0.19**	**-1.40**	*-0.35*	*0.80*	*0.19*	*-0.05*	*-0.17*	**0.54**	*-0.63*	*0.19*
Total Stock Draw	**1.55**	**1.52**	**1.65**	**2.18**	**0.11**	**0.13**	**-1.64**	*0.02*	*1.18*	*-0.09*	*-0.13*	*0.24*	**1.72**	*-0.35*	*0.30*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,311**	**1,281**	**1,251**	**1,199**	**1,154**	**1,180**	**1,218**	*1,196*	*1,198*	*1,246*	*1,257*	*1,222*	**1,199**	*1,196*	*1,222*
OECD Commercial Inventory	**2,917**	**2,874**	**2,755**	**2,641**	**2,607**	**2,651**	**2,751**	*2,744*	*2,712*	*2,752*	*2,765*	*2,738*	**2,641**	*2,744*	*2,738*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.34**	**26.47**	**26.42**	**27.52**	**27.01**	**27.54**	**27.98**	*28.43*	*28.76*	*28.76*	*28.76*	*29.08*	**26.44**	*27.75*	*28.84*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.53**	**5.72**	*5.85*	*5.92*	*5.88*	*5.90*	*5.92*	**5.54**	*5.69*	*5.91*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	**1.89**	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
United States	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	**20.36**	*20.72*	*20.93*	*21.01*	*21.03*	*21.37*	**18.98**	*20.16*	*21.09*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.83**	**6.41**	**6.98**	*6.62*	*6.38*	*7.14*	*7.44*	*6.94*	**6.10**	*6.46*	*6.98*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.77**	**0.78**	**0.79**	*0.81*	*0.85*	*0.86*	*0.88*	*0.90*	**0.70**	*0.79*	*0.87*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.33**	**3.78**	**4.28**	*3.82*	*3.49*	*4.22*	*4.52*	*3.98*	**3.69**	*3.81*	*4.06*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	**0.78**	**0.78**	*0.77*	*0.77*	*0.77*	*0.78*	*0.77*	**0.76**	*0.77*	*0.77*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	**0.47**	**0.49**	*0.53*	*0.54*	*0.55*	*0.56*	*0.56*	**0.48**	*0.49*	*0.55*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.49**	**0.60**	**0.65**	*0.68*	*0.73*	*0.73*	*0.72*	*0.73*	**0.47**	*0.61*	*0.73*
Europe	**4.34**	**3.84**	**4.12**	**4.12**	**4.08**	**3.75**	**4.03**	*4.21*	*4.33*	*4.37*	*4.30*	*4.49*	**4.10**	*4.02*	*4.37*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.97**	**1.74**	**1.98**	*2.12*	*2.27*	*2.30*	*2.30*	*2.39*	**2.03**	*1.96*	*2.32*
United Kingdom	**1.08**	**0.81**	**0.93**	**0.93**	**0.96**	**0.91**	**0.92**	*0.95*	*0.94*	*0.93*	*0.85*	*0.94*	**0.94**	*0.93*	*0.91*
Eurasia	**13.42**	**13.66**	**13.63**	**14.27**	**14.39**	**13.33**	**13.70**	*13.67*	*12.42*	*12.25*	*12.27*	*12.28*	**13.75**	*13.77*	*12.31*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	**0.67**	**0.66**	*0.66*	*0.65*	*0.64*	*0.63*	*0.64*	**0.72**	*0.67*	*0.64*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	**1.78**	**1.73**	*1.88*	*1.94*	*1.91*	*1.92*	*1.99*	**1.87**	*1.85*	*1.94*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	**10.49**	**10.92**	*10.73*	*9.41*	*9.30*	*9.31*	*9.24*	**10.78**	*10.86*	*9.32*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.24**	**0.26**	*0.26*	*0.27*	*0.27*	*0.27*	*0.27*	**0.25**	*0.25*	*0.27*
Other Eurasia	**0.13**	**0.14**	**0.14**	**0.13**	**0.14**	**0.14**	**0.14**	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	**0.13**	*0.14*	*0.14*
Middle East	**3.09**	**3.12**	**3.16**	**3.17**	**3.23**	**3.29**	**3.27**	*3.21*	*3.22*	*3.22*	*3.21*	*3.21*	**3.13**	*3.25*	*3.21*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.05**	**1.07**	**1.10**	*1.04*	*1.04*	*1.04*	*1.04*	*1.04*	**0.98**	*1.06*	*1.04*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.85**	**1.86**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.95**	**9.17**	**9.15**	**9.11**	*9.19*	*9.24*	*9.24*	*9.20*	*9.22*	**9.07**	*9.15*	*9.23*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.45**	**0.46**	**0.43**	*0.43*	*0.43*	*0.42*	*0.41*	*0.41*	**0.46**	*0.45*	*0.42*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.16**	**5.14**	*5.18*	*5.22*	*5.25*	*5.24*	*5.28*	**4.99**	*5.16*	*5.25*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.88**	**0.89**	**0.90**	*0.89*	*0.91*	*0.90*	*0.90*	*0.89*	**0.89**	*0.89*	*0.90*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.84**	**0.82**	**0.82**	*0.81*	*0.81*	*0.80*	*0.79*	*0.79*	**0.86**	*0.82*	*0.80*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.61**	**0.60**	**0.58**	*0.62*	*0.62*	*0.62*	*0.61*	*0.61*	**0.61**	*0.60*	*0.61*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.21**	**0.20**	**0.20**	*0.19*	*0.19*	*0.18*	*0.18*	*0.18*	**0.21**	*0.20*	*0.18*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.41**	**1.40**	**1.44**	*1.45*	*1.43*	*1.43*	*1.41*	*1.41*	**1.44**	*1.42*	*1.42*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.66**	**0.65**	**0.67**	*0.67*	*0.67*	*0.66*	*0.66*	*0.67*	**0.66**	*0.66*	*0.67*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	**0.15**	**0.16**	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**62.48**	**63.95**	**64.47**	**65.24**	**65.13**	**64.86**	**66.50**	*66.78*	*65.78*	*66.40*	*66.61*	*66.63*	**64.05**	*65.82*	*66.36*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.44**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Non-OPEC + OPEC non-crude	**67.75**	**69.34**	**69.92**	**70.68**	**70.68**	**70.30**	**71.98**	*72.30*	*71.37*	*71.86*	*72.11*	*72.17*	**69.43**	*71.32*	*71.88*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	**1.31**	**0.72**	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

STF-3-12 Attachment E

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.95**	**0.97**	**1.00**	**1.02**	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	**1.18**	**1.16**	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	**0.28**	**0.29**	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	**0.09**	**0.09**	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	**0.19**	**0.20**	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	**2.53**	**2.50**	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	**4.42**	**4.55**	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	**2.68**	**2.80**	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	**0.76**	**0.95**	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	**1.14**	**0.97**	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	**10.30**	**10.85**	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	**3.04**	**3.16**	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	**0.73**	**0.66**	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.67**	**28.19**	**28.36**	**29.20**	*28.56*	*28.73*	*28.96*	*29.05*	*28.66*	**26.28**	*28.58*	*28.85*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.44**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.80**	**34.68**	*34.08*	*34.32*	*34.43*	*34.55*	*34.20*	**31.66**	*34.08*	*34.37*
Crude Oil Production Capacity															
Middle East	**25.21**	**25.50**	**25.50**	**25.48**	**25.48**	**25.46**	**25.52**	*25.60*	*25.90*	*26.03*	*26.03*	*26.03*	**25.42**	*25.52*	*26.00*
Other	**6.12**	**6.10**	**5.96**	**5.98**	**5.83**	**5.45**	**5.34**	*5.40*	*5.74*	*5.78*	*5.70*	*5.66*	**6.04**	*5.51*	*5.72*
OPEC Total	**31.33**	**31.59**	**31.45**	**31.46**	**31.31**	**30.92**	**30.86**	*31.00*	*31.64*	*31.81*	*31.73*	*31.69*	**31.46**	*31.02*	*31.72*
Surplus Crude Oil Production Capacity															
Middle East	**5.66**	**5.52**	**4.21**	**3.53**	**3.00**	**2.48**	**1.66**	*2.42*	*2.90*	*2.83*	*2.66*	*3.03*	**4.72**	*2.39*	*2.85*
Other	**0.59**	**0.59**	**0.40**	**0.27**	**0.12**	**0.08**	**0.00**	*0.02*	*0.02*	*0.02*	*0.02*	*0.01*	**0.46**	*0.06*	*0.02*
OPEC Total	**6.25**	**6.10**	**4.61**	**3.80**	**3.12**	**2.56**	**1.66**	*2.44*	*2.92*	*2.85*	*2.68*	*3.03*	**5.18**	*2.44*	*2.87*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	**2.42**	**2.53**	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.40**	**23.95**	**24.34**	**24.60**	**24.24**	**24.45**	**24.21**	*24.83*	*24.21*	*24.48*	*24.66*	*24.86*	**23.83**	*24.44*	*24.56*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.26**	**2.19**	**2.36**	*2.37*	*2.30*	*2.25*	*2.34*	*2.32*	**2.28**	*2.30*	*2.30*
Mexico	**1.63**	**1.66**	**1.61**	**1.72**	**1.76**	**1.99**	**1.69**	*1.69*	*1.68*	*1.71*	*1.70*	*1.72*	**1.65**	*1.78*	*1.70*
United States	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.15**	*20.76*	*20.22*	*20.52*	*20.61*	*20.81*	**19.89**	*20.35*	*20.54*
Central and South America	**5.89**	**6.03**	**6.25**	**6.37**	**6.23**	**6.28**	**6.39**	*6.40*	*6.19*	*6.32*	*6.43*	*6.37*	**6.14**	*6.33*	*6.33*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.99**	**3.00**	**3.08**	*3.08*	*2.97*	*3.03*	*3.10*	*3.09*	**2.96**	*3.04*	*3.05*
Europe	**12.70**	**13.41**	**14.62**	**14.70**	**13.91**	**14.17**	**14.53**	*14.57*	*14.32*	*13.95*	*14.36*	*14.13*	**13.87**	*14.30*	*14.19*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.55**	**4.40**	**4.76**	*4.69*	*4.29*	*4.44*	*4.76*	*4.67*	**4.86**	*4.60*	*4.54*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.40**	**3.32**	**3.59**	*3.50*	*3.19*	*3.28*	*3.57*	*3.43*	**3.61**	*3.45*	*3.37*
Middle East	**8.08**	**8.50**	**9.04**	**8.78**	**8.87**	**9.19**	**9.62**	*8.86*	*9.13*	*9.36*	*9.89*	*9.27*	**8.60**	*9.13*	*9.42*
Asia and Oceania	**36.28**	**35.34**	**34.78**	**36.67**	**36.68**	**35.78**	**35.64**	*37.00*	*38.53*	*37.56*	*36.40*	*37.07*	**35.76**	*36.27*	*37.38*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.14**	**15.12**	**15.11**	*15.56*	*16.35*	*16.24*	*15.62*	*15.54*	**15.27**	*15.23*	*15.93*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**3.03**	**3.16**	*3.49*	*3.72*	*3.06*	*3.09*	*3.39*	**3.41**	*3.34*	*3.31*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	**5.06**	**4.80**	*5.05*	*5.25*	*5.32*	*4.96*	*5.28*	**4.65**	*5.00*	*5.20*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	**4.51**	**4.50**	**4.40**	*4.53*	*4.60*	*4.61*	*4.53*	*4.69*	**4.37**	*4.49*	*4.61*
Total OECD Liquid Fuels Consumption	**42.59**	**44.14**	**45.87**	**46.89**	**45.85**	**45.42**	**45.69**	*46.86*	*46.24*	*45.27*	*45.91*	*46.31*	**44.89**	*45.96*	*45.93*
Total non-OECD Liquid Fuels Consumption	**51.78**	**52.21**	**52.53**	**53.64**	**53.13**	**53.37**	**53.85**	*54.03*	*55.04*	*55.47*	*55.12*	*54.76*	**52.54**	*53.60*	*55.10*
Total World Liquid Fuels Consumption	**94.37**	**96.34**	**98.40**	**100.53**	**98.98**	**98.79**	**99.54**	*100.89*	*101.27*	*100.74*	*101.03*	*101.07*	**97.43**	*99.55*	*101.03*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.4**	**117.6**	**119.0**	**120.7**	**121.4**	**121.6**	**122.3**	*123.0*	*123.5*	*124.2*	*125.1*	*126.2*	**118.4**	*122.1*	*124.8*
Percent change from prior year	**3.4**	**11.5**	**5.1**	**4.6**	**4.3**	**3.4**	**2.8**	*1.9*	*1.8*	*2.1*	*2.3*	*2.6*	**6.1**	*3.1*	*2.2*
OECD Index, 2015 = 100													**109.6**	*112.4*	*112.8*
Percent change from prior year													**5.5**	*2.6*	*0.3*
Non-OECD Index, 2015 = 100													**123.8**	*128.2*	*132.9*
Percent change from prior year													**6.5**	*3.5*	*3.7*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	**113.0**	**116.8**	*118.5*	*118.1*	*117.6*	*117.0*	*116.0*	**107.3**	*114.5*	*117.2*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	**6.5**	**8.7**	*8.7*	*7.8*	*4.1*	*0.1*	*-2.1*	**-3.9**	*6.7*	*2.4*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.69**	**11.83**	*11.99*	*12.27*	*12.29*	*12.36*	*12.50*	**11.25**	*11.75*	*12.36*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	**0.44**	**0.43**	*0.44*	*0.44*	*0.38*	*0.40*	*0.41*	**0.44**	*0.44*	*0.41*
Federal Gulf of Mexico (b)	**1.83**	**1.80**	**1.49**	**1.71**	**1.67**	**1.70**	**1.78**	*1.80*	*1.88*	*1.86*	*1.79*	*1.78*	**1.71**	*1.74*	*1.83*
Lower 48 States (excl GOM)	**8.54**	**9.10**	**9.29**	**9.50**	**9.35**	**9.56**	**9.63**	*9.75*	*9.95*	*10.04*	*10.17*	*10.32*	**9.11**	*9.57*	*10.12*
Crude Oil Net Imports (c)	**2.88**	**2.94**	**3.64**	**3.13**	**3.00**	**2.81**	**2.47**	*3.33*	*2.89*	*3.25*	*3.47*	*3.11*	**3.15**	*2.90*	*3.18*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	**0.80**	**0.85**	*0.31*	*0.01*	*0.17*	*0.06*	*0.11*	**0.12**	*0.57*	*0.09*
Commercial Inventory Net Withdrawals	**-0.19**	**0.60**	**0.30**	**-0.01**	**0.08**	**-0.03**	**-0.13**	*-0.07*	*-0.26*	*0.12*	*0.19*	*-0.08*	**0.18**	*-0.04*	*-0.01*
Crude Oil Adjustment (d)	**0.30**	**0.59**	**0.44**	**0.44**	**0.71**	**0.81**	**1.18**	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.44**	*0.72*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	**16.20**	*15.73*	*15.13*	*16.04*	*16.30*	*15.81*	**15.15**	*15.89*	*15.82*
Other Supply															
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	**1.06**	*1.04*	*1.01*	*0.97*	*0.98*	*1.00*	**0.96**	*1.03*	*0.99*
Natural Gas Plant Liquids Production	**4.89**	**5.50**	**5.56**	**5.74**	**5.61**	**5.92**	**6.09**	*6.25*	*6.25*	*6.32*	*6.28*	*6.39*	**5.42**	*5.97*	*6.31*
Renewables and Oxygenate Production (e)	**1.04**	**1.13**	**1.11**	**1.24**	**1.19**	**1.20**	**1.16**	*1.23*	*1.19*	*1.21*	*1.19*	*1.26*	**1.13**	*1.20*	*1.21*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	**1.01**	**0.97**	*1.01*	*0.97*	*0.98*	*0.96*	*1.00*	**0.98**	*1.00*	*0.98*
Petroleum Products Adjustment (f)	**0.20**	**0.22**	**0.22**	**0.23**	**0.22**	**0.23**	**0.22**	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.21*
Product Net Imports (c)	**-2.79**	**-3.07**	**-3.19**	**-3.79**	**-3.74**	**-3.99**	**-4.29**	*-4.01*	*-3.82*	*-3.59*	*-4.06*	*-4.32*	**-3.21**	*-4.01*	*-3.95*
Hydrocarbon Gas Liquids	**-1.95**	**-2.25**	**-2.15**	**-2.18**	**-2.14**	**-2.31**	**-2.25**	*-2.52*	*-2.55*	*-2.54*	*-2.55*	*-2.55*	**-2.14**	*-2.31*	*-2.55*
Unfinished Oils	**0.18**	**0.30**	**0.25**	**0.10**	**0.09**	**0.25**	**0.39**	*0.28*	*0.20*	*0.26*	*0.37*	*0.20*	**0.21**	*0.26*	*0.26*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.05**	**-0.09**	**-0.10**	**-0.07**	*-0.05*	*-0.06*	*-0.04*	*-0.03*	*-0.03*	**-0.05**	*-0.08*	*-0.04*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.67**	**0.43**	**0.40**	**0.60**	**0.46**	*0.36*	*0.42*	*0.66*	*0.36*	*0.39*	**0.61**	*0.45*	*0.46*
Finished Motor Gasoline	**-0.64**	**-0.64**	**-0.68**	**-0.88**	**-0.76**	**-0.73**	**-0.80**	*-0.65*	*-0.59*	*-0.53*	*-0.71*	*-0.81*	**-0.71**	*-0.74*	*-0.66*
Jet Fuel	**0.03**	**0.08**	**0.08**	**0.01**	**-0.04**	**-0.06**	**-0.11**	*-0.06*	*-0.09*	*0.00*	*0.04*	*0.07*	**0.05**	*-0.07*	*0.00*
Distillate Fuel Oil	**-0.48**	**-0.87**	**-0.91**	**-0.86**	**-0.81**	**-1.15**	**-1.38**	*-1.05*	*-0.71*	*-1.02*	*-1.16*	*-1.14*	**-0.78**	*-1.10*	*-1.01*
Residual Fuel Oil	**0.07**	**0.05**	**0.08**	**0.15**	**0.14**	**0.10**	**0.07**	*0.20*	*0.13*	*0.14*	*0.14*	*0.17*	**0.09**	*0.13*	*0.14*
Other Oils (g)	**-0.48**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	**-0.59**	**-0.59**	*-0.52*	*-0.57*	*-0.52*	*-0.52*	*-0.62*	**-0.49**	*-0.56*	*-0.56*
Product Inventory Net Withdrawals	**0.55**	**-0.27**	**0.03**	**0.58**	**0.42**	**-0.25**	**-0.29**	*0.31*	*0.25*	*-0.65*	*-0.31*	*0.46*	**0.22**	*0.05*	*-0.06*
Total Supply	**18.54**	**20.13**	**20.30**	**20.53**	**20.22**	**20.27**	**20.15**	*20.76*	*20.22*	*20.52*	*20.61*	*20.81*	**19.88**	*20.35*	*20.54*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.43**	**3.33**	**3.34**	**3.66**	**3.87**	**3.43**	**3.43**	*3.97*	*4.07*	*3.55*	*3.52*	*3.95*	**3.44**	*3.68*	*3.77*
Other HC/Oxygenates	**0.11**	**0.13**	**0.13**	**0.16**	**0.13**	**0.17**	**0.16**	*0.22*	*0.21*	*0.21*	*0.20*	*0.26*	**0.13**	*0.17*	*0.22*
Unfinished Oils	**0.08**	**0.07**	**-0.05**	**0.00**	**0.13**	**0.04**	**0.04**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.02**	*0.05*	*0.00*
Motor Gasoline	**8.04**	**9.09**	**9.14**	**8.98**	**8.47**	**9.00**	**8.82**	*8.82*	*8.42*	*8.98*	*8.94*	*8.85*	**8.82**	*8.78*	*8.80*
Fuel Ethanol blended into Motor Gasoline	**0.81**	**0.93**	**0.94**	**0.95**	**0.87**	**0.93**	**0.90**	*0.92*	*0.86*	*0.93*	*0.92*	*0.93*	**0.91**	*0.91*	*0.91*
Jet Fuel	**1.12**	**1.34**	**1.52**	**1.50**	**1.45**	**1.61**	**1.59**	*1.56*	*1.45*	*1.59*	*1.66*	*1.63*	**1.37**	*1.55*	*1.58*
Distillate Fuel Oil	**3.99**	**3.96**	**3.90**	**4.03**	**4.14**	**3.89**	**3.75**	*3.93*	*4.05*	*3.93*	*3.84*	*3.94*	**3.97**	*3.93*	*3.94*
Residual Fuel Oil	**0.26**	**0.25**	**0.35**	**0.40**	**0.38**	**0.31**	**0.34**	*0.44*	*0.37*	*0.39*	*0.41*	*0.41*	**0.31**	*0.37*	*0.40*
Other Oils (g)	**1.54**	**1.95**	**1.98**	**1.81**	**1.65**	**1.82**	**2.02**	*1.82*	*1.64*	*1.87*	*2.04*	*1.77*	**1.82**	*1.83*	*1.83*
Total Consumption	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.15**	*20.76*	*20.22*	*20.52*	*20.61*	*20.81*	**19.89**	*20.35*	*20.54*
Total Petroleum and Other Liquids Net Imports	**0.09**	**-0.13**	**0.45**	**-0.65**	**-0.74**	**-1.18**	**-1.81**	*-0.68*	*-0.93*	*-0.34*	*-0.59*	*-1.21*	**-0.06**	*-1.10*	*-0.77*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**502.5**	**448.1**	**420.3**	**421.2**	**414.4**	**417.5**	**429.3**	*435.7*	*459.5*	*448.9*	*431.0*	*438.3*	**421.2**	*435.7*	*438.3*
Hydrocarbon Gas Liquids	**176.9**	**205.3**	**235.5**	**193.1**	**142.0**	**186.7**	**244.4**	*192.5*	*148.5*	*201.8*	*244.2*	*203.1*	**193.1**	*192.5*	*203.1*
Unfinished Oils	**92.5**	**92.3**	**89.5**	**79.7**	**87.9**	**88.8**	**82.0**	*81.0*	*91.7*	*89.4*	*88.4*	*81.3*	**79.7**	*81.0*	*81.3*
Other HC/Oxygenates	**29.3**	**27.7**	**25.7**	**28.7**	**34.1**	**29.4**	**28.1**	*28.4*	*30.5*	*29.2*	*28.9*	*29.2*	**28.7**	*28.4*	*29.2*
Total Motor Gasoline	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	**207.6**	*236.1*	*239.0*	*244.5*	*234.8*	*244.6*	**232.2**	*236.1*	*244.6*
Finished Motor Gasoline	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	**17.3**	*20.5*	*18.0*	*19.2*	*20.7*	*23.2*	**17.8**	*20.5*	*23.2*
Motor Gasoline Blend Comp.	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	**190.2**	*215.6*	*221.0*	*225.3*	*214.0*	*221.5*	**214.4**	*215.6*	*221.5*
Jet Fuel	**39.1**	**44.7**	**42.0**	**35.8**	**35.6**	**39.3**	**36.3**	*32.4*	*34.8*	*38.3*	*39.1*	*36.6*	**35.8**	*32.4*	*36.6*
Distillate Fuel Oil	**146.1**	**140.1**	**132.1**	**130.0**	**114.6**	**111.4**	**111.0**	*110.9*	*103.2*	*107.1*	*113.9*	*112.7*	**130.0**	*110.9*	*112.7*
Residual Fuel Oil	**30.9**	**31.5**	**27.8**	**25.8**	**27.9**	**29.2**	**28.8**	*27.0*	*29.1*	*27.8*	*26.9*	*25.3*	**25.8**	*27.0*	*25.3*
Other Oils (g)	**55.8**	**54.3**	**51.0**	**52.2**	**58.5**	**56.4**	**51.0**	*52.3*	*61.4*	*59.2*	*49.8*	*51.2*	**52.2**	*52.3*	*51.2*
Total Commercial Inventory	**1310.9**	**1281.4**	**1250.9**	**1198.6**	**1153.6**	**1179.7**	**1218.5**	*1196.2*	*1197.8*	*1246.2*	*1257.1*	*1222.4*	**1198.6**	*1196.2*	*1222.4*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	**493.3**	**415.4**	*386.8*	*385.6*	*370.0*	*364.8*	*354.3*	**593.7**	*386.8*	*354.3*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**2.20**	**2.19**	**2.32**	**2.33**	**2.43**	**2.49**	*2.59*	*2.61*	*2.67*	*2.58*	*2.64*	**2.15**	*2.46*	*2.62*
Propane	**1.63**	**1.76**	**1.77**	**1.82**	**1.77**	**1.85**	**1.89**	*1.95*	*1.96*	*1.95*	*1.96*	*2.00*	**1.74**	*1.87*	*1.97*
Butanes	**0.86**	**0.93**	**0.94**	**0.96**	**0.93**	**0.98**	**1.01**	*1.05*	*1.05*	*1.04*	*1.06*	*1.08*	**0.92**	*0.99*	*1.06*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.66**	**0.64**	**0.59**	**0.67**	**0.70**	*0.65*	*0.64*	*0.66*	*0.69*	*0.67*	**0.61**	*0.65*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**0.01**	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.27**	**0.29**	**0.30**	*0.29*	*0.29*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	**0.28**	**0.28**	*0.28*	*0.27*	*0.28*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	**0.25**	**0.19**	*-0.19*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.31**	**-0.38**	**-0.37**	**-0.41**	**-0.50**	**-0.40**	**-0.40**	*-0.43*	*-0.45*	*-0.45*	*-0.45*	*-0.45*	**-0.37**	*-0.43*	*-0.45*
Propane/Propylene	**-1.08**	**-1.26**	**-1.22**	**-1.24**	**-1.18**	**-1.33**	**-1.28**	*-1.45*	*-1.36*	*-1.35*	*-1.35*	*-1.40*	**-1.20**	*-1.31*	*-1.37*
Butanes/Butylenes	**-0.34**	**-0.41**	**-0.38**	**-0.35**	**-0.28**	**-0.41**	**-0.39**	*-0.47*	*-0.51*	*-0.52*	*-0.53*	*-0.47*	**-0.37**	*-0.39*	*-0.51*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.17**	**-0.17**	**-0.19**	*-0.18*	*-0.22*	*-0.22*	*-0.23*	*-0.23*	**-0.20**	*-0.18*	*-0.22*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.40**	**0.29**	**0.31**	**0.53**	**0.44**	**0.31**	**0.32**	*0.49*	*0.41*	*0.27*	*0.31*	*0.51*	**0.38**	*0.39*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.20**	**0.20**	**0.21**	*0.19*	*0.18*	*0.19*	*0.19*	*0.19*	**0.17**	*0.20*	*0.19*
HGL Consumption															
Ethane/Ethylene	**1.55**	**1.86**	**1.83**	**1.98**	**1.98**	**2.03**	**2.07**	*2.17*	*2.19*	*2.16*	*2.13*	*2.18*	**1.81**	*2.06*	*2.17*
Propane	**1.11**	**0.61**	**0.65**	**0.95**	**1.16**	**0.60**	**0.58**	*1.01*	*1.15*	*0.62*	*0.63*	*1.00*	**0.83**	*0.84*	*0.85*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	**0.29**	**0.29**	*0.29*	*0.29*	*0.30*	*0.29*	*0.29*	**0.31**	*0.29*	*0.29*
Butanes/Butylenes	**0.22**	**0.29**	**0.26**	**0.20**	**0.23**	**0.26**	**0.24**	*0.22*	*0.20*	*0.24*	*0.23*	*0.22*	**0.24**	*0.24*	*0.22*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.21**	**0.24**	**0.25**	*0.28*	*0.24*	*0.23*	*0.24*	*0.25*	**0.26**	*0.25*	*0.24*
HGL Inventories (million barrels)															
Ethane	**70.4**	**72.3**	**69.8**	**67.4**	**51.1**	**51.7**	**51.1**	*53.7*	*50.2*	*55.3*	*56.2*	*58.9*	**70.0**	*51.9*	*55.2*
Propane	**41.8**	**56.8**	**72.2**	**63.9**	**36.3**	**54.1**	**83.1**	*62.0*	*36.2*	*58.0*	*81.1*	*68.6*	**63.9**	*62.0*	*68.6*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.0**	**1.2**	**1.4**	*1.5*	*1.4*	*1.7*	*1.9*	*1.8*	**1.4**	*1.5*	*1.8*
Butanes/Butylenes	**37.7**	**54.7**	**69.9**	**43.9**	**35.7**	**58.8**	**82.1**	*52.1*	*38.9*	*63.6*	*81.6*	*52.5*	**43.9**	*52.1*	*52.5*
Natural Gasoline (Pentanes Plus)	**23.0**	**22.5**	**22.5**	**20.7**	**19.4**	**22.7**	**25.0**	*23.9*	*21.2*	*22.2*	*22.8*	*21.8*	**20.7**	*23.9*	*21.8*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	**16.20**	*15.73*	*15.13*	*16.04*	*16.30*	*15.81*	**15.15**	*15.89*	*15.82*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.76**	**0.64**	**0.50**	**0.53**	*0.68*	*0.59*	*0.46*	*0.50*	*0.69*	**0.55**	*0.59*	*0.56*
Other Hydrocarbons/Oxygenates	**1.06**	**1.19**	**1.20**	**1.18**	**1.12**	**1.20**	**1.19**	*1.15*	*1.09*	*1.17*	*1.16*	*1.16*	**1.16**	*1.16*	*1.14*
Unfinished Oils	**-0.07**	**0.24**	**0.32**	**0.21**	**-0.12**	**0.21**	**0.42**	*0.29*	*0.08*	*0.28*	*0.38*	*0.28*	**0.18**	*0.20*	*0.26*
Motor Gasoline Blend Components	**0.70**	**0.92**	**0.82**	**0.28**	**0.33**	**0.84**	**0.70**	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.54*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.03**	**18.43**	**18.41**	**17.92**	**17.53**	**18.84**	**19.04**	*18.15*	*17.37*	*18.67*	*18.93*	*18.46*	**17.71**	*18.39*	*18.36*
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	**1.06**	*1.04*	*1.01*	*0.97*	*0.98*	*1.00*	**0.96**	*1.03*	*0.99*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	**0.84**	**0.78**	*0.38*	*0.49*	*0.84*	*0.77*	*0.37*	**0.62**	*0.62*	*0.62*
Finished Motor Gasoline	**8.75**	**9.83**	**9.83**	**9.70**	**9.22**	**9.74**	**9.70**	*9.67*	*9.07*	*9.58*	*9.73*	*9.86*	**9.53**	*9.58*	*9.56*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.48**	**1.71**	**1.67**	*1.58*	*1.57*	*1.63*	*1.63*	*1.54*	**1.31**	*1.61*	*1.59*
Distillate Fuel	**4.30**	**4.77**	**4.72**	**4.87**	**4.77**	**5.00**	**5.13**	*4.99*	*4.68*	*4.99*	*5.07*	*5.07*	**4.67**	*4.98*	*4.95*
Residual Fuel	**0.20**	**0.21**	**0.22**	**0.23**	**0.26**	**0.22**	**0.27**	*0.22*	*0.26*	*0.24*	*0.26*	*0.23*	**0.21**	*0.24*	*0.25*
Other Oils (a)	**2.10**	**2.43**	**2.44**	**2.33**	**2.26**	**2.39**	**2.55**	*2.35*	*2.31*	*2.37*	*2.45*	*2.41*	**2.32**	*2.39*	*2.38*
Total Refinery and Blender Net Production	**16.88**	**19.41**	**19.37**	**18.96**	**18.49**	**19.90**	**20.09**	*19.19*	*18.38*	*19.65*	*19.91*	*19.46*	**18.66**	*19.42*	*19.36*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.23**	**16.02**	**16.07**	**16.61**	**16.68**	*16.05*	*15.48*	*16.30*	*16.62*	*16.12*	**15.67**	*16.35*	*16.13*
Refinery Operable Distillation Capacity	**18.13**	**18.13**	**18.13**	**18.05**	**17.94**	**17.94**	**17.96**	*17.96*	*17.96*	*17.96*	*17.96*	*17.96*	**18.11**	*17.95*	*17.96*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.90**	**0.93**	**0.93**	*0.89*	*0.86*	*0.91*	*0.93*	*0.90*	**0.87**	*0.91*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**278**	**376**	**311**	*303*	*272*	*278*	*277*	*270*	**219**	*318*	*274*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	**438**	**392**	*350*	*339*	*351*	*349*	*347*	**294**	*386*	*347*
PADD 2	**247**	**288**	**304**	**315**	**352**	**436**	**398**	*367*	*334*	*344*	*349*	*342*	**290**	*389*	*342*
PADD 3	**227**	**267**	**282**	**298**	**340**	**414**	**358**	*328*	*311*	*323*	*324*	*319*	**270**	*360*	*320*
PADD 4	**247**	**311**	**360**	**351**	**360**	**446**	**437**	*388*	*362*	*363*	*368*	*360*	**319**	*409*	*363*
PADD 5	**312**	**366**	**391**	**410**	**452**	**543**	**511**	*510*	*455*	*433*	*427*	*423*	**372**	*505*	*434*
U.S. Average	**256**	**297**	**316**	**333**	**371**	**450**	**408**	*380*	*354*	*359*	*359*	*355*	**302**	*403*	*357*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	**460**	**419**	*393*	*367*	*372*	*372*	*369*	**311**	*414*	*370*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.9**	**53.6**	**54.3**	*60.1*	*61.2*	*67.2*	*62.3*	*64.5*	**61.8**	*60.1*	*64.5*
PADD 2	**50.6**	**50.6**	**46.8**	**50.7**	**56.5**	**46.7**	**44.0**	*49.9*	*53.1*	*50.4*	*47.8*	*51.7*	**50.7**	*49.9*	*51.7*
PADD 3	**82.1**	**81.6**	**83.0**	**81.7**	**87.1**	**83.9**	**78.6**	*88.6*	*87.1*	*89.5*	*86.8*	*89.4*	**81.7**	*88.6*	*89.4*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**8.1**	**6.4**	**6.0**	*7.4*	*8.0*	*7.6*	*7.8*	*8.3*	**8.1**	*7.4*	*8.3*
PADD 5	**31.5**	**29.0**	**30.6**	**29.7**	**29.9**	**30.3**	**24.7**	*30.1*	*29.6*	*29.8*	*30.1*	*30.7*	**29.7**	*30.1*	*30.7*
U.S. Total	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	**207.6**	*236.1*	*239.0*	*244.5*	*234.8*	*244.6*	**232.2**	*236.1*	*244.6*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	**17.3**	*20.5*	*18.0*	*19.2*	*20.7*	*23.2*	**17.8**	*20.5*	*23.2*
Gasoline Blending Components Inventories															
U.S. Total	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	**190.2**	*215.6*	*221.0*	*225.3*	*214.0*	*221.5*	**214.4**	*215.6*	*221.5*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**98.57**	**102.12**	**102.88**	**105.43**	**103.27**	**106.14**	**107.27**	*107.88*	*107.93*	*108.37*	*108.56*	*108.85*	**102.27**	*106.16*	*108.43*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	**1.00**	**0.93**	*1.00*	*1.00*	*0.92*	*0.84*	*0.98*	**0.97**	*1.00*	*0.94*
Federal GOM (a)	**2.33**	**2.30**	**1.82**	**2.10**	**2.05**	**2.11**	**2.19**	*2.16*	*2.18*	*2.12*	*1.99*	*1.95*	**2.14**	*2.13*	*2.06*
Lower 48 States (excl GOM)	**95.22**	**98.87**	**100.16**	**102.30**	**100.16**	**103.03**	**104.15**	*104.72*	*104.75*	*105.33*	*105.72*	*105.93*	**99.16**	*103.03*	*105.44*
Total Dry Gas Production	**91.14**	**94.43**	**95.14**	**97.49**	**95.10**	**97.55**	**98.48**	*99.05*	*99.20*	*99.57*	*99.73*	*100.00*	**94.57**	*97.56*	*99.63*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	**0.01**	**0.05**	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.06**	*0.07*	*0.06*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	**10.80**	**10.02**	*11.75*	*12.47*	*12.53*	*12.10*	*12.28*	**9.76**	*11.01*	*12.34*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.92**	**7.79**	**7.72**	*7.59*	*8.30*	*6.87*	*7.05*	*7.44*	**7.63**	*8.00*	*7.41*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	**8.44**	**8.56**	*9.19*	*9.64*	*9.10*	*9.44*	*9.75*	**8.47**	*8.66*	*9.49*
Supplemental Gaseous Fuels	**0.17**	**0.18**	**0.18**	**0.19**	**0.21**	**0.15**	**0.19**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.18*	*0.19*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	**-10.25**	**-8.83**	*3.03*	*15.53*	*-13.19*	*-9.23*	*3.76*	**0.24**	*0.95*	*-0.84*
Total Supply	**99.74**	**73.84**	**76.62**	**87.84**	**104.59**	**76.01**	**79.04**	*88.98*	*101.21*	*71.84*	*76.24*	*89.42*	**84.46**	*87.09*	*84.62*
Balancing Item (b)	**1.28**	**-1.08**	**-0.66**	**-1.28**	**0.54**	**0.40**	**1.03**	*1.22*	*1.75*	*1.20*	*-0.52*	*0.33*	**-0.44**	*0.80*	*0.68*
Total Primary Supply	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**80.07**	*90.20*	*102.96*	*73.04*	*75.71*	*89.74*	**84.01**	*87.89*	*85.30*
Consumption (billion cubic feet per day)															
Residential	**26.05**	**7.58**	**3.67**	**14.61**	**26.09**	**7.85**	**3.89**	*16.84*	*25.74*	*7.92*	*4.17*	*16.75*	**12.92**	*13.62*	*13.59*
Commercial	**15.03**	**6.31**	**4.73**	**10.17**	**15.62**	**6.70**	**5.02**	*11.53*	*15.27*	*6.86*	*5.32*	*11.62*	**9.04**	*9.69*	*9.75*
Industrial	**24.21**	**21.67**	**21.45**	**23.59**	**25.49**	**22.38**	**21.47**	*23.31*	*23.46*	*21.11*	*21.36*	*24.06*	**22.73**	*23.15*	*22.50*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.65**	**31.12**	**41.14**	*29.54*	*28.99*	*28.78*	*36.41*	*28.29*	**30.88**	*32.64*	*30.63*
Lease and Plant Fuel	**5.02**	**5.20**	**5.24**	**5.37**	**5.26**	**5.41**	**5.46**	*5.49*	*5.50*	*5.52*	*5.53*	*5.54*	**5.21**	*5.41*	*5.52*
Pipeline and Distribution Use	**3.77**	**2.65**	**2.78**	**3.19**	**3.87**	**2.81**	**2.94**	*3.35*	*3.84*	*2.69*	*2.79*	*3.33*	**3.09**	*3.24*	*3.16*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**80.07**	*90.20*	*102.96*	*73.04*	*75.71*	*89.74*	**84.01**	*87.89*	*85.30*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	**2,325**	**3,135**	*2,857*	*1,460*	*2,660*	*3,509*	*3,163*	**3,210**	*2,857*	*3,163*
East Region (d)	**313**	**515**	**804**	**766**	**242**	**482**	**756**	*650*	*215*	*572*	*879*	*747*	**766**	*650*	*747*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	**557**	**916**	*795*	*325*	*650*	*1,000*	*860*	**887**	*795*	*860*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	**885**	**1,003**	*998*	*664*	*1,019*	*1,105*	*1,079*	**1,143**	*998*	*1,079*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	**137**	**184**	*168*	*91*	*139*	*205*	*186*	**171**	*168*	*186*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	**240**	**247**	*216*	*134*	*249*	*291*	*262*	**218**	*216*	*262*
Alaska	**23**	**27**	**30**	**25**	**21**	**25**	**29**	*29*	*29*	*29*	*29*	*29*	**25**	*29*	*29*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

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	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	**8.30**	*7.70*	*7.40*	*5.48*	*5.51*	*5.60*	**4.06**	*7.15*	*6.00*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**17.69**	**21.04**	**25.49**	*20.68*	*19.79*	*20.15*	*22.44*	*17.94*	**16.12**	*19.44*	*19.48*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.79**	**15.57**	**23.05**	*16.46*	*15.07*	*16.37*	*20.35*	*13.89*	**12.55**	*14.61*	*15.29*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.81**	**14.81**	**24.83**	*14.61*	*13.07*	*15.03*	*20.77*	*11.59*	**10.19**	*12.41*	*13.41*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**11.39**	**15.23**	**24.64**	*15.09*	*13.18*	*15.08*	*20.68*	*12.10*	**10.23**	*13.36*	*13.59*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.91**	**21.04**	**31.22**	*19.35*	*16.91*	*20.81*	*26.51*	*15.76*	**15.24**	*17.32*	*17.88*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.78**	**17.23**	**27.43**	*17.93*	*15.57*	*19.81*	*25.37*	*15.77*	**11.99**	*14.29*	*17.15*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**12.64**	**19.55**	**27.04**	*16.86*	*13.59*	*18.20*	*23.62*	*14.37*	**13.22**	*15.66*	*15.48*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.33**	**12.92**	**18.12**	*13.13*	*12.79*	*14.05*	*16.96*	*11.34*	**9.77**	*11.87*	*12.86*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.06**	**17.62**	**20.73**	*19.58*	*19.66*	*19.51*	*19.41*	*18.14*	**15.25**	*18.31*	*19.14*
U.S. Average	**9.71**	**13.82**	**20.27**	**13.71**	**12.32**	**16.57**	**24.20**	*16.65*	*15.28*	*17.11*	*21.23*	*13.97*	**12.21**	*15.14*	*15.60*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.63**	**14.45**	**15.36**	*14.95*	*15.07*	*14.48*	*13.21*	*12.54*	**11.33**	*13.95*	*14.06*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.33**	**10.80**	**11.78**	*12.29*	*12.49*	*11.63*	*10.40*	*10.41*	**8.56**	*11.19*	*11.48*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.14**	**10.47**	**12.93**	*11.28*	*11.27*	*11.65*	*11.78*	*9.33*	**7.60**	*9.74*	*10.76*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.24**	**11.70**	**14.51**	*12.04*	*11.64*	*11.28*	*11.67*	*9.57*	**7.91**	*11.28*	*10.96*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.52**	**12.16**	**14.31**	*13.41*	*13.04*	*13.09*	*12.68*	*11.44*	**9.76**	*12.09*	*12.51*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.54**	**13.01**	**15.20**	*13.80*	*13.05*	*13.29*	*12.95*	*11.41*	**9.89**	*12.40*	*12.56*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.99**	**12.28**	**13.56**	*12.39*	*11.50*	*11.43*	*10.96*	*9.88*	**8.62**	*11.56*	*10.99*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.83**	**10.07**	**11.96**	*11.18*	*11.09*	*11.23*	*11.54*	*10.00*	**7.75**	*10.01*	*10.82*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.74**	**13.38**	**15.38**	*14.55*	*13.92*	*12.88*	*12.29*	*11.35*	**11.09**	*13.76*	*12.66*
U.S. Average	**7.54**	**8.86**	**10.15**	**10.27**	**10.00**	**11.71**	**13.49**	*12.54*	*12.27*	*12.08*	*11.64*	*10.39*	**8.83**	*11.42*	*11.60*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**11.09**	**11.97**	**11.89**	*12.76*	*12.97*	*11.54*	*9.74*	*10.53*	**8.73**	*11.91*	*11.49*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.16**	**9.06**	**11.82**	*12.44*	*12.61*	*11.27*	*10.04*	*9.97*	**8.24**	*10.95*	*11.44*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.72**	**9.64**	**11.68**	*10.55*	*10.52*	*9.10*	*8.25*	*8.13*	**6.90**	*9.36*	*9.32*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**8.03**	**8.51**	**9.73**	*9.76*	*9.73*	*7.76*	*6.97*	*7.30*	**5.48**	*8.99*	*8.02*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.57**	**8.90**	**9.95**	*9.76*	*9.82*	*7.75*	*7.24*	*7.50*	**5.90**	*8.94*	*8.16*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.87**	**9.15**	**9.57**	*9.38*	*9.46*	*7.45*	*6.77*	*7.09*	**5.39**	*8.65*	*7.77*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**5.46**	**7.47**	**8.47**	*7.90*	*7.72*	*5.84*	*5.69*	*5.72*	**4.80**	*7.44*	*6.22*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.07**	**8.39**	**9.76**	*9.85*	*9.98*	*9.25*	*8.85*	*8.34*	**5.99**	*8.64*	*9.15*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.81**	**8.83**	**10.76**	*11.27*	*11.23*	*10.06*	*9.18*	*8.95*	**8.54**	*9.97*	*9.93*
U.S. Average	**5.79**	**4.13**	**5.09**	**6.82**	**6.82**	**8.25**	**8.91**	*9.00*	*9.11*	*6.97*	*6.44*	*6.77*	**5.51**	*8.17*	*7.35*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**146.7**	**149.0**	**141.7**	**153.3**	*154.1*	*147.9*	*137.2*	*150.7*	*145.2*	**578.1**	*598.2*	*581.0*
Appalachia	**40.8**	**39.5**	**36.6**	**38.9**	**40.2**	**38.7**	**38.7**	*39.5*	*39.4*	*37.5*	*33.7*	*33.3*	**155.8**	*157.1*	*144.0*
Interior	**25.0**	**23.3**	**22.7**	**22.5**	**23.8**	**21.9**	**22.8**	*22.5*	*22.5*	*20.6*	*22.3*	*21.6*	**93.5**	*90.9*	*87.0*
Western	**74.5**	**80.0**	**89.0**	**85.3**	**85.0**	**81.1**	**91.8**	*92.1*	*86.0*	*79.1*	*94.7*	*90.3*	**328.8**	*350.1*	*350.0*
Primary Inventory Withdrawals	**1.2**	**1.5**	**1.2**	**0.7**	**-0.5**	**0.6**	**1.1**	*-0.6*	*-1.0*	*0.4*	*1.1*	*-0.6*	**4.6**	*0.7*	*0.0*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	**1.6**	**2.0**	*2.1*	*1.9*	*2.2*	*2.6*	*2.3*	**5.4**	*7.0*	*9.1*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**20.2**	**23.0**	**20.7**	*21.3*	*21.8*	*23.5*	*22.4*	*24.2*	**85.2**	*85.2*	*92.0*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**10.5**	**13.1**	**11.7**	*11.0*	*11.2*	*12.4*	*11.5*	*12.2*	**45.3**	*46.3*	*47.3*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.7**	**9.9**	**9.0**	*10.3*	*10.6*	*11.2*	*10.9*	*11.9*	**39.9**	*39.0*	*44.6*
Total Primary Supply	**121.9**	**123.6**	**129.9**	**127.5**	**129.7**	**121.0**	**135.8**	*134.3*	*127.1*	*116.3*	*132.0*	*122.8*	**502.9**	*520.7*	*498.2*
Secondary Inventory Withdrawals	**20.4**	**0.3**	**30.4**	**-14.0**	**8.8**	**-2.5**	**3.6**	*-17.6*	*-7.9*	*-10.6*	*14.0*	*-13.8*	**37.1**	*-7.8*	*-18.4*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	**1.9**	**1.9**	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**144.5**	**125.6**	**162.3**	**115.5**	**140.3**	**120.4**	**141.3**	*118.5*	*121.0*	*107.5*	*147.7*	*110.7*	**547.8**	*520.5*	*487.0*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.2**	**3.9**	**4.0**	*4.2*	*4.1*	*4.2*	*4.3*	*4.5*	**17.6**	*16.2*	*17.2*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.6**	**107.4**	**137.5**	*107.6*	*110.2*	*97.6*	*137.7*	*99.8*	**501.4**	*475.1*	*445.4*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.9**	**6.8**	**6.3**	*6.7*	*6.7*	*5.6*	*5.7*	*6.4*	**26.7**	*26.7*	*24.4*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	*0.3*	*0.4*	*0.2*	*0.2*	*0.3*	**0.8**	*0.9*	*1.1*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	**6.7**	**6.1**	*6.5*	*6.3*	*5.4*	*5.5*	*6.1*	**25.8**	*25.9*	*23.3*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.1**	**133.7**	**118.1**	**147.8**	*118.5*	*121.0*	*107.5*	*147.7*	*110.7*	**545.7**	*518.1*	*487.0*
Discrepancy (c)	**5.3**	**1.0**	**-5.5**	**1.4**	**6.6**	**2.3**	**-6.5**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**2.2**	*2.4*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**22.4**	**20.9**	**19.7**	**19.0**	**19.5**	**18.8**	**17.7**	*18.3*	*19.2*	*18.8*	*17.7*	*18.3*	**19.0**	*18.3*	*18.3*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**99.1**	**90.3**	**92.8**	**89.2**	*106.9*	*114.7*	*125.4*	*111.4*	*125.3*	**99.1**	*106.9*	*125.3*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.3**	**83.6**	*101.3*	*110.0*	*120.5*	*106.4*	*120.3*	**94.7**	*101.3*	*120.3*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**2.6**	**2.4**	**3.5**	**3.6**	*3.5*	*2.9*	*3.0*	*3.1*	*3.1*	**2.6**	*3.5*	*3.1*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	**1.9**	**1.9**	*1.9*	*1.7*	*1.8*	*1.8*	*1.8*	**1.7**	*1.9*	*1.8*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.08**	**6.08**	**6.08**	**6.08**	**6.05**	**6.05**	**6.05**	*6.05*	*5.98*	*5.98*	*5.98*	*5.98*	**6.08**	*6.05*	*5.98*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	**0.263**	*0.289*	*0.302*	*0.302*	*0.320*	*0.338*	**0.258**	*0.265*	*0.315*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.58**	*2.53*	*2.53*	*2.50*	*2.48*	*2.45*	**1.98**	*2.39*	*2.49*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,033**	**1,028**	**1,187**	*989*	*1,016*	*1,010*	*1,153*	*984*	**4,116**	*4,236*	*4,163*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**994**	**991**	**1,147**	*951*	*979*	*972*	*1,113*	*945*	**3,963**	*4,083*	*4,008*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**35**	**33**	**36**	*35*	*34*	*34*	*37*	*36*	**140**	*140*	*141*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**3**	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**11**	**11**	**11**	**6**	**7**	**13**	**13**	*10*	*12*	*12*	*14*	*11*	**39**	*43*	*50*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,040**	**1,040**	**1,200**	*999*	*1,028*	*1,022*	*1,168*	*995*	**4,155**	*4,279*	*4,213*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**61**	**71**	**56**	*56*	*43*	*64*	*53*	*51*	**225**	*244*	*211*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**913**	**898**	**1,089**	**894**	**944**	**937**	**1,109**	*909*	*952*	*924*	*1,079*	*909*	**3,795**	*3,899*	*3,864*
Residential Sector	**379**	**329**	**446**	**324**	**379**	**346**	**453**	*329*	*381*	*334*	*430*	*329*	**1,477**	*1,507*	*1,473*
Commercial Sector	**304**	**321**	**377**	**322**	**322**	**335**	**387**	*329*	*325*	*333*	*380*	*327*	**1,325**	*1,372*	*1,364*
Industrial Sector	**229**	**247**	**264**	**247**	**242**	**255**	**267**	*250*	*245*	*256*	*268*	*251*	**987**	*1,013*	*1,020*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**34**	**33**	**35**	*34*	*33*	*33*	*36*	*35*	**136**	*136*	*137*
Total Consumption	**946**	**931**	**1,124**	**929**	**979**	**969**	**1,144**	*943*	*985*	*958*	*1,115*	*944*	**3,930**	*4,034*	*4,001*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,725**	**2,487**	**3,259**	*2,364*	*2,712*	*2,381*	*3,062*	*2,345*	**10,703**	*10,835*	*10,500*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.3**	**83.6**	*101.3*	*110.0*	*120.5*	*106.4*	*120.3*	**94.7**	*101.3*	*120.3*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**5.7**	**5.8**	**6.3**	*6.8*	*4.6*	*4.6*	*2.7*	*3.5*	**7.0**	*6.8*	*3.5*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**15.5**	**15.4**	**17.1**	*17.2*	*16.8*	*16.5*	*16.4*	*16.6*	**16.0**	*17.2*	*16.6*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.58**	*2.53*	*2.53*	*2.50*	*2.48*	*2.45*	**1.98**	*2.39*	*2.49*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.38**	**8.20**	*7.79*	*7.72*	*5.52*	*5.55*	*5.79*	**4.97**	*7.37*	*6.11*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**26.18**	**25.65**	*19.18*	*18.60*	*18.51*	*17.58*	*17.60*	**13.66**	*21.22*	*18.10*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	**26.94**	*26.78*	*25.66*	*23.27*	*22.45*	*22.81*	**15.50**	*25.22*	*23.84*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	**15.44**	*14.86*	*14.76*	*15.81*	*15.78*	*14.87*	**13.72**	*14.86*	*15.32*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	**12.70**	*12.06*	*12.31*	*12.81*	*12.93*	*12.00*	**11.27**	*12.21*	*12.53*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	**8.93**	*7.80*	*7.72*	*8.26*	*8.69*	*7.65*	**7.26**	*8.16*	*8.09*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	**83.19**	**130.71**	*74.02*	*65.00*	*49.03*	*62.39*	*48.35*	**189.54**	*82.66*	*56.19*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	**60.34**	**110.03**	*72.65*	*64.16*	*58.72*	*99.02*	*48.86*	**53.53**	*72.05*	*67.69*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	**73.28**	**99.14**	*95.51*	*182.63*	*53.41*	*53.04*	*80.77*	**51.81**	*96.10*	*92.46*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	**79.72**	**104.71**	*101.11*	*147.38*	*58.84*	*58.43*	*75.26*	**46.14**	*96.41*	*84.98*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	**93.00**	**110.99**	*91.50*	*94.49*	*69.69*	*74.27*	*68.69*	**45.67**	*88.46*	*76.78*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	**89.21**	**101.80**	*84.24*	*82.08*	*65.56*	*69.43*	*62.53*	**46.47**	*80.78*	*69.90*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	**72.85**	**109.97**	*64.05*	*61.71*	*50.31*	*53.60*	*46.66*	**93.88**	*71.03*	*53.07*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	**84.96**	**94.82**	*75.19*	*73.83*	*59.95*	*62.70*	*56.54*	**42.39**	*74.35*	*63.25*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	**78.70**	**92.71**	*69.33*	*66.74*	*56.95*	*57.77*	*52.97*	**37.92**	*70.47*	*58.61*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	**59.39**	**137.82**	*75.42*	*66.96*	*57.61*	*100.13*	*52.01*	**59.53**	*78.12*	*69.18*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	**60.50**	**128.25**	*60.42*	*51.53*	*53.71*	*91.55*	*41.88*	**55.44**	*72.05*	*59.67*

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**13.1**	**10.5**	**14.1**	*11.0*	*12.8*	*10.4*	*12.5*	*10.8*	**48.7**	*48.7*	*46.5*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**36.1**	**30.0**	**42.1**	*30.8*	*36.1*	*30.1*	*38.6*	*30.7*	**138.7**	*139.0*	*135.5*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.9**	**43.8**	**54.0**	*44.3*	*50.3*	*42.5*	*52.7*	*44.5*	**192.6**	*193.0*	*190.0*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**30.6**	**24.7**	**31.2**	*23.8*	*30.5*	*23.6*	*29.8*	*23.1*	**108.6**	*110.4*	*107.0*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**96.0**	**91.6**	**114.6**	*85.0*	*98.2*	*88.9*	*110.9*	*85.9*	**374.9**	*387.2*	*383.8*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**32.7**	**27.7**	**37.3**	*26.9*	*34.1*	*27.0*	*35.9*	*27.0*	**120.5**	*124.5*	*124.0*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**55.7**	**57.9**	**81.5**	*48.1*	*54.4*	*53.4*	*75.6*	*49.0*	**230.5**	*243.2*	*232.5*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**24.2**	**26.3**	**35.5**	*23.0*	*24.2*	*25.4*	*34.1*	*23.2*	**108.1**	*108.9*	*106.9*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.5**	**32.4**	**41.9**	*34.7*	*38.8*	*31.5*	*38.5*	*33.6*	**149.0**	*147.5*	*142.3*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	**1.2**	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.8*	*4.8*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**379.1**	**346.0**	**453.4**	*328.9*	*380.5*	*334.0*	*429.7*	*329.1*	**1,476.6**	*1,507.4*	*1,473.4*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	**11.8**	**13.8**	*11.7*	*12.1*	*11.8*	*13.2*	*11.6*	**48.5**	*49.4*	*48.7*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	**34.3**	**39.8**	*34.9*	*36.4*	*34.4*	*38.3*	*34.4*	**141.9**	*145.0*	*143.6*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**43.3**	**42.9**	**48.6**	*42.9*	*43.5*	*42.6*	*48.1*	*42.5*	**174.8**	*177.7*	*176.7*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.1**	**24.6**	**27.9**	*24.4*	*25.3*	*24.4*	*27.5*	*24.1*	**99.3**	*101.9*	*101.4*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**75.1**	**82.5**	**92.6**	*77.1*	*75.7*	*81.8*	*91.5*	*77.1*	**313.1**	*327.4*	*326.1*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.0**	**22.4**	**26.8**	*21.0*	*21.2*	*21.9*	*26.2*	*21.0*	**89.0**	*91.3*	*90.4*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**46.7**	**51.7**	**62.1**	*51.6*	*47.7*	*51.1*	*61.1*	*51.9*	**201.0**	*212.1*	*211.8*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**23.2**	**25.4**	**29.2**	*23.7*	*23.4*	*25.3*	*28.9*	*23.7*	**98.7**	*101.6*	*101.3*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.7**	**37.9**	**44.7**	*40.2*	*38.0*	*37.7*	*43.4*	*39.5*	**153.2**	*160.5*	*158.6*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	**1.3**	**1.4**	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.4*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**321.5**	**334.7**	**386.9**	*329.0*	*324.6*	*332.5*	*379.6*	*327.2*	**1,324.8**	*1,372.2*	*1,363.9*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	**3.9**	**4.1**	*3.8*	*3.8*	*3.8*	*4.0*	*3.8*	**15.8**	*15.7*	*15.5*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**17.5**	**18.2**	**19.5**	*18.5*	*17.9*	*18.5*	*19.5*	*18.4*	**73.1**	*73.7*	*74.3*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**45.9**	**47.0**	**49.1**	*46.3*	*46.2*	*47.0*	*49.2*	*46.6*	**185.5**	*188.4*	*189.0*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.0**	**24.8**	**26.6**	*24.8*	*24.5*	*24.7*	*26.3*	*24.7*	**97.9**	*100.2*	*100.2*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.3**	**37.4**	**39.1**	*36.8*	*36.9*	*37.6*	*39.2*	*37.0*	**143.7**	*149.7*	*150.8*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**24.7**	**25.8**	**26.1**	*24.7*	*24.5*	*25.6*	*26.0*	*24.6*	**99.7**	*101.3*	*100.7*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**49.8**	**53.4**	**53.9**	*53.1*	*51.4*	*55.7*	*56.4*	*55.3*	**199.7**	*210.1*	*218.8*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.9**	**21.7**	**23.6**	*20.4*	*19.8*	*21.8*	*23.8*	*20.7*	**84.4**	*85.6*	*86.2*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**19.0**	**21.0**	**23.4**	*20.0*	*18.5*	*20.4*	*22.4*	*19.1*	**82.5**	*83.5*	*80.4*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**	**1.2**	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**242.1**	**254.6**	**266.6**	*249.5*	*244.8*	*256.2*	*268.0*	*251.4*	**986.8**	*1,012.8*	*1,020.4*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.2**	**26.3**	**32.1**	*26.6*	*28.9*	*26.2*	*29.9*	*26.3*	**113.4**	*114.3*	*111.2*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**90.5**	**83.3**	**102.2**	*84.9*	*91.2*	*83.8*	*97.2*	*84.3*	**356.9**	*360.9*	*356.4*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**140.3**	**133.8**	**151.8**	*133.7*	*140.2*	*132.2*	*150.0*	*133.7*	**553.4**	*559.6*	*556.1*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**79.7**	**74.1**	**85.7**	*73.0*	*80.3*	*72.7*	*83.6*	*72.0*	**305.8**	*312.5*	*308.7*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**207.7**	**211.8**	**246.6**	*199.2*	*211.1*	*208.6*	*241.9*	*200.2*	**832.7**	*865.3*	*861.8*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.4**	**76.0**	**90.2**	*72.6*	*79.7*	*74.6*	*88.1*	*72.7*	**309.2**	*317.1*	*315.1*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**152.3**	**163.0**	**197.5**	*152.8*	*153.6*	*160.3*	*193.1*	*156.3*	**631.4**	*665.7*	*663.2*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**67.3**	**73.4**	**88.4**	*67.2*	*67.4*	*72.6*	*86.9*	*67.7*	**291.4**	*296.3*	*294.5*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.4**	**91.5**	**110.3**	*95.1*	*95.5*	*89.8*	*104.4*	*92.3*	**385.5**	*392.3*	*382.0*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	**3.6**	**3.7**	*3.8*	*3.7*	*3.6*	*3.7*	*3.8*	**14.9**	*14.9*	*14.9*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**944.5**	**936.9**	**1,108.5**	*909.0*	*951.5*	*924.3*	*1,078.8*	*909.2*	**3,794.5**	*3,898.8*	*3,863.9*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.93**	**24.31**	**23.58**	*25.16*	*27.63*	*27.94*	*26.62*	*27.51*	**21.51**	*24.19*	*27.40*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.12**	**18.31**	**18.68**	*17.69*	*17.97*	*18.57*	*18.54*	*17.36*	**16.49**	*17.98*	*18.13*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.22**	**15.51**	**15.78**	*15.36*	*14.95*	*16.18*	*16.29*	*15.46*	**14.10**	*15.21*	*15.72*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.28**	**13.27**	**13.98**	*12.18*	*11.53*	*13.66*	*14.18*	*12.08*	**12.21**	*12.68*	*12.86*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.68**	**13.61**	**13.87**	*13.29*	*13.31*	*14.23*	*14.22*	*13.19*	**12.24**	*13.38*	*13.76*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**11.97**	**13.09**	**13.38**	*12.59*	*12.53*	*13.35*	*13.32*	*12.50*	**11.83**	*12.78*	*12.93*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**11.83**	**12.97**	**13.64**	*13.68*	*12.78*	*13.69*	*13.97*	*13.50*	**11.89**	*13.08*	*13.52*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.14**	**12.86**	**13.15**	*12.76*	*12.50*	*13.25*	*13.43*	*12.90*	**12.08**	*12.78*	*13.06*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**18.12**	**20.58**	**21.09**	*18.15*	*18.94*	*21.72*	*21.80*	*18.46*	**18.01**	*19.51*	*20.21*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	**15.44**	*14.86*	*14.76*	*15.81*	*15.78*	*14.87*	**13.72**	*14.86*	*15.32*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.54**	**17.56**	**17.45**	*18.04*	*19.97*	*18.83*	*18.50*	*18.63*	**16.49**	*17.88*	*18.98*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**14.05**	**14.93**	**15.92**	*14.52*	*14.81*	*15.23*	*15.89*	*14.07*	**13.43**	*14.89*	*15.02*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.08**	**11.85**	**11.80**	*11.67*	*11.82*	*12.40*	*12.06*	*11.61*	**10.67**	*11.60*	*11.97*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.65**	**10.70**	**10.74**	*9.07*	*9.24*	*9.94*	*10.14*	*8.38*	**9.97**	*10.06*	*9.45*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.30**	**10.87**	**10.76**	*10.67*	*10.96*	*11.37*	*11.03*	*10.50*	**9.49**	*10.66*	*10.98*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.69**	**12.20**	**12.64**	*12.24*	*12.47*	*12.76*	*12.97*	*12.27*	**11.19**	*12.22*	*12.64*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**8.65**	**9.60**	**9.12**	*8.79*	*8.78*	*9.46*	*9.02*	*8.72*	**9.04**	*9.05*	*9.00*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.56**	**10.31**	**10.79**	*9.93*	*9.85*	*10.54*	*10.98*	*10.00*	**9.70**	*10.19*	*10.38*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**16.09**	**17.77**	**20.20**	*17.76*	*17.89*	*19.55*	*21.59*	*18.55*	**16.27**	*18.05*	*19.46*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	**12.70**	*12.06*	*12.31*	*12.81*	*12.93*	*12.00*	**11.27**	*12.21*	*12.53*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.14**	**15.21**	**15.49**	*15.18*	*15.89*	*15.75*	*15.84*	*15.35*	**13.58**	*15.26*	*15.71*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.87**	**8.28**	**8.33**	*7.47*	*8.01*	*7.88*	*7.82*	*7.11*	**6.89**	*7.99*	*7.70*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.72**	**8.55**	**8.57**	*8.09*	*8.07*	*8.45*	*8.42*	*8.00*	**7.26**	*8.24*	*8.24*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	**7.98**	**8.52**	*7.31*	*7.43*	*8.04*	*8.53*	*7.36*	**7.35**	*7.76*	*7.85*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.85**	**8.08**	**8.17**	*7.11*	*7.15*	*7.85*	*7.84*	*6.94*	**6.64**	*7.57*	*7.45*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.35**	**7.36**	**7.66**	*6.65*	*6.62*	*7.21*	*7.46*	*6.52*	**6.04**	*7.02*	*6.96*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**6.20**	**7.26**	**8.13**	*6.82*	*6.49*	*6.89*	*7.49*	*6.42*	**6.17**	*7.12*	*6.83*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.59**	**7.27**	**7.99**	*6.74*	*6.71*	*7.30*	*7.99*	*6.72*	**6.74**	*7.18*	*7.22*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.34**	**11.97**	**13.79**	*11.56*	*10.77*	*12.31*	*14.11*	*11.78*	**11.10**	*12.01*	*12.33*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	**8.93**	*7.80*	*7.72*	*8.26*	*8.69*	*7.65*	**7.26**	*8.16*	*8.09*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.48**	**19.88**	**19.86**	*20.53*	*22.79*	*21.97*	*21.51*	*21.77*	**18.21**	*20.18*	*22.01*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**14.07**	**14.67**	**15.59**	*14.13*	*14.72*	*14.80*	*15.31*	*13.74*	**13.26**	*14.65*	*14.67*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.11**	**11.89**	**12.16**	*11.65*	*11.70*	*12.21*	*12.35*	*11.63*	**10.72**	*11.71*	*11.98*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.53**	**10.65**	**11.23**	*9.49*	*9.56*	*10.50*	*11.07*	*9.22*	**9.92**	*10.25*	*10.11*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.79**	**11.56**	**11.79**	*11.13*	*11.38*	*11.95*	*11.97*	*10.99*	**10.23**	*11.34*	*11.60*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.12**	**10.88**	**11.51**	*10.47*	*10.70*	*11.06*	*11.49*	*10.41*	**9.78**	*10.78*	*10.94*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**9.01**	**10.03**	**10.72**	*9.64*	*9.43*	*9.97*	*10.51*	*9.40*	**9.17**	*9.91*	*9.87*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.61**	**10.32**	**11.00**	*9.93*	*9.88*	*10.52*	*11.12*	*9.99*	**9.73**	*10.27*	*10.43*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.75**	**17.42**	**19.17**	*16.59*	*16.92*	*18.65*	*20.04*	*17.10*	**15.83**	*17.30*	*18.22*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.49**	**12.28**	**12.92**	*11.90*	*12.10*	*12.63*	*13.01*	*11.83*	**11.18**	*12.18*	*12.42*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**337.9**	**365.1**	**488.7**	*352.9*	*340.9*	*336.9*	*431.5*	*337.2*	**1,473.6**	*1,544.7*	*1,446.5*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**217.5**	**189.1**	**243.2**	*187.0*	*195.0*	*170.3*	*243.2*	*172.9*	**892.8**	*836.9*	*781.4*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.6**	**184.3**	**201.7**	*191.3*	*193.9*	*187.7*	*207.3*	*197.8*	**778.2**	*772.9*	*786.8*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**235.5**	**247.1**	**208.5**	*214.5*	*242.2*	*272.8*	*225.8*	*231.7*	**795.2**	*905.7*	*972.4*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**70.8**	**64.8**	*56.7*	*69.1*	*78.6*	*64.5*	*60.1*	**259.0**	*268.7*	*272.4*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**121.7**	**89.7**	*118.5*	*127.4*	*128.1*	*95.1*	*123.0*	**378.6**	*449.4*	*473.7*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**44.3**	**42.9**	*28.9*	*35.1*	*55.9*	*55.0*	*38.4*	**113.9**	*145.0*	*184.4*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.5**	**7.1**	*6.4*	*6.6*	*6.3*	*6.8*	*6.4*	**27.9**	*26.7*	*26.1*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.8**	**4.1**	*4.1*	*3.9*	*3.8*	*4.3*	*3.9*	**15.7**	*16.0*	*15.9*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.2**	**-1.3**	**-1.8**	*-1.4*	*-1.2*	*-1.5*	*-1.8*	*-1.3*	**-5.1**	*-5.8*	*-5.9*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	**4.1**	**4.2**	*3.9*	*5.4*	*3.7*	*4.3*	*4.0*	**17.8**	*18.7*	*17.4*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.8**	**0.9**	**1.0**	*0.8*	*0.8*	*0.7*	*0.9*	*0.8*	**3.2**	*3.4*	*3.3*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.6**	**1.6**	**1.7**	*1.8*	*1.5*	*1.6*	*1.6*	*1.7*	**7.2**	*6.6*	*6.3*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**994.2**	**990.9**	**1,147.2**	*950.8*	*978.5*	*972.2*	*1,112.7*	*944.7*	**3,962.8**	*4,083.1*	*4,008.1*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**11.8**	**12.4**	**16.9**	*13.7*	*12.4*	*11.9*	*14.9*	*11.9*	**51.5**	*54.8*	*51.1*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.3**	**0.0**	**0.1**	*0.1*	*0.3*	*0.1*	*0.1*	*0.1*	**0.6**	*0.5*	*0.7*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	**5.6**	**7.4**	*7.3*	*7.1*	*5.6*	*7.3*	*6.2*	**27.1**	*27.3*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.7**	**1.4**	**1.0**	*1.7*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*5.9*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.1**	**3.2**	**2.9**	*2.8*	*3.1*	*3.2*	*2.9*	*2.9*	**11.2**	*12.0*	*12.1*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	**0.4**	**0.3**	*0.4*	*1.0*	*0.3*	*0.3*	*0.3*	**1.5**	*2.5*	*1.9*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**25.4**	**23.0**	**28.6**	*25.9*	*25.9*	*23.4*	*26.7*	*23.2*	**98.2**	*102.9*	*99.2*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.2**	**26.0**	**32.9**	*28.5*	*30.1*	*27.9*	*32.2*	*28.7*	**116.4**	*117.5*	*118.9*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.0**	**15.5**	**19.8**	*14.9*	*14.0*	*17.0*	*19.3*	*14.2*	**61.9**	*64.3*	*64.4*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	**7.0**	**6.5**	*6.7*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.6*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**7.1**	**6.6**	**6.5**	*6.8*	*7.1*	*7.2*	*7.3*	*7.5*	**27.9**	*27.0*	*29.1*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.2**	**2.1**	**1.8**	*2.1*	*2.4*	*2.7*	*2.2*	*2.8*	**7.1**	*8.2*	*10.2*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	**0.1**	**0.2**	*0.1*	*0.7*	*0.1*	*0.3*	*0.1*	**1.3**	*1.8*	*1.2*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**31.0**	**31.4**	**34.7**	*30.7*	*30.9*	*33.6*	*36.0*	*31.6*	**129.3**	*127.8*	*132.1*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.6**	**34.0**	**43.2**	*36.3*	*37.2*	*35.8*	*41.6*	*35.5*	**149.0**	*151.1*	*150.1*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**76.9**	**74.4**	**99.8**	*78.1*	*87.3*	*77.7*	*95.8*	*79.1*	**310.9**	*329.3*	*339.9*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**48.6**	**35.4**	**41.1**	*31.2*	*40.9*	*30.3*	*41.0*	*27.5*	**175.4**	*156.4*	*139.6*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**69.0**	**65.1**	**69.7**	*67.4*	*67.9*	*67.1*	*72.1*	*68.7*	**271.7**	*271.2*	*275.7*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	**2.2**	**1.3**	*2.0*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*8.2*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**13.2**	**12.9**	**10.2**	*11.8*	*14.2*	*13.7*	*11.7*	*13.1*	**42.4**	*48.1*	*52.7*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.6**	**0.4**	**0.3**	*0.5*	*0.6*	*0.3*	*0.3*	*0.6*	**2.5**	*1.8*	*1.8*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**211.0**	**190.4**	**222.4**	*191.1*	*213.5*	*191.8*	*222.5*	*191.1*	**812.1**	*814.9*	*818.9*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**200.9**	**180.1**	**211.1**	*190.1*	*202.8*	*183.9*	*207.6*	*185.5*	**770.2**	*782.2*	*779.8*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**64.1**	**67.5**	**83.2**	*60.2*	*60.4*	*56.8*	*71.5*	*63.0*	**252.3**	*275.0*	*251.7*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**32.3**	**32.8**	**35.8**	*28.1*	*30.2*	*28.5*	*42.7*	*27.7*	**137.7**	*128.9*	*129.2*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.4**	**51.1**	**55.5**	*52.3*	*52.5*	*53.9*	*58.1*	*59.0*	**212.2**	*210.3*	*223.5*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**11.9**	**9.8**	**8.2**	*9.6*	*12.6*	*10.0*	*9.2*	*10.2*	**43.9**	*39.5*	*42.0*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**5.0**	**7.0**	**6.4**	*5.1*	*5.7*	*7.9*	*7.2*	*5.8*	**19.1**	*23.5*	*26.6*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	**-0.3**	**-0.5**	*-0.3*	*-0.2*	*-0.4*	*-0.6*	*-0.3*	**-0.9**	*-1.3*	*-1.6*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.6**	**167.9**	**188.5**	*155.0*	*161.2*	*156.8*	*188.2*	*165.3*	**664.2**	*676.0*	*671.5*
Net energy for load (f)	**161.3**	**154.7**	**183.9**	**154.5**	**166.5**	**168.3**	**183.2**	*146.5*	*161.7*	*159.2*	*184.6*	*157.5*	**654.4**	*664.5*	*663.0*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**38.3**	**46.7**	**54.6**	*40.7*	*37.0*	*45.8*	*50.1*	*41.8*	**171.8**	*180.2*	*174.6*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.5**	**4.2**	**4.0**	*3.0*	*2.8*	*3.9*	*3.5*	*2.3*	**18.3**	*14.8*	*12.5*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	**7.9**	**7.5**	*7.7*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.4*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**2.9**	**3.7**	**3.6**	*2.9*	*3.7*	*5.3*	*4.6*	*3.6*	**11.0**	*13.1*	*17.2*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.7**	**0.6**	**0.7**	*0.7*	*0.7*	*0.6*	*0.7*	*0.7*	**2.8**	*2.7*	*2.8*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**52.8**	**63.1**	**70.5**	*55.0*	*51.3*	*62.5*	*66.5*	*56.1*	**232.2**	*241.4*	*236.5*
Net energy for load (f)	**52.4**	**63.8**	**72.3**	**55.6**	**54.1**	**66.2**	**76.3**	*54.8*	*51.0*	*60.7*	*68.2*	*53.4*	**244.1**	*251.4*	*233.3*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**41.8**	**47.3**	**56.7**	*42.5*	*39.7*	*46.7*	*50.8*	*41.6*	**169.7**	*188.3*	*178.8*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**64.5**	**54.0**	**73.2**	*57.7*	*58.9*	*52.9*	*71.4*	*51.0*	**267.7**	*249.4*	*234.2*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	**19.6**	**24.3**	*23.4*	*22.3*	*21.1*	*24.3*	*20.9*	**95.7**	*91.1*	*88.6*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.1**	**2.9**	**2.7**	*2.3*	*2.6*	*3.0*	*2.4*	*2.2*	**10.7**	*10.9*	*10.2*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**31.8**	**28.7**	**20.4**	*28.7*	*34.2*	*30.5*	*22.0*	*30.0*	**93.1**	*109.6*	*116.8*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.3**	**1.6**	**1.4**	*1.3*	*1.5*	*1.4*	*1.4*	*1.4*	**6.4**	*5.6*	*5.6*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**166.4**	**154.1**	**178.6**	*155.9*	*159.2*	*155.6*	*172.3*	*147.0*	**643.3**	*655.0*	*634.1*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**165.1**	**158.8**	**177.2**	*160.6*	*163.0*	*160.3*	*178.8*	*158.5*	**647.3**	*661.6*	*660.6*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.1**	**14.0**	**22.6**	*12.1*	*10.8*	*12.6*	*16.6*	*9.8*	**56.3**	*59.8*	*49.9*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.1**	**20.5**	**30.0**	*18.9*	*21.0*	*16.4*	*26.5*	*17.4*	**92.0**	*91.5*	*81.3*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	**4.3**	**4.0**	*2.3*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*14.9*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.6**	**4.1**	**3.8**	*3.1*	*3.9*	*4.7*	*4.2*	*3.5*	**15.5**	*15.7*	*16.3*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**28.8**	**29.8**	**24.1**	*29.5*	*30.6*	*31.5*	*25.7*	*30.4*	**93.6**	*112.3*	*118.3*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	**0.3**	**0.1**	*0.2*	*0.2*	*0.3*	*0.1*	*0.2*	**0.7**	*0.9*	*0.9*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.2**	**73.0**	**84.7**	*66.1*	*70.9*	*69.9*	*77.5*	*65.6*	**273.6**	*295.1*	*284.0*
Net energy for load (f)	**65.5**	**65.5**	**78.5**	**62.0**	**68.0**	**69.5**	**84.3**	*63.0*	*67.1*	*65.8*	*76.8*	*60.8*	**271.6**	*284.7*	*270.5*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**34.2**	**43.2**	**62.3**	*33.2*	*27.7*	*27.8*	*44.6*	*28.2*	**164.2**	*173.0*	*128.2*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**17.7**	**16.8**	**19.7**	*16.1*	*15.2*	*16.4*	*21.5*	*15.5*	**74.5**	*70.2*	*68.6*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	**9.9**	**10.7**	*10.5*	*10.7*	*9.0*	*11.0*	*10.1*	**40.2**	*42.1*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.5*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.2**	**39.4**	**31.8**	*34.4*	*36.8*	*46.6*	*37.7*	*37.8*	**106.3**	*136.7*	*158.8*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	**0.4**	**0.4**	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	**1.4**	*1.6*	*1.5*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**109.9**	**125.0**	*94.7*	*90.9*	*100.3*	*115.3*	*92.0*	**387.1**	*424.2*	*398.6*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**109.9**	**125.0**	*94.7*	*90.9*	*100.3*	*115.3*	*92.0*	**387.1**	*424.2*	*398.6*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**19.6**	**15.4**	**27.8**	*23.4*	*25.6*	*12.8*	*26.1*	*17.1*	**90.2**	*86.2*	*81.6*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**21.6**	**18.1**	**27.7**	*24.3*	*19.0*	*16.0*	*25.8*	*23.8*	**90.5**	*91.7*	*84.6*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	**2.3**	**2.5**	*2.4*	*2.4*	*1.2*	*2.4*	*2.4*	**8.5**	*9.7*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**39.3**	**36.0**	**34.4**	*27.1*	*32.9*	*39.6*	*30.1*	*27.8*	**121.0**	*136.8*	*130.5*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**19.1**	**20.5**	**17.0**	*19.0*	*20.0*	*21.8*	*18.5*	*20.5*	**65.5**	*75.5*	*80.9*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.7**	*0.6*	*0.5*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.2**	**92.5**	**109.5**	*96.2*	*100.1*	*91.6*	*103.1*	*91.6*	**376.4**	*400.4*	*386.4*
Net energy for load (f)	**89.7**	**85.9**	**97.7**	**89.7**	**87.9**	**86.7**	**102.8**	*90.2*	*91.6*	*86.5*	*95.9*	*87.9*	**363.0**	*367.7*	*361.9*
Southwest															
Natural Gas	**10.7**	**15.2**	**19.4**	**11.5**	**9.6**	**12.9**	**18.6**	*13.3*	*12.4*	*14.0*	*17.0*	*10.1*	**56.8**	*54.4*	*53.5*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**6.1**	**6.3**	**8.6**	*5.2*	*4.8*	*4.1*	*7.4*	*5.4*	**26.8**	*26.2*	*21.7*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	**7.5**	**8.7**	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.8*	*31.9*
Conventional hydropower	**2.0**	**2.3**	**1.9**	**1.5**	**1.9**	**2.0**	**1.8**	*1.6*	*1.7*	*2.1*	*2.0*	*1.6*	**7.7**	*7.2*	*7.5*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	**5.7**	**4.1**	*5.0*	*4.4*	*6.0*	*4.4*	*5.6*	**14.0**	*19.4*	*20.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.1*
Total generation	**29.8**	**34.2**	**41.5**	**31.6**	**30.4**	**34.4**	**41.9**	*32.5*	*31.7*	*33.8*	*39.5*	*30.2*	**137.1**	*139.2*	*135.2*
Net energy for load (f)	**20.6**	**26.4**	**33.2**	**22.5**	**21.2**	**26.9**	**34.5**	*22.0*	*21.4*	*26.1*	*33.2*	*22.1*	**102.6**	*104.6*	*102.7*
California															
Natural Gas	**16.7**	**17.9**	**29.4**	**21.6**	**15.8**	**15.4**	**25.9**	*20.0*	*12.9*	*13.0*	*24.2*	*19.7*	**85.6**	*77.2*	*69.9*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.5**	**0.7**	**2.5**	*2.0*	*1.4*	*1.2*	*2.8*	*1.9*	**7.6**	*5.7*	*7.2*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	**4.1**	**5.0**	*3.7*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.4*	*18.0*
Conventional hydropower	**2.4**	**4.2**	**4.9**	**2.8**	**3.6**	**5.2**	**4.5**	*2.0*	*3.0*	*6.4*	*5.9*	*3.0*	**14.4**	*15.2*	*18.3*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.7**	**22.8**	**21.1**	*16.2*	*17.4*	*24.3*	*23.7*	*18.5*	**71.1**	*76.8*	*84.0*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	**-0.2**	**0.1**	*-0.1*	*0.0*	*-0.2*	*0.1*	*-0.1*	**-0.2**	*-0.2*	*-0.2*
Total generation	**39.3**	**48.9**	**61.5**	**45.3**	**41.2**	**48.0**	**59.0**	*43.8*	*39.4*	*49.4*	*61.2*	*47.2*	**195.0**	*192.0*	*197.2*
Net energy for load (f)	**55.7**	**62.7**	**77.3**	**59.5**	**56.0**	**61.2**	**78.9**	*60.3*	*58.2*	*62.2*	*74.7*	*59.1*	**255.2**	*256.4*	*254.2*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.034**	**0.033**	**0.036**	*0.036*	*0.034*	*0.034*	*0.038*	*0.034*	**0.138**	*0.140*	*0.140*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.671**	**0.621**	**0.570**	*0.505*	*0.616*	*0.700*	*0.575*	*0.535*	**2.272**	*2.367*	*2.426*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.257**	**0.394**	**0.382**	*0.257*	*0.313*	*0.498*	*0.490*	*0.342*	**1.014**	*1.291*	*1.642*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.056**	**0.053**	**0.056**	*0.056*	*0.055*	*0.055*	*0.056*	*0.055*	**0.236**	*0.221*	*0.221*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.052**	**0.047**	**0.052**	*0.043*	*0.047*	*0.043*	*0.050*	*0.043*	**0.199**	*0.195*	*0.183*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.084**	**0.798**	*1.055*	*1.135*	*1.141*	*0.847*	*1.095*	**3.372**	*4.002*	*4.218*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.135**	**2.233**	**1.895**	*1.952*	*2.200*	*2.470*	*2.056*	*2.104*	**7.231**	*8.215*	*8.829*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.203**	**0.200**	*0.206*	*0.194*	*0.197*	*0.196*	*0.204*	**0.789**	*0.812*	*0.791*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	**0.011**	**0.012**	*0.008*	*0.009*	*0.012*	*0.012*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.042**	**0.040**	**0.039**	*0.042*	*0.041*	*0.040*	*0.039*	*0.042*	**0.160**	*0.163*	*0.161*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.315**	**0.321**	**0.345**	*0.355*	*0.346*	*0.344*	*0.356*	*0.358*	**1.342**	*1.335*	*1.404*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.576**	**0.583**	**0.604**	*0.619*	*0.597*	*0.602*	*0.612*	*0.621*	**2.361**	*2.382*	*2.432*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	**0.049**	**0.049**	*0.034*	*0.039*	*0.057*	*0.058*	*0.041*	**0.140**	*0.165*	*0.195*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.010**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.035**	*0.037*	*0.037*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	**0.021**	**0.021**	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.077**	**0.093**	**0.093**	*0.078*	*0.083*	*0.101*	*0.102*	*0.085*	**0.313**	*0.340*	*0.371*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.079**	**0.118**	**0.120**	*0.084*	*0.094*	*0.145*	*0.148*	*0.103*	**0.329**	*0.402*	*0.490*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.119**	**0.121**	**0.117**	*0.117*	*0.119*	*0.121*	*0.117*	*0.117*	**0.464**	*0.474*	*0.474*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.208**	**0.249**	**0.247**	*0.211*	*0.223*	*0.276*	*0.275*	*0.230*	**0.832**	*0.915*	*1.004*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.083**	**0.099**	**0.094**	**0.110**	**0.094**	**0.117**	**0.110**	*0.139*	*0.130*	*0.135*	*0.133*	*0.158*	**0.386**	*0.459*	*0.556*
Ethanol (g)	**0.242**	**0.281**	**0.285**	**0.289**	**0.259**	**0.281**	**0.274**	*0.280*	*0.257*	*0.279*	*0.279*	*0.284*	**1.098**	*1.094*	*1.099*
Subtotal	**0.326**	**0.379**	**0.379**	**0.400**	**0.353**	**0.397**	**0.391**	*0.419*	*0.387*	*0.414*	*0.412*	*0.442*	**1.484**	*1.560*	*1.656*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.083**	**0.099**	**0.094**	**0.110**	**0.094**	**0.117**	**0.110**	*0.139*	*0.130*	*0.135*	*0.133*	*0.158*	**0.386**	*0.459*	*0.556*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.203**	**0.200**	*0.206*	*0.194*	*0.197*	*0.196*	*0.204*	**0.789**	*0.812*	*0.791*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.302**	**0.271**	**0.293**	**0.287**	*0.293*	*0.269*	*0.292*	*0.292*	*0.296*	**1.147**	*1.143*	*1.149*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.051**	**0.051**	**0.054**	*0.053*	*0.051*	*0.051*	*0.055*	*0.051*	**0.206**	*0.209*	*0.208*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.674**	**0.624**	**0.572**	*0.507*	*0.618*	*0.703*	*0.577*	*0.538*	**2.283**	*2.377*	*2.436*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.378**	**0.572**	**0.563**	*0.384*	*0.455*	*0.713*	*0.708*	*0.494*	**1.519**	*1.897*	*2.370*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	**0.102**	**0.105**	*0.107*	*0.105*	*0.104*	*0.104*	*0.106*	**0.431**	*0.421*	*0.419*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.507**	**0.509**	**0.535**	*0.536*	*0.533*	*0.528*	*0.544*	*0.539*	**2.087**	*2.087*	*2.144*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.084**	**0.798**	*1.055*	*1.135*	*1.141*	*0.847*	*1.095*	**3.372**	*4.002*	*4.218*
Total Consumption	**2.953**	**3.166**	**2.958**	**3.144**	**3.349**	**3.554**	**3.230**	*3.280*	*3.490*	*3.863*	*3.457*	*3.481*	**12.221**	*13.413*	*14.292*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,133**	**5,970**	**5,943**	**5,933**	**5,925**	**5,925**	**5,870**	*5,868*	*5,840*	*5,874*	*5,874*	*5,874*	**5,933**	*5,868*	*5,874*
Waste	**3,673**	**3,652**	**3,641**	**3,631**	**3,622**	**3,623**	**3,567**	*3,566*	*3,537*	*3,571*	*3,571*	*3,571*	**3,631**	*3,566*	*3,571*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,469**	**78,525**	**78,527**	**78,527**	**78,544**	**78,544**	**78,545**	*78,576*	*78,580*	*78,607*	*78,633*	*78,643*	**78,527**	*78,576*	*78,643*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,500**	**2,539**	*2,539*	*2,564*	*2,564*	*2,564*	*2,564*	**2,483**	*2,539*	*2,564*
Large-Scale Solar (b)	**50,536**	**52,438**	**55,703**	**60,939**	**63,168**	**65,228**	**68,717**	*77,072*	*81,229*	*85,179*	*90,178*	*105,370*	**60,939**	*77,072*	*105,370*
Wind	**120,948**	**124,703**	**126,657**	**132,210**	**134,815**	**137,321**	**138,007**	*144,251*	*144,433*	*144,812*	*145,372*	*148,537*	**132,210**	*144,251*	*148,537*
Other Sectors (c)															
Biomass	**6,018**	**6,022**	**6,024**	**6,014**	**6,005**	**6,007**	**6,011**	*6,011*	*6,011*	*6,003*	*6,003*	*6,003*	**6,014**	*6,011*	*6,003*
Waste	**817**	**821**	**818**	**808**	**808**	**808**	**808**	*808*	*808*	*808*	*808*	*808*	**808**	*808*	*808*
Wood	**5,201**	**5,201**	**5,206**	**5,206**	**5,196**	**5,198**	**5,202**	*5,202*	*5,202*	*5,194*	*5,194*	*5,194*	**5,206**	*5,202*	*5,194*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	**291**	**291**	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**474**	**476**	**516**	**538**	**556**	**566**	**569**	*589*	*591*	*599*	*644*	*644*	**538**	*589*	*644*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,720**	**36,197**	**37,942**	*39,901*	*41,972*	*44,167*	*46,492*	*48,954*	**32,972**	*39,901*	*48,954*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,260**	**23,446**	**24,728**	*26,133*	*27,628*	*29,224*	*30,926*	*32,740*	**21,022**	*26,133*	*32,740*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,220**	**10,496**	**10,913**	*11,406*	*11,921*	*12,456*	*13,015*	*13,599*	**9,728**	*11,406*	*13,599*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,240**	**2,256**	**2,301**	*2,362*	*2,424*	*2,487*	*2,551*	*2,615*	**2,223**	*2,362*	*2,615*
Wind	**120**	**120**	**120**	**122**	**122**	**122**	**122**	*122*	*122*	*122*	*122*	*122*	**122**	*122*	*122*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.5**	**7.1**	*6.4*	*6.6*	*6.3*	*6.8*	*6.4*	**27.9**	*26.7*	*26.1*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.5**	**3.6**	**3.7**	*3.7*	*3.6*	*3.6*	*3.7*	*3.6*	**15.5**	*14.5*	*14.5*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**3.2**	**3.0**	**3.3**	*2.7*	*3.0*	*2.7*	*3.2*	*2.7*	**12.4**	*12.2*	*11.5*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**70.8**	**64.8**	*56.7*	*69.1*	*78.6*	*64.5*	*60.1*	**259.0**	*268.7*	*272.4*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.8**	**4.1**	*4.1*	*3.9*	*3.8*	*4.3*	*3.9*	**15.7**	*16.0*	*15.9*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**44.3**	**42.9**	*28.9*	*35.1*	*55.9*	*55.0*	*38.4*	**113.9**	*145.0*	*184.4*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**121.7**	**89.7**	*118.5*	*127.4*	*128.1*	*95.1*	*123.0*	**378.6**	*449.4*	*473.7*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.7**	**6.8**	**7.1**	*6.8*	*6.7*	*6.8*	*7.1*	*6.8*	**27.6**	*27.4*	*27.4*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**5.9**	**6.1**	**6.4**	*6.1*	*5.9*	*6.1*	*6.4*	*6.1*	**24.8**	*24.5*	*24.5*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	*0.3*	*0.2*	*0.3*	*0.3*	*0.3*	**0.8**	*1.0*	*1.1*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**12.0**	**17.7**	**17.8**	*12.4*	*14.3*	*21.6*	*22.0*	*15.3*	**49.0**	*59.9*	*73.3*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.6**	**11.2**	**11.3**	*7.9*	*9.1*	*14.1*	*14.4*	*10.1*	**30.1**	*38.0*	*47.7*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	**5.2**	**5.3**	*3.6*	*4.2*	*6.2*	*6.3*	*4.3*	**15.1**	*17.7*	*21.0*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	**1.2**	**1.2**	*0.9*	*0.9*	*1.3*	*1.4*	*0.9*	**3.8**	*4.1*	*4.5*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,806**	**19,728**	**19,699**	**19,757**	*19,832*	*19,900*	*19,974*	*20,058*	*20,142*	**19,427**	*19,754*	*20,019*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,818**	**13,881**	**13,932**	**13,986**	*14,072*	*14,120*	*14,182*	*14,241*	*14,299*	**13,625**	*13,968*	*14,211*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,609**	**3,674**	**3,632**	**3,568**	*3,546*	*3,541*	*3,549*	*3,562*	*3,576*	**3,588**	*3,605*	*3,557*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**249**	**238**	**131**	**68**	*83*	*93*	*64*	*58*	*57*	**-20**	*130*	*68*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,359**	**3,334**	**3,319**	**3,313**	*3,327*	*3,354*	*3,367*	*3,379*	*3,392*	**3,376**	*3,323*	*3,373*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,391**	**2,361**	**2,459**	**2,526**	*2,539*	*2,551*	*2,560*	*2,576*	*2,601*	**2,308**	*2,471*	*2,572*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,741**	**3,906**	**3,933**	**3,885**	*3,914*	*3,937*	*3,928*	*3,940*	*3,965*	**3,592**	*3,909*	*3,943*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,462**	**15,152**	**15,130**	**15,156**	*15,252*	*15,655*	*15,698*	*15,837*	*15,994*	**16,032**	*15,173*	*15,796*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	**151.6**	**152.7**	*153.4*	*153.6*	*153.7*	*153.7*	*153.6*	**146.1**	*152.0*	*153.6*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	**3.6**	**3.6**	*3.6*	*3.5*	*3.6*	*3.7*	*3.8*	**5.4**	*3.6*	*3.7*
Housing Starts															
(millions - SAAR)	**1.58**	**1.59**	**1.57**	**1.68**	**1.72**	**1.65**	**1.47**	*1.44*	*1.39*	*1.37*	*1.36*	*1.36*	**1.61**	*1.57*	*1.37*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.1**	**99.7**	**100.5**	**101.7**	**102.9**	**104.2**	**104.7**	*105.1*	*105.3*	*105.5*	*105.9*	*106.2*	**100.0**	*104.2*	*105.7*
Manufacturing	**96.9**	**98.3**	**99.2**	**100.6**	**101.5**	**102.5**	**102.6**	*102.8*	*102.9*	*103.2*	*103.6*	*103.9*	**98.8**	*102.4*	*103.4*
Food	**104.5**	**103.3**	**102.0**	**103.5**	**105.5**	**105.1**	**103.9**	*104.5*	*104.6*	*105.0*	*105.4*	*105.7*	**103.3**	*104.7*	*105.2*
Paper	**95.0**	**96.0**	**96.0**	**95.2**	**96.4**	**97.4**	**96.2**	*95.2*	*95.0*	*95.0*	*95.1*	*95.2*	**95.5**	*96.3*	*95.1*
Petroleum and Coal Products	**86.0**	**92.3**	**93.5**	**96.0**	**94.2**	**94.0**	**93.4**	*92.2*	*92.1*	*91.9*	*92.0*	*92.0*	**92.0**	*93.5*	*92.0*
Chemicals	**94.3**	**101.1**	**101.2**	**102.6**	**102.4**	**103.4**	**104.3**	*104.2*	*104.5*	*105.0*	*105.6*	*105.9*	**99.8**	*103.6*	*105.2*
Nonmetallic Mineral Products	**97.8**	**96.0**	**97.3**	**99.1**	**102.9**	**103.4**	**104.3**	*103.6*	*102.7*	*102.5*	*102.4*	*102.7*	**97.5**	*103.5*	*102.6*
Primary Metals	**93.0**	**96.6**	**98.3**	**98.7**	**95.6**	**97.5**	**96.9**	*96.5*	*97.2*	*97.9*	*98.9*	*99.5*	**96.6**	*96.6*	*98.4*
Coal-weighted Manufacturing (a)	**91.1**	**94.9**	**95.5**	**96.6**	**96.2**	**96.9**	**96.7**	*96.1*	*96.2*	*96.5*	*96.8*	*97.1*	**94.5**	*96.5*	*96.6*
Distillate-weighted Manufacturing (a)	**100.9**	**102.2**	**102.7**	**104.2**	**105.7**	**106.1**	**106.0**	*105.6*	*105.2*	*105.1*	*105.2*	*105.4*	**102.5**	*105.9*	*105.2*
Electricity-weighted Manufacturing (a)	**93.1**	**96.4**	**96.5**	**97.6**	**98.0**	**98.8**	**98.7**	*98.6*	*98.8*	*99.1*	*99.6*	*99.9*	**95.9**	*98.5*	*99.4*
Natural Gas-weighted Manufacturing (a)	**88.8**	**94.6**	**94.1**	**95.2**	**95.2**	**95.7**	**95.4**	*95.2*	*95.3*	*95.7*	*96.1*	*96.3*	**93.1**	*95.4*	*95.9*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	**2.92**	**2.96**	*2.99*	*3.01*	*3.02*	*3.04*	*3.07*	**2.71**	*2.93*	*3.04*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.53**	**2.73**	**2.71**	*2.68*	*2.63*	*2.55*	*2.54*	*2.53*	**2.27**	*2.66*	*2.56*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	**4.20**	**3.55**	*3.05*	*2.90*	*2.85*	*2.83*	*2.82*	**2.41**	*3.49*	*2.85*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**123.7**	**126.4**	**127.5**	*129.2*	*130.2*	*131.0*	*131.8*	*132.7*	**118.5**	*126.7*	*131.4*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,125**	**9,367**	**8,934**	**8,373**	**9,162**	**9,239**	*8,982*	*8,450*	*9,294*	*9,481*	*9,140*	**8,843**	*8,942*	*9,094*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**597**	**658**	**667**	**656**	**686**	**733**	*699*	*680*	*700*	*733*	*722*	**615**	*694*	*709*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**356**	**419**	**406**	*376*	*364*	*408*	*411*	*386*	**334**	*389*	*392*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	**328.7**	**287.8**	*277.4*	*242.6*	*298.2*	*280.6*	*265.7*	**217.5**	*279.8*	*271.8*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	**0.263**	*0.289*	*0.302*	*0.302*	*0.320*	*0.338*	**0.258**	*0.265*	*0.315*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**521**	**562**	**571**	**580**	**562**	**564**	**573**	*579*	*553*	*568*	*575*	*579*	**2,234**	*2,278*	*2,274*
Natural Gas	**485**	**353**	**373**	**426**	**508**	**372**	**390**	*444*	*498*	*356*	*372*	*441*	**1,637**	*1,714*	*1,667*
Coal	**256**	**229**	**307**	**210**	**245**	**216**	**278**	*217*	*222*	*198*	*270*	*204*	**1,002**	*956*	*894*
Total Energy (c)	**1,264**	**1,147**	**1,255**	**1,218**	**1,318**	**1,155**	**1,244**	*1,242*	*1,275*	*1,124*	*1,219*	*1,227*	**4,884**	*4,960*	*4,846*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,002**	**1,008**	**1,027**	**1,026**	**1,024**	**1,025**	*1,028*	*1,031*	*1,033*	*1,037*	*1,040*	**1,004**	*1,026*	*1,035*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,814**	**2,802**	**2,796**	**2,802**	*2,813*	*2,821*	*2,829*	*2,838*	*2,849*	**2,766**	*2,803*	*2,834*
E. N. Central	**2,486**	**2,515**	**2,520**	**2,554**	**2,545**	**2,537**	**2,537**	*2,547*	*2,554*	*2,562*	*2,573*	*2,584*	**2,519**	*2,542*	*2,568*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,221**	**1,215**	**1,212**	**1,216**	*1,220*	*1,224*	*1,228*	*1,233*	*1,239*	**1,212**	*1,216*	*1,231*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,518**	**3,507**	**3,501**	**3,513**	*3,528*	*3,541*	*3,556*	*3,572*	*3,588*	**3,450**	*3,513*	*3,564*
E. S. Central	**836**	**843**	**847**	**862**	**858**	**856**	**858**	*860*	*863*	*866*	*870*	*873*	**847**	*858*	*868*
W. S. Central	**2,321**	**2,362**	**2,378**	**2,432**	**2,417**	**2,424**	**2,444**	*2,456*	*2,468*	*2,477*	*2,488*	*2,500*	**2,373**	*2,435*	*2,483*
Mountain	**1,274**	**1,297**	**1,303**	**1,324**	**1,316**	**1,316**	**1,322**	*1,329*	*1,336*	*1,344*	*1,351*	*1,359*	**1,299**	*1,321*	*1,347*
Pacific	**3,693**	**3,774**	**3,800**	**3,884**	**3,871**	**3,863**	**3,869**	*3,880*	*3,891*	*3,907*	*3,923*	*3,936*	**3,788**	*3,871*	*3,914*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.2**	**96.7**	**97.4**	**98.4**	**99.2**	**100.1**	**100.0**	*100.0*	*100.2*	*100.6*	*101.0*	*101.3*	**96.9**	*99.8*	*100.8*
Middle Atlantic	**93.0**	**94.2**	**94.7**	**95.8**	**96.6**	**97.4**	**97.5**	*97.6*	*97.8*	*97.8*	*98.0*	*98.2*	**94.4**	*97.3*	*97.9*
E. N. Central	**95.4**	**95.9**	**96.6**	**98.3**	**98.9**	**99.4**	**99.3**	*99.5*	*99.7*	*100.1*	*100.4*	*100.5*	**96.5**	*99.3*	*100.2*
W. N. Central	**98.3**	**99.3**	**100.0**	**100.7**	**102.0**	**102.6**	**103.1**	*102.9*	*103.0*	*103.4*	*103.8*	*104.2*	**99.6**	*102.6*	*103.6*
S. Atlantic	**99.3**	**100.4**	**101.3**	**102.6**	**103.3**	**104.5**	**104.6**	*104.7*	*104.7*	*104.9*	*105.2*	*105.4*	**100.9**	*104.3*	*105.0*
E. S. Central	**97.7**	**98.6**	**99.2**	**100.5**	**100.8**	**101.3**	**101.1**	*101.3*	*101.3*	*101.6*	*102.0*	*102.2*	**99.0**	*101.1*	*101.8*
W. S. Central	**98.5**	**100.0**	**100.6**	**102.1**	**103.4**	**105.0**	**105.6**	*105.8*	*105.9*	*106.3*	*106.8*	*107.1*	**100.3**	*104.9*	*106.5*
Mountain	**106.5**	**108.5**	**109.4**	**111.1**	**112.6**	**113.9**	**114.1**	*114.2*	*114.2*	*114.5*	*114.9*	*115.3*	**108.9**	*113.7*	*114.7*
Pacific	**94.1**	**95.7**	**96.0**	**97.0**	**97.7**	**98.7**	**98.9**	*99.2*	*99.4*	*99.9*	*100.4*	*100.8*	**95.7**	*98.6*	*100.1*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**942**	**929**	**928**	**926**	**927**	*927*	*936*	*936*	*940*	*944*	**955**	*927*	*939*
Middle Atlantic	**2,616**	**2,449**	**2,437**	**2,395**	**2,382**	**2,379**	**2,382**	*2,388*	*2,414*	*2,414*	*2,424*	*2,434*	**2,474**	*2,383*	*2,422*
E. N. Central	**2,746**	**2,524**	**2,493**	**2,472**	**2,458**	**2,445**	**2,444**	*2,448*	*2,475*	*2,473*	*2,483*	*2,495*	**2,559**	*2,449*	*2,481*
W. N. Central	**1,275**	**1,194**	**1,175**	**1,163**	**1,160**	**1,163**	**1,166**	*1,167*	*1,178*	*1,177*	*1,181*	*1,185*	**1,202**	*1,164*	*1,180*
S. Atlantic	**3,723**	**3,443**	**3,428**	**3,437**	**3,417**	**3,419**	**3,430**	*3,437*	*3,476*	*3,475*	*3,495*	*3,512*	**3,508**	*3,426*	*3,490*
E. S. Central	**1,025**	**927**	**924**	**921**	**914**	**913**	**911**	*912*	*923*	*921*	*925*	*928*	**949**	*913*	*924*
W. S. Central	**2,237**	**2,076**	**2,069**	**2,077**	**2,063**	**2,069**	**2,078**	*2,084*	*2,110*	*2,111*	*2,122*	*2,135*	**2,115**	*2,074*	*2,119*
Mountain	**1,381**	**1,280**	**1,277**	**1,284**	**1,277**	**1,276**	**1,279**	*1,284*	*1,296*	*1,297*	*1,305*	*1,313*	**1,306**	*1,279*	*1,303*
Pacific	**3,269**	**3,086**	**3,085**	**3,037**	**3,019**	**3,020**	**3,019**	*3,076*	*3,050*	*3,052*	*3,065*	*3,075*	**3,119**	*3,034*	*3,061*
Households (Thousands)															
New England	**6,056**	**6,061**	**6,058**	**6,067**	**6,073**	**6,077**	**6,079**	*6,085*	*6,094*	*6,102*	*6,110*	*6,118*	**6,067**	*6,085*	*6,118*
Middle Atlantic	**16,415**	**16,405**	**16,390**	**16,407**	**16,417**	**16,425**	**16,429**	*16,445*	*16,470*	*16,494*	*16,516*	*16,536*	**16,407**	*16,445*	*16,536*
E. N. Central	**19,076**	**19,090**	**19,095**	**19,133**	**19,159**	**19,168**	**19,170**	*19,186*	*19,212*	*19,240*	*19,266*	*19,289*	**19,133**	*19,186*	*19,289*
W. N. Central	**8,715**	**8,729**	**8,736**	**8,760**	**8,778**	**8,795**	**8,809**	*8,824*	*8,842*	*8,862*	*8,880*	*8,897*	**8,760**	*8,824*	*8,897*
S. Atlantic	**26,280**	**26,358**	**26,403**	**26,521**	**26,620**	**26,709**	**26,783**	*26,865*	*26,958*	*27,048*	*27,133*	*27,217*	**26,521**	*26,865*	*27,217*
E. S. Central	**7,813**	**7,830**	**7,839**	**7,866**	**7,888**	**7,906**	**7,921**	*7,937*	*7,955*	*7,974*	*7,992*	*8,008*	**7,866**	*7,937*	*8,008*
W. S. Central	**15,331**	**15,379**	**15,414**	**15,487**	**15,551**	**15,608**	**15,658**	*15,708*	*15,765*	*15,820*	*15,875*	*15,926*	**15,487**	*15,708*	*15,926*
Mountain	**9,611**	**9,653**	**9,688**	**9,741**	**9,786**	**9,825**	**9,861**	*9,897*	*9,938*	*9,981*	*10,021*	*10,060*	**9,741**	*9,897*	*10,060*
Pacific	**19,000**	**18,992**	**18,979**	**19,011**	**19,040**	**19,059**	**19,076**	*19,093*	*19,120*	*19,148*	*19,172*	*19,197*	**19,011**	*19,093*	*19,197*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	**7.4**	**7.5**	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.2**	*7.4*	*7.5*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	**19.6**	**19.7**	*19.8*	*19.8*	*19.8*	*19.8*	*19.8*	**18.8**	*19.6*	*19.8*
E. N. Central	**21.1**	**21.2**	**21.5**	**21.6**	**21.8**	**21.9**	**22.0**	*22.1*	*22.1*	*22.1*	*22.1*	*22.1*	**21.4**	*22.0*	*22.1*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	**10.7**	**10.8**	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	**10.5**	*10.7*	*10.8*
S. Atlantic	**28.2**	**28.5**	**28.9**	**29.2**	**29.5**	**29.8**	**30.1**	*30.2*	*30.2*	*30.3*	*30.3*	*30.3*	**28.7**	*29.9*	*30.3*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	**8.4**	**8.4**	*8.5*	*8.5*	*8.5*	*8.5*	*8.5*	**8.2**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.8**	**18.1**	**18.3**	**18.5**	*18.6*	*18.6*	*18.6*	*18.6*	*18.6*	**17.5**	*18.3*	*18.6*
Mountain	**10.8**	**11.0**	**11.2**	**11.3**	**11.4**	**11.5**	**11.6**	*11.6*	*11.6*	*11.7*	*11.7*	*11.7*	**11.1**	*11.5*	*11.7*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.6**	**23.9**	**24.0**	*24.2*	*24.2*	*24.2*	*24.2*	*24.2*	**22.8**	*23.9*	*24.2*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,012**	**779**	**83**	**1,920**	**3,139**	**786**	**137**	*2,159*	*3,142*	*866*	*139*	*2,165*	**5,795**	*6,221*	*6,312*
Middle Atlantic	**2,822**	**669**	**57**	**1,726**	**2,938**	**669**	**89**	*1,994*	*2,920*	*698*	*92*	*1,979*	**5,274**	*5,690*	*5,690*
E. N. Central	**3,085**	**708**	**69**	**1,887**	**3,270**	**754**	**137**	*2,265*	*3,176*	*748*	*129*	*2,222*	**5,749**	*6,425*	*6,275*
W. N. Central	**3,225**	**717**	**87**	**2,026**	**3,482**	**792**	**133**	*2,465*	*3,288*	*718*	*158*	*2,420*	**6,055**	*6,873*	*6,584*
South Atlantic	**1,347**	**213**	**10**	**800**	**1,344**	**189**	**27**	*957*	*1,396*	*202*	*15*	*959*	**2,370**	*2,518*	*2,572*
E. S. Central	**1,790**	**315**	**19**	**1,036**	**1,822**	**247**	**41**	*1,306*	*1,843*	*268*	*22*	*1,309*	**3,160**	*3,417*	*3,442*
W. S. Central	**1,296**	**121**	**1**	**497**	**1,348**	**58**	**5**	*786*	*1,202*	*92*	*5*	*815*	**1,916**	*2,197*	*2,114*
Mountain	**2,308**	**663**	**110**	**1,634**	**2,302**	**738**	**83**	*1,844*	*2,237*	*711*	*156*	*1,864*	**4,715**	*4,966*	*4,968*
Pacific	**1,559**	**482**	**78**	**1,206**	**1,388**	**606**	**51**	*1,246*	*1,555*	*599*	*95*	*1,227*	**3,323**	*3,291*	*3,476*
U.S. Average	**2,107**	**472**	**51**	**1,307**	**2,148**	**492**	**68**	*1,538*	*2,133*	*497*	*78*	*1,529*	**3,936**	*4,246*	*4,237*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	**852**	**107**	*2,103*	*3,151*	*858*	*108*	*2,112*	**6,195**	*6,163*	*6,229*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	**684**	**71**	*1,908*	*2,945*	*692*	*72*	*1,914*	**5,572**	*5,551*	*5,622*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	**727**	**97**	*2,162*	*3,215*	*741*	*97*	*2,172*	**6,161**	*6,119*	*6,226*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	**726**	**125**	*2,357*	*3,317*	*754*	*123*	*2,368*	**6,477**	*6,426*	*6,562*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	**187**	**11**	*906*	*1,401*	*190*	*12*	*902*	**2,503**	*2,484*	*2,505*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	**243**	**15**	*1,228*	*1,809*	*251*	*16*	*1,227*	**3,267**	*3,249*	*3,303*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	**93**	**3**	*754*	*1,190*	*96*	*3*	*761*	**2,015**	*1,995*	*2,049*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	**685**	**132**	*1,817*	*2,201*	*701*	*129*	*1,824*	**4,877**	*4,816*	*4,854*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,454**	**522**	**79**	*1,136*	*1,438*	*522*	*76*	*1,144*	**3,242**	*3,192*	*3,180*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,095**	**479**	**62**	*1,473*	*2,133*	*486*	*62*	*1,476*	**4,147**	*4,110*	*4,157*
Cooling Degree Days															
New England	**0**	**144**	**458**	**7**	**0**	**80**	**572**	*1*	*0*	*86*	*412*	*1*	**608**	*653*	*500*
Middle Atlantic	**0**	**182**	**625**	**23**	**0**	**153**	**691**	*4*	*0*	*152*	*529*	*4*	**830**	*849*	*685*
E. N. Central	**2**	**250**	**630**	**30**	**1**	**256**	**567**	*7*	*0*	*207*	*522*	*6*	**912**	*830*	*736*
W. N. Central	**8**	**312**	**748**	**23**	**3**	**305**	**739**	*10*	*3*	*256*	*660*	*10*	**1,092**	*1,057*	*928*
South Atlantic	**154**	**615**	**1,167**	**283**	**155**	**708**	**1,197**	*241*	*125*	*635*	*1,136*	*231*	**2,220**	*2,301*	*2,128*
E. S. Central	**40**	**434**	**1,016**	**126**	**29**	**600**	**1,086**	*67*	*27*	*482*	*1,014*	*62*	**1,615**	*1,781*	*1,585*
W. S. Central	**90**	**766**	**1,468**	**313**	**56**	**1,090**	**1,644**	*211*	*81*	*830*	*1,466*	*193*	**2,637**	*3,001*	*2,571*
Mountain	**10**	**529**	**964**	**68**	**17**	**471**	**982**	*76*	*17*	*415*	*901*	*73*	**1,571**	*1,545*	*1,407*
Pacific	**24**	**253**	**707**	**59**	**31**	**219**	**735**	*61*	*25*	*165*	*573*	*62*	**1,043**	*1,047*	*824*
U.S. Average	**50**	**410**	**902**	**127**	**46**	**465**	**945**	*97*	*43*	*388*	*836*	*92*	**1,489**	*1,553*	*1,360*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	**87**	**472**	*2*	*0*	*87*	*480*	*2*	**555**	*561*	*570*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	**162**	**608**	*8*	*0*	*159*	*614*	*8*	**779**	*779*	*782*
E. N. Central	**3**	**234**	**572**	**7**	**3**	**238**	**571**	*9*	*1*	*234*	*562*	*10*	**816**	*821*	*807*
W. N. Central	**7**	**294**	**686**	**10**	**7**	**299**	**681**	*11*	*4*	*292*	*675*	*12*	**997**	*999*	*982*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	**668**	**1,188**	*269*	*144*	*675*	*1,192*	*274*	**2,276**	*2,272*	*2,285*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	**518**	**1,057**	*84*	*36*	*521*	*1,061*	*86*	**1,713**	*1,702*	*1,704*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	**853**	**1,536**	*224*	*101*	*860*	*1,546*	*227*	**2,772**	*2,725*	*2,734*
Mountain	**24**	**441**	**949**	**85**	**23**	**459**	**945**	*84*	*23*	*456*	*947*	*83*	**1,499**	*1,511*	*1,509*
Pacific	**31**	**193**	**648**	**86**	**31**	**208**	**665**	*86*	*32*	*214*	*673*	*84*	**959**	*989*	*1,002*
U.S. Average	**52**	**413**	**892**	**104**	**53**	**412**	**889**	*109*	*50*	*415*	*893*	*110*	**1,461**	*1,463*	*1,469*

- = no data available

Notes: EIA completed modeling and analysis for this report on October 6, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the September 2022 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Aug 2022	Sept 2022	Aug 2022 – Sept 2022 Average	Aug 2021 – Sept 2021 Average	2019 – 2021 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	101.5	101.8	101.6	96.6	96.6
Global Petroleum and Other Liquids Consumption (b)	99.3	99.8	99.5	98.5	96.6
Biofuels Production (c)	3.2	3.1	3.1	3.1	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.6	3.6	3.6	3.5	3.2
Iran Liquid Fuels Consumption	2.0	1.9	1.9	1.8	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	94.7	95.1	94.9	90.0	90.7
Consumption (d)	94.8	95.3	95.0	94.2	92.2
Production minus Consumption	-0.1	-0.2	-0.1	-4.2	-1.5
World Inventory Net Withdrawals Including Iran	-2.1	-2.0	-2.1	1.9	0.0
Estimated OECD Inventory Level (e) (million barrels)	2,722	2,751	2,736	2,785	2,946
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	1.5	1.5	1.5	4.5	4.3

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Aug 2022	Sept 2022	Aug 2022 – Sept 2022 Average	Aug 2021 – Sept 2021 Average	2019 – 2021 Average
Brent Front Month Futures Price ($ per barrel)	97.74	90.57	94.32	72.64	59.44
WTI Front Month Futures Price ($ per barrel)	91.48	83.80	87.81	69.58	54.82
Dubai Front Month Futures Price ($ per barrel)	97.24	90.38	93.97	71.04	58.86
Brent 1st - 13th Month Futures Spread ($ per barrel)	9.84	10.23	10.03	5.35	1.80
WTI 1st - 13th Month Futures Spread ($ per barrel)	8.71	8.32	8.52	5.22	1.37
RBOB Front Month Futures Price ($ per gallon)	2.91	2.45	2.69	2.20	1.67
Heating Oil Front Month Futures Price ($ per gallon)	3.59	3.41	3.51	2.13	1.75
RBOB - Brent Futures Crack Spread ($ per gallon)	0.58	0.29	0.44	0.47	0.25
Heating Oil - Brent Futures Crack Spread ($ per gallon)	1.27	1.25	1.26	0.40	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics and Analysis
U.S. Energy Information Administration

Short-Term Energy Outlook

STEO



Short-Term Energy Outlook

Overview

U.S. energy market indicators	2021	2022	2023
Brent crude oil spot price (dollars per barrel)	**$70.89**	**$102.13**	**$95.33**
Retail gasoline price (dollars per gallon)	**$3.02**	**$4.02**	**$3.61**
U.S. crude oil production (million barrels per day)	**11.25**	**11.83**	**12.31**
Natural gas price at Henry Hub (dollars per MMBtu)	**$3.91**	**$6.49**	**$5.46**
U.S. LNG gross exports (billion cubic feet per day)	**9.8**	**10.8**	**12.3**
Shares of U.S. electricity generation			
Natural gas	37%	38%	36%
Coal	23%	20%	19%
Renewables	20%	22%	24%
Nuclear	20%	19%	20%
U.S. GDP (percentage change)	**5.9%**	**1.7%**	**-0.1%**
U.S. CO_2 emissions (billion metric tons)	**4.90**	**4.98**	**4.84**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

- The November 2022 *Short-Term Energy Outlook* (STEO) marks the release of our new text format. We have reconfigured the text to provide readers with discussions and visualizations we think best convey our energy forecast and its key drivers.
- Uncertainty in macroeconomic conditions could significantly affect energy markets in the forecast period. Based on the S&P Global macroeconomic model, we now expect U.S. GDP will fall slightly in 2023, which we forecast will contribute to a drop in total U.S. energy consumption next year.
- We estimate U.S. natural gas inventories ended October 2022 at more than 3.5 trillion cubic feet (Tcf), which is 4% below the five-year average and higher than what we had been forecasting in recent months. They fall in our forecast by 2.1 Tcf this winter to 1.4 Tcf by the end of March 2023. This withdrawal would be similar to the five-year average and result in inventories that are 8% below the five-year average at the end of March 2023.
- Because of higher-than-expected storage levels heading into winter our forecast natural gas spot price at Henry Hub averages about $6 per million British thermal units (MMBtu) across 4Q22 and 1Q23, which is more than $1/MMBtu lower than we forecast in the October STEO. We expect natural gas prices will decline after January as the deficit to the five-year average in inventories decreases.

- We expect renewable sources to provide 22% of U.S. electricity generation in 2022 and 24% in 2023 as generation from natural gas declines from 38% in 2022 to 36% in 2023. The increase in renewables generation comes mostly from solar and wind capacity additions.
- U.S. distillate fuel inventories average 17% below the five-year average in our forecast for 2023. We estimate distillate inventories were 104 million barrels at the end of October, the lowest end-of-October level since 1951.
- Retail heating oil and diesel prices will continue to average more than $5 per gallon for the rest of 4Q22. We expect a slightly contracting U.S. economy will reduce distillate prices in the first half of 2023 (1H23). However, the EU's ban on seaborne imports of petroleum products from Russia creates supply uncertainty for distillate markets in early 2023.
- Higher heating oil prices and consumption, due to colder forecasted temperatures this winter, result in our expectation that the average U.S. home that uses heating oil as its primary space heating fuel will see expenditures increase by 45% compared with last winter. In last month's *Winter Fuels Outlook*, we forecast expenditures would rise 27% over last winter in the baseline.
- We forecast OPEC crude oil production will fall in November and December. Annual OPEC production averages 28.9 million barrels per day (b/d) in 2023, up by 0.3 million b/d from 2022.
- Growth in OPEC and non-OPEC oil production—most notably production in the United States—keeps the Brent crude oil price in our forecast lower on an annual average basis in 2023 than in 2022. However, we expect the Brent crude oil price will begin rising in 2H23.

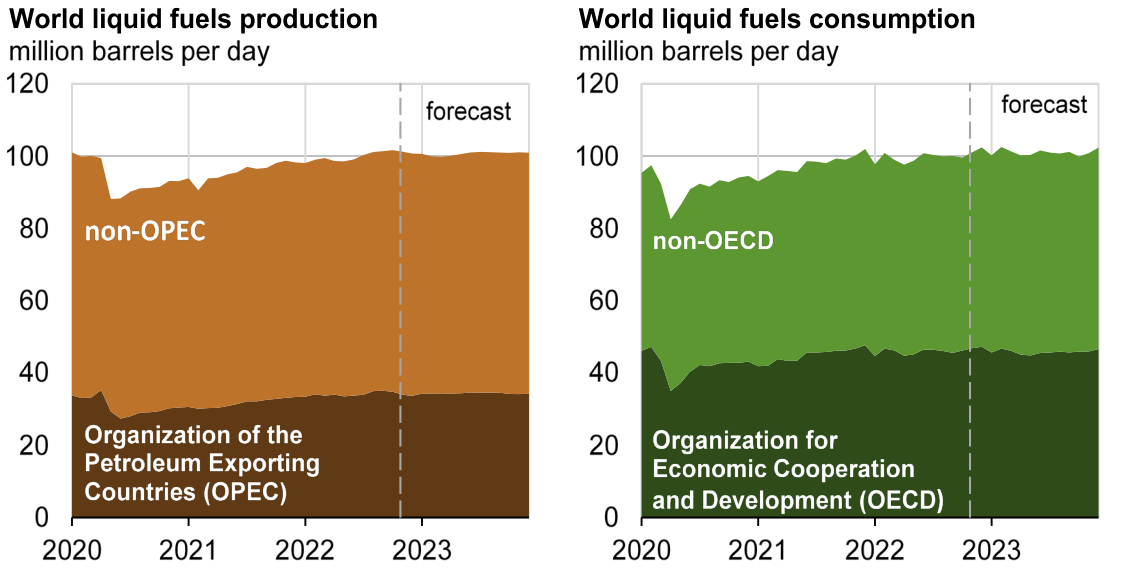
Notable forecast changes

Current forecast: November 8, 2022; previous forecast: October 12, 2022	**2022**	**2023**
Real gross domestic product (percentage change)	**1.7%**	**-0.1%**
Previous	1.7%	1.3%
Henry Hub spot average (dollars per MMBtu)	**$6.49**	**$5.46**
Previous	$6.88	$5.77
Percentage change	-5.8%	-5.4%
Diesel fuel prices (dollars per gallon)	**$5.09**	**$4.65**
Previous	$4.97	$4.29
Percentage change	2.5%	8.4%

Data source: Energy Information Administration, *Short-Term Energy Outlook*

Global oil markets

Crude oil production: On October 5, 2022, OPEC+ producers agreed to reduce crude oil production targets by 2.0 million barrels per day (b/d) from their previously stated targets beginning in November 2022. The announcement had a limited effect on our global oil production forecast in the October STEO when the cuts were first incorporated because we had already included an expectation that OPEC+ would not meet the previously stated production targets. We expect that Saudi Arabia, Kuwait, and the United Arab Emirates will account for most of OPEC's share of the cut, while the forecast production for other OPEC members remains largely unchanged from our assessment made before the October 5 announcement. Total OPEC crude oil production in our forecast falls from an average of 29.2 million b/d in the third quarter of 2022 (3Q22) to 28.6 million b/d in 4Q22, largely unchanged from last month's STEO forecast. OPEC crude oil production in the forecast averages 28.9 million b/d in 2023.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Among the non-OPEC participants in OPEC+, the majority of the reductions in OPEC+ production will come from Russia, where we expect production declines will materialize as the result of Russia's full-scale invasion of Ukraine and sanctions imposed on Russia, rather than the newly announced production cuts. We expect that Russia's total liquids production will fall from an average of 10.9 million b/d in 3Q22 to 10.8 million b/d in 4Q22, before falling further to an average of 9.3 million b/d for all of 2023. This forecast is subject to significant uncertainty around the extent to which upcoming EU sanctions will impact trade flows and the ability for oil suppliers in Russia to find alternative shipping arrangements and buyers.

We expect global oil inventory levels to begin to fall again in early 2023, after increasing by an estimated 0.8 million b/d in 3Q22. We expect total global oil inventories will decline by 1.2 million b/d in 1Q23,

after a forecast build of 0.2 million b/d in 4Q22. We forecast global oil inventories will fall by 0.3 million b/d in 2023.

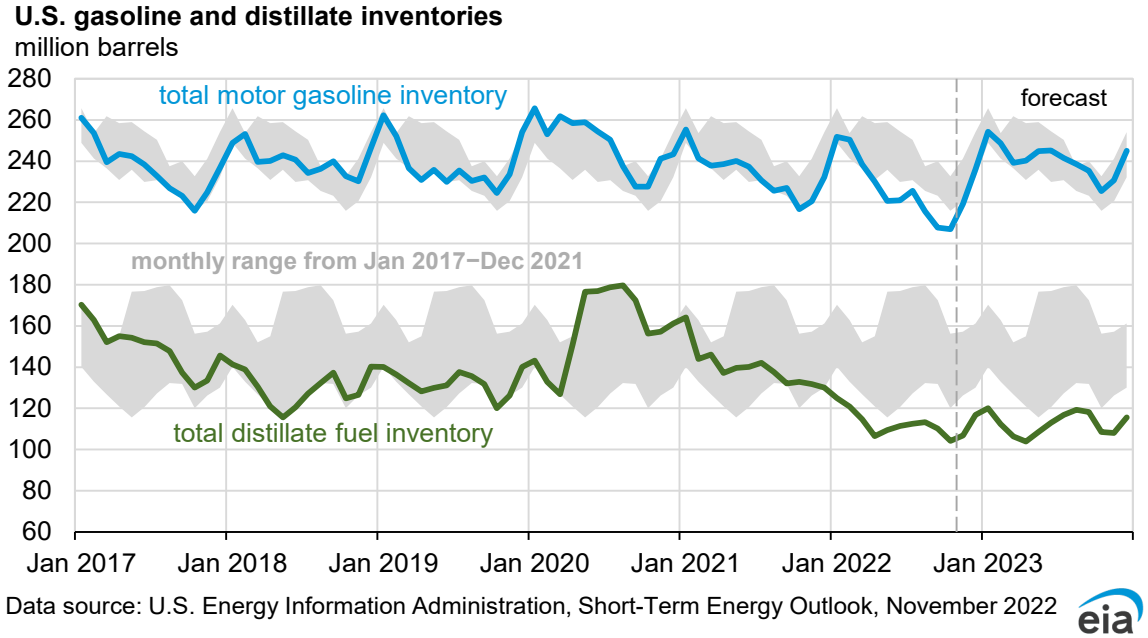
Crude oil prices: The Brent crude oil spot price averaged $93 per barrel (b) in October. We expect the Brent price will average near that price through 1H23. Weakening global economic conditions, which could limit oil demand growth, create the potential for oil prices to end up lower than our forecast. Higher-than-forecast oil prices could stem from supply disruptions resulting from the EU's impending bans on the seaborne import of crude oil and petroleum products from Russia. Despite increasing concerns around weakening global economic conditions, we forecast that global oil consumption will outpace global oil production in 2023, which will contribute to increasing oil prices in 2H23. We forecast the Brent crude oil price will rise from an average of $94/b in 1H23 to an average of $98/b in 4Q23, averaging $95/b for all of 2023.

Petroleum products

Distillate fuel: Distillate inventories have been well below the five-year average through all of 2022 in all major trading regions globally, a situation largely related to reduced distillate exports from Russia and trade dislocations following Russia's full-scale invasion of Ukraine in February. Seasonal increases in demand and refinery closures are now affecting inventories and contributing to price increases. Wholesale diesel fuel prices averaged $4.11 per gallon (gal) in October, an increase of 66 cents/gal (19%) from September and $1.60/gal (64%) from October 2021. Diesel fuel use in the U.S. agricultural sector rises in autumn at the same time the use of heating oil in the residential sectors also begins to rise. This year, widespread refinery strikes in France are further reducing global diesel supplies. In addition, regional production of distillate in the U.S. Northeast has also been less than historical levels since the closures of the Philadelphia Energy Solutions refinery in 2019 and the Come-by-Chance refinery in Newfoundland in 2020, which was a source of imports for the region.

We forecast that distillate prices will rise in November before falling slightly in December as activity at some refineries in Europe increases and U.S. refiners finish their seasonal maintenance. However, we still expect U.S. distillate inventories will remain at or near multiyear lows through the end of our forecast. Ongoing constraints on global refining capacity will continue to limit distillate supplies and inventory builds during this time, although we forecast distillate refinery margins to moderate beginning in early 2023 as seasonal demand for the fuel decreases and refinery production remains greater than usual because of strong refining margins. Low global distillate supplies mean that there is limited potential for distillate imports to supplement U.S. domestic production, particularly after the EU's ban on seaborne refined product imports from Russia beginning in February 2023.

We expect new refinery capacity coming online in the Middle East, China, and the United States through 2023 to contribute to lowering distillate margins. We forecast U.S. distillate refinery margins (calculated as the difference between the wholesale diesel price and the Brent crude oil price) will average $1.14/gal in 2023, compared with $1.34/gal in 2022. Significant sources of uncertainty in our forecast include the potential for future disruptions relating to global refinery outages and unexpected developments linked to EU's ban on refined products from Russia.

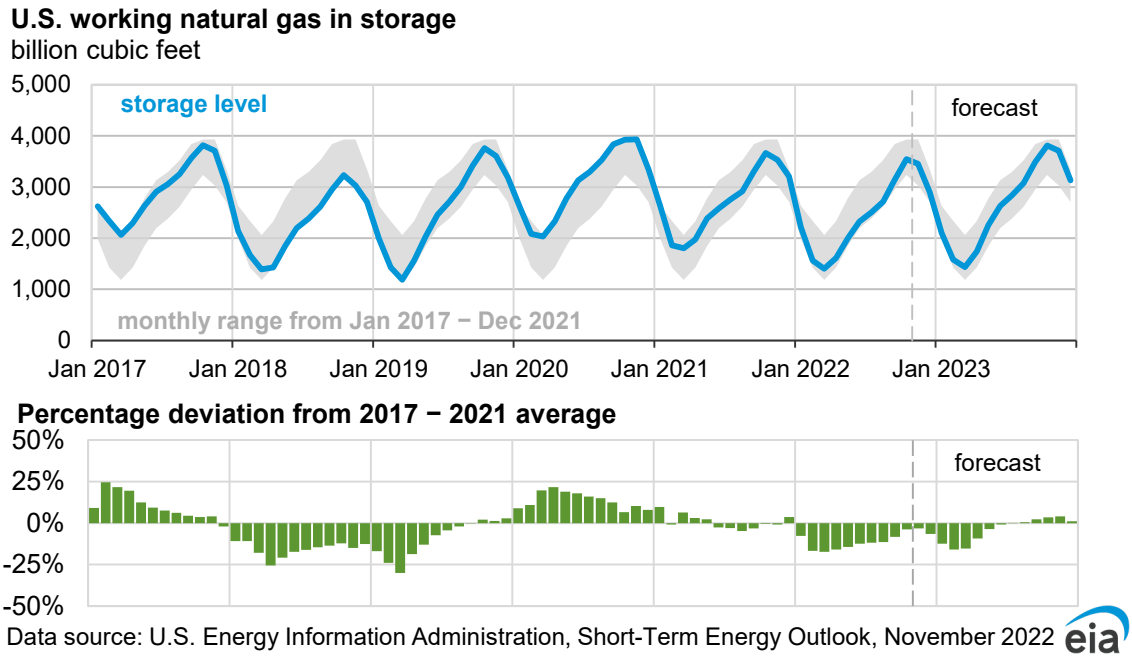


Gasoline: After falling for three straight months, U.S. retail gasoline prices increased in October. We expect gasoline prices to resume their decline in November, as refiners increase production to meet distillate demand and gasoline inventories begin increasing. Rising gasoline production contributes to inventory builds in our forecast that will return gasoline stocks to levels within the five-year range by early 2023. The U.S. average retail price in our forecast falls from $3.82/gal in October 2022 to $3.60/gal in February 2023, with the largest price decrease on the West Coast. Following this decrease, we expect U.S. retail gasoline prices to remain relatively flat for the rest of 2023.

Natural gas

Natural gas storage: At the end of October, typically considered the end of storage injection season (March–October), we estimate working natural gas in storage was 3,544 billion cubic feet (Bcf), 4% below the five-year (2017–2021) average. Higher-than-average injections of natural gas into storage in September and October reduced the deficit of natural gas inventories to the five-year average and contributed to falling natural gas prices. The natural gas spot price at Henry Hub averaged $8.80 per million British thermal units (MMBtu) in August but declined to an average of $5.66/MMBtu in October.

Natural gas inventories play an important role in price formation. Inventory levels below the five-year average are often correlated with higher natural gas prices, while inventory levels above the five-year average are often correlated with lower natural gas prices. We expect natural gas inventories to fall by 2,110 Bcf this winter, which is similar to the five-year average winter withdrawal. We forecast that natural gas inventories will total 1,433 Bcf at the end of March, which is 8% below the five-year average. However, actual inventory outcomes will highly depend on realized temperatures throughout the winter.

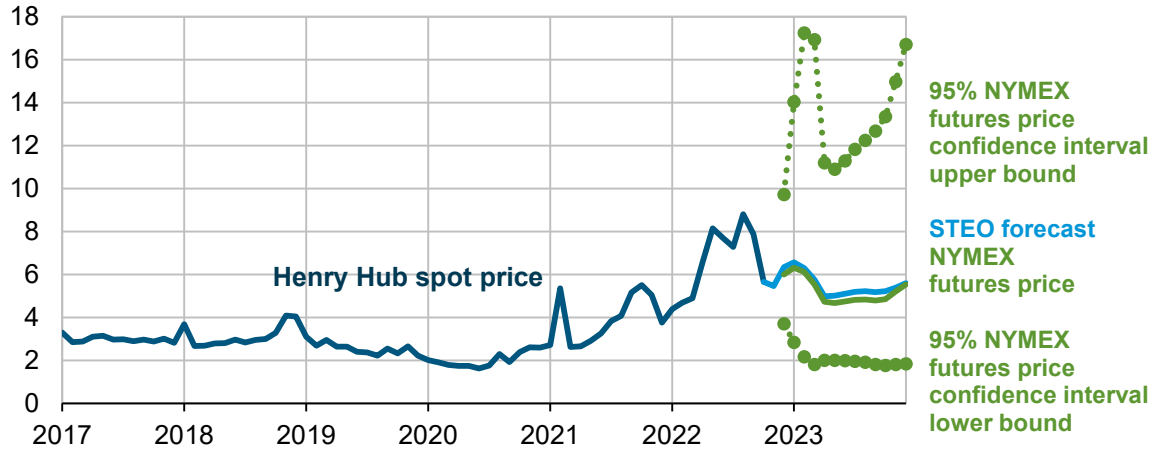


Natural gas production: Natural gas production has increased steadily throughout 2022, and dry natural gas production averages 100.4 billion cubic feet per day (Bcf/d) in our forecast for November. We expect declines in natural gas production during the winter months due to the possibility of extreme weather, which can cause production shut-ins. In addition, natural gas prices for the rest of the forecast remain lower than prices from 2Q22 and 3Q22. We expect that lower prices and some constraints in the pipeline capacity to move natural gas from production fields to consuming markets will reduce drilling activity, and we forecast natural gas production will average 99.7 Bcf/d in 2023, 2% more than in 2022, but down from current monthly average production.

Prices: We expect the benchmark Henry Hub natural gas spot price to average nearly $5.50/MMBtu in November 2022, before rising to more than $6/MMBtu in December and 1Q23. Natural gas prices typically increase in winter months as colder weather increases demand for natural gas for space-heating. Based on the current weather forecast from the National Oceanic and Atmospheric Administration, our forecast assumes colder weather, with 2% more heating degree days (HDD) from November to March compared with the 10-year (2011–2021) average. We expect inventory draws in December and January to outpace the five-year average, driven by a seasonal decline in natural gas production, rising demand for space heating, and increases in liquefied natural gas (LNG) exports that largely result from the return of Freeport LNG. Although any delay in the return of Freeport LNG could contribute to some downward price pressures in the near term, these factors will likely limit any downward price pressures this winter, and the possibility for price spikes and volatility in the case of extremely cold weather is high. Price spikes could affect both Henry Hub and regional pricing hubs, particularly in New England. Price spikes will have a limited effect on retail natural gas prices this winter, as there is typically a delay between changes in wholesale and retail prices for natural gas.

We expect downward pressures on natural gas prices will emerge in 2Q23. In 2023, the combination of natural gas consumption and exports in our forecast falls by more than 1 Bcf/d on average compared with 2022, while combined production and imports rise by a similar amount, leading to strong injections during the 2023 refill season.

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units



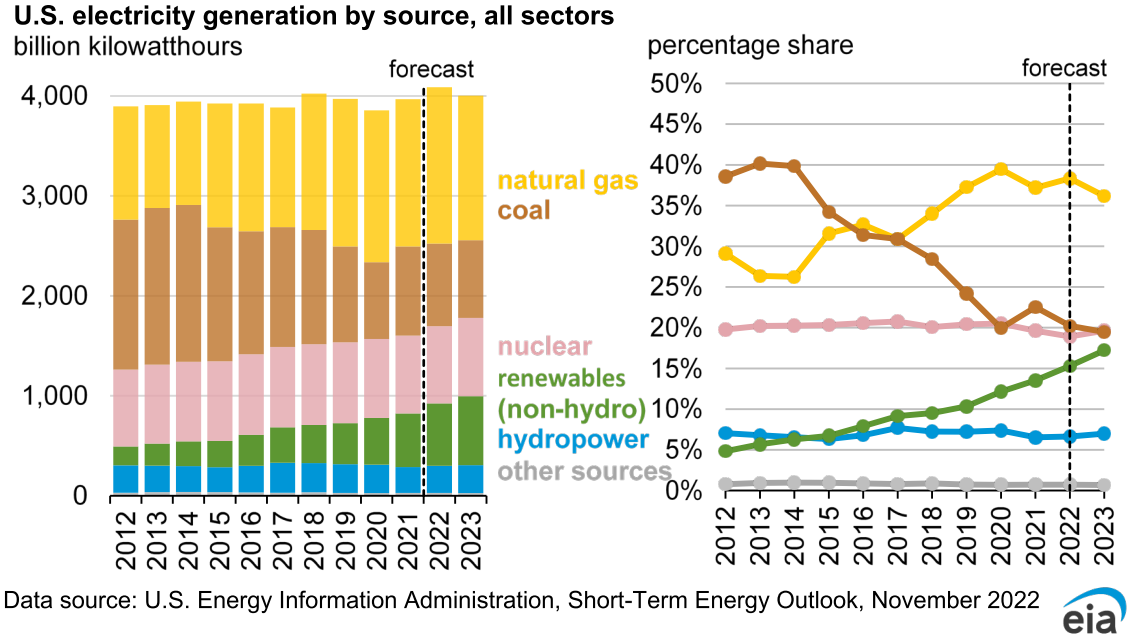
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending November 3, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Electricity, coal, and renewables

Electricity generation: We forecast 2% less U.S. electricity generation in 2023 than in 2022, driven mostly by a decline in air-conditioning use because of cooler forecast temperatures next year, and also by slight economic contraction. Due to less electricity demand, we expect that generation from renewable sources will make up an increasing share of total U.S. electricity generation, rising from 22% this year to 24% in 2023. Without growth in U.S. electricity consumption, strong growth in renewables generating capacity results in lower shares of generation from all other sources next year, most notably natural gas and coal.

Power generators are reporting that they plan to add 15 gigawatts (GW) of utility-scale solar photovoltaic (PV) capacity in 2022 and 30 GW in 2023. Small-scale solar capacity grows by 7 GW in 2022 and by almost 10 GW in 2023. Wind capacity additions in the forecast total 11 GW in 2022 and 5 GW in 2023. Battery additions to total 5 GW in 2022 and 9 GW in 2023.

Despite a forecast decline in natural gas prices from this year to next year, we expect the share of generation supplied by natural gas will fall from 38% this year to 36% in 2023 as more renewable generating capacity comes online. We expect the share of generation fueled by coal will fall from 20% this year to 19% in 2023. Generators plan to retire 12 GW of coal-fired capacity in 2022 and 9 GW in 2023, a decline of 10% from the level of capacity operating at the end of 2021.



Coal production: We expect U.S. coal production will total 595 million short tons (MMst) in 2022, up 3% from 2021. The increase reflects strong international demand for U.S. coal and a need among power plant operators to replenish coal stocks. However, the ability of the coal industry to produce more coal has been limited in 2022 by labor shortages at mines and railroads, which constrained the supply and transport of coal requested by customers during the summer months. Limited supply growth has led to higher coal prices, and the average cost of coal for power generators rose to $2.51 per million British thermal units (MMBtu) in August, up 22% from August 2021. In 2023, we forecast that moderating natural gas prices and coal plant retirements will lead to a 4% reduction in coal production. Less demand for coal in 2023 combined with rising coal inventories will result in delivered coal prices to the electric power sector declining below $2.40/MMBtu by the end of 2023.

Coal inventories: On average, monthly U.S. coal inventories through August 2022 were 19% lower compared with the same period in 2021 as production was not sufficient to both replenish stocks and satisfy summer power demand. Although we expect coal production to decrease in 2023, further declines in coal consumption and net exports to lead to an 18% increase in coal inventories during 2023.

Economy, weather, and CO_2

U.S. macroeconomics: Our U.S. macroeconomic forecasts are based on the model produced and maintained by S&P Global (formerly IHS Markit). We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic forecasts. S&P Global forecasts that the U.S. economy will enter a recession starting in 4Q22 and start recovering in 3Q23. On an annual basis, U.S. real GDP falls by 0.1% in 2023 in the forecast.

The forecast recession is primarily driven by a decline in real private fixed investment, which is expected to decline by 4.4% in 2023. A large component of this decline is in residential fixed investment, which

has fallen due to slowing demand for housing. As a result, housing starts are expected to decline by 21.1% in 2023. Demand for housing has fallen as the cost of purchasing a new home and mortgage rates have increased and as the U.S. Federal Reserve has raised interest rates in 2022 to combat inflationary pressures. Annual inflation based on the Consumer Price Index is expected to fall from 8.1% in 2022 to 4.1% in 2023. As the effects of monetary policy slows real economic activity, S&P Global forecasts a corresponding rise in the unemployment rate, peaking at 5.8% at the end of 2023.

Although the decline in economic activity mostly stems from the residential investment sector, other sectors of the economy will also see a decline in activity. In particular, industrial production is expected to fall by 0.1% in 2023, driven by expected declines in several manufacturing industries.

Emissions: We forecast total energy-related CO_2 emissions to increase slightly in 2022 compared with 2021, driven by more consumption of natural gas and petroleum products and offset by less coal consumption. Among fossil fuels, natural gas emissions increase the most in 2022 as a result of strong demand in the electric power sector and constraints in the coal market that have reduced coal-fired generation. Increases in petroleum emissions are attributable to increased travel following the pandemic.

We forecast CO_2 emissions will decrease slightly in 2023 compared with 2022, driven by less U.S. energy consumption resulting from the forecast decline in economic activity. We expect consumption of (and therefore emissions from) coal, petroleum, and natural gas to decline in 2023.

Weather: Based on forecasts from the National Oceanic and Atmospheric Administration, we expect a colder winter (October–March), with 7% more population-weighted HDDs in the United States compared with last winter and 2% more HDDs than the ten-year average.

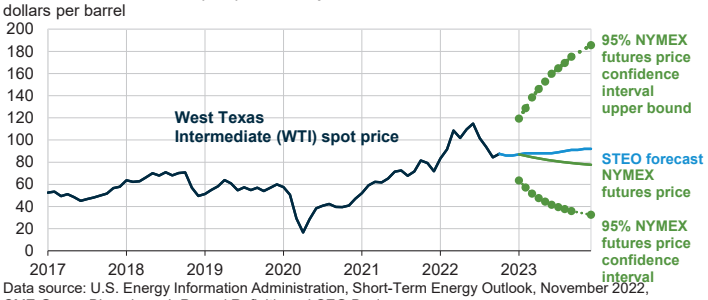
The U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (DOE), prepared this report. By law, our data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report do not represent those of DOE or any other federal agencies.

Short-Term Energy Outlook Chart Gallery

November 8, 2022

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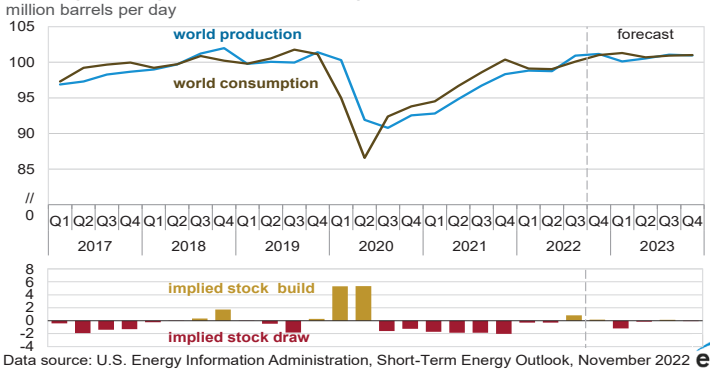
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



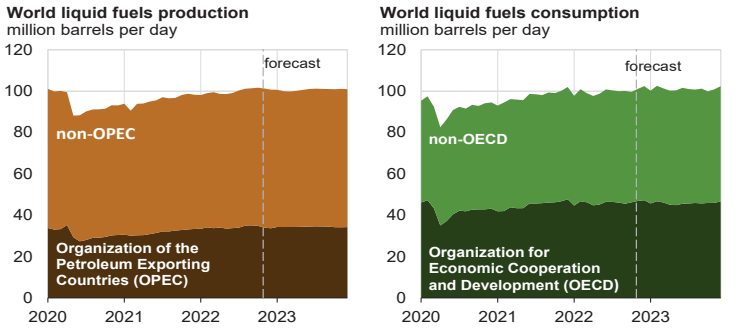
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business
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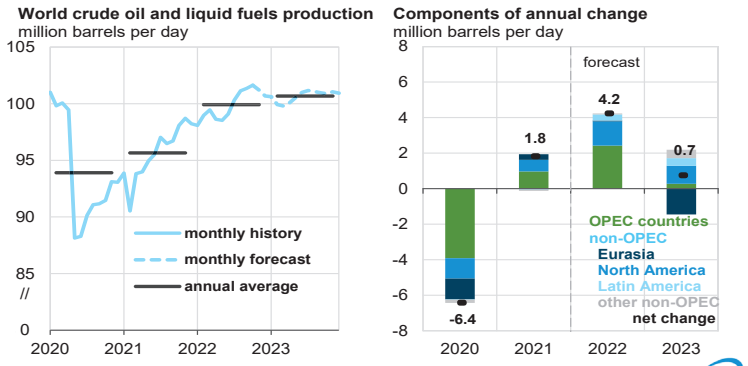
World liquid fuels production and consumption balance
million barrels per day



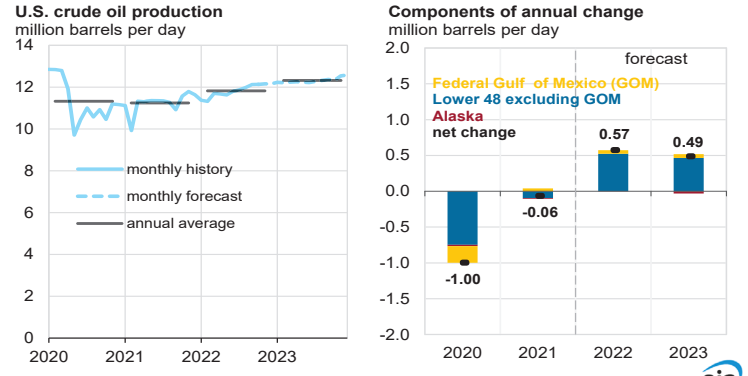
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022 eia



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

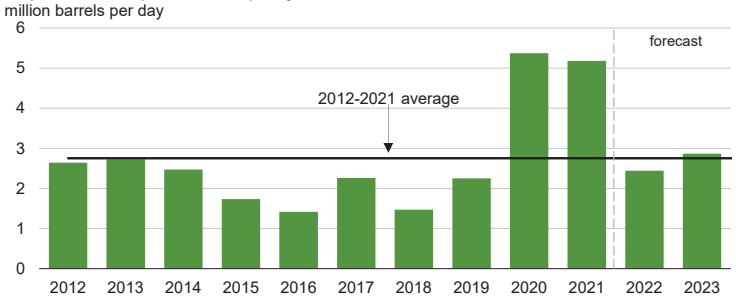


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



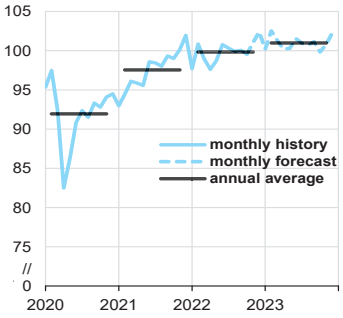
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day

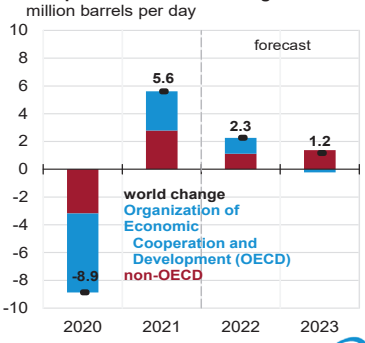


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
Note: Black line represents 2012-2021 average (2.8 million barrels per day).

World liquid fuels consumption
million barrels per day

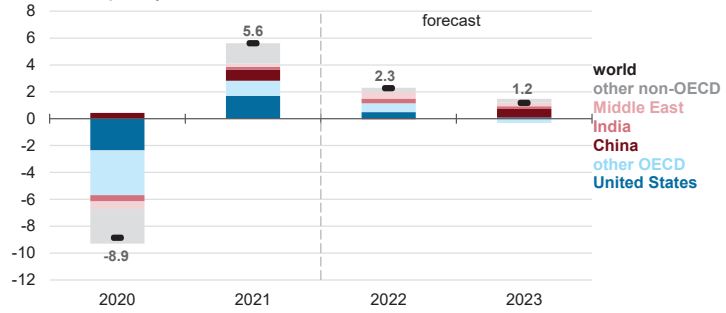


Components of annual change
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

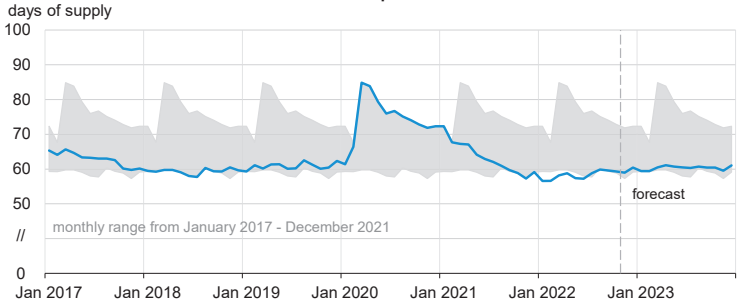
Annual change in world liquid fuels consumption
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids

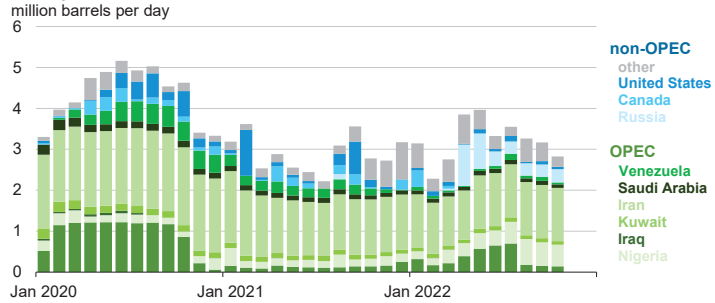
days of supply



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers

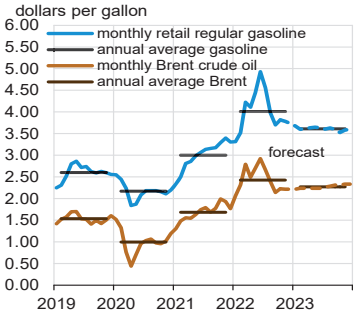
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

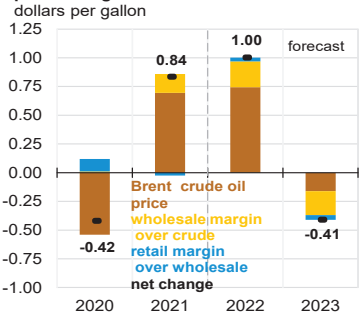
U.S. gasoline and crude oil prices

dollars per gallon

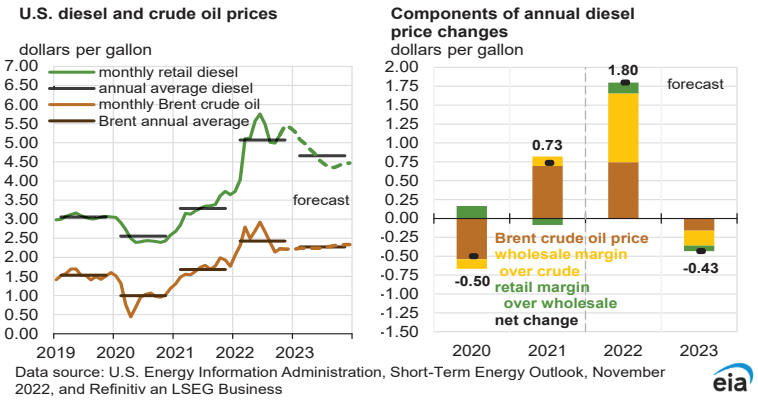


Components of annual gasoline price changes

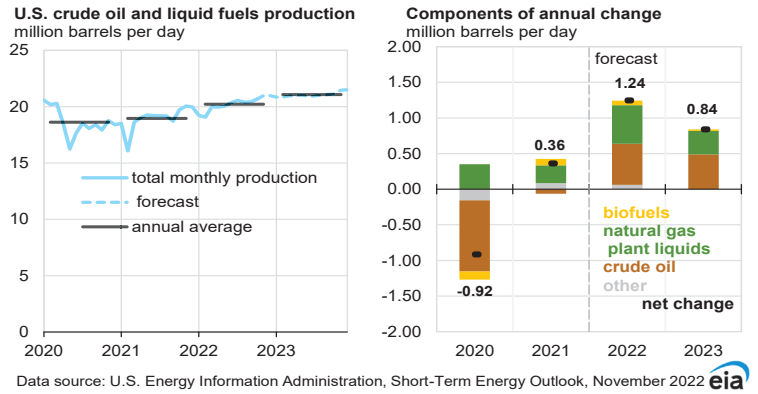
dollars per gallon



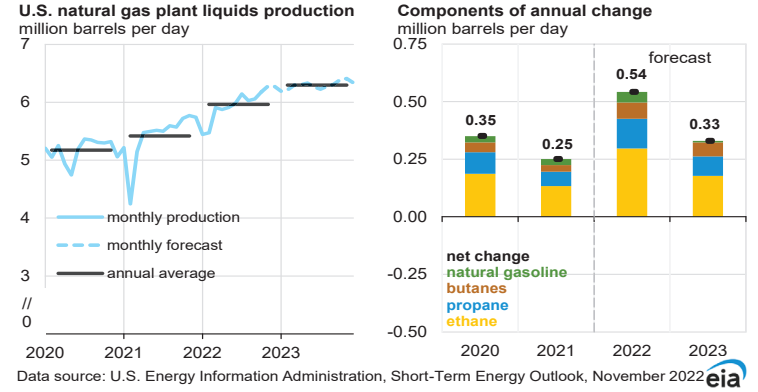
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, and Refinitiv an LSEG Business



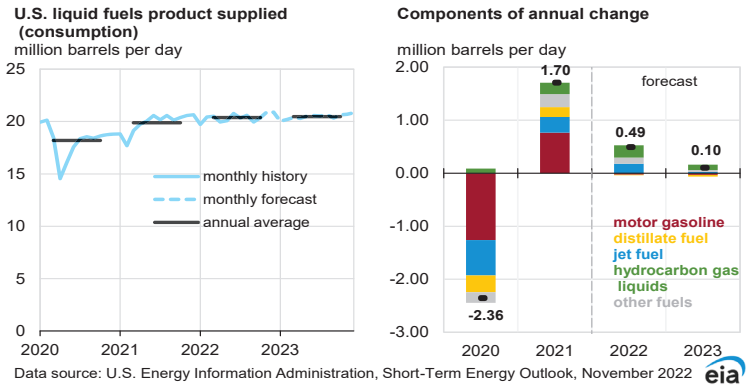
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, and Refinitiv an LSEG Business



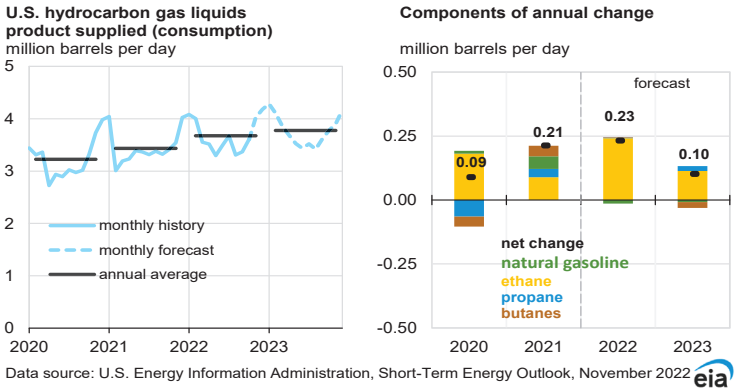
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



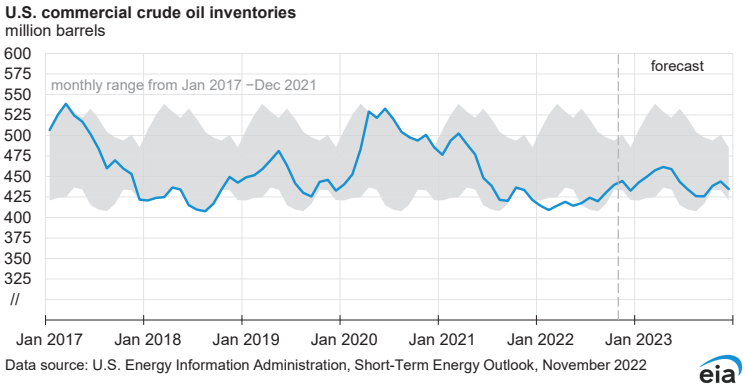
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

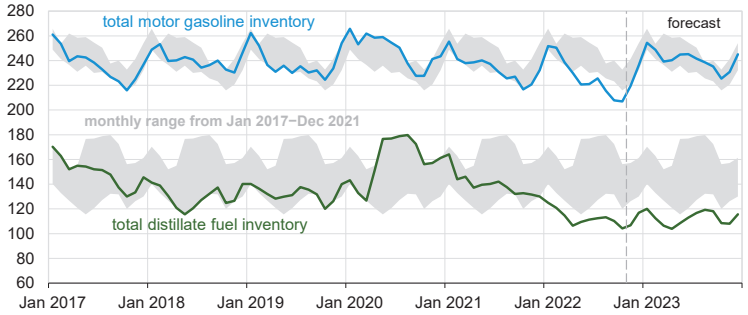


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



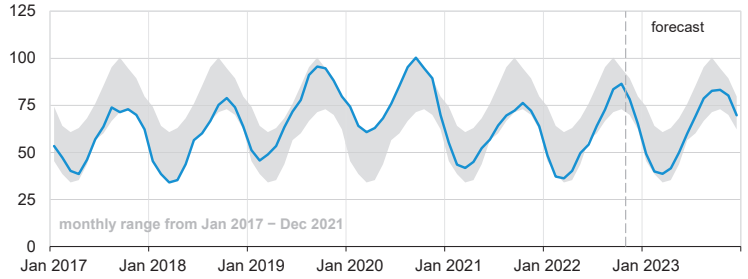
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

U.S. gasoline and distillate inventories
million barrels



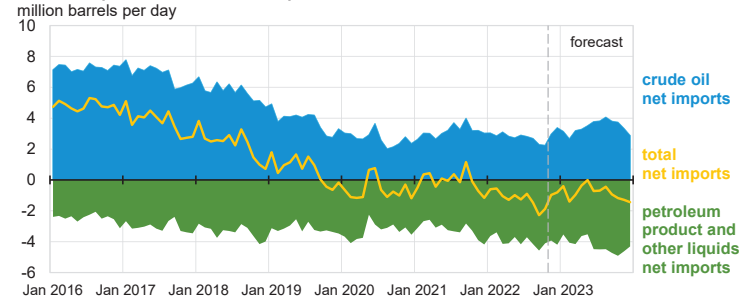
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

U.S. commercial propane inventories
million barrels



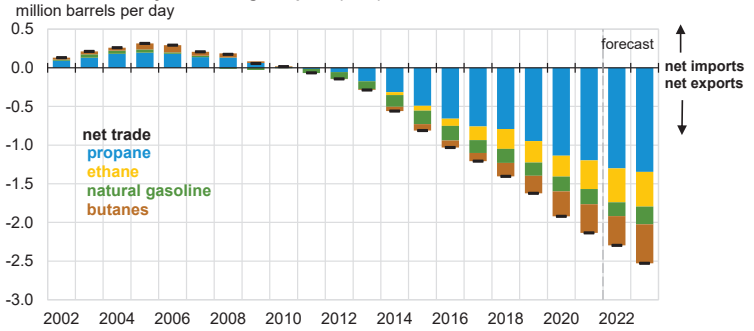
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
Note: Excludes propylene.

U.S. net imports of crude oil and liquid fuels
million barrels per day



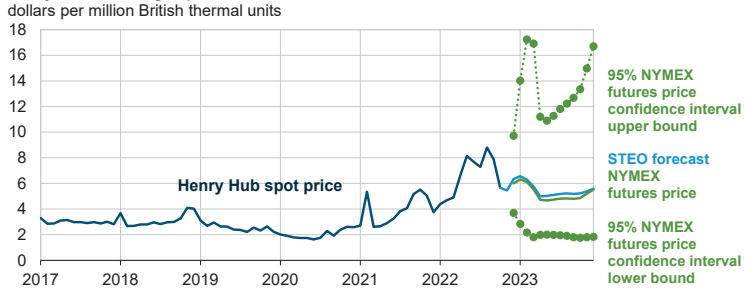
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

U.S. net trade of hydrocarbon gas liquids (HGL)
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

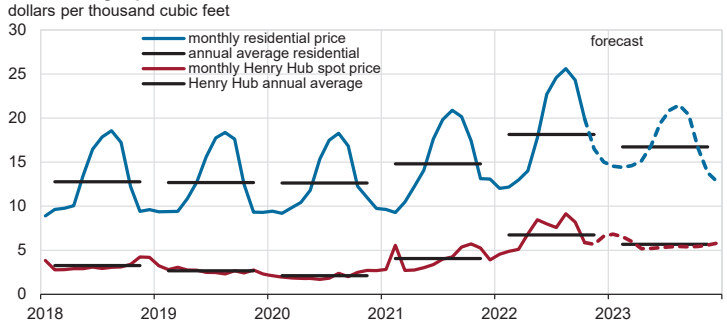
Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units



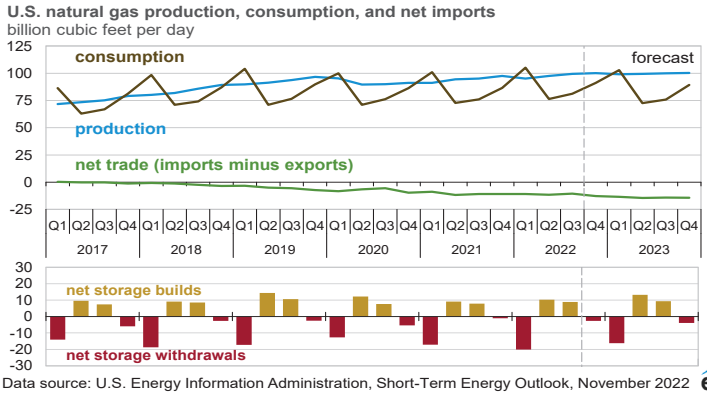
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, CME Group, and Refinitiv an LSEG Business

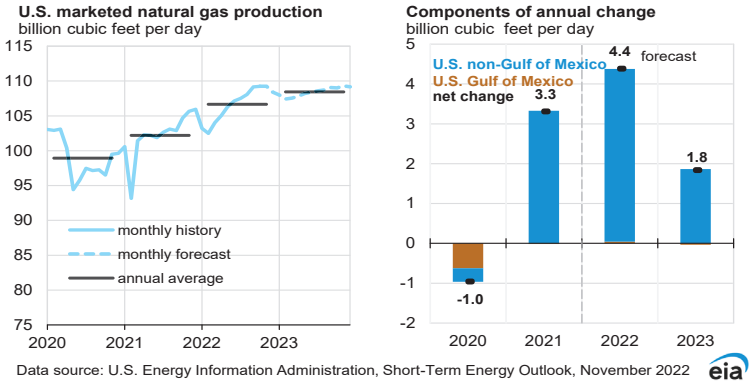
Note: Confidence interval derived from options market information for the five trading days ending November 3, 2022. Intervals not calculated for months with sparse trading in near-

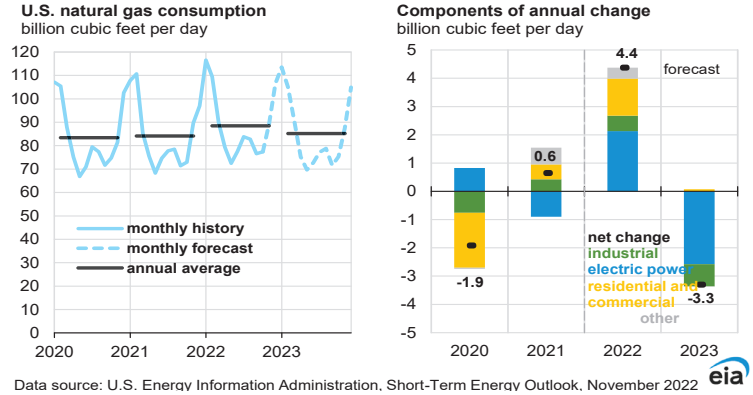
U.S. natural gas prices
dollars per thousand cubic feet

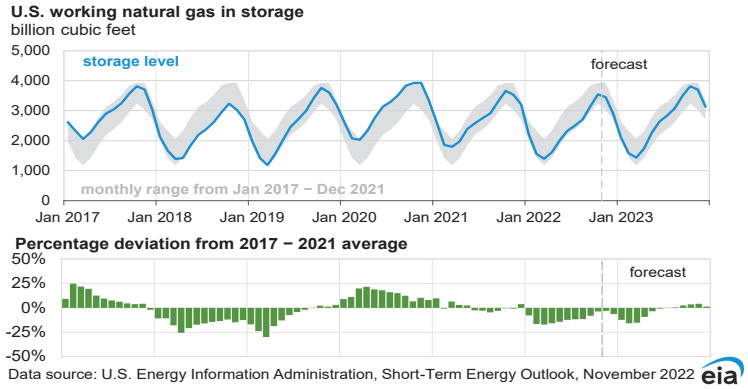


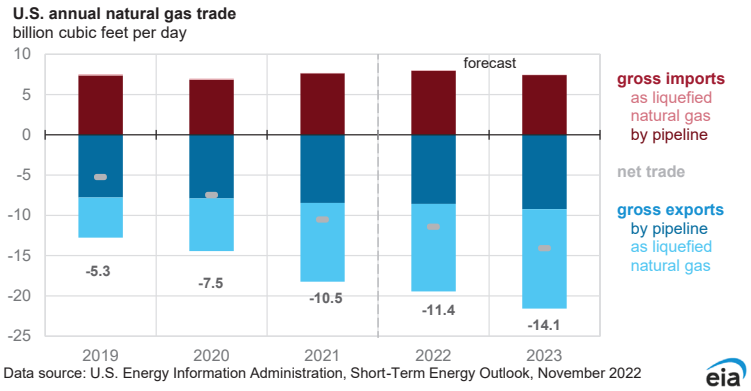
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, and Refinitiv an LSEG Business

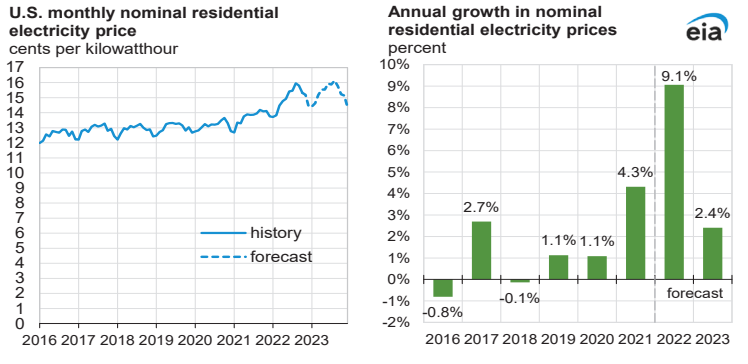

U.S. natural gas production, consumption, and net imports
billion cubic feet per day
consumption
forecast
production
net trade (imports minus exports)
net storage builds
net storage withdrawals
Q1 Q2 Q3 Q4
2017
2018
2019
2020
2021
2022
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
eia

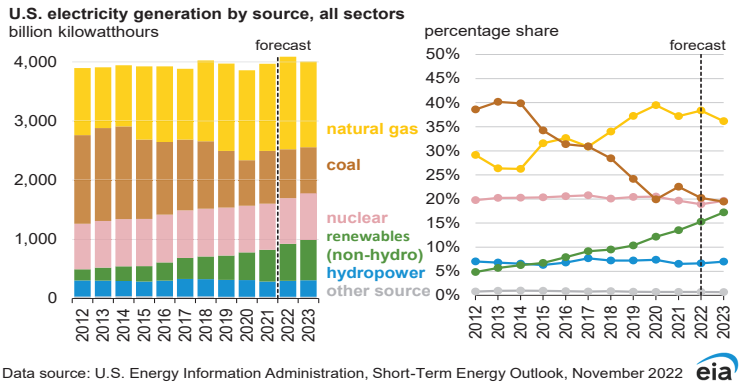

U.S. marketed natural gas production
billion cubic feet per day
monthly history
monthly forecast
annual average
Components of annual change
billion cubic feet per day
U.S. non-Gulf of Mexico
U.S. Gulf of Mexico
net change
forecast
4.4
3.3
1.8
-1.0
2020
2021
2022
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
eia


U.S. natural gas consumption
billion cubic feet per day
monthly history
monthly forecast
annual average
Components of annual change
billion cubic feet per day
forecast
4.4
0.6
-1.9
-3.3
net change
industrial
electric power
residential and
commercial
other
2020
2021
2022
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
eia

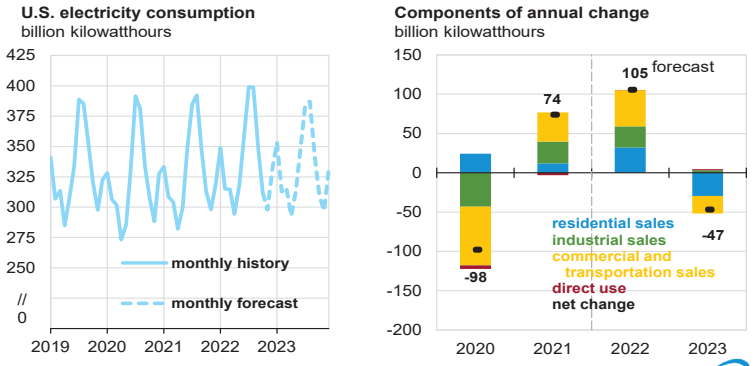

U.S. working natural gas in storage
billion cubic feet
5,000
4,000
3,000
2,000
1,000
0
storage level
forecast
monthly range from Jan 2017 – Dec 2021
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Percentage deviation from 2017 – 2021 average
50%
25%
0%
-25%
-50%
forecast
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
eia


U.S. annual natural gas trade
billion cubic feet per day
10
5
0
-5
-10
-15
-20
-25
forecast
-5.3
-7.5
-10.5
-11.4
-14.1
2019
2020
2021
2022
2023
gross imports
as liquefied
natural gas
by pipeline
net trade
gross exports
by pipeline
as liquefied
natural gas
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
eia

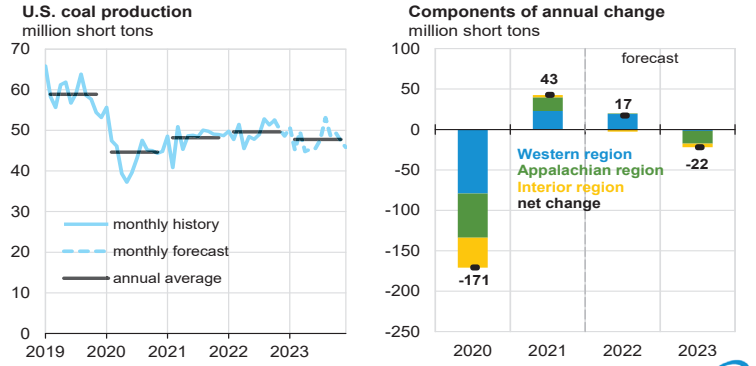

U.S. monthly nominal residential electricity price
cents per kilowatthour
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
history
forecast
2016 2017 2018 2019 2020 2021 2022 2023
Annual growth in nominal residential electricity prices
percent
eia
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
-0.8%
2.7%
-0.1%
1.1%
1.1%
4.3%
9.1%
2.4%
forecast
2016 2017 2018 2019 2020 2021 2022 2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



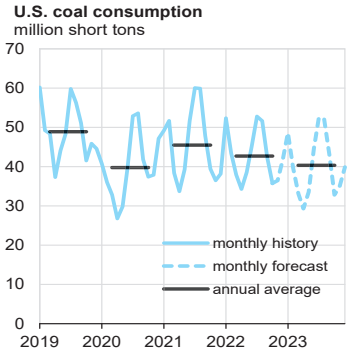
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

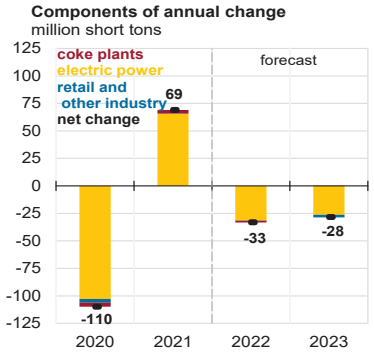


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

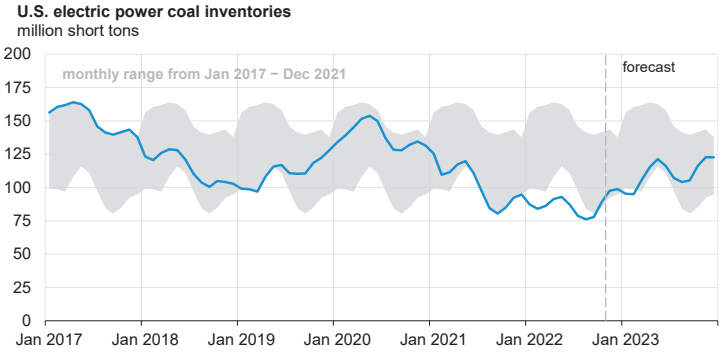


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

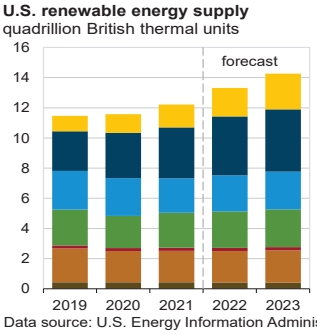


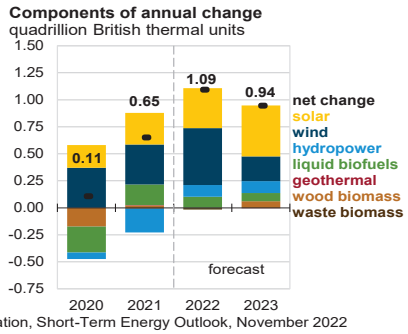


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



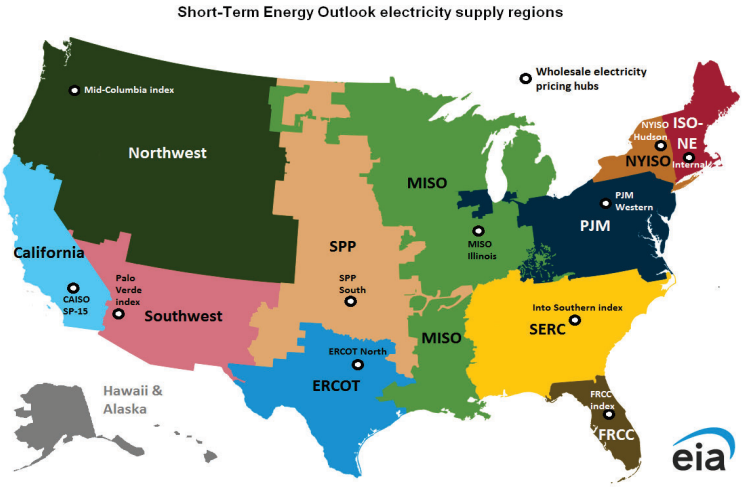
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

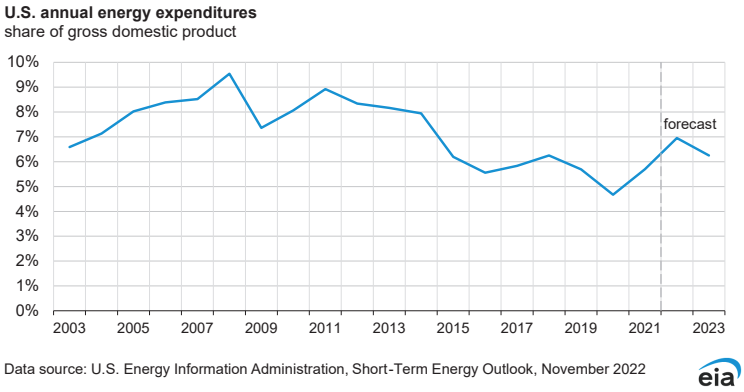


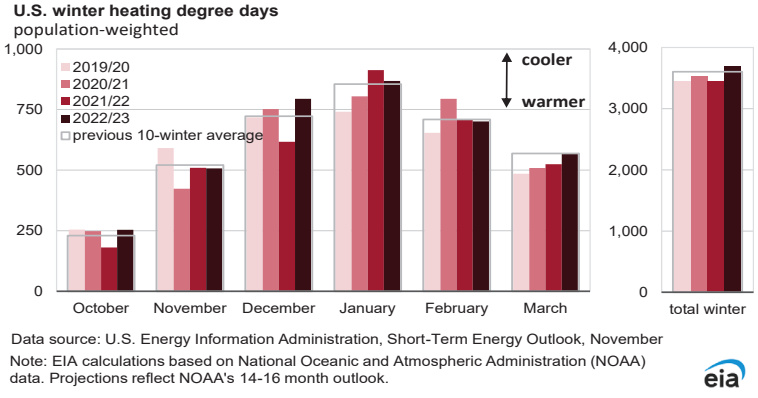


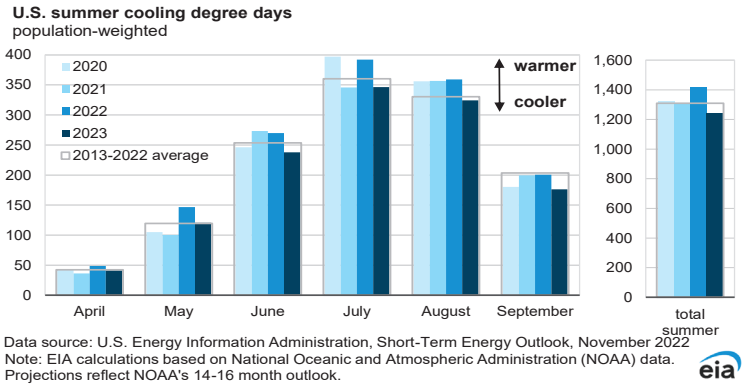
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

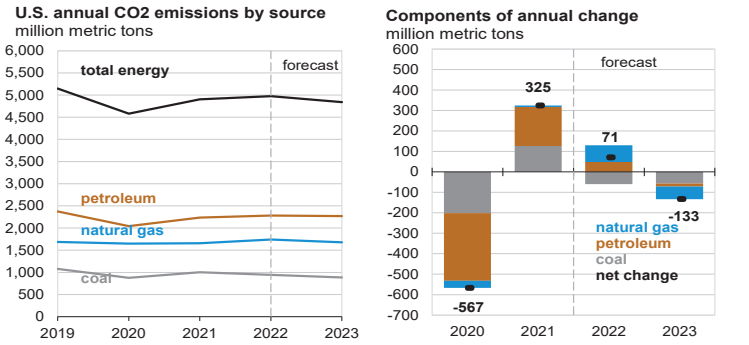

Short-Term Energy Outlook electricity supply regions
Wholesale electricity pricing hubs
Mid-Columbia index
Northwest
California
CAISO SP-15
Palo Verde index
Southwest
SPP
SPP South
MISO
MISO Illinois
MISO
ERCOT North
ERCOT
Hawaii & Alaska
PJM Western
PJM
NYISO Hudson
NYISO
ISO-NE
Into Southern index
SERC
FRCC index
FRCC
eia


U.S. annual energy expenditures
share of gross domestic product
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
forecast
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
eia


U.S. winter heating degree days
population-weighted
1,000
750
500
250
0
2019/20
2020/21
2021/22
2022/23
previous 10-winter average
cooler
warmer
October
November
December
January
February
March
4,000
3,000
2,000
1,000
0
total winter
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.
eia



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.70**	**11.99**	*12.15*	*12.22*	*12.24*	*12.32*	*12.48*	**11.25**	*11.83*	*12.31*
Dry Natural Gas Production															
(billion cubic feet per day)	**91.14**	**94.43**	**95.14**	**97.49**	**95.10**	**97.59**	**99.42**	*100.10*	*99.01*	*99.42*	*99.99*	*100.33*	**94.57**	*98.07*	*99.69*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**149**	**142**	**153**	*151*	*146*	*136*	*149*	*143*	**578**	*595*	*573*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.89**	*20.38*	*20.48*
Natural Gas															
(billion cubic feet per day)	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**81.10**	*91.14*	*102.90*	*72.52*	*75.89*	*89.28*	**84.01**	*88.39*	*85.08*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	**118**	**147**	*114*	*121*	*107*	*148*	*108*	**546**	*512*	*484*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.87**	**10.65**	**12.47**	*10.22*	*10.92*	*10.49*	*12.11*	*10.19*	**10.77**	*11.06*	*10.93*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.17**	**2.96**	**3.14**	**3.35**	**3.55**	**3.17**	*3.24*	*3.50*	*3.88*	*3.41*	*3.47*	**12.22**	*13.32*	*14.26*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.26**	**23.28**	**24.66**	**24.70**	**26.56**	**23.70**	**25.04**	*25.23*	*26.13*	*23.70*	*24.73*	*25.17*	**97.91**	*100.53*	*99.72*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	**93.07**	*86.51*	*87.67*	*88.00*	*90.00*	*91.65*	**68.21**	*95.88*	*89.33*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	**7.99**	*5.82*	*6.21*	*5.04*	*5.20*	*5.40*	**3.91**	*6.49*	*5.46*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.49**	*2.47*	*2.47*	*2.45*	*2.42*	*2.38*	**1.98**	*2.36*	*2.43*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,216**	**19,544**	**19,673**	**20,006**	**19,924**	**19,895**	**20,003**	*19,963*	*19,872*	*19,863*	*19,949*	*20,039*	**19,610**	*19,946*	*19,931*
Percent change from prior year	**1.2**	**12.5**	**5.0**	**5.7**	**3.7**	**1.8**	**1.7**	*-0.2*	*-0.3*	*-0.2*	*-0.3*	*0.4*	**5.9**	*1.7*	*-0.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**116.2**	**118.0**	**119.8**	**121.8**	**124.2**	**126.9**	**128.1**	*129.7*	*131.0*	*131.9*	*132.8*	*133.7*	**118.9**	*127.2*	*132.4*
Percent change from prior year	**2.4**	**4.4**	**5.0**	**6.1**	**6.9**	**7.6**	**7.0**	*6.6*	*5.5*	*4.0*	*3.7*	*3.1*	**4.5**	*7.0*	*4.0*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,325**	**15,921**	**15,735**	**15,537**	**15,109**	**15,052**	**15,093**	*15,138*	*15,293*	*15,330*	*15,523*	*15,709*	**16,130**	*15,098*	*15,464*
Percent change from prior year	**14.5**	**-4.4**	**-1.5**	**-0.4**	**-12.8**	**-5.5**	**-4.1**	*-2.6*	*1.2*	*1.8*	*2.8*	*3.8*	**1.9**	*-6.4*	*2.4*
Manufacturing Production Index															
(Index, 2017=100)	**96.9**	**98.3**	**99.2**	**100.6**	**101.5**	**102.4**	**102.9**	*103.1*	*102.1*	*101.5*	*101.7*	*102.3*	**98.8**	*102.5*	*101.9*
Percent change from prior year	**-0.8**	**15.8**	**5.1**	**4.5**	**4.8**	**4.2**	**3.8**	*2.5*	*0.5*	*-0.9*	*-1.2*	*-0.8*	**5.8**	*3.8*	*-0.6*
Weather															
U.S. Heating Degree-Days	**2,108**	**472**	**51**	**1,307**	**2,147**	**492**	**54**	*1,556*	*2,138*	*496*	*76*	*1,552*	**3,938**	*4,249*	*4,263*
U.S. Cooling Degree-Days	**50**	**410**	**902**	**127**	**46**	**465**	**952**	*84*	*44*	*399*	*847*	*93*	**1,489**	*1,547*	*1,383*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	**93.07**	*86.51*	*87.67*	*88.00*	*90.00*	*91.65*	**68.21**	*95.88*	*89.33*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	**113.84**	**100.53**	*93.13*	*93.67*	*94.00*	*96.00*	*97.65*	**70.89**	*102.13*	*95.33*
U.S. Imported Average	**55.29**	**64.75**	**68.42**	**73.66**	**89.85**	**107.23**	**92.32**	*83.66*	*84.89*	*85.25*	*87.24*	*88.87*	**65.92**	*93.17*	*86.62*
U.S. Refiner Average Acquisition Cost	**57.14**	**66.11**	**70.31**	**76.36**	**92.62**	**109.86**	**94.18**	*86.01*	*87.15*	*87.50*	*89.48*	*91.16*	**67.83**	*95.70*	*88.86*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**278**	**376**	**311**	*295*	*282*	*282*	*280*	*272*	**219**	*316*	*279*
Diesel Fuel	**178**	**204**	**219**	**241**	**301**	**419**	**357**	*428*	*384*	*341*	*317*	*323*	**211**	*377*	*341*
Fuel Oil	**162**	**180**	**197**	**222**	**284**	**419**	**343**	*420*	*379*	*338*	*304*	*316*	**188**	*375*	*356*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**283**	**400**	**340**	*400*	*350*	*303*	*299*	*302*	**195**	*357*	*312*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**252**	**258**	**230**	*206*	*221*	*222*	*227*	*232*	**190**	*235*	*225*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**371**	**450**	**408**	*378*	*363*	*364*	*361*	*357*	**302**	*402*	*361*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	**460**	**419**	*390*	*376*	*377*	*375*	*371*	**311**	*413*	*375*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**432**	**549**	**516**	*535*	*512*	*469*	*438*	*445*	**329**	*509*	*465*
Heating Oil	**272**	**283**	**297**	**346**	**415**	**555**	**498**	*536*	*499*	*452*	*409*	*432*	**300**	*479*	*463*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	**8.30**	*6.05*	*6.45*	*5.23*	*5.40*	*5.61*	**4.06**	*6.74*	*5.67*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	**7.99**	*5.82*	*6.21*	*5.04*	*5.20*	*5.40*	**3.91**	*6.49*	*5.46*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.77**	**4.13**	**5.09**	**6.82**	**6.82**	**8.26**	**9.14**	*7.75*	*8.02*	*6.48*	*6.26*	*6.64*	**5.50**	*7.93*	*6.88*
Commercial Sector	**7.54**	**8.86**	**10.14**	**10.27**	**10.00**	**11.71**	**13.96**	*12.29*	*11.48*	*11.38*	*11.27*	*10.15*	**8.81**	*11.39*	*11.03*
Residential Sector	**9.71**	**13.82**	**20.27**	**13.71**	**12.32**	**16.57**	**24.81**	*16.27*	*14.52*	*16.52*	*20.88*	*13.71*	**12.21**	*15.02*	*15.04*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.49**	*2.47*	*2.47*	*2.45*	*2.42*	*2.38*	**1.98**	*2.36*	*2.43*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.38**	**8.18**	*6.20*	*6.80*	*5.29*	*5.43*	*5.79*	**4.97**	*7.01*	*5.80*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**26.17**	**26.07**	*20.47*	*20.03*	*19.50*	*18.21*	*18.24*	**13.66**	*21.56*	*19.08*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	**26.94**	*32.02*	*30.04*	*26.22*	*24.23*	*24.59*	**15.50**	*26.26*	*26.79*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	**9.33**	*7.83*	*7.67*	*8.21*	*9.03*	*7.72*	**7.26**	*8.27*	*8.18*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	**13.10**	*12.16*	*12.28*	*12.72*	*13.25*	*12.03*	**11.27**	*12.35*	*12.60*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	**15.73**	*14.93*	*14.71*	*15.69*	*15.94*	*14.86*	**13.72**	*14.97*	*15.33*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.25**	**30.84**	**31.13**	**32.23**	**31.62**	**31.87**	**32.47**	*33.32*	*33.61*	*33.38*	*33.52*	*34.22*	**31.12**	*32.33*	*33.68*
U.S. (50 States)	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	**20.45**	*20.87*	*20.89*	*20.98*	*21.03*	*21.36*	**18.98**	*20.22*	*21.06*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.51**	**5.68**	*5.90*	*5.96*	*5.67*	*5.88*	*6.10*	**5.54**	*5.69*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	**1.89**	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
Other OECD	**4.91**	**4.37**	**4.72**	**4.71**	**4.61**	**4.35**	**4.44**	*4.70*	*4.86*	*4.86*	*4.79*	*4.97*	**4.68**	*4.52*	*4.87*
Non-OECD	**62.56**	**63.98**	**65.60**	**66.11**	**67.21**	**66.87**	**68.46**	*67.85*	*66.50*	*67.17*	*67.54*	*66.73*	**64.57**	*67.60*	*66.99*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.76**	**34.68**	*34.15*	*34.31*	*34.42*	*34.55*	*34.19*	**31.66**	*34.09*	*34.37*
Crude Oil Portion	**25.07**	**25.49**	**26.84**	**27.67**	**28.19**	**28.33**	**29.21**	*28.63*	*28.73*	*28.96*	*29.05*	*28.66*	**26.28**	*28.59*	*28.85*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Eurasia	**13.42**	**13.65**	**13.63**	**14.27**	**14.39**	**13.39**	**13.58**	*13.78*	*12.49*	*12.29*	*12.29*	*12.31*	**13.74**	*13.79*	*12.34*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.18**	**5.11**	*5.17*	*5.21*	*5.24*	*5.23*	*5.27*	**4.99**	*5.16*	*5.24*
Other Non-OECD	**13.80**	**14.41**	**14.69**	**13.80**	**13.90**	**14.54**	**15.08**	*14.74*	*14.49*	*15.22*	*15.47*	*14.96*	**14.18**	*14.57*	*15.04*
Total World Production	**92.81**	**94.82**	**96.74**	**98.33**	**98.83**	**98.75**	**100.92**	*101.17*	*100.11*	*100.54*	*101.07*	*100.95*	**95.70**	*99.93*	*100.67*
Non-OPEC Production	**62.48**	**63.94**	**64.46**	**65.23**	**65.08**	**64.98**	**66.24**	*67.02*	*65.80*	*66.12*	*66.52*	*66.76*	**64.03**	*65.84*	*66.30*
Consumption (million barrels per day) (c)															
OECD	**42.58**	**44.13**	**45.87**	**46.89**	**45.84**	**45.46**	**46.03**	*46.77*	*46.16*	*45.15*	*45.75*	*46.16*	**44.88**	*46.03*	*45.81*
U.S. (50 States)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.89**	*20.38*	*20.48*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	**0.20**	**0.20**	*0.22*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.25**	**2.23**	**2.43**	*2.33*	*2.27*	*2.22*	*2.32*	*2.29*	**2.28**	*2.31*	*2.27*
Europe	**11.95**	**12.66**	**13.88**	**13.94**	**13.15**	**13.41**	**13.78**	*13.83*	*13.57*	*13.18*	*13.58*	*13.35*	**13.12**	*13.55*	*13.42*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**3.03**	**3.16**	*3.51*	*3.72*	*3.06*	*3.09*	*3.39*	**3.41**	*3.35*	*3.31*
Other OECD	**5.89**	**5.93**	**5.90**	**6.23**	**6.30**	**6.33**	**6.14**	*6.17*	*6.18*	*6.02*	*6.05*	*6.19*	**5.99**	*6.23*	*6.11*
Non-OECD	**51.94**	**52.54**	**52.73**	**53.48**	**53.28**	**53.58**	**54.06**	*54.24*	*55.14*	*55.54*	*55.19*	*54.84*	**52.68**	*53.79*	*55.18*
Eurasia	**4.57**	**4.63**	**4.98**	**4.84**	**4.49**	**4.36**	**4.71**	*4.64*	*4.25*	*4.40*	*4.71*	*4.63*	**4.76**	*4.55*	*4.50*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.76**	**0.76**	**0.76**	*0.77*	*0.75*	*0.77*	*0.77*	*0.77*	**0.75**	*0.76*	*0.76*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.14**	**15.12**	**15.11**	*15.55*	*16.27*	*16.16*	*15.54*	*15.46*	**15.27**	*15.23*	*15.85*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.83**	**13.84**	**13.52**	*13.90*	*14.41*	*14.38*	*13.80*	*14.09*	**13.23**	*13.77*	*14.17*
Other Non-OECD	**17.93**	**18.71**	**19.18**	**18.86**	**19.06**	**19.50**	**19.96**	*19.37*	*19.47*	*19.83*	*20.37*	*19.89*	**18.68**	*19.47*	*19.89*
Total World Consumption	**94.52**	**96.67**	**98.59**	**100.37**	**99.12**	**99.04**	**100.09**	*101.00*	*101.30*	*100.69*	*100.94*	*101.00*	**97.56**	*99.82*	*100.98*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.36**	**0.51**	**0.37**	**0.83**	**0.81**	**0.51**	**0.45**	*0.64*	*0.01*	*-0.37*	*-0.06*	*0.50*	**0.52**	*0.60*	*0.02*
Other OECD	**0.88**	**0.14**	**0.91**	**0.73**	**-0.09**	**-0.29**	**-0.65**	*-0.27*	*0.38*	*0.16*	*-0.02*	*-0.14*	**0.66**	*-0.33*	*0.09*
Other Stock Draws and Balance	**0.46**	**1.20**	**0.58**	**0.48**	**-0.42**	**0.07**	**-0.63**	*-0.55*	*0.80*	*0.36*	*-0.05*	*-0.31*	**0.68**	*-0.38*	*0.20*
Total Stock Draw	**1.71**	**1.85**	**1.85**	**2.04**	**0.29**	**0.30**	**-0.83**	*-0.17*	*1.19*	*0.14*	*-0.13*	*0.05*	**1.86**	*-0.11*	*0.31*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,311**	**1,281**	**1,251**	**1,199**	**1,154**	**1,180**	**1,216**	*1,200*	*1,200*	*1,249*	*1,260*	*1,224*	**1,199**	*1,200*	*1,224*
OECD Commercial Inventory	**2,916**	**2,873**	**2,759**	**2,640**	**2,604**	**2,656**	**2,752**	*2,760*	*2,726*	*2,761*	*2,774*	*2,751*	**2,640**	*2,760*	*2,751*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.34**	**26.47**	**26.42**	**27.51**	**27.01**	**27.52**	**28.03**	*28.63*	*28.75*	*28.51*	*28.73*	*29.25*	**26.44**	*27.80*	*28.81*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.51**	**5.68**	*5.90*	*5.96*	*5.67*	*5.88*	*6.10*	**5.54**	*5.69*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	**1.89**	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
United States	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	**20.45**	*20.87*	*20.89*	*20.98*	*21.03*	*21.36*	**18.98**	*20.22*	*21.06*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.83**	**6.41**	**6.97**	*6.62*	*6.35*	*7.11*	*7.40*	*6.91*	**6.10**	*6.46*	*6.95*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.77**	**0.78**	**0.79**	*0.81*	*0.85*	*0.86*	*0.87*	*0.90*	**0.70**	*0.79*	*0.87*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.33**	**3.79**	**4.28**	*3.82*	*3.49*	*4.22*	*4.52*	*3.98*	**3.69**	*3.81*	*4.05*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	**0.77**	**0.78**	*0.79*	*0.77*	*0.77*	*0.78*	*0.77*	**0.76**	*0.78*	*0.77*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	**0.47**	**0.49**	*0.52*	*0.54*	*0.55*	*0.56*	*0.56*	**0.48**	*0.49*	*0.55*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.49**	**0.60**	**0.64**	*0.68*	*0.71*	*0.71*	*0.68*	*0.70*	**0.47**	*0.60*	*0.70*
Europe	**4.33**	**3.83**	**4.12**	**4.11**	**4.04**	**3.76**	**3.95**	*4.21*	*4.36*	*4.37*	*4.30*	*4.49*	**4.10**	*3.99*	*4.38*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.97**	**1.74**	**1.98**	*2.14*	*2.32*	*2.33*	*2.33*	*2.41*	**2.03**	*1.96*	*2.35*
United Kingdom	**1.07**	**0.81**	**0.93**	**0.93**	**0.97**	**0.91**	**0.85**	*0.93*	*0.92*	*0.91*	*0.83*	*0.93*	**0.94**	*0.91*	*0.90*
Eurasia	**13.42**	**13.65**	**13.63**	**14.27**	**14.39**	**13.39**	**13.58**	*13.78*	*12.49*	*12.29*	*12.29*	*12.31*	**13.74**	*13.79*	*12.34*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	**0.67**	**0.65**	*0.66*	*0.65*	*0.64*	*0.63*	*0.64*	**0.72**	*0.67*	*0.64*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	**1.77**	**1.62**	*1.97*	*2.01*	*1.94*	*1.95*	*2.02*	**1.86**	*1.84*	*1.98*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	**10.59**	**10.92**	*10.76*	*9.41*	*9.30*	*9.31*	*9.24*	**10.78**	*10.89*	*9.32*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.26**	**0.26**	*0.26*	*0.27*	*0.27*	*0.27*	*0.27*	**0.25**	*0.26*	*0.27*
Other Eurasia	**0.13**	**0.14**	**0.14**	**0.13**	**0.14**	**0.11**	**0.13**	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	**0.13**	*0.13*	*0.14*
Middle East	**3.09**	**3.12**	**3.16**	**3.17**	**3.23**	**3.29**	**3.29**	*3.25*	*3.24*	*3.24*	*3.23*	*3.23*	**3.13**	*3.26*	*3.23*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.05**	**1.07**	**1.10**	*1.08*	*1.06*	*1.06*	*1.06*	*1.06*	**0.98**	*1.07*	*1.06*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.85**	**1.86**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.03**	**8.96**	**9.16**	**9.17**	**8.98**	*9.11*	*9.16*	*9.16*	*9.13*	*9.15*	**9.07**	*9.10*	*9.15*
Australia	**0.46**	**0.42**	**0.47**	**0.49**	**0.44**	**0.47**	**0.38**	*0.39*	*0.39*	*0.38*	*0.37*	*0.37*	**0.46**	*0.42*	*0.38*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.18**	**5.11**	*5.17*	*5.21*	*5.24*	*5.23*	*5.27*	**4.99**	*5.16*	*5.24*
India	**0.90**	**0.90**	**0.89**	**0.88**	**0.88**	**0.89**	**0.89**	*0.88*	*0.90*	*0.90*	*0.89*	*0.88*	**0.89**	*0.89*	*0.89*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.84**	**0.83**	**0.82**	*0.81*	*0.81*	*0.80*	*0.79*	*0.78*	**0.86**	*0.82*	*0.80*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.61**	**0.60**	**0.58**	*0.61*	*0.62*	*0.61*	*0.61*	*0.60*	**0.61**	*0.60*	*0.61*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.21**	**0.20**	**0.20**	*0.19*	*0.19*	*0.18*	*0.18*	*0.18*	**0.21**	*0.20*	*0.18*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.41**	**1.44**	**1.44**	*1.43*	*1.44*	*1.44*	*1.42*	*1.42*	**1.44**	*1.43*	*1.43*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.66**	**0.68**	**0.66**	*0.66*	*0.68*	*0.67*	*0.67*	*0.68*	**0.66**	*0.66*	*0.68*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	**0.15**	**0.16**	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**62.48**	**63.94**	**64.46**	**65.23**	**65.08**	**64.98**	**66.24**	*67.02*	*65.80*	*66.12*	*66.52*	*66.76*	**64.03**	*65.84*	*66.30*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Non-OPEC + OPEC non-crude	**67.74**	**69.33**	**69.90**	**70.67**	**70.64**	**70.42**	**71.72**	*72.54*	*71.39*	*71.58*	*72.01*	*72.29*	**69.42**	*71.33*	*71.82*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	**1.31**	**0.80**	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.86**	**0.88**	**0.92**	**0.95**	**0.97**	**1.00**	**1.02**	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	**1.19**	**1.16**	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	**0.29**	**0.29**	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	**0.09**	**0.09**	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	**0.19**	**0.20**	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	**2.53**	**2.50**	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	**4.42**	**4.55**	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	**2.69**	**2.80**	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	**0.76**	**0.95**	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	**1.11**	**0.97**	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	**10.30**	**10.85**	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	**3.04**	**3.17**	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	**0.72**	**0.66**	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.07**	**25.49**	**26.84**	**27.67**	**28.19**	**28.33**	**29.21**	*28.63*	*28.73*	*28.96*	*29.05*	*28.66*	**26.28**	*28.59*	*28.85*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.76**	**34.68**	*34.15*	*34.31*	*34.42*	*34.55*	*34.19*	**31.66**	*34.09*	*34.37*
Crude Oil Production Capacity															
Middle East	**25.21**	**25.50**	**25.50**	**25.48**	**25.48**	**25.46**	**25.52**	*25.60*	*25.90*	*26.03*	*26.03*	*26.03*	**25.42**	*25.52*	*26.00*
Other	**6.12**	**6.10**	**5.96**	**5.98**	**5.83**	**5.45**	**5.34**	*5.46*	*5.74*	*5.78*	*5.70*	*5.66*	**6.04**	*5.52*	*5.72*
OPEC Total	**31.33**	**31.59**	**31.45**	**31.46**	**31.31**	**30.92**	**30.86**	*31.06*	*31.64*	*31.81*	*31.73*	*31.69*	**31.46**	*31.04*	*31.72*
Surplus Crude Oil Production Capacity															
Middle East	**5.66**	**5.52**	**4.21**	**3.53**	**3.00**	**2.48**	**1.66**	*2.41*	*2.90*	*2.83*	*2.66*	*3.03*	**4.72**	*2.38*	*2.85*
Other	**0.59**	**0.59**	**0.40**	**0.27**	**0.12**	**0.11**	**0.00**	*0.01*	*0.02*	*0.02*	*0.02*	*0.01*	**0.46**	*0.06*	*0.02*
OPEC Total	**6.25**	**6.10**	**4.61**	**3.80**	**3.12**	**2.59**	**1.66**	*2.42*	*2.92*	*2.85*	*2.68*	*3.03*	**5.18**	*2.44*	*2.87*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	**2.42**	**2.53**	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.40**	**23.95**	**24.34**	**24.60**	**24.24**	**24.49**	**24.54**	*24.75*	*24.17*	*24.40*	*24.55*	*24.75*	**23.83**	*24.51*	*24.47*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.25**	**2.23**	**2.43**	*2.33*	*2.27*	*2.22*	*2.32*	*2.29*	**2.28**	*2.31*	*2.27*
Mexico	**1.63**	**1.66**	**1.61**	**1.72**	**1.76**	**1.99**	**1.80**	*1.70*	*1.69*	*1.71*	*1.71*	*1.72*	**1.65**	*1.81*	*1.71*
United States	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.89**	*20.38*	*20.48*
Central and South America	**6.09**	**6.17**	**6.34**	**6.34**	**6.27**	**6.40**	**6.50**	*6.53*	*6.30*	*6.43*	*6.53*	*6.47*	**6.24**	*6.43*	*6.43*
Brazil	**2.79**	**2.86**	**2.95**	**2.95**	**2.86**	**2.93**	**3.02**	*3.03*	*2.90*	*2.95*	*3.03*	*3.01*	**2.89**	*2.96*	*2.97*
Europe	**12.69**	**13.41**	**14.62**	**14.70**	**13.91**	**14.17**	**14.55**	*14.60*	*14.32*	*13.95*	*14.35*	*14.12*	**13.86**	*14.31*	*14.18*
Eurasia	**4.57**	**4.63**	**4.98**	**4.84**	**4.49**	**4.36**	**4.71**	*4.64*	*4.25*	*4.40*	*4.71*	*4.63*	**4.76**	*4.55*	*4.50*
Russia	**3.34**	**3.42**	**3.70**	**3.56**	**3.34**	**3.27**	**3.54**	*3.45*	*3.16*	*3.24*	*3.53*	*3.39*	**3.51**	*3.40*	*3.33*
Middle East	**8.13**	**8.80**	**9.26**	**8.76**	**8.99**	**9.30**	**9.73**	*8.97*	*9.26*	*9.46*	*9.99*	*9.39*	**8.74**	*9.25*	*9.53*
Asia and Oceania	**36.28**	**35.34**	**34.78**	**36.67**	**36.71**	**35.81**	**35.66**	*36.98*	*38.41*	*37.44*	*36.28*	*36.95*	**35.76**	*36.29*	*37.26*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.14**	**15.12**	**15.11**	*15.55*	*16.27*	*16.16*	*15.54*	*15.46*	**15.27**	*15.23*	*15.85*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**3.03**	**3.16**	*3.51*	*3.72*	*3.06*	*3.09*	*3.39*	**3.41**	*3.35*	*3.31*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	**5.06**	**4.80**	*5.05*	*5.25*	*5.32*	*4.96*	*5.28*	**4.65**	*5.00*	*5.20*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	**4.51**	**4.50**	**4.40**	*4.53*	*4.60*	*4.61*	*4.53*	*4.69*	**4.37**	*4.49*	*4.61*
Total OECD Liquid Fuels Consumption	**42.58**	**44.13**	**45.87**	**46.89**	**45.84**	**45.46**	**46.03**	*46.77*	*46.16*	*45.15*	*45.75*	*46.16*	**44.88**	*46.03*	*45.81*
Total non-OECD Liquid Fuels Consumption	**51.94**	**52.54**	**52.73**	**53.48**	**53.28**	**53.58**	**54.06**	*54.24*	*55.14*	*55.54*	*55.19*	*54.84*	**52.68**	*53.79*	*55.18*
Total World Liquid Fuels Consumption	**94.52**	**96.67**	**98.59**	**100.37**	**99.12**	**99.04**	**100.09**	*101.00*	*101.30*	*100.69*	*100.94*	*101.00*	**97.56**	*99.82*	*100.98*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.4**	**117.7**	**119.1**	**120.8**	**121.5**	**121.9**	**122.5**	*123.1*	*123.5*	*124.1*	*125.1*	*126.2*	**118.5**	*122.3*	*124.7*
Percent change from prior year	**3.5**	**11.6**	**5.1**	**4.7**	**4.3**	**3.5**	**2.9**	*1.9*	*1.7*	*1.8*	*2.1*	*2.5*	**6.1**	*3.2*	*2.0*
OECD Index, 2015 = 100													**110.0**	*112.9*	*112.9*
Percent change from prior year													**5.6**	*2.6*	*0.0*
Non-OECD Index, 2015 = 100													**123.8**	*128.3*	*132.9*
Percent change from prior year													**6.5**	*3.6*	*3.6*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	**113.0**	**117.3**	*121.7*	*121.8*	*121.2*	*120.7*	*120.2*	**107.3**	*115.4*	*121.0*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	**6.5**	**9.1**	*11.6*	*11.1*	*7.3*	*2.9*	*-1.2*	**-3.9**	*7.5*	*4.8*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.70**	**11.99**	*12.15*	*12.22*	*12.24*	*12.32*	*12.48*	**11.25**	*11.83*	*12.31*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	**0.44**	**0.43**	*0.44*	*0.44*	*0.38*	*0.40*	*0.41*	**0.44**	*0.44*	*0.41*
Federal Gulf of Mexico (b)	**1.83**	**1.80**	**1.49**	**1.71**	**1.67**	**1.70**	**1.80**	*1.86*	*1.86*	*1.85*	*1.77*	*1.76*	**1.71**	*1.76*	*1.81*
Lower 48 States (excl GOM)	**8.54**	**9.10**	**9.29**	**9.50**	**9.35**	**9.56**	**9.77**	*9.85*	*9.92*	*10.01*	*10.15*	*10.31*	**9.11**	*9.63*	*10.10*
Crude Oil Net Imports (c)	**2.88**	**2.94**	**3.64**	**3.13**	**3.00**	**2.81**	**2.60**	*2.86*	*3.00*	*3.52*	*3.89*	*3.31*	**3.15**	*2.81*	*3.43*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	**0.80**	**0.85**	*0.46*	*0.01*	*0.17*	*0.06*	*0.11*	**0.12**	*0.61*	*0.09*
Commercial Inventory Net Withdrawals	**-0.19**	**0.60**	**0.30**	**-0.01**	**0.08**	**-0.03**	**-0.14**	*-0.02*	*-0.28*	*0.15*	*0.19*	*-0.10*	**0.18**	*-0.03*	*-0.01*
Crude Oil Adjustment (d)	**0.30**	**0.59**	**0.44**	**0.44**	**0.71**	**0.81**	**0.95**	*0.43*	*0.22*	*0.22*	*0.23*	*0.16*	**0.44**	*0.72*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	**16.24**	*15.87*	*15.19*	*16.30*	*16.68*	*15.97*	**15.15**	*15.94*	*16.04*
Other Supply															
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	**1.00**	*1.02*	*1.03*	*1.00*	*1.02*	*1.02*	**0.96**	*1.01*	*1.02*
Natural Gas Plant Liquids Production	**4.89**	**5.50**	**5.56**	**5.74**	**5.61**	**5.92**	**6.08**	*6.24*	*6.24*	*6.30*	*6.27*	*6.38*	**5.42**	*5.97*	*6.30*
Renewables and Oxygenate Production (e)	**1.04**	**1.13**	**1.11**	**1.24**	**1.19**	**1.20**	**1.16**	*1.24*	*1.19*	*1.22*	*1.20*	*1.26*	**1.13**	*1.20*	*1.22*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	**1.01**	**0.97**	*1.02*	*0.98*	*0.99*	*0.97*	*1.00*	**0.98**	*1.00*	*0.99*
Petroleum Products Adjustment (f)	**0.20**	**0.22**	**0.22**	**0.23**	**0.22**	**0.23**	**0.23**	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-2.79**	**-3.07**	**-3.19**	**-3.79**	**-3.74**	**-3.99**	**-4.14**	*-4.08*	*-3.91*	*-3.88*	*-4.57*	*-4.61*	**-3.21**	*-3.99*	*-4.25*
Hydrocarbon Gas Liquids	**-1.95**	**-2.25**	**-2.15**	**-2.18**	**-2.14**	**-2.31**	**-2.21**	*-2.53*	*-2.52*	*-2.51*	*-2.54*	*-2.54*	**-2.14**	*-2.30*	*-2.53*
Unfinished Oils	**0.18**	**0.30**	**0.25**	**0.10**	**0.09**	**0.25**	**0.29**	*0.27*	*0.22*	*0.26*	*0.37*	*0.19*	**0.21**	*0.23*	*0.26*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.05**	**-0.09**	**-0.10**	**-0.05**	*-0.05*	*-0.06*	*-0.05*	*-0.04*	*-0.03*	**-0.05**	*-0.07*	*-0.04*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.67**	**0.43**	**0.40**	**0.60**	**0.46**	*0.32*	*0.41*	*0.66*	*0.36*	*0.38*	**0.61**	*0.44*	*0.45*
Finished Motor Gasoline	**-0.64**	**-0.64**	**-0.68**	**-0.88**	**-0.76**	**-0.73**	**-0.79**	*-0.62*	*-0.60*	*-0.61*	*-0.86*	*-0.92*	**-0.71**	*-0.73*	*-0.75*
Jet Fuel	**0.03**	**0.08**	**0.08**	**0.01**	**-0.04**	**-0.06**	**-0.11**	*-0.06*	*-0.04*	*0.06*	*0.03*	*0.05*	**0.05**	*-0.07*	*0.02*
Distillate Fuel Oil	**-0.48**	**-0.87**	**-0.91**	**-0.86**	**-0.81**	**-1.15**	**-1.34**	*-1.03*	*-0.84*	*-1.19*	*-1.36*	*-1.22*	**-0.78**	*-1.08*	*-1.16*
Residual Fuel Oil	**0.07**	**0.05**	**0.08**	**0.15**	**0.14**	**0.10**	**0.07**	*0.18*	*0.13*	*0.13*	*0.11*	*0.17*	**0.09**	*0.12*	*0.14*
Other Oils (g)	**-0.48**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	**-0.59**	**-0.46**	*-0.56*	*-0.61*	*-0.62*	*-0.64*	*-0.69*	**-0.49**	*-0.54*	*-0.64*
Product Inventory Net Withdrawals	**0.55**	**-0.27**	**0.03**	**0.58**	**0.42**	**-0.25**	**-0.25**	*0.20*	*0.27*	*-0.70*	*-0.30*	*0.49*	**0.22**	*0.03*	*-0.06*
Total Supply	**18.54**	**20.13**	**20.30**	**20.53**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.88**	*20.38*	*20.48*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.43**	**3.33**	**3.34**	**3.66**	**3.87**	**3.43**	**3.45**	*3.93*	*4.08*	*3.55*	*3.52*	*3.95*	**3.44**	*3.67*	*3.77*
Other HC/Oxygenates	**0.11**	**0.13**	**0.13**	**0.16**	**0.13**	**0.17**	**0.17**	*0.22*	*0.21*	*0.21*	*0.21*	*0.26*	**0.13**	*0.17*	*0.22*
Unfinished Oils	**0.08**	**0.07**	**-0.05**	**0.00**	**0.13**	**0.04**	**0.08**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.02**	*0.06*	*0.00*
Motor Gasoline	**8.04**	**9.09**	**9.14**	**8.98**	**8.47**	**9.00**	**8.88**	*8.79*	*8.41*	*8.95*	*8.89*	*8.76*	**8.82**	*8.79*	*8.75*
Fuel Ethanol blended into Motor Gasoline	**0.81**	**0.93**	**0.94**	**0.95**	**0.87**	**0.93**	**0.92**	*0.91*	*0.87*	*0.93*	*0.92*	*0.93*	**0.91**	*0.91*	*0.91*
Jet Fuel	**1.12**	**1.34**	**1.52**	**1.50**	**1.45**	**1.61**	**1.59**	*1.54*	*1.44*	*1.58*	*1.65*	*1.62*	**1.37**	*1.55*	*1.57*
Distillate Fuel Oil	**3.99**	**3.96**	**3.90**	**4.03**	**4.14**	**3.89**	**3.80**	*4.02*	*4.05*	*3.91*	*3.82*	*3.96*	**3.97**	*3.96*	*3.93*
Residual Fuel Oil	**0.26**	**0.25**	**0.35**	**0.40**	**0.38**	**0.31**	**0.34**	*0.40*	*0.38*	*0.39*	*0.41*	*0.41*	**0.31**	*0.36*	*0.40*
Other Oils (g)	**1.54**	**1.95**	**1.98**	**1.81**	**1.65**	**1.82**	**1.99**	*1.81*	*1.65*	*1.87*	*2.02*	*1.76*	**1.82**	*1.82*	*1.83*
Total Consumption	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.89**	*20.38*	*20.48*
Total Petroleum and Other Liquids Net Imports	**0.09**	**-0.13**	**0.45**	**-0.65**	**-0.74**	**-1.18**	**-1.54**	*-1.22*	*-0.91*	*-0.36*	*-0.68*	*-1.30*	**-0.06**	*-1.17*	*-0.81*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**502.5**	**448.1**	**420.3**	**421.2**	**414.4**	**417.5**	**430.6**	*432.7*	*457.4*	*443.4*	*425.7*	*434.7*	**421.2**	*432.7*	*434.7*
Hydrocarbon Gas Liquids	**176.9**	**205.3**	**235.5**	**193.1**	**142.0**	**186.7**	**243.4**	*194.5*	*150.2*	*203.6*	*245.8*	*204.0*	**193.1**	*194.5*	*204.0*
Unfinished Oils	**92.5**	**92.3**	**89.5**	**79.7**	**87.9**	**88.8**	**83.3**	*79.0*	*91.2*	*89.3*	*88.9*	*80.8*	**79.7**	*79.0*	*80.8*
Other HC/Oxygenates	**29.3**	**27.7**	**25.7**	**28.7**	**34.1**	**29.4**	**27.2**	*28.5*	*30.5*	*29.3*	*29.0*	*29.3*	**28.7**	*28.5*	*29.3*
Total Motor Gasoline	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	**207.7**	*236.2*	*239.2*	*245.2*	*235.3*	*245.0*	**232.2**	*236.2*	*245.0*
Finished Motor Gasoline	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	**17.2**	*17.6*	*15.5*	*17.0*	*18.9*	*21.5*	**17.8**	*17.6*	*21.5*
Motor Gasoline Blend Comp.	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	**190.6**	*218.6*	*223.7*	*228.2*	*216.4*	*223.5*	**214.4**	*218.6*	*223.5*
Jet Fuel	**39.1**	**44.7**	**42.0**	**35.8**	**35.6**	**39.3**	**36.2**	*33.4*	*35.1*	*38.9*	*40.9*	*37.7*	**35.8**	*33.4*	*37.7*
Distillate Fuel Oil	**146.1**	**140.1**	**132.1**	**130.0**	**114.6**	**111.4**	**110.2**	*116.8*	*106.4*	*112.9*	*118.1*	*115.6*	**130.0**	*116.8*	*115.6*
Residual Fuel Oil	**30.9**	**31.5**	**27.8**	**25.8**	**27.9**	**29.2**	**28.8**	*28.3*	*30.2*	*29.3*	*27.7*	*27.1*	**25.8**	*28.3*	*27.1*
Other Oils (g)	**55.8**	**54.3**	**51.0**	**52.2**	**58.5**	**56.4**	**48.8**	*50.3*	*59.5*	*57.5*	*48.3*	*49.7*	**52.2**	*50.3*	*49.7*
Total Commercial Inventory	**1310.9**	**1281.4**	**1250.9**	**1198.6**	**1153.6**	**1179.7**	**1216.2**	*1199.5*	*1199.8*	*1249.3*	*1259.6*	*1223.9*	**1198.6**	*1199.5*	*1223.9*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	**493.3**	**415.3**	*372.7*	*371.5*	*355.9*	*350.7*	*340.2*	**593.7**	*372.7*	*340.2*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**2.20**	**2.19**	**2.32**	**2.33**	**2.43**	**2.43**	*2.59*	*2.63*	*2.67*	*2.57*	*2.62*	**2.15**	*2.45*	*2.62*
Propane	**1.63**	**1.76**	**1.77**	**1.82**	**1.77**	**1.85**	**1.91**	*1.96*	*1.94*	*1.94*	*1.95*	*2.00*	**1.74**	*1.87*	*1.96*
Butanes	**0.86**	**0.93**	**0.94**	**0.96**	**0.93**	**0.98**	**1.02**	*1.04*	*1.04*	*1.03*	*1.06*	*1.08*	**0.92**	*0.99*	*1.05*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.66**	**0.64**	**0.59**	**0.67**	**0.71**	*0.65*	*0.63*	*0.66*	*0.69*	*0.67*	**0.61**	*0.66*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**0.01**	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.27**	**0.29**	**0.30**	*0.29*	*0.28*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.28*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	**0.28**	**0.27**	*0.28*	*0.27*	*0.28*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	**0.25**	**0.19**	*-0.19*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.31**	**-0.38**	**-0.37**	**-0.41**	**-0.50**	**-0.40**	**-0.43**	*-0.43*	*-0.45*	*-0.45*	*-0.45*	*-0.45*	**-0.37**	*-0.44*	*-0.45*
Propane/Propylene	**-1.08**	**-1.26**	**-1.22**	**-1.24**	**-1.18**	**-1.33**	**-1.25**	*-1.44*	*-1.33*	*-1.33*	*-1.34*	*-1.39*	**-1.20**	*-1.30*	*-1.35*
Butanes/Butylenes	**-0.34**	**-0.41**	**-0.38**	**-0.35**	**-0.28**	**-0.41**	**-0.35**	*-0.47*	*-0.51*	*-0.51*	*-0.52*	*-0.47*	**-0.37**	*-0.38*	*-0.50*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.17**	**-0.17**	**-0.18**	*-0.19*	*-0.23*	*-0.22*	*-0.23*	*-0.23*	**-0.20**	*-0.18*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.40**	**0.29**	**0.31**	**0.53**	**0.44**	**0.31**	**0.33**	*0.49*	*0.41*	*0.28*	*0.31*	*0.51*	**0.38**	*0.39*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.20**	**0.20**	**0.22**	*0.19*	*0.18*	*0.19*	*0.19*	*0.18*	**0.17**	*0.20*	*0.19*
HGL Consumption															
Ethane/Ethylene	**1.55**	**1.86**	**1.83**	**1.98**	**1.98**	**2.03**	**2.01**	*2.17*	*2.20*	*2.16*	*2.12*	*2.16*	**1.81**	*2.05*	*2.16*
Propane	**1.11**	**0.61**	**0.65**	**0.95**	**1.16**	**0.60**	**0.62**	*1.00*	*1.16*	*0.63*	*0.64*	*1.02*	**0.83**	*0.84*	*0.86*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	**0.29**	**0.29**	*0.29*	*0.29*	*0.30*	*0.29*	*0.29*	**0.31**	*0.29*	*0.29*
Butanes/Butylenes	**0.22**	**0.29**	**0.26**	**0.20**	**0.23**	**0.26**	**0.27**	*0.21*	*0.19*	*0.24*	*0.23*	*0.22*	**0.24**	*0.24*	*0.22*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.21**	**0.24**	**0.26**	*0.26*	*0.23*	*0.22*	*0.24*	*0.25*	**0.26**	*0.24*	*0.23*
HGL Inventories (million barrels)															
Ethane	**70.4**	**72.3**	**69.8**	**67.4**	**51.1**	**51.7**	**49.1**	*51.0*	*47.6*	*53.3*	*54.6*	*57.3*	**70.0**	*50.7*	*53.2*
Propane	**41.8**	**56.8**	**72.2**	**63.9**	**36.3**	**54.1**	**83.5**	*65.2*	*38.6*	*60.0*	*82.7*	*69.7*	**63.9**	*65.2*	*69.7*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.0**	**1.2**	**1.0**	*1.3*	*1.3*	*1.6*	*1.8*	*1.7*	**1.4**	*1.3*	*1.7*
Butanes/Butylenes	**37.7**	**54.7**	**69.9**	**43.9**	**35.7**	**58.8**	**82.9**	*53.1*	*39.9*	*64.5*	*82.4*	*53.3*	**43.9**	*53.1*	*53.3*
Natural Gasoline (Pentanes Plus)	**23.0**	**22.5**	**22.5**	**20.7**	**19.4**	**22.7**	**26.1**	*25.0*	*22.2*	*23.1*	*23.6*	*22.6*	**20.7**	*25.0*	*22.6*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	**16.24**	*15.87*	*15.19*	*16.30*	*16.68*	*15.97*	**15.15**	*15.94*	*16.04*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.76**	**0.64**	**0.50**	**0.55**	*0.68*	*0.59*	*0.47*	*0.50*	*0.69*	**0.55**	*0.59*	*0.56*
Other Hydrocarbons/Oxygenates	**1.06**	**1.19**	**1.20**	**1.18**	**1.12**	**1.20**	**1.19**	*1.16*	*1.10*	*1.17*	*1.16*	*1.16*	**1.16**	*1.17*	*1.15*
Unfinished Oils	**-0.07**	**0.24**	**0.32**	**0.21**	**-0.12**	**0.21**	**0.27**	*0.31*	*0.08*	*0.28*	*0.38*	*0.28*	**0.18**	*0.17*	*0.26*
Motor Gasoline Blend Components	**0.70**	**0.92**	**0.82**	**0.28**	**0.33**	**0.84**	**0.68**	*0.26*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.03**	**18.43**	**18.41**	**17.92**	**17.53**	**18.84**	**18.92**	*18.29*	*17.43*	*18.94*	*19.31*	*18.62*	**17.71**	*18.40*	*18.58*
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	**1.00**	*1.02*	*1.03*	*1.00*	*1.02*	*1.02*	**0.96**	*1.01*	*1.02*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	**0.84**	**0.76**	*0.39*	*0.48*	*0.83*	*0.77*	*0.37*	**0.62**	*0.62*	*0.61*
Finished Motor Gasoline	**8.75**	**9.83**	**9.83**	**9.70**	**9.22**	**9.74**	**9.72**	*9.64*	*9.07*	*9.64*	*9.83*	*9.88*	**9.53**	*9.58*	*9.61*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.48**	**1.71**	**1.66**	*1.57*	*1.51*	*1.57*	*1.64*	*1.53*	**1.31**	*1.61*	*1.56*
Distillate Fuel	**4.30**	**4.77**	**4.72**	**4.87**	**4.77**	**5.00**	**5.13**	*5.12*	*4.77*	*5.17*	*5.24*	*5.16*	**4.67**	*5.01*	*5.09*
Residual Fuel	**0.20**	**0.21**	**0.22**	**0.23**	**0.26**	**0.22**	**0.26**	*0.21*	*0.26*	*0.25*	*0.28*	*0.24*	**0.21**	*0.24*	*0.26*
Other Oils (a)	**2.10**	**2.43**	**2.44**	**2.33**	**2.26**	**2.39**	**2.37**	*2.39*	*2.36*	*2.48*	*2.56*	*2.47*	**2.32**	*2.35*	*2.47*
Total Refinery and Blender Net Production	**16.88**	**19.41**	**19.37**	**18.96**	**18.49**	**19.90**	**19.92**	*19.31*	*18.46*	*19.94*	*20.33*	*19.64*	**18.66**	*19.41*	*19.60*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.23**	**16.02**	**16.07**	**16.61**	**16.75**	*16.24*	*15.53*	*16.52*	*16.95*	*16.26*	**15.67**	*16.42*	*16.32*
Refinery Operable Distillation Capacity	**18.13**	**18.13**	**18.13**	**18.05**	**17.94**	**17.94**	**17.96**	*17.96*	*17.96*	*18.09*	*18.21*	*18.21*	**18.11**	*17.95*	*18.12*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.90**	**0.93**	**0.93**	*0.90*	*0.86*	*0.91*	*0.93*	*0.89*	**0.87**	*0.91*	*0.90*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**278**	**376**	**311**	*295*	*282*	*282*	*280*	*272*	**219**	*316*	*279*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	**438**	**392**	*350*	*350*	*356*	*351*	*350*	**294**	*387*	*352*
PADD 2	**247**	**288**	**304**	**315**	**352**	**436**	**398**	*367*	*344*	*347*	*350*	*344*	**290**	*389*	*346*
PADD 3	**227**	**267**	**282**	**298**	**340**	**414**	**358**	*320*	*320*	*328*	*326*	*322*	**270**	*358*	*324*
PADD 4	**247**	**311**	**360**	**351**	**360**	**446**	**436**	*380*	*367*	*369*	*370*	*362*	**319**	*407*	*367*
PADD 5	**312**	**366**	**391**	**410**	**452**	**543**	**510**	*513*	*462*	*439*	*430*	*425*	**372**	*505*	*439*
U.S. Average	**256**	**297**	**316**	**333**	**371**	**450**	**408**	*378*	*363*	*364*	*361*	*357*	**302**	*402*	*361*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	**460**	**419**	*390*	*376*	*377*	*375*	*371*	**311**	*413*	*375*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.9**	**53.6**	**54.3**	*58.5*	*60.2*	*67.1*	*62.3*	*64.4*	**61.8**	*58.5*	*64.4*
PADD 2	**50.6**	**50.6**	**46.8**	**50.7**	**56.5**	**46.7**	**44.1**	*51.8*	*54.3*	*51.2*	*48.3*	*52.2*	**50.7**	*51.8*	*52.2*
PADD 3	**82.1**	**81.6**	**83.0**	**81.7**	**87.1**	**83.9**	**78.7**	*88.0*	*87.1*	*89.4*	*86.7*	*89.3*	**81.7**	*88.0*	*89.3*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**8.1**	**6.4**	**6.0**	*7.7*	*8.0*	*7.7*	*7.8*	*8.3*	**8.1**	*7.7*	*8.3*
PADD 5	**31.5**	**29.0**	**30.6**	**29.7**	**29.9**	**30.3**	**24.7**	*30.2*	*29.6*	*29.8*	*30.2*	*30.8*	**29.7**	*30.2*	*30.8*
U.S. Total	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	**207.7**	*236.2*	*239.2*	*245.2*	*235.3*	*245.0*	**232.2**	*236.2*	*245.0*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	**17.2**	*17.6*	*15.5*	*17.0*	*18.9*	*21.5*	**17.8**	*17.6*	*21.5*
Gasoline Blending Components Inventories															
U.S. Total	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	**190.6**	*218.6*	*223.7*	*228.2*	*216.4*	*223.5*	**214.4**	*218.6*	*223.5*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**98.57**	**102.12**	**102.88**	**105.43**	**103.27**	**106.18**	**108.24**	*108.97*	*107.67*	*108.16*	*108.79*	*109.15*	**102.27**	*106.69*	*108.45*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	**1.00**	**0.96**	*1.02*	*1.01*	*0.93*	*0.85*	*0.98*	**0.97**	*1.01*	*0.94*
Federal GOM (a)	**2.33**	**2.30**	**1.82**	**2.10**	**2.05**	**2.11**	**2.22**	*2.34*	*2.28*	*2.21*	*2.07*	*2.02*	**2.14**	*2.18*	*2.15*
Lower 48 States (excl GOM)	**95.22**	**98.87**	**100.16**	**102.30**	**100.16**	**103.07**	**105.07**	*105.62*	*104.38*	*105.03*	*105.87*	*106.15*	**99.16**	*103.50*	*105.36*
Total Dry Gas Production	**91.14**	**94.43**	**95.14**	**97.49**	**95.10**	**97.59**	**99.42**	*100.10*	*99.01*	*99.42*	*99.99*	*100.33*	**94.57**	*98.07*	*99.69*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	**0.01**	**0.07**	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.06**	*0.07*	*0.06*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	**10.80**	**9.84**	*11.27*	*12.40*	*12.53*	*12.10*	*12.28*	**9.76**	*10.85*	*12.33*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.89**	**7.73**	**7.62**	*7.56*	*8.30*	*6.86*	*7.04*	*7.46*	**7.63**	*7.95*	*7.41*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	**8.45**	**8.37**	*9.11*	*9.40*	*8.84*	*9.15*	*9.56*	**8.47**	*8.59*	*9.24*
Supplemental Gaseous Fuels	**0.17**	**0.18**	**0.18**	**0.19**	**0.21**	**0.15**	**0.19**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.18*	*0.19*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	**-10.25**	**-8.85**	*2.61*	*16.25*	*-13.17*	*-9.38*	*3.95*	**0.24**	*0.84*	*-0.65*
Total Supply	**99.74**	**73.84**	**76.62**	**87.84**	**104.56**	**75.98**	**80.23**	*90.16*	*102.04*	*71.97*	*76.62*	*90.15*	**84.46**	*87.67*	*85.14*
Balancing Item (b)	**1.28**	**-1.08**	**-0.66**	**-1.28**	**0.57**	**0.43**	**0.87**	*0.98*	*0.86*	*0.55*	*-0.74*	*-0.87*	**-0.44**	*0.72*	*-0.06*
Total Primary Supply	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**81.10**	*91.14*	*102.90*	*72.52*	*75.89*	*89.28*	**84.01**	*88.39*	*85.08*
Consumption (billion cubic feet per day)															
Residential	**26.05**	**7.58**	**3.67**	**14.61**	**26.09**	**7.85**	**3.64**	*16.94*	*25.83*	*7.92*	*4.14*	*17.02*	**12.92**	*13.58*	*13.68*
Commercial	**15.03**	**6.31**	**4.73**	**10.17**	**15.62**	**6.70**	**4.87**	*11.66*	*15.19*	*6.67*	*5.26*	*11.61*	**9.04**	*9.69*	*9.66*
Industrial	**24.21**	**21.67**	**21.45**	**23.59**	**25.49**	**22.38**	**21.62**	*23.64*	*23.96*	*21.28*	*21.21*	*23.53*	**22.73**	*23.28*	*22.49*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.65**	**31.12**	**42.34**	*29.81*	*28.45*	*28.32*	*36.79*	*28.09*	**30.88**	*33.01*	*30.43*
Lease and Plant Fuel	**5.02**	**5.20**	**5.24**	**5.37**	**5.26**	**5.41**	**5.51**	*5.55*	*5.48*	*5.51*	*5.54*	*5.56*	**5.21**	*5.43*	*5.52*
Pipeline and Distribution Use	**3.77**	**2.65**	**2.78**	**3.19**	**3.87**	**2.81**	**2.98**	*3.38*	*3.85*	*2.67*	*2.80*	*3.32*	**3.09**	*3.26*	*3.16*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**81.10**	*91.14*	*102.90*	*72.52*	*75.89*	*89.28*	**84.01**	*88.39*	*85.08*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	**2,325**	**3,137**	*2,896*	*1,433*	*2,632*	*3,495*	*3,132*	**3,210**	*2,896*	*3,132*
East Region (d)	**313**	**515**	**804**	**766**	**242**	**482**	**756**	*654*	*195*	*548*	*864*	*727*	**766**	*654*	*727*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	**557**	**916**	*813*	*303*	*633*	*989*	*845*	**887**	*813*	*845*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	**885**	**1,003**	*1,041*	*699*	*1,046*	*1,125*	*1,089*	**1,143**	*1,041*	*1,089*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	**137**	**184**	*174*	*96*	*142*	*207*	*187*	**171**	*174*	*187*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	**240**	**247**	*184*	*110*	*232*	*279*	*252*	**218**	*184*	*252*
Alaska	**23**	**27**	**30**	**25**	**21**	**25**	**31**	*31*	*31*	*31*	*31*	*31*	**25**	*31*	*31*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	**8.30**	*6.05*	*6.45*	*5.23*	*5.40*	*5.61*	**4.06**	*6.74*	*5.67*
Residential Retail															
New England	**14.70**	**16.23**	**20.39**	**17.65**	**17.69**	**20.93**	**26.87**	*21.70*	*20.28*	*20.33*	*22.50*	*17.89*	**16.15**	*19.82*	*19.72*
Middle Atlantic	**10.41**	**13.46**	**19.65**	**14.28**	**12.79**	**15.55**	**23.57**	*15.76*	*14.08*	*15.60*	*19.98*	*13.65*	**12.54**	*14.63*	*14.60*
E. N. Central	**7.42**	**12.74**	**22.45**	**11.38**	**9.81**	**14.81**	**26.18**	*14.54*	*12.79*	*14.76*	*20.55*	*11.37*	**10.20**	*12.57*	*13.12*
W. N. Central	**7.52**	**11.60**	**20.46**	**12.48**	**11.40**	**15.25**	**24.92**	*14.54*	*12.43*	*14.48*	*20.37*	*11.89*	**10.22**	*13.39*	*13.07*
S. Atlantic	**11.69**	**17.52**	**26.47**	**16.15**	**13.91**	**22.15**	**31.77**	*18.18*	*15.82*	*20.04*	*26.12*	*15.44*	**14.83**	*17.42*	*17.12*
E. S. Central	**9.41**	**15.00**	**23.30**	**14.36**	**11.80**	**17.16**	**28.60**	*16.92*	*14.33*	*18.98*	*25.16*	*15.63*	**12.11**	*14.37*	*16.28*
W. S. Central	**9.18**	**15.73**	**23.63**	**17.68**	**12.62**	**20.91**	**30.36**	*16.23*	*12.68*	*17.74*	*23.41*	*14.29*	**13.04**	*15.87*	*14.91*
Mountain	**7.93**	**10.64**	**15.52**	**10.83**	**10.31**	**12.87**	**19.09**	*13.09*	*12.26*	*13.48*	*16.61*	*11.12*	**9.78**	*12.01*	*12.44*
Pacific	**14.14**	**14.95**	**15.84**	**16.39**	**17.07**	**17.80**	**20.65**	*19.16*	*18.61*	*18.53*	*18.81*	*17.82*	**15.18**	*18.22*	*18.38*
U.S. Average	**9.71**	**13.82**	**20.27**	**13.71**	**12.32**	**16.57**	**24.81**	*16.27*	*14.52*	*16.52*	*20.88*	*13.71*	**12.21**	*15.02*	*15.04*
Commercial Retail															
New England	**10.39**	**11.15**	**12.42**	**12.59**	**12.62**	**14.46**	**16.06**	*14.73*	*14.33*	*13.80*	*12.83*	*12.34*	**11.35**	*13.94*	*13.54*
Middle Atlantic	**7.92**	**7.99**	**8.26**	**10.13**	**10.36**	**10.79**	**11.44**	*11.70*	*11.66*	*10.92*	*9.96*	*10.12*	**8.61**	*10.97*	*10.89*
E. N. Central	**6.12**	**8.63**	**11.05**	**8.70**	**8.12**	**10.46**	**14.38**	*11.45*	*10.54*	*10.87*	*11.38*	*9.14*	**7.62**	*9.88*	*10.21*
W. N. Central	**6.35**	**7.72**	**9.99**	**10.05**	**10.22**	**11.73**	**14.80**	*11.49*	*10.67*	*10.55*	*11.33*	*9.43*	**7.90**	*11.14*	*10.32*
S. Atlantic	**8.76**	**9.86**	**10.44**	**11.20**	**10.51**	**12.23**	**13.77**	*12.52*	*11.90*	*12.27*	*12.26*	*11.22*	**9.81**	*11.80*	*11.80*
E. S. Central	**8.25**	**9.93**	**12.00**	**11.82**	**10.41**	**12.80**	**15.63**	*13.31*	*12.09*	*12.51*	*12.52*	*11.19*	**9.86**	*12.20*	*11.92*
W. S. Central	**6.94**	**8.62**	**10.20**	**10.91**	**10.09**	**12.86**	**14.87**	*12.64*	*10.78*	*10.74*	*10.61*	*9.72*	**8.64**	*11.95*	*10.46*
Mountain	**6.46**	**7.70**	**9.14**	**8.93**	**8.78**	**9.98**	**12.46**	*11.20*	*10.71*	*10.75*	*11.15*	*9.72*	**7.68**	*10.05*	*10.45*
Pacific	**10.52**	**10.37**	**11.38**	**12.19**	**13.08**	**13.67**	**15.48**	*14.53*	*13.36*	*12.26*	*11.86*	*11.07*	**11.16**	*13.97*	*12.19*
U.S. Average	**7.54**	**8.86**	**10.14**	**10.27**	**10.00**	**11.71**	**13.96**	*12.29*	*11.48*	*11.38*	*11.27*	*10.15*	**8.81**	*11.39*	*11.03*
Industrial Retail															
New England	**8.60**	**8.09**	**7.86**	**10.10**	**11.11**	**12.09**	**12.10**	*12.23*	*11.96*	*10.76*	*9.35*	*10.37*	**8.74**	*11.81*	*10.84*
Middle Atlantic	**8.20**	**7.79**	**8.32**	**11.11**	**10.80**	**10.10**	**12.01**	*11.75*	*11.55*	*10.53*	*9.72*	*9.87*	**8.80**	*11.11*	*10.76*
E. N. Central	**5.62**	**8.64**	**8.45**	**8.18**	**7.66**	**9.10**	**10.68**	*9.61*	*9.36*	*8.43*	*8.00*	*8.05*	**7.14**	*8.82*	*8.66*
W. N. Central	**4.89**	**4.61**	**5.48**	**6.97**	**7.96**	**8.58**	**9.41**	*8.82*	*8.60*	*7.16*	*6.72*	*7.21*	**5.55**	*8.65*	*7.48*
S. Atlantic	**4.88**	**4.58**	**5.66**	**7.36**	**7.44**	**8.84**	**10.83**	*8.67*	*8.66*	*7.27*	*7.07*	*7.46*	**5.63**	*8.84*	*7.67*
E. S. Central	**4.50**	**4.07**	**5.11**	**6.87**	**6.53**	**8.70**	**10.48**	*8.35*	*8.31*	*6.98*	*6.62*	*7.05*	**5.14**	*8.39*	*7.29*
W. S. Central	**5.90**	**3.28**	**4.49**	**6.11**	**5.58**	**7.69**	**8.40**	*6.44*	*6.71*	*5.49*	*5.55*	*5.70*	**4.92**	*7.04*	*5.85*
Mountain	**5.24**	**5.55**	**6.96**	**7.67**	**7.11**	**8.39**	**10.31**	*9.69*	*9.43*	*8.71*	*8.47*	*8.09*	**6.31**	*8.73*	*8.71*
Pacific	**8.08**	**7.05**	**7.60**	**8.69**	**8.82**	**9.02**	**10.01**	*10.52*	*10.11*	*9.19*	*8.72*	*8.69*	**7.95**	*9.58*	*9.25*
U.S. Average	**5.77**	**4.13**	**5.09**	**6.82**	**6.82**	**8.26**	**9.14**	*7.75*	*8.02*	*6.48*	*6.26*	*6.64*	**5.50**	*7.93*	*6.88*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**146.7**	**149.0**	**141.7**	**153.2**	*151.4*	*145.6*	*135.6*	*149.4*	*142.8*	**578.1**	*595.3*	*573.2*
Appalachia	**40.8**	**39.5**	**36.6**	**38.9**	**40.2**	**38.7**	**38.7**	*38.9*	*38.6*	*36.9*	*33.0*	*32.2*	**155.8**	*156.4*	*140.7*
Interior	**25.0**	**23.3**	**22.7**	**22.5**	**23.8**	**21.9**	**22.7**	*22.5*	*22.7*	*20.7*	*22.1*	*20.9*	**93.5**	*90.9*	*86.4*
Western	**74.5**	**80.0**	**89.0**	**85.3**	**85.0**	**81.1**	**91.7**	*90.1*	*84.3*	*78.0*	*94.2*	*89.6*	**328.8**	*347.9*	*346.2*
Primary Inventory Withdrawals	**1.0**	**0.3**	**3.3**	**0.0**	**-1.9**	**0.0**	**3.4**	*-0.3*	*-2.0*	*0.0*	*3.4*	*-0.1*	**4.6**	*1.2*	*1.3*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	**1.6**	**2.2**	*2.2*	*2.0*	*2.3*	*2.6*	*2.3*	**5.4**	*7.4*	*9.2*
Exports	**20.7**	**22.0**	**20.6**	**21.8**	**20.2**	**23.0**	**20.5**	*20.2*	*20.1*	*21.6*	*20.3*	*21.9*	**85.1**	*83.9*	*83.9*
Metallurgical Coal	**10.3**	**11.7**	**11.3**	**11.7**	**10.5**	**13.1**	**11.6**	*10.2*	*10.0*	*11.0*	*10.1*	*10.6*	**45.0**	*45.3*	*41.7*
Steam Coal	**10.4**	**10.3**	**9.3**	**10.1**	**9.7**	**9.9**	**9.0**	*10.1*	*10.1*	*10.6*	*10.3*	*11.2*	**40.1**	*38.7*	*42.2*
Total Primary Supply	**121.7**	**122.5**	**132.1**	**126.6**	**128.2**	**120.4**	**138.3**	*133.1*	*125.5*	*116.2*	*135.1*	*123.1*	**503.0**	*520.1*	*499.9*
Secondary Inventory Withdrawals	**20.4**	**0.3**	**30.5**	**-14.1**	**8.8**	**-1.1**	**7.9**	*-20.9*	*-6.0*	*-10.6*	*10.7*	*-17.2*	**37.1**	*-5.3*	*-23.0*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	**1.9**	**1.9**	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**144.2**	**124.5**	**164.6**	**114.6**	**138.8**	**121.2**	**148.2**	*114.1*	*121.3*	*107.4*	*147.6*	*107.7*	**547.9**	*522.3*	*484.0*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.2**	**3.9**	**3.9**	*3.9*	*3.9*	*4.0*	*4.0*	*4.2*	**17.6**	*15.8*	*16.0*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.6**	**107.4**	**136.5**	*103.5*	*110.7*	*97.8*	*138.0*	*97.1*	**501.4**	*470.0*	*443.7*
Retail and Other Industry	**6.9**	**6.3**	**6.5**	**7.0**	**6.9**	**6.7**	**6.3**	*6.7*	*6.7*	*5.6*	*5.6*	*6.4*	**26.7**	*26.6*	*24.3*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	*0.3*	*0.4*	*0.2*	*0.2*	*0.3*	**0.8**	*0.9*	*1.0*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	**6.6**	**6.1**	*6.4*	*6.3*	*5.4*	*5.4*	*6.1*	**25.9**	*25.8*	*23.3*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.1**	**133.7**	**118.0**	**146.6**	*114.1*	*121.3*	*107.4*	*147.6*	*107.7*	**545.7**	*512.4*	*484.0*
Discrepancy (c)	**5.0**	**-0.1**	**-3.2**	**0.5**	**5.2**	**3.2**	**1.5**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**2.2**	*9.9*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**22.6**	**22.4**	**19.0**	**19.0**	**21.0**	**20.9**	**17.5**	*17.8*	*19.8*	*19.8*	*16.4*	*16.5*	**19.0**	*17.8*	*16.5*
Secondary Inventories	**115.8**	**115.5**	**85.0**	**99.1**	**90.3**	**91.4**	**83.5**	*104.4*	*110.4*	*121.0*	*110.2*	*127.4*	**99.1**	*104.4*	*127.4*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.3**	**77.8**	*98.9*	*105.7*	*116.2*	*105.3*	*122.6*	**94.7**	*98.9*	*122.6*
Retail and General Industry	**2.5**	**2.6**	**2.6**	**2.6**	**2.4**	**2.4**	**3.6**	*3.5*	*2.9*	*3.0*	*3.1*	*3.1*	**2.6**	*3.5*	*3.1*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	**1.6**	**1.9**	*1.8*	*1.6*	*1.7*	*1.7*	*1.7*	**1.7**	*1.8*	*1.7*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.08**	**6.08**	**6.08**	**6.08**	**6.05**	**6.05**	**6.05**	*6.05*	*5.98*	*5.98*	*5.98*	*5.98*	**6.08**	*6.05*	*5.98*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	**0.247**	*0.230*	*0.241*	*0.235*	*0.237*	*0.248*	**0.258**	*0.246*	*0.240*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.49**	*2.47*	*2.47*	*2.45*	*2.42*	*2.38*	**1.98**	*2.36*	*2.43*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,033**	**1,028**	**1,192**	*983*	*1,014*	*1,007*	*1,153*	*978*	**4,116**	*4,235*	*4,151*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**994**	**991**	**1,153**	*944*	*976*	*969*	*1,112*	*939*	**3,963**	*4,082*	*3,996*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**35**	**33**	**36**	*35*	*35*	*34*	*37*	*36*	**140**	*140*	*142*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**3**	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**7**	**10**	**12**	*9*	*11*	*12*	*14*	*11*	**39**	*38*	*48*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,040**	**1,037**	**1,204**	*992*	*1,025*	*1,019*	*1,167*	*989*	**4,155**	*4,272*	*4,200*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**61**	**68**	**57**	*51*	*43*	*64*	*53*	*51*	**225**	*237*	*211*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**913**	**898**	**1,089**	**894**	**944**	**937**	**1,112**	*906*	*949*	*921*	*1,078*	*903*	**3,795**	*3,900*	*3,851*
Residential Sector	**379**	**329**	**446**	**324**	**379**	**346**	**455**	*328*	*380*	*335*	*434*	*330*	**1,477**	*1,509*	*1,479*
Commercial Sector	**304**	**321**	**377**	**322**	**322**	**335**	**387**	*328*	*323*	*330*	*375*	*321*	**1,325**	*1,371*	*1,349*
Industrial Sector	**229**	**247**	**264**	**247**	**242**	**255**	**268**	*249*	*244*	*255*	*268*	*250*	**987**	*1,014*	*1,017*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**34**	**33**	**35**	*34*	*34*	*33*	*36*	*35*	**136**	*136*	*138*
Total Consumption	**946**	**931**	**1,124**	**929**	**979**	**969**	**1,147**	*941*	*983*	*955*	*1,114*	*938*	**3,930**	*4,036*	*3,989*
Average residential electricity usage per customer (kWh)	**2,746**	**2,383**	**3,234**	**2,348**	**2,716**	**2,478**	**3,261**	*2,352*	*2,700*	*2,380*	*3,080*	*2,344*	**10,711**	*10,806*	*10,504*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**86.2**	**87.3**	**77.8**	*98.9*	*105.7*	*116.2*	*105.3*	*122.6*	**94.7**	*98.9*	*122.6*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**5.7**	**5.8**	**6.1**	*6.4*	*4.2*	*4.2*	*2.4*	*3.1*	**7.0**	*6.4*	*3.1*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**15.5**	**15.4**	**15.0**	*15.1*	*14.9*	*14.7*	*14.7*	*15.0*	**16.0**	*15.1*	*15.0*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.19**	**2.26**	**2.49**	*2.47*	*2.47*	*2.45*	*2.42*	*2.38*	**1.98**	*2.36*	*2.43*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.68**	**7.38**	**8.18**	*6.20*	*6.80*	*5.29*	*5.43*	*5.79*	**4.97**	*7.01*	*5.80*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.91**	**26.17**	**26.07**	*20.47*	*20.03*	*19.50*	*18.21*	*18.24*	**13.66**	*21.56*	*19.08*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.11**	**30.70**	**26.94**	*32.02*	*30.04*	*26.22*	*24.23*	*24.59*	**15.50**	*26.26*	*26.79*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	**15.73**	*14.93*	*14.71*	*15.69*	*15.94*	*14.86*	**13.72**	*14.97*	*15.33*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	**13.10**	*12.16*	*12.28*	*12.72*	*13.25*	*12.03*	**11.27**	*12.35*	*12.60*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	**9.33**	*7.83*	*7.67*	*8.21*	*9.03*	*7.72*	**7.26**	*8.27*	*8.18*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	**83.19**	**130.71**	*54.37*	*52.89*	*41.56*	*55.33*	*42.90*	**189.54**	*77.75*	*48.17*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	**60.34**	**110.03**	*70.55*	*54.51*	*49.71*	*80.86*	*44.49*	**53.53**	*71.53*	*57.39*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	**73.28**	**99.14**	*78.67*	*155.64*	*54.30*	*53.53*	*80.86*	**51.81**	*91.89*	*86.08*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	**79.72**	**104.71**	*87.13*	*118.43*	*56.26*	*59.95*	*70.09*	**46.14**	*92.91*	*76.18*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	**93.00**	**110.99**	*79.75*	*83.91*	*67.18*	*70.62*	*64.83*	**45.67**	*85.52*	*71.63*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	**89.21**	**101.80**	*65.69*	*66.00*	*56.27*	*58.56*	*52.89*	**46.47**	*76.14*	*58.43*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	**72.85**	**109.97**	*57.03*	*54.06*	*47.49*	*53.94*	*44.54*	**93.88**	*69.27*	*50.01*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	**84.96**	**94.82**	*62.19*	*61.08*	*52.42*	*54.99*	*49.07*	**42.39**	*71.10*	*54.39*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	**78.70**	**92.71**	*62.49*	*61.24*	*54.21*	*55.02*	*49.35*	**37.92**	*68.75*	*54.95*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	**59.39**	**137.82**	*75.90*	*59.42*	*50.25*	*84.55*	*49.51*	**59.53**	*78.24*	*60.93*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	**60.50**	**128.25**	*56.39*	*46.45*	*48.52*	*76.95*	*39.76*	**55.44**	*71.04*	*52.92*

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**13.1**	**10.5**	**13.9**	*10.8*	*12.8*	*10.4*	*12.5*	*10.8*	**48.7**	*48.4*	*46.4*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**36.1**	**30.0**	**42.5**	*30.6*	*36.2*	*30.1*	*39.1*	*30.6*	**138.7**	*139.3*	*136.0*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.9**	**43.8**	**54.2**	*44.0*	*50.2*	*42.6*	*53.7*	*44.6*	**192.6**	*192.9*	*191.0*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**30.6**	**24.7**	**31.4**	*23.9*	*30.5*	*23.7*	*30.4*	*23.5*	**108.6**	*110.7*	*108.1*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**96.0**	**91.6**	**115.7**	*84.5*	*99.1*	*89.3*	*113.3*	*86.4*	**374.9**	*387.8*	*388.0*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**32.7**	**27.7**	**37.0**	*26.8*	*34.1*	*27.1*	*36.3*	*27.1*	**120.5**	*124.2*	*124.6*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**55.7**	**57.9**	**80.8**	*48.2*	*53.5*	*54.2*	*75.1*	*48.9*	**230.5**	*242.6*	*231.7*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**24.2**	**26.3**	**35.9**	*23.1*	*24.1*	*25.4*	*33.9*	*23.4*	**108.1**	*109.4*	*106.8*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.5**	**32.4**	**42.5**	*35.0*	*38.5*	*31.4*	*38.4*	*33.5*	**149.0**	*148.5*	*141.8*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	**1.2**	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.8*	*4.8*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**379.1**	**346.0**	**455.2**	*328.4*	*380.2*	*335.2*	*433.7*	*330.0*	**1,476.6**	*1,508.7*	*1,479.1*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	**11.8**	**13.7**	*11.8*	*12.1*	*11.7*	*13.0*	*11.5*	**48.5**	*49.4*	*48.3*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	**34.3**	**40.3**	*34.6*	*36.3*	*34.1*	*38.5*	*33.8*	**141.9**	*145.2*	*142.8*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**43.3**	**42.9**	**48.6**	*42.5*	*43.2*	*42.1*	*47.5*	*41.5*	**174.8**	*177.2*	*174.3*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.1**	**24.6**	**27.9**	*24.2*	*25.1*	*24.1*	*27.2*	*23.7*	**99.3**	*101.8*	*100.1*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**75.1**	**82.5**	**92.9**	*76.3*	*75.5*	*81.2*	*90.9*	*75.7*	**313.1**	*326.9*	*323.2*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.0**	**22.4**	**26.7**	*20.7*	*21.0*	*21.8*	*26.0*	*20.5*	**89.0**	*90.9*	*89.3*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**46.7**	**51.7**	**61.2**	*51.4*	*47.4*	*51.0*	*59.3*	*50.8*	**201.0**	*211.0*	*208.4*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**23.2**	**25.4**	**29.5**	*23.8*	*23.2*	*25.0*	*28.5*	*23.4*	**98.7**	*101.9*	*100.2*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.7**	**37.9**	**44.6**	*40.9*	*37.8*	*37.3*	*42.6*	*39.1*	**153.2**	*161.1*	*156.8*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	**1.3**	**1.4**	*1.4*	*1.3*	*1.3*	*1.3*	*1.4*	**5.3**	*5.3*	*5.3*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**321.5**	**334.7**	**386.9**	*327.5*	*322.9*	*329.6*	*374.9*	*321.4*	**1,324.8**	*1,370.7*	*1,348.7*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	**3.9**	**4.1**	*3.8*	*3.8*	*3.8*	*4.1*	*3.8*	**15.8**	*15.7*	*15.5*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**17.5**	**18.2**	**19.5**	*18.1*	*17.7*	*18.3*	*19.4*	*18.1*	**73.1**	*73.4*	*73.4*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**45.9**	**47.0**	**49.1**	*45.8*	*46.1*	*46.7*	*48.7*	*45.7*	**185.5**	*187.9*	*187.2*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.0**	**24.8**	**26.6**	*24.7*	*24.3*	*24.4*	*26.1*	*24.5*	**97.9**	*100.1*	*99.4*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.3**	**37.4**	**38.8**	*36.4*	*36.8*	*37.4*	*38.6*	*36.6*	**143.7**	*149.1*	*149.4*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**24.7**	**25.8**	**25.9**	*24.4*	*24.4*	*25.5*	*25.6*	*24.3*	**99.7**	*100.8*	*99.7*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**49.8**	**53.4**	**55.4**	*53.6*	*51.7*	*55.7*	*57.8*	*55.7*	**199.7**	*212.2*	*220.9*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.9**	**21.7**	**23.7**	*20.6*	*19.9*	*21.8*	*23.9*	*20.8*	**84.4**	*85.9*	*86.5*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**19.0**	**21.0**	**23.6**	*20.3*	*18.4*	*20.2*	*22.5*	*19.4*	**82.5**	*84.0*	*80.5*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**	**1.2**	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**242.1**	**254.6**	**268.2**	*249.0*	*244.2*	*255.0*	*267.7*	*250.0*	**986.8**	*1,013.8*	*1,017.0*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.2**	**26.3**	**31.9**	*26.5*	*28.8*	*26.0*	*29.6*	*26.2*	**113.4**	*114.0*	*110.6*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**90.5**	**83.3**	**103.2**	*84.1*	*91.0*	*83.2*	*97.8*	*83.3*	**356.9**	*361.2*	*355.4*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**140.3**	**133.8**	**152.1**	*132.4*	*139.6*	*131.5*	*150.0*	*131.9*	**553.4**	*558.5*	*552.9*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**79.7**	**74.1**	**85.9**	*72.8*	*79.9*	*72.3*	*83.8*	*71.7*	**305.8**	*312.6*	*307.6*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**207.7**	**211.8**	**247.7**	*197.6*	*211.7*	*208.1*	*243.0*	*198.9*	**832.7**	*864.8*	*861.7*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.4**	**76.0**	**89.6**	*72.0*	*79.5*	*74.4*	*87.8*	*71.8*	**309.2**	*315.9*	*313.5*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**152.3**	**163.0**	**197.5**	*153.2*	*152.6*	*160.9*	*192.3*	*155.4*	**631.4**	*666.0*	*661.2*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**67.3**	**73.4**	**89.1**	*67.5*	*67.3*	*72.2*	*86.4*	*67.7*	**291.4**	*297.4*	*293.6*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.4**	**91.5**	**111.0**	*96.4*	*94.9*	*89.1*	*103.6*	*92.2*	**385.5**	*394.3*	*379.8*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	**3.6**	**3.7**	*3.8*	*3.7*	*3.6*	*3.7*	*3.8*	**14.9**	*14.9*	*14.8*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**944.5**	**936.9**	**1,111.9**	*906.4*	*948.9*	*921.3*	*1,077.9*	*903.0*	**3,794.5**	*3,899.6*	*3,851.1*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.93**	**24.31**	**25.12**	*26.15*	*27.96*	*27.94*	*28.18*	*28.40*	**21.51**	*24.85*	*28.12*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.12**	**18.31**	**18.63**	*17.58*	*17.80*	*18.46*	*18.40*	*17.28*	**16.49**	*17.94*	*18.00*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.22**	**15.51**	**16.06**	*15.47*	*14.92*	*16.06*	*16.41*	*15.43*	**14.10**	*15.32*	*15.71*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.28**	**13.27**	**14.25**	*12.15*	*11.47*	*13.57*	*14.35*	*12.00*	**12.21**	*12.75*	*12.85*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.68**	**13.61**	**14.15**	*13.36*	*13.24*	*14.13*	*14.38*	*13.15*	**12.24**	*13.49*	*13.76*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**11.97**	**13.09**	**13.75**	*12.63*	*12.42*	*13.22*	*13.53*	*12.54*	**11.83**	*12.89*	*12.94*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**11.83**	**12.97**	**13.80**	*13.76*	*12.76*	*13.53*	*14.02*	*13.53*	**11.89**	*13.14*	*13.51*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.14**	**12.86**	**13.20**	*12.81*	*12.52*	*13.24*	*13.44*	*12.89*	**12.08**	*12.80*	*13.06*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**18.12**	**20.58**	**21.67**	*18.16*	*18.90*	*21.62*	*22.26*	*18.38*	**18.01**	*19.68*	*20.29*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**13.98**	**15.08**	**15.73**	*14.93*	*14.71*	*15.69*	*15.94*	*14.86*	**13.72**	*14.97*	*15.33*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.54**	**17.56**	**18.52**	*18.92*	*20.40*	*18.96*	*19.63*	*19.50*	**16.49**	*18.39*	*19.63*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**14.05**	**14.93**	**16.39**	*14.61*	*14.73*	*15.05*	*16.17*	*14.09*	**13.43**	*15.04*	*15.04*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.08**	**11.85**	**12.03**	*11.65*	*11.71*	*12.22*	*12.08*	*11.44*	**10.67**	*11.66*	*11.87*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.65**	**10.70**	**11.33**	*9.11*	*9.22*	*9.96*	*10.91*	*8.76*	**9.97**	*10.24*	*9.75*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.30**	**10.87**	**11.10**	*10.67*	*10.88*	*11.23*	*11.21*	*10.36*	**9.49**	*10.76*	*10.94*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.69**	**12.20**	**13.05**	*12.58*	*12.57*	*12.74*	*13.32*	*12.58*	**11.19**	*12.42*	*12.83*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**8.65**	**9.60**	**9.81**	*8.81*	*8.80*	*9.51*	*9.81*	*8.87*	**9.04**	*9.26*	*9.28*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.56**	**10.31**	**10.78**	*9.92*	*9.84*	*10.53*	*10.93*	*9.94*	**9.70**	*10.18*	*10.35*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**16.09**	**17.77**	**20.42**	*17.91*	*17.83*	*19.38*	*21.49*	*18.28*	**16.27**	*18.15*	*19.30*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.63**	**12.34**	**13.10**	*12.16*	*12.28*	*12.72*	*13.25*	*12.03*	**11.27**	*12.35*	*12.60*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.14**	**15.22**	**15.97**	*15.51*	*16.00*	*15.76*	*16.29*	*15.64*	**13.58**	*15.47*	*15.93*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.87**	**8.28**	**8.97**	*7.47*	*7.92*	*7.85*	*8.40*	*7.17*	**6.89**	*8.17*	*7.84*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.72**	**8.55**	**9.32**	*8.26*	*8.03*	*8.41*	*9.08*	*8.21*	**7.26**	*8.48*	*8.44*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	**7.99**	**8.84**	*7.25*	*7.39*	*8.02*	*8.82*	*7.33*	**7.35**	*7.83*	*7.90*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.85**	**8.08**	**8.75**	*7.04*	*7.08*	*7.80*	*8.35*	*6.89*	**6.64**	*7.70*	*7.54*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.35**	**7.36**	**8.35**	*6.87*	*6.62*	*7.17*	*8.06*	*6.76*	**6.04**	*7.25*	*7.16*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**6.20**	**7.26**	**7.92**	*6.60*	*6.36*	*6.80*	*7.25*	*6.29*	**6.17**	*7.02*	*6.69*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.59**	**7.27**	**8.26**	*6.91*	*6.76*	*7.32*	*8.23*	*6.89*	**6.74**	*7.30*	*7.34*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.34**	**11.97**	**14.27**	*11.75*	*10.76*	*12.27*	*14.52*	*11.97*	**11.10**	*12.20*	*12.48*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.42**	**8.40**	**9.33**	*7.83*	*7.67*	*8.21*	*9.03*	*7.72*	**7.26**	*8.27*	*8.18*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.48**	**19.88**	**21.05**	*21.34*	*23.13*	*22.04*	*22.74*	*22.56*	**18.21**	*20.70*	*22.64*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**14.07**	**14.67**	**15.89**	*14.14*	*14.61*	*14.69*	*15.51*	*13.75*	**13.26**	*14.74*	*14.68*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.11**	**11.89**	**12.58**	*11.75*	*11.64*	*12.10*	*12.65*	*11.67*	**10.72**	*11.85*	*12.03*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.53**	**10.65**	**11.62**	*9.48*	*9.52*	*10.49*	*11.51*	*9.33*	**9.92**	*10.36*	*10.24*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.79**	**11.56**	**12.16**	*11.15*	*11.32*	*11.85*	*12.23*	*10.93*	**10.23**	*11.45*	*11.62*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.12**	**10.88**	**11.98**	*10.66*	*10.68*	*11.01*	*11.88*	*10.60*	**9.78**	*10.96*	*11.07*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**9.01**	**10.03**	**10.91**	*9.59*	*9.36*	*9.93*	*10.68*	*9.41*	**9.17**	*9.96*	*9.90*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.61**	**10.33**	**11.09**	*9.99*	*9.89*	*10.51*	*11.17*	*10.02*	**9.73**	*10.32*	*10.45*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.75**	**17.42**	**19.58**	*16.69*	*16.88*	*18.54*	*20.24*	*16.98*	**15.83**	*17.45*	*18.21*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.49**	**12.28**	**13.27**	*11.97*	*12.07*	*12.55*	*13.28*	*11.87*	**11.18**	*12.30*	*12.48*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**337.9**	**365.1**	**505.1**	*357.0*	*335.7*	*331.9*	*439.6*	*338.1*	**1,473.6**	*1,565.1*	*1,445.4*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**217.5**	**189.1**	**238.7**	*180.4*	*196.5*	*170.7*	*241.6*	*169.1*	**892.8**	*825.6*	*777.9*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.6**	**184.3**	**201.7**	*190.8*	*193.9*	*187.7*	*206.4*	*196.2*	**778.2**	*772.4*	*784.2*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**235.5**	**247.1**	**202.2**	*210.6*	*243.5*	*274.6*	*219.6*	*230.1*	**795.2**	*895.5*	*967.8*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**70.8**	**66.3**	*57.1*	*70.9*	*81.1*	*66.4*	*61.2*	**259.0**	*270.8*	*279.6*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**121.7**	**82.1**	*114.7*	*127.6*	*128.4*	*87.5*	*120.1*	**378.6**	*437.9*	*463.7*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**44.3**	**42.6**	*28.5*	*34.6*	*55.0*	*54.7*	*38.5*	**113.9**	*144.3*	*182.8*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.5**	**7.2**	*6.3*	*6.6*	*6.3*	*6.8*	*6.3*	**27.9**	*26.7*	*26.0*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.8**	**4.1**	*4.0*	*3.9*	*3.8*	*4.2*	*3.9*	**15.7**	*15.8*	*15.8*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.2**	**-1.3**	**-1.8**	*-1.3*	*-1.1*	*-1.4*	*-1.9*	*-1.3*	**-5.1**	*-5.7*	*-5.7*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	**4.1**	**4.2**	*4.0*	*5.4*	*3.7*	*4.2*	*4.0*	**17.8**	*18.8*	*17.4*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.8**	**0.9**	**0.9**	*0.8*	*0.8*	*0.7*	*0.9*	*0.8*	**3.2**	*3.3*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.6**	**1.6**	**1.7**	*1.8*	*1.5*	*1.5*	*1.5*	*1.7*	**7.2**	*6.6*	*6.2*
Total Generation	**952.3**	**948.7**	**1,126.7**	**935.6**	**994.2**	**990.9**	**1,152.6**	*944.0*	*976.2*	*969.5*	*1,112.0*	*938.8*	**3,963.2**	*4,081.7*	*3,996.4*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**11.8**	**12.4**	**17.2**	*13.8*	*12.3*	*12.1*	*15.0*	*11.8*	**51.5**	*55.3*	*51.2*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.3**	**0.0**	**0.1**	*0.1*	*0.3*	*0.1*	*0.1*	*0.1*	**0.6**	*0.4*	*0.6*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	**5.6**	**7.4**	*7.3*	*7.1*	*5.6*	*7.3*	*6.2*	**27.1**	*27.3*	*26.2*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.7**	**1.4**	**1.2**	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*6.2*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.1**	**3.2**	**3.0**	*2.8*	*3.1*	*3.2*	*3.0*	*2.9*	**11.2**	*12.1*	*12.3*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	**0.4**	**0.3**	*0.4*	*1.0*	*0.3*	*0.3*	*0.4*	**1.5**	*2.5*	*2.0*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**25.4**	**23.0**	**29.2**	*26.2*	*25.9*	*23.6*	*26.8*	*23.2*	**98.2**	*103.9*	*99.4*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.2**	**26.0**	**33.1**	*27.4*	*29.9*	*27.5*	*31.9*	*28.5*	**116.4**	*116.6*	*117.8*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.0**	**15.5**	**22.1**	*13.6*	*13.4*	*16.6*	*18.9*	*13.7*	**61.9**	*65.1*	*62.7*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	**7.0**	**6.4**	*6.7*	*6.6*	*6.4*	*7.0*	*7.0*	**31.1**	*26.5*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**7.1**	**6.6**	**6.6**	*6.9*	*7.2*	*7.3*	*7.3*	*7.6*	**27.9**	*27.2*	*29.4*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.2**	**2.1**	**1.8**	*2.1*	*2.4*	*2.7*	*2.2*	*2.8*	**7.1**	*8.1*	*10.2*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	**0.1**	**0.2**	*0.1*	*0.7*	*0.1*	*0.2*	*0.1*	**1.3**	*1.8*	*1.2*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**31.0**	**31.4**	**37.0**	*29.3*	*30.4*	*33.2*	*35.7*	*31.2*	**129.3**	*128.7*	*130.5*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.6**	**34.0**	**43.4**	*35.0*	*36.9*	*35.4*	*41.5*	*35.0*	**149.0**	*150.0*	*148.7*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**76.9**	**74.4**	**102.5**	*75.5*	*85.6*	*74.3*	*94.5*	*80.7*	**310.9**	*329.3*	*335.1*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**48.6**	**35.4**	**41.8**	*29.5*	*40.9*	*30.7*	*42.7*	*28.3*	**175.4**	*155.3*	*142.5*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**69.0**	**65.1**	**69.7**	*66.7*	*67.8*	*67.1*	*72.0*	*68.7*	**271.7**	*270.5*	*275.7*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	**2.2**	**1.5**	*2.1*	*2.7*	*2.7*	*1.7*	*2.1*	**9.3**	*8.5*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**13.2**	**12.9**	**10.3**	*11.9*	*14.1*	*13.7*	*11.8*	*13.4*	**42.4**	*48.4*	*53.0*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.6**	**0.4**	**0.2**	*0.5*	*0.6*	*0.3*	*0.2*	*0.6*	**2.5**	*1.8*	*1.7*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**211.0**	**190.4**	**226.2**	*186.2*	*211.7*	*188.8*	*223.0*	*193.7*	**812.1**	*813.7*	*817.1*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**200.9**	**180.1**	**213.7**	*183.9*	*200.9*	*181.4*	*206.8*	*182.7*	**770.2**	*778.7*	*771.8*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**64.1**	**67.5**	**86.4**	*66.0*	*64.4*	*61.6*	*77.1*	*60.7*	**252.3**	*284.1*	*263.8*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**32.3**	**32.8**	**32.7**	*28.1*	*30.3*	*27.6*	*41.6*	*26.8*	**137.7**	*125.8*	*126.3*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.4**	**51.1**	**55.5**	*52.1*	*52.5*	*53.8*	*57.3*	*57.4*	**212.2**	*210.1*	*221.0*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**11.9**	**9.8**	**8.9**	*10.1*	*12.8*	*10.1*	*9.3*	*10.2*	**43.9**	*40.7*	*42.4*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**5.0**	**7.0**	**6.4**	*4.9*	*5.7*	*8.0*	*7.3*	*5.6*	**19.1**	*23.4*	*26.6*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	**-0.3**	**-0.6**	*-0.3*	*-0.2*	*-0.4*	*-0.6*	*-0.3*	**-0.9**	*-1.3*	*-1.5*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.6**	**167.9**	**189.4**	*160.9*	*165.5*	*160.8*	*191.9*	*160.4*	**664.2**	*682.7*	*678.5*
Net energy for load (f)	**161.3**	**154.7**	**183.9**	**154.5**	**166.7**	**168.3**	**182.6**	*152.8*	*164.9*	*161.0*	*186.7*	*157.5*	**654.4**	*670.3*	*670.1*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**38.3**	**46.7**	**55.9**	*39.9*	*33.0*	*39.6*	*51.6*	*47.3*	**171.8**	*180.7*	*171.6*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.5**	**4.2**	**3.7**	*2.8*	*2.7*	*4.0*	*3.6*	*1.8*	**18.3**	*14.2*	*12.0*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	**7.9**	**7.5**	*7.9*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.6*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**2.9**	**3.7**	**3.8**	*3.3*	*3.8*	*5.3*	*4.8*	*4.1*	**11.0**	*13.7*	*18.0*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.7**	**0.6**	**0.7**	*0.7*	*0.7*	*0.6*	*0.7*	*0.7*	**2.8**	*2.7*	*2.8*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**52.8**	**63.1**	**71.6**	*54.6*	*47.3*	*56.5*	*68.2*	*61.6*	**232.2**	*242.1*	*233.7*
Net energy for load (f)	**52.4**	**63.8**	**72.4**	**55.6**	**53.9**	**66.2**	**77.5**	*54.2*	*50.5*	*60.2*	*67.9*	*53.0*	**244.2**	*251.8*	*231.5*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**41.8**	**47.3**	**59.0**	*43.6*	*41.3*	*48.9*	*51.0*	*39.6*	**169.7**	*191.7*	*180.7*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**64.5**	**54.0**	**70.3**	*53.2*	*59.3*	*53.0*	*69.5*	*48.5*	**267.7**	*241.9*	*230.3*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	**19.6**	**24.3**	*23.7*	*22.3*	*21.1*	*24.3*	*20.9*	**95.7**	*91.4*	*88.6*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.1**	**2.9**	**2.9**	*2.4*	*2.6*	*3.0*	*2.4*	*2.3*	**10.7**	*11.2*	*10.3*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**31.8**	**28.7**	**20.2**	*27.9*	*34.3*	*30.6*	*21.8*	*29.4*	**93.1**	*108.7*	*116.1*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.3**	**1.6**	**1.1**	*1.3*	*1.5*	*1.4*	*1.3*	*1.4*	**6.4**	*5.4*	*5.6*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**166.4**	**154.1**	**177.8**	*152.0*	*161.3*	*157.9*	*170.4*	*142.0*	**643.3**	*650.3*	*631.6*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**165.1**	**158.8**	**180.0**	*157.1*	*163.1*	*160.5*	*179.3*	*157.4*	**647.3**	*661.0*	*660.3*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.1**	**14.0**	**22.5**	*12.4*	*10.6*	*12.2*	*16.6*	*8.9*	**56.3**	*60.0*	*48.2*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.1**	**20.5**	**30.3**	*17.7*	*20.3*	*16.5*	*25.7*	*15.6*	**92.0**	*90.6*	*78.1*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	**4.3**	**4.0**	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.1*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.6**	**4.1**	**4.0**	*3.3*	*4.1*	*4.9*	*4.4*	*3.6*	**15.5**	*16.0*	*16.9*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**28.8**	**29.8**	**21.7**	*28.5*	*31.0*	*31.8*	*23.2*	*29.5*	**93.6**	*108.9*	*115.5*
Other energy sources (e)	**0.4**	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**	**0.2**	*0.3*	*0.2*	*0.3*	*0.2*	*0.3*	**1.1**	*1.0*	*1.0*
Total generation	**65.8**	**64.8**	**78.6**	**64.8**	**71.2**	**73.0**	**82.7**	*64.6*	*70.4*	*70.0*	*74.4*	*62.1*	**274.1**	*291.6*	*277.0*
Net energy for load (f)	**65.5**	**65.5**	**78.5**	**62.0**	**68.0**	**69.5**	**83.6**	*63.5*	*66.2*	*64.9*	*76.4*	*60.0*	**271.5**	*284.6*	*267.5*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**34.2**	**43.2**	**65.0**	*34.6*	*27.2*	*29.8*	*49.1*	*29.7*	**164.2**	*177.1*	*135.8*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**17.7**	**16.8**	**20.2**	*15.6*	*14.9*	*16.0*	*20.8*	*15.2*	**74.5**	*70.3*	*66.8*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	**9.9**	**10.7**	*9.9*	*10.7*	*8.9*	*11.0*	*10.1*	**40.2**	*41.5*	*40.7*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.2**	**39.4**	**27.7**	*32.1*	*36.5*	*45.9*	*33.9*	*36.3*	**106.3**	*130.4*	*152.6*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	**0.4**	**0.4**	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	**1.4**	*1.6*	*1.5*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**109.9**	**124.2**	*92.7*	*89.7*	*101.3*	*115.2*	*91.7*	**387.1**	*421.4*	*398.0*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**94.6**	**109.9**	**124.2**	*92.7*	*89.7*	*101.3*	*115.2*	*91.7*	**387.1**	*421.4*	*398.0*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**19.6**	**15.4**	**27.6**	*23.3*	*23.4*	*10.2*	*23.6*	*17.0*	**90.2**	*86.0*	*74.2*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**21.6**	**18.1**	**28.3**	*25.2*	*20.8*	*16.6*	*26.8*	*24.0*	**90.5**	*93.1*	*88.1*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	**2.3**	**2.5**	*2.5*	*2.4*	*1.2*	*2.4*	*2.4*	**8.5**	*9.8*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**39.3**	**36.0**	**34.1**	*25.9*	*33.6*	*40.9*	*31.0*	*28.3*	**121.0**	*135.2*	*133.9*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**19.1**	**20.5**	**16.2**	*18.9*	*19.6*	*21.4*	*17.3*	*20.4*	**65.5**	*74.6*	*78.8*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.7**	*0.6*	*0.5*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.2**	**92.5**	**108.8**	*95.8*	*99.9*	*90.5*	*101.2*	*92.1*	**376.4**	*399.2*	*383.7*
Net energy for load (f)	**89.7**	**86.0**	**97.5**	**89.4**	**87.7**	**86.8**	**101.7**	*89.4*	*91.3*	*86.1*	*95.3*	*87.8*	**362.7**	*365.6*	*360.5*
Southwest															
Natural Gas	**10.7**	**15.2**	**19.4**	**11.5**	**9.6**	**12.9**	**18.7**	*12.6*	*11.0*	*13.3*	*17.2*	*8.7*	**56.8**	*53.8*	*50.2*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**6.1**	**6.3**	**8.5**	*6.0*	*5.4*	*4.6*	*7.7*	*6.7*	**26.8**	*26.9*	*24.5*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	**7.5**	**8.7**	*7.5*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.9*	*31.9*
Conventional hydropower	**2.0**	**2.3**	**1.9**	**1.5**	**1.9**	**2.0**	**1.7**	*1.5*	*1.6*	*2.0*	*1.9*	*1.5*	**7.7**	*7.1*	*7.0*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	**5.7**	**3.8**	*4.7*	*4.5*	*6.3*	*4.4*	*5.6*	**14.0**	*18.8*	*20.7*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.1*
Total generation	**29.8**	**34.2**	**41.5**	**31.6**	**30.4**	**34.4**	**41.6**	*32.3*	*30.9*	*33.7*	*39.9*	*30.0*	**137.1**	*138.7*	*134.5*
Net energy for load (f)	**20.6**	**26.4**	**33.1**	**22.4**	**21.1**	**26.9**	**34.8**	*22.2*	*21.4*	*26.0*	*33.1*	*22.2*	**102.5**	*105.1*	*102.6*
California															
Natural Gas	**16.7**	**17.9**	**29.4**	**21.6**	**15.8**	**15.4**	**27.4**	*21.0*	*12.8*	*12.7*	*24.4*	*19.3*	**85.6**	*79.6*	*69.2*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.5**	**0.7**	**2.3**	*2.0*	*1.4*	*1.2*	*2.7*	*1.9*	**7.6**	*5.5*	*7.1*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	**4.1**	**5.0**	*4.1*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.8*	*18.0*
Conventional hydropower	**2.4**	**4.2**	**4.9**	**2.8**	**3.6**	**5.2**	**4.8**	*2.7*	*3.6*	*7.2*	*6.6*	*3.4*	**14.4**	*16.2*	*20.9*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.7**	**22.8**	**20.6**	*15.9*	*17.2*	*24.1*	*23.1*	*18.3*	**71.1**	*76.0*	*82.7*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	**-0.2**	**0.2**	*-0.1*	*0.0*	*-0.2*	*0.2*	*-0.1*	**-0.2**	*-0.1*	*0.0*
Total generation	**39.3**	**48.9**	**61.5**	**45.3**	**41.2**	**48.0**	**60.3**	*45.5*	*39.7*	*49.7*	*61.6*	*47.0*	**195.0**	*195.0*	*198.0*
Net energy for load (f)	**55.7**	**62.7**	**77.2**	**59.3**	**55.9**	**61.3**	**79.8**	*62.0*	*57.8*	*61.8*	*74.3*	*59.1*	**254.9**	*259.0*	*253.0*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.034**	**0.033**	**0.036**	*0.035*	*0.034*	*0.033*	*0.037*	*0.034*	**0.138**	*0.139*	*0.138*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.671**	**0.621**	**0.578**	*0.509*	*0.631*	*0.722*	*0.591*	*0.545*	**2.272**	*2.379*	*2.490*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.257**	**0.394**	**0.380**	*0.254*	*0.308*	*0.490*	*0.487*	*0.343*	**1.014**	*1.285*	*1.628*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.056**	**0.053**	**0.055**	*0.055*	*0.055*	*0.054*	*0.055*	*0.055*	**0.236**	*0.219*	*0.219*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.052**	**0.047**	**0.054**	*0.043*	*0.047*	*0.042*	*0.050*	*0.043*	**0.199**	*0.196*	*0.182*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.084**	**0.731**	*1.021*	*1.136*	*1.144*	*0.779*	*1.070*	**3.372**	*3.900*	*4.129*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.135**	**2.233**	**1.833**	*1.917*	*2.211*	*2.485*	*2.000*	*2.089*	**7.231**	*8.118*	*8.786*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.203**	**0.202**	*0.204*	*0.195*	*0.199*	*0.198*	*0.204*	**0.789**	*0.812*	*0.796*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	**0.011**	**0.012**	*0.008*	*0.009*	*0.012*	*0.012*	*0.009*	**0.036**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.042**	**0.040**	**0.039**	*0.042*	*0.040*	*0.039*	*0.039*	*0.041*	**0.160**	*0.162*	*0.160*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.315**	**0.321**	**0.339**	*0.353*	*0.346*	*0.344*	*0.355*	*0.357*	**1.342**	*1.328*	*1.403*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.576**	**0.583**	**0.600**	*0.615*	*0.598*	*0.603*	*0.613*	*0.620*	**2.361**	*2.374*	*2.434*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.024*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	**0.049**	**0.048**	*0.034*	*0.039*	*0.057*	*0.057*	*0.040*	**0.140**	*0.164*	*0.193*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.010**	**0.009**	**0.009**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.035**	*0.037*	*0.037*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	**0.021**	**0.021**	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.077**	**0.093**	**0.093**	*0.078*	*0.082*	*0.101*	*0.102*	*0.084*	**0.313**	*0.340*	*0.369*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.079**	**0.118**	**0.120**	*0.084*	*0.095*	*0.147*	*0.150*	*0.105*	**0.329**	*0.401*	*0.497*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.119**	**0.121**	**0.120**	*0.117*	*0.119*	*0.121*	*0.120*	*0.117*	**0.464**	*0.477*	*0.477*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.208**	**0.249**	**0.250**	*0.211*	*0.224*	*0.278*	*0.280*	*0.232*	**0.832**	*0.918*	*1.014*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.083**	**0.099**	**0.094**	**0.110**	**0.094**	**0.117**	**0.115**	*0.139*	*0.127*	*0.135*	*0.135*	*0.160*	**0.386**	*0.464*	*0.556*
Ethanol (g)	**0.242**	**0.281**	**0.285**	**0.289**	**0.259**	**0.281**	**0.281**	*0.280*	*0.258*	*0.280*	*0.279*	*0.282*	**1.098**	*1.101*	*1.099*
Subtotal	**0.326**	**0.379**	**0.379**	**0.400**	**0.353**	**0.397**	**0.396**	*0.421*	*0.385*	*0.415*	*0.414*	*0.442*	**1.484**	*1.567*	*1.656*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.083**	**0.099**	**0.094**	**0.110**	**0.094**	**0.117**	**0.115**	*0.139*	*0.127*	*0.135*	*0.135*	*0.160*	**0.386**	*0.464*	*0.556*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.203**	**0.202**	*0.204*	*0.195*	*0.199*	*0.198*	*0.204*	**0.789**	*0.812*	*0.796*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.302**	**0.271**	**0.293**	**0.294**	*0.291*	*0.270*	*0.292*	*0.292*	*0.295*	**1.147**	*1.149*	*1.149*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.051**	**0.051**	**0.053**	*0.053*	*0.051*	*0.050*	*0.054*	*0.051*	**0.206**	*0.207*	*0.206*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.674**	**0.624**	**0.581**	*0.512*	*0.634*	*0.725*	*0.594*	*0.548*	**2.283**	*2.390*	*2.501*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.378**	**0.572**	**0.559**	*0.379*	*0.450*	*0.706*	*0.707*	*0.497*	**1.519**	*1.889*	*2.360*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	**0.102**	**0.104**	*0.106*	*0.105*	*0.103*	*0.104*	*0.105*	**0.431**	*0.419*	*0.416*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.507**	**0.509**	**0.535**	*0.533*	*0.532*	*0.527*	*0.547*	*0.538*	**2.087**	*2.084*	*2.145*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.064**	**1.084**	**0.731**	*1.021*	*1.136*	*1.144*	*0.779*	*1.070*	**3.372**	*3.900*	*4.129*
Total Consumption	**2.953**	**3.166**	**2.958**	**3.144**	**3.349**	**3.554**	**3.172**	*3.241*	*3.501*	*3.881*	*3.409*	*3.467*	**12.221**	*13.316*	*14.259*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,130**	**6,110**	**6,081**	**6,087**	**6,083**	**6,084**	**6,020**	*5,994*	*5,991*	*6,027*	*6,027*	*6,009*	**6,087**	*5,994*	*6,009*
Waste	**3,680**	**3,660**	**3,646**	**3,652**	**3,649**	**3,649**	**3,585**	*3,560*	*3,557*	*3,592*	*3,592*	*3,590*	**3,652**	*3,560*	*3,590*
Wood	**2,450**	**2,450**	**2,435**	**2,435**	**2,435**	**2,435**	**2,435**	*2,435*	*2,435*	*2,435*	*2,435*	*2,419*	**2,435**	*2,435*	*2,419*
Conventional Hydroelectric	**79,538**	**79,608**	**79,611**	**79,611**	**79,649**	**79,649**	**79,584**	*79,680*	*79,679*	*79,711*	*79,738*	*79,745*	**79,611**	*79,680*	*79,745*
Geothermal	**2,523**	**2,523**	**2,523**	**2,523**	**2,523**	**2,540**	**2,578**	*2,578*	*2,603*	*2,603*	*2,603*	*2,603*	**2,523**	*2,578*	*2,603*
Large-Scale Solar (b)	**50,533**	**52,435**	**55,700**	**61,009**	**63,175**	**65,236**	**67,014**	*75,959*	*79,521*	*83,980*	*89,292*	*106,071*	**61,009**	*75,959*	*106,071*
Wind	**120,974**	**124,729**	**126,684**	**132,629**	**134,862**	**137,384**	**138,029**	*144,123*	*144,798*	*145,176*	*145,736*	*148,901*	**132,629**	*144,123*	*148,901*
Other Sectors (c)															
Biomass	**6,319**	**6,321**	**6,325**	**6,306**	**6,306**	**6,300**	**6,312**	*6,339*	*6,339*	*6,330*	*6,330*	*6,330*	**6,306**	*6,339*	*6,330*
Waste	**826**	**828**	**827**	**817**	**817**	**817**	**817**	*817*	*817*	*817*	*817*	*817*	**817**	*817*	*817*
Wood	**5,493**	**5,493**	**5,498**	**5,489**	**5,489**	**5,483**	**5,495**	*5,522*	*5,522*	*5,513*	*5,513*	*5,513*	**5,489**	*5,522*	*5,513*
Conventional Hydroelectric	**301**	**301**	**299**	**299**	**299**	**302**	**302**	*302*	*302*	*302*	*300*	*300*	**299**	*302*	*300*
Large-Scale Solar (b)	**477**	**479**	**519**	**541**	**559**	**569**	**571**	*575*	*580*	*589*	*634*	*634*	**541**	*575*	*634*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,720**	**36,197**	**37,935**	*40,025*	*42,216*	*44,530*	*46,973*	*49,556*	**32,972**	*40,025*	*49,556*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,260**	**23,446**	**24,829**	*26,371*	*27,995*	*29,719*	*31,549*	*33,490*	**21,022**	*26,371*	*33,490*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,220**	**10,496**	**10,809**	*11,296*	*11,802*	*12,329*	*12,879*	*13,456*	**9,728**	*11,296*	*13,456*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,240**	**2,256**	**2,298**	*2,358*	*2,420*	*2,482*	*2,545*	*2,610*	**2,223**	*2,358*	*2,610*
Wind	**122**	**122**	**122**	**125**	**125**	**125**	**125**	*125*	*125*	*125*	*125*	*125*	**125**	*125*	*125*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.7**	**6.5**	**7.2**	*6.3*	*6.6*	*6.3*	*6.8*	*6.3*	**27.9**	*26.7*	*26.0*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.5**	**3.6**	**3.7**	*3.6*	*3.6*	*3.6*	*3.7*	*3.6*	**15.5**	*14.4*	*14.5*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**3.2**	**3.0**	**3.5**	*2.7*	*3.0*	*2.7*	*3.2*	*2.7*	**12.4**	*12.3*	*11.5*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**76.5**	**70.8**	**66.3**	*57.1*	*70.9*	*81.1*	*66.4*	*61.2*	**259.0**	*270.8*	*279.6*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**3.9**	**3.8**	**4.1**	*4.0*	*3.9*	*3.8*	*4.2*	*3.9*	**15.7**	*15.8*	*15.8*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**28.9**	**44.3**	**42.6**	*28.5*	*34.6*	*55.0*	*54.7*	*38.5*	**113.9**	*144.3*	*182.8*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**119.5**	**121.7**	**82.1**	*114.7*	*127.6*	*128.4*	*87.5*	*120.1*	**378.6**	*437.9*	*463.7*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.7**	**6.8**	**7.1**	*6.8*	*6.7*	*6.8*	*7.1*	*6.8*	**27.6**	*27.4*	*27.4*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**5.9**	**6.1**	**6.4**	*6.1*	*5.9*	*6.1*	*6.4*	*6.1*	**24.8**	*24.5*	*24.5*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	*0.2*	*0.2*	*0.3*	*0.3*	*0.3*	**0.8**	*1.0*	*1.0*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**12.0**	**17.7**	**17.8**	*12.4*	*14.3*	*21.8*	*22.2*	*15.5*	**49.0**	*59.8*	*73.8*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.6**	**11.2**	**11.3**	*8.0*	*9.2*	*14.3*	*14.7*	*10.3*	**30.1**	*38.1*	*48.5*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	**5.2**	**5.2**	*3.6*	*4.2*	*6.1*	*6.2*	*4.3*	**15.1**	*17.7*	*20.8*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	**1.2**	**1.2**	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.8**	*4.1*	*4.5*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.2**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,216**	**19,544**	**19,673**	**20,006**	**19,924**	**19,895**	**20,003**	*19,963*	*19,872*	*19,863*	*19,949*	*20,039*	**19,610**	*19,946*	*19,931*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,387**	**13,774**	**13,874**	**13,982**	**14,028**	**14,099**	**14,123**	*14,139*	*14,124*	*14,146*	*14,175*	*14,222*	**13,754**	*14,098*	*14,166*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,540**	**3,591**	**3,581**	**3,586**	**3,629**	**3,582**	**3,528**	*3,472*	*3,414*	*3,383*	*3,387*	*3,403*	**3,575**	*3,553*	*3,397*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-102**	**-159**	**-55**	**240**	**257**	**145**	**107**	*95*	*21*	*-26*	*26*	*55*	**-19**	*151*	*19*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,449**	**3,422**	**3,421**	**3,413**	**3,393**	**3,379**	**3,384**	*3,391*	*3,421*	*3,432*	*3,444*	*3,456*	**3,426**	*3,387*	*3,439*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,318**	**2,345**	**2,339**	**2,466**	**2,437**	**2,517**	**2,588**	*2,569*	*2,561*	*2,565*	*2,583*	*2,608*	**2,367**	*2,528*	*2,579*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,482**	**3,549**	**3,606**	**3,763**	**3,926**	**3,947**	**3,840**	*3,810*	*3,791*	*3,764*	*3,781*	*3,817*	**3,600**	*3,881*	*3,788*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,325**	**15,921**	**15,735**	**15,537**	**15,109**	**15,052**	**15,093**	*15,138*	*15,293*	*15,330*	*15,523*	*15,709*	**16,130**	*15,098*	*15,464*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	**151.6**	**152.7**	*153.2*	*152.8*	*151.9*	*151.1*	*150.5*	**146.1**	*152.0*	*151.6*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	**3.6**	**3.6**	*3.7*	*4.0*	*4.7*	*5.3*	*5.8*	**5.4**	*3.7*	*5.0*
Housing Starts															
(millions - SAAR)	**1.58**	**1.59**	**1.57**	**1.68**	**1.72**	**1.65**	**1.48**	*1.41*	*1.26*	*1.23*	*1.21*	*1.22*	**1.61**	*1.56*	*1.23*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.1**	**99.7**	**100.5**	**101.7**	**102.9**	**104.2**	**104.9**	*105.2*	*104.4*	*103.8*	*104.1*	*104.6*	**100.0**	*104.3*	*104.2*
Manufacturing	**96.9**	**98.3**	**99.2**	**100.6**	**101.5**	**102.4**	**102.9**	*103.1*	*102.1*	*101.5*	*101.7*	*102.3*	**98.8**	*102.5*	*101.9*
Food	**104.5**	**103.3**	**102.0**	**103.5**	**105.5**	**105.1**	**104.7**	*103.7*	*103.5*	*103.5*	*103.7*	*104.1*	**103.3**	*104.7*	*103.7*
Paper	**95.0**	**96.0**	**96.0**	**95.2**	**96.4**	**97.3**	**96.5**	*95.5*	*95.4*	*95.0*	*94.7*	*94.7*	**95.5**	*96.4*	*94.9*
Petroleum and Coal Products	**86.0**	**92.3**	**93.5**	**96.0**	**94.2**	**94.0**	**95.3**	*95.2*	*95.1*	*94.7*	*94.5*	*94.3*	**92.0**	*94.7*	*94.6*
Chemicals	**94.3**	**101.1**	**101.2**	**102.6**	**102.4**	**103.2**	**104.2**	*104.0*	*104.6*	*104.6*	*104.4*	*104.9*	**99.8**	*103.4*	*104.6*
Nonmetallic Mineral Products	**97.8**	**96.0**	**97.3**	**99.1**	**102.9**	**103.4**	**104.6**	*103.2*	*102.1*	*101.2*	*101.1*	*101.3*	**97.5**	*103.5*	*101.4*
Primary Metals	**93.0**	**96.6**	**98.3**	**98.7**	**95.6**	**97.4**	**96.4**	*96.4*	*98.1*	*97.7*	*97.8*	*99.0*	**96.6**	*96.5*	*98.2*
Coal-weighted Manufacturing (a)	**91.1**	**94.9**	**95.5**	**96.6**	**96.2**	**96.8**	**96.9**	*96.4*	*96.9*	*96.4*	*96.2*	*96.7*	**94.5**	*96.6*	*96.5*
Distillate-weighted Manufacturing (a)	**100.9**	**102.2**	**102.7**	**104.2**	**105.7**	**106.1**	**106.3**	*105.3*	*104.7*	*104.0*	*103.8*	*104.2*	**102.5**	*105.8*	*104.2*
Electricity-weighted Manufacturing (a)	**93.1**	**96.4**	**96.5**	**97.6**	**98.0**	**98.7**	**98.7**	*98.2*	*98.5*	*98.2*	*98.2*	*98.7*	**95.9**	*98.4*	*98.4*
Natural Gas-weighted Manufacturing (a)	**88.8**	**94.6**	**94.1**	**95.2**	**95.2**	**95.5**	**95.4**	*94.9*	*95.3*	*95.0*	*94.7*	*95.1*	**93.1**	*95.3*	*95.0*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	**2.92**	**2.96**	*3.00*	*3.02*	*3.04*	*3.06*	*3.08*	**2.71**	*2.93*	*3.05*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.53**	**2.73**	**2.70**	*2.63*	*2.57*	*2.51*	*2.50*	*2.50*	**2.27**	*2.65*	*2.52*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	**4.21**	**3.74**	*3.25*	*3.10*	*2.98*	*2.92*	*2.91*	**2.41**	*3.59*	*2.98*
GDP Implicit Price Deflator															
(index, 2012=100)	**116.2**	**118.0**	**119.8**	**121.8**	**124.2**	**126.9**	**128.1**	*129.7*	*131.0*	*131.9*	*132.8*	*133.7*	**118.9**	*127.2*	*132.4*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,125**	**9,368**	**8,934**	**8,373**	**9,164**	**9,270**	*8,963*	*8,435*	*9,264*	*9,412*	*9,055*	**8,843**	*8,945*	*9,044*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**597**	**658**	**667**	**656**	**686**	**735**	*701*	*681*	*700*	*733*	*722*	**615**	*695*	*709*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**356**	**419**	**408**	*378*	*365*	*407*	*409*	*385*	**334**	*390*	*392*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	**328.7**	**288.0**	*279.7*	*246.5*	*303.2*	*285.1*	*270.1*	**217.5**	*280.5*	*276.2*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	**0.247**	*0.230*	*0.241*	*0.235*	*0.237*	*0.248*	**0.258**	*0.246*	*0.240*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**521**	**562**	**571**	**580**	**562**	**564**	**577**	*579*	*553*	*566*	*572*	*577*	**2,234**	*2,282*	*2,267*
Natural Gas	**493**	**357**	**377**	**430**	**512**	**375**	**398**	*453*	*501*	*356*	*377*	*444*	**1,657**	*1,739*	*1,678*
Coal	**256**	**229**	**307**	**210**	**245**	**216**	**273**	*208*	*222*	*197*	*270*	*197*	**1,002**	*943*	*886*
Total Energy (c)	**1,272**	**1,150**	**1,259**	**1,223**	**1,322**	**1,158**	**1,252**	*1,243*	*1,279*	*1,121*	*1,221*	*1,220*	**4,904**	*4,975*	*4,842*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**985**	**1,009**	**1,018**	**1,033**	**1,032**	**1,024**	**1,029**	*1,027*	*1,022*	*1,021*	*1,026*	*1,030*	**1,011**	*1,028*	*1,025*
Middle Atlantic	**2,729**	**2,774**	**2,802**	**2,859**	**2,858**	**2,858**	**2,872**	*2,865*	*2,849*	*2,846*	*2,858*	*2,871*	**2,791**	*2,863*	*2,856*
E. N. Central	**2,498**	**2,542**	**2,547**	**2,588**	**2,596**	**2,583**	**2,589**	*2,582*	*2,571*	*2,568*	*2,577*	*2,586*	**2,544**	*2,588*	*2,575*
W. N. Central	**1,198**	**1,216**	**1,207**	**1,215**	**1,220**	**1,215**	**1,220**	*1,218*	*1,213*	*1,214*	*1,220*	*1,227*	**1,209**	*1,218*	*1,219*
S. Atlantic	**3,425**	**3,488**	**3,519**	**3,585**	**3,578**	**3,578**	**3,594**	*3,591*	*3,575*	*3,572*	*3,588*	*3,604*	**3,504**	*3,585*	*3,585*
E. S. Central	**852**	**862**	**865**	**879**	**884**	**883**	**887**	*884*	*879*	*877*	*879*	*882*	**865**	*884*	*879*
W. S. Central	**2,327**	**2,348**	**2,352**	**2,381**	**2,377**	**2,383**	**2,409**	*2,409*	*2,403*	*2,404*	*2,416*	*2,428*	**2,352**	*2,394*	*2,413*
Mountain	**1,298**	**1,317**	**1,330**	**1,361**	**1,359**	**1,354**	**1,362**	*1,359*	*1,353*	*1,353*	*1,361*	*1,369*	**1,327**	*1,359*	*1,359*
Pacific	**3,713**	**3,786**	**3,825**	**3,888**	**3,805**	**3,802**	**3,825**	*3,814*	*3,794*	*3,793*	*3,810*	*3,827*	**3,803**	*3,812*	*3,806*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.2**	**96.7**	**97.4**	**98.4**	**99.3**	**100.1**	**100.3**	*100.4*	*99.5*	*99.0*	*99.4*	*100.0*	**96.9**	*100.0*	*99.5*
Middle Atlantic	**93.0**	**94.2**	**94.7**	**95.8**	**96.6**	**97.4**	**97.3**	*97.6*	*96.5*	*95.8*	*96.1*	*96.5*	**94.4**	*97.2*	*96.2*
E. N. Central	**95.4**	**95.9**	**96.6**	**98.3**	**98.9**	**99.4**	**99.6**	*99.7*	*99.1*	*98.3*	*98.3*	*98.6*	**96.5**	*99.4*	*98.6*
W. N. Central	**98.3**	**99.3**	**100.0**	**100.7**	**102.0**	**102.6**	**103.1**	*103.1*	*102.1*	*101.6*	*102.0*	*102.6*	**99.6**	*102.7*	*102.1*
S. Atlantic	**99.3**	**100.4**	**101.3**	**102.6**	**103.4**	**104.6**	**105.3**	*105.4*	*104.2*	*103.4*	*103.5*	*104.0*	**100.9**	*104.7*	*103.8*
E. S. Central	**97.7**	**98.6**	**99.2**	**100.5**	**100.9**	**101.3**	**101.5**	*101.6*	*100.6*	*99.8*	*99.7*	*100.0*	**99.0**	*101.3*	*100.0*
W. S. Central	**98.5**	**100.0**	**100.6**	**102.1**	**103.5**	**105.0**	**106.1**	*106.5*	*105.4*	*105.0*	*105.4*	*106.1*	**100.3**	*105.3*	*105.5*
Mountain	**106.5**	**108.5**	**109.4**	**111.1**	**112.7**	**113.9**	**114.9**	*115.0*	*113.8*	*113.1*	*113.3*	*114.0*	**108.9**	*114.1*	*113.5*
Pacific	**94.1**	**95.7**	**96.0**	**97.0**	**97.8**	**98.7**	**99.0**	*99.4*	*98.5*	*98.1*	*98.5*	*99.3*	**95.7**	*98.7*	*98.6*
Real Personal Income (Billion $2012)															
New England	**1,017**	**966**	**954**	**944**	**935**	**926**	**929**	*930*	*927*	*928*	*934*	*939*	**971**	*930*	*932*
Middle Atlantic	**2,634**	**2,472**	**2,448**	**2,408**	**2,385**	**2,378**	**2,384**	*2,380*	*2,379*	*2,382*	*2,394*	*2,405*	**2,491**	*2,382*	*2,390*
E. N. Central	**2,763**	**2,544**	**2,506**	**2,481**	**2,464**	**2,451**	**2,444**	*2,441*	*2,441*	*2,443*	*2,452*	*2,462*	**2,573**	*2,450*	*2,449*
W. N. Central	**1,276**	**1,195**	**1,173**	**1,158**	**1,156**	**1,154**	**1,154**	*1,152*	*1,155*	*1,158*	*1,162*	*1,167*	**1,201**	*1,154*	*1,161*
S. Atlantic	**3,772**	**3,500**	**3,472**	**3,473**	**3,436**	**3,426**	**3,440**	*3,435*	*3,439*	*3,444*	*3,462*	*3,479*	**3,554**	*3,434*	*3,456*
E. S. Central	**1,044**	**949**	**941**	**938**	**931**	**926**	**922**	*919*	*920*	*921*	*924*	*927*	**968**	*924*	*923*
W. S. Central	**2,242**	**2,083**	**2,067**	**2,072**	**2,056**	**2,062**	**2,071**	*2,068*	*2,072*	*2,077*	*2,090*	*2,104*	**2,116**	*2,064*	*2,086*
Mountain	**1,408**	**1,308**	**1,300**	**1,304**	**1,291**	**1,287**	**1,295**	*1,294*	*1,293*	*1,297*	*1,304*	*1,312*	**1,330**	*1,292*	*1,301*
Pacific	**3,296**	**3,110**	**3,096**	**3,047**	**2,985**	**2,969**	**2,980**	*3,024*	*2,973*	*2,979*	*2,993*	*3,005*	**3,137**	*2,989*	*2,988*
Households (Thousands)															
New England	**6,024**	**6,042**	**6,057**	**6,071**	**6,085**	**6,089**	**6,091**	*6,097*	*6,106*	*6,115*	*6,122*	*6,129*	**6,071**	*6,097*	*6,129*
Middle Atlantic	**16,327**	**16,354**	**16,389**	**16,418**	**16,449**	**16,457**	**16,460**	*16,475*	*16,501*	*16,525*	*16,546*	*16,565*	**16,418**	*16,475*	*16,565*
E. N. Central	**18,974**	**19,031**	**19,094**	**19,146**	**19,197**	**19,205**	**19,208**	*19,224*	*19,251*	*19,278*	*19,304*	*19,326*	**19,146**	*19,224*	*19,326*
W. N. Central	**8,668**	**8,702**	**8,735**	**8,766**	**8,796**	**8,813**	**8,827**	*8,841*	*8,860*	*8,879*	*8,897*	*8,914*	**8,766**	*8,841*	*8,914*
S. Atlantic	**26,140**	**26,277**	**26,400**	**26,538**	**26,673**	**26,761**	**26,837**	*26,917*	*27,012*	*27,100*	*27,184*	*27,267*	**26,538**	*26,917*	*27,267*
E. S. Central	**7,771**	**7,806**	**7,838**	**7,871**	**7,903**	**7,922**	**7,937**	*7,952*	*7,972*	*7,990*	*8,007*	*8,023*	**7,871**	*7,952*	*8,023*
W. S. Central	**15,249**	**15,331**	**15,412**	**15,498**	**15,582**	**15,639**	**15,688**	*15,737*	*15,794*	*15,850*	*15,904*	*15,954*	**15,498**	*15,737*	*15,954*
Mountain	**9,559**	**9,623**	**9,687**	**9,747**	**9,805**	**9,845**	**9,881**	*9,917*	*9,958*	*10,001*	*10,040*	*10,079*	**9,747**	*9,917*	*10,079*
Pacific	**18,898**	**18,934**	**18,977**	**19,024**	**19,078**	**19,097**	**19,109**	*19,123*	*19,150*	*19,177*	*19,202*	*19,226*	**19,024**	*19,123*	*19,226*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	**7.4**	**7.5**	*7.5*	*7.5*	*7.4*	*7.4*	*7.4*	**7.2**	*7.4*	*7.4*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	**19.6**	**19.7**	*19.8*	*19.7*	*19.6*	*19.5*	*19.5*	**18.8**	*19.6*	*19.6*
E. N. Central	**21.1**	**21.2**	**21.5**	**21.6**	**21.8**	**21.9**	**22.0**	*22.1*	*22.1*	*21.9*	*21.8*	*21.7*	**21.4**	*22.0*	*21.9*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	**10.7**	**10.7**	*10.8*	*10.8*	*10.7*	*10.7*	*10.6*	**10.5**	*10.7*	*10.7*
S. Atlantic	**28.2**	**28.5**	**28.9**	**29.2**	**29.5**	**29.8**	**30.1**	*30.2*	*30.1*	*29.9*	*29.7*	*29.6*	**28.7**	*29.9*	*29.8*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	**8.4**	**8.4**	*8.5*	*8.4*	*8.4*	*8.3*	*8.3*	**8.2**	*8.4*	*8.4*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.8**	**18.1**	**18.3**	**18.5**	*18.5*	*18.5*	*18.4*	*18.3*	*18.2*	**17.5**	*18.3*	*18.3*
Mountain	**10.8**	**11.0**	**11.2**	**11.3**	**11.4**	**11.5**	**11.6**	*11.6*	*11.6*	*11.5*	*11.5*	*11.4*	**11.1**	*11.5*	*11.5*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.6**	**23.9**	**24.1**	*24.1*	*24.1*	*23.9*	*23.8*	*23.7*	**22.8**	*23.9*	*23.9*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,013**	**779**	**84**	**1,920**	**3,139**	**788**	**114**	*2,144*	*3,194*	*875*	*138*	*2,213*	**5,797**	*6,184*	*6,420*
Middle Atlantic	**2,820**	**669**	**57**	**1,727**	**2,937**	**671**	**72**	*2,022*	*2,958*	*708*	*89*	*2,024*	**5,272**	*5,702*	*5,779*
E. N. Central	**3,086**	**708**	**70**	**1,887**	**3,270**	**755**	**100**	*2,294*	*3,174*	*742*	*123*	*2,267*	**5,751**	*6,420*	*6,306*
W. N. Central	**3,228**	**718**	**87**	**2,026**	**3,483**	**792**	**112**	*2,477*	*3,283*	*710*	*155*	*2,453*	**6,059**	*6,865*	*6,601*
South Atlantic	**1,346**	**212**	**10**	**798**	**1,340**	**189**	**13**	*1,022*	*1,413*	*198*	*13*	*976*	**2,366**	*2,564*	*2,600*
E. S. Central	**1,790**	**315**	**19**	**1,035**	**1,823**	**248**	**22**	*1,397*	*1,843*	*252*	*20*	*1,328*	**3,160**	*3,490*	*3,442*
W. S. Central	**1,297**	**122**	**1**	**497**	**1,347**	**58**	**2**	*810*	*1,152*	*77*	*5*	*821*	**1,917**	*2,216*	*2,056*
Mountain	**2,307**	**663**	**110**	**1,636**	**2,299**	**737**	**85**	*1,847*	*2,242*	*709*	*154*	*1,873*	**4,716**	*4,968*	*4,978*
Pacific	**1,564**	**484**	**78**	**1,206**	**1,392**	**605**	**48**	*1,175*	*1,566*	*611*	*95*	*1,232*	**3,332**	*3,221*	*3,504*
U.S. Average	**2,108**	**472**	**51**	**1,307**	**2,147**	**492**	**54**	*1,556*	*2,138*	*496*	*76*	*1,552*	**3,938**	*4,249*	*4,263*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	**852**	**107**	*2,103*	*3,151*	*859*	*106*	*2,110*	**6,195**	*6,164*	*6,226*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	**684**	**71**	*1,908*	*2,944*	*692*	*70*	*1,917*	**5,572**	*5,551*	*5,624*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	**727**	**97**	*2,162*	*3,215*	*742*	*93*	*2,175*	**6,161**	*6,119*	*6,226*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	**726**	**125**	*2,357*	*3,317*	*754*	*121*	*2,369*	**6,477**	*6,427*	*6,561*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	**187**	**11**	*905*	*1,401*	*190*	*10*	*908*	**2,503**	*2,483*	*2,509*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	**243**	**15**	*1,228*	*1,809*	*251*	*14*	*1,236*	**3,267**	*3,249*	*3,310*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	**93**	**3**	*754*	*1,190*	*96*	*3*	*764*	**2,015**	*1,995*	*2,051*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	**685**	**132**	*1,817*	*2,201*	*701*	*129*	*1,824*	**4,877**	*4,816*	*4,854*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,455**	**523**	**79**	*1,137*	*1,439*	*523*	*75*	*1,137*	**3,242**	*3,193*	*3,174*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,096**	**479**	**62**	*1,473*	*2,133*	*486*	*60*	*1,478*	**4,147**	*4,110*	*4,157*
Cooling Degree Days															
New England	**0**	**143**	**456**	**7**	**0**	**79**	**564**	*0*	*0*	*85*	*414*	*1*	**606**	*643*	*500*
Middle Atlantic	**0**	**182**	**626**	**23**	**0**	**153**	**682**	*0*	*0*	*151*	*536*	*4*	**831**	*835*	*692*
E. N. Central	**2**	**250**	**628**	**30**	**1**	**255**	**557**	*1*	*0*	*210*	*535*	*7*	**910**	*814*	*752*
W. N. Central	**8**	**312**	**747**	**24**	**3**	**305**	**733**	*4*	*3*	*260*	*671*	*10*	**1,090**	*1,045*	*944*
South Atlantic	**155**	**616**	**1,170**	**285**	**155**	**710**	**1,199**	*189*	*124*	*642*	*1,152*	*232*	**2,226**	*2,253*	*2,150*
E. S. Central	**40**	**432**	**1,016**	**126**	**28**	**599**	**1,068**	*19*	*27*	*507*	*1,039*	*64*	**1,613**	*1,714*	*1,637*
W. S. Central	**89**	**767**	**1,469**	**314**	**55**	**1,093**	**1,666**	*197*	*92*	*891*	*1,481*	*193*	**2,640**	*3,011*	*2,658*
Mountain	**10**	**529**	**963**	**68**	**17**	**471**	**1,019**	*64*	*18*	*417*	*908*	*73*	**1,570**	*1,571*	*1,415*
Pacific	**24**	**251**	**705**	**59**	**31**	**220**	**768**	*90*	*25*	*164*	*574*	*62*	**1,040**	*1,109*	*825*
U.S. Average	**50**	**410**	**902**	**127**	**46**	**465**	**952**	*84*	*44*	*399*	*847*	*93*	**1,489**	*1,547*	*1,383*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	**87**	**471**	*2*	*0*	*87*	*479*	*2*	**555**	*561*	*569*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	**162**	**608**	*8*	*0*	*159*	*613*	*8*	**779**	*779*	*781*
E. N. Central	**3**	**234**	**572**	**7**	**3**	**238**	**571**	*9*	*1*	*234*	*561*	*9*	**816**	*821*	*805*
W. N. Central	**7**	**294**	**686**	**10**	**7**	**299**	**681**	*11*	*4*	*292*	*674*	*11*	**997**	*999*	*981*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	**668**	**1,188**	*269*	*144*	*675*	*1,193*	*269*	**2,276**	*2,272*	*2,281*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	**518**	**1,057**	*84*	*36*	*520*	*1,059*	*82*	**1,713**	*1,702*	*1,697*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	**853**	**1,536**	*224*	*101*	*861*	*1,548*	*225*	**2,772**	*2,725*	*2,735*
Mountain	**24**	**441**	**949**	**85**	**23**	**459**	**945**	*84*	*23*	*456*	*951*	*82*	**1,499**	*1,511*	*1,512*
Pacific	**31**	**193**	**648**	**86**	**31**	**208**	**665**	*86*	*32*	*214*	*676*	*87*	**959**	*989*	*1,008*
U.S. Average	**52**	**413**	**892**	**104**	**53**	**412**	**889**	*109*	*50*	*415*	*894*	*109*	**1,461**	*1,463*	*1,469*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics and Analysis
U.S. Energy Information Administration

Short-Term Energy Outlook

STEO



Short-Term Energy Outlook

Overview

U.S. energy market indicators	2021	2022	2023
Brent crude oil spot price (dollars per barrel)	**$70.89**	**$101.48**	**$92.36**
Retail gasoline price (dollars per gallon)	**$3.02**	**$3.99**	**$3.51**
U.S. crude oil production (million barrels per day)	**11.25**	**11.87**	**12.34**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$3.91**	**$6.48**	**$5.43**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**9.8**	**10.6**	**12.3**
Shares of U.S. electricity generation			
Natural gas	37%	39%	37%
Coal	23%	20%	19%
Renewables	20%	22%	24%
Nuclear	20%	19%	20%
U.S. GDP (percentage change)	**5.9%**	**1.8%**	**0.1%**
U.S. CO_2 emissions (billion metric tons)	**4.90**	**4.98**	**4.85**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* December 2022

- Global oil inventories in our forecast fall by 0.2 million barrels per day (b/d) in the first half of 2023 (1H23) before rising by almost 0.7 million b/d in 2H23. This forecast leaves global oil inventories higher at the end of 2023 than we had forecast in the November STEO, which results in our Brent crude oil price forecast averaging $92 per barrel (b) in 2023, $3/b less than we had forecast last month.

- U.S refinery utilization in our forecast remains near its five-year average through 2023. We expect the combination of a slight contraction in the U.S. economy and refinery maximization of distillate fuel production will reduce distillate prices in 1H23. We forecast U.S. diesel refining margins will fall by 19% in 2023 compared with 2022. However, the EU's ban on seaborne imports of petroleum products from Russia creates supply and price uncertainty for distillate markets in early 2023.

- We expect natural gas prices to increase from November levels as a result of both higher winter natural gas demand and rising LNG exports. Our forecast for the Henry Hub spot price averages more than $6.00 per million British thermal units (MMBtu) in 1Q23, up from November's monthly average of about $5.50/MMBtu. We expect natural gas prices will begin declining after January as U.S. storage levels move closer to the previous five-year average, largely as a result of rising U.S. natural gas production. However, the possibility of price volatility remains high.

- We raised our forecast for U.S. natural gas production by almost 1% in 2023 compared with last month's forecast. Although we continue to expect natural gas production in the Permian Basin

to be limited early in 2023 by the lack of pipeline capacity to bring associated natural gas production to market, we expect that these constraints will be resolved earlier than we had previously assumed. This change also contributes to slightly more crude oil production in 2023 than we had previously forecast.

- Freeport LNG announced its export terminal will resume partial operations exporting liquefied natural gas (LNG) in mid-December following an outage that began in June 2022. We expect Freeport LNG will ramp up utilization in the coming months and will reach full capacity by March 2023.

- The highest forecasted electricity prices for this winter are in ISO New England, where we expect on-peak wholesale power prices will average more than $200 per megawatthour in January, up 35% from January 2022. Capacity constraints on pipelines delivering natural gas into New England make it likely that wholesale electricity prices will be set by relatively expensive imported LNG or fuel oil.

- The December STEO includes a contraction in U.S. economic activity in the fourth quarter of 2022 (4Q22) and 1Q23, which represents a slightly shorter and milder period of economic contraction than in last month's STEO. Uncertainty in macroeconomic conditions could significantly affect energy markets in the forecast period. Based on the S&P Global macroeconomic model, we assume U.S. GDP will remain flat in 2023.

Notable forecast changes

Current forecast: December 6, 2022; previous forecast: November 8, 2022	**2022**	**2023**
Natural gas production (current) (billion cubic feet per day)	**98.1**	**100.4**
Previous forecast	98.1	99.7
Percentage change	0.1%	0.7%
U.S. coal production (current) (million short tons)	**592.7**	**539.2**
Previous forecast	595.3	573.2
Percentage change	-0.4%	-5.9%
Brent spot average (current) (dollars per barrel)	**$101**	**$92**
Previous	$102	$95
Change	-0.6%	-3.1%
Global oil inventory change (current) (million barrels per day)	**0.2**	**0.2**
Previous	0.1	-0.3
Change	0.1	0.5
U.S. Distillate fuel inventories (current) (million barrels)	**122.5**	**123.9**
Previous forecast	116.8	115.6
Percentage change	4.9%	7.2%
Diesel fuel prices (current) (dollars per gallon)	**$5.05**	**$4.48**
Previous forecast	$5.09	$4.65
Percentage change	-0.8%	-3.8%

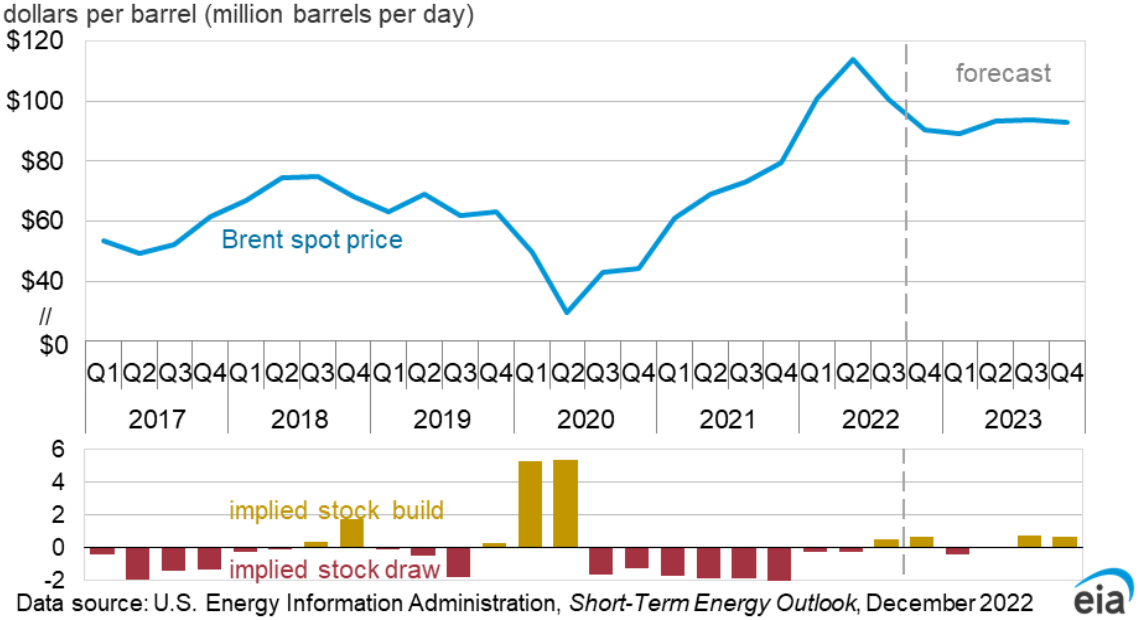
Data source: Energy Information Administration, *Short-Term Energy Outlook,* December 2022

Global oil markets

Crude oil prices: The spot price of Brent crude oil averaged $91 per barrel (b) in November. Although the average November Brent price was slightly lower than in October, daily spot prices reached almost $100/b on November 7, before ending the month at $86/b. The price declines were largely the result of market concerns about global economic growth, as well as COVID-related lockdowns in China that have reduced China's oil demand. Brent crude oil spot prices are on pace to average $101/b in 2022.

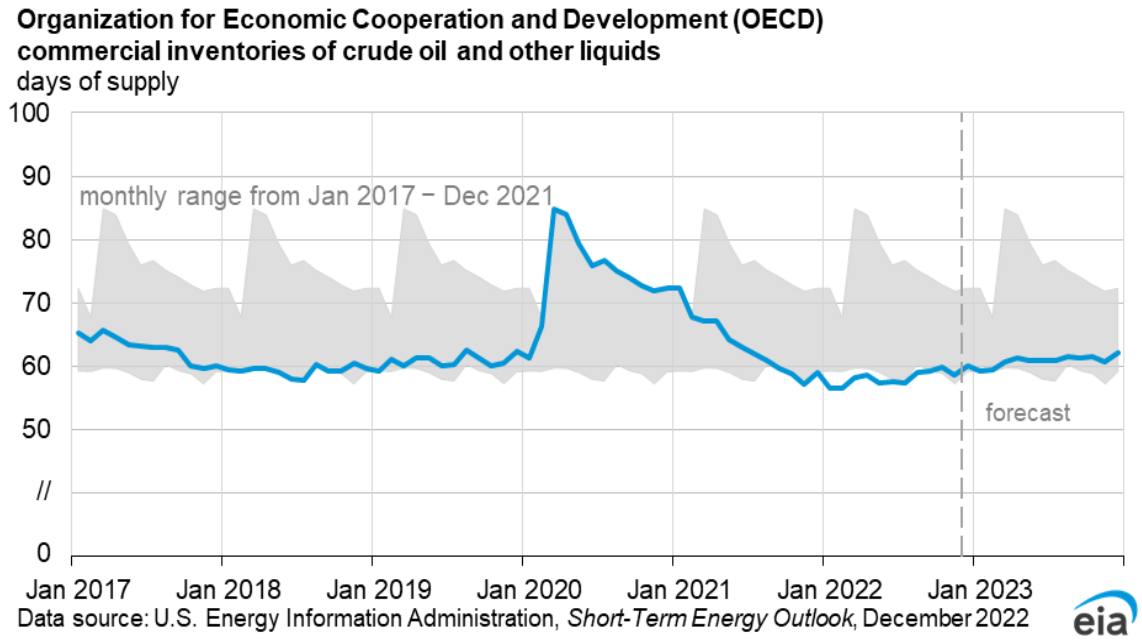
Despite the recent drop in crude oil prices, we still expect that falling global inventories of oil in early 2023 will push Brent prices back above $90/b by the beginning of the second quarter of 2023 (2Q23). Although we expect some downward oil price pressure could emerge in the second half of 2023 (2H23) based on our forecast of rising oil inventories, that pressure will likely be balanced by the ongoing possibility of supply disruptions or production growth that is slower than our forecast. We forecast the Brent crude oil spot price will average $92/b for all of 2023.

Brent crude oil spot price and global inventory changes
dollars per barrel (million barrels per day)



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, December 2022

Total petroleum inventories: Although we estimate that petroleum inventories have increased thus far in 2H22, commercial petroleum inventories in OECD countries spent most of 2022 at their lowest levels in five years on a days-of-supply basis, and we expect that they will remain near the bottom of their recent five-year (2017–2021) range throughout 2023. Given relatively low global petroleum inventories and the necessary time and magnitude of inventory builds needed to replenish them, the market has limited slack during the forecast period, and any unplanned supply disruption has the potential to increase oil prices quickly and significantly.



Significant uncertainty remains around the impact that sanctions on Russia will have on global oil prices. The EU ban on seaborne imports of crude oil from Russia took effect on December 5, and the ban on petroleum product imports is set to begin on February 5. The EU and UK have indicated that they will continue to allow non-member countries that participate in the G7's price cap to access EU and UK based shipping insurance to import crude oil and petroleum products from Russia. We expect that most of Russia's crude oil exports that will no longer go to Europe will find a destination elsewhere. However, we expect Russia's oil production will continue to decline in 2023, largely because a number of countries will decrease their imports of crude oil and petroleum products from Russia.

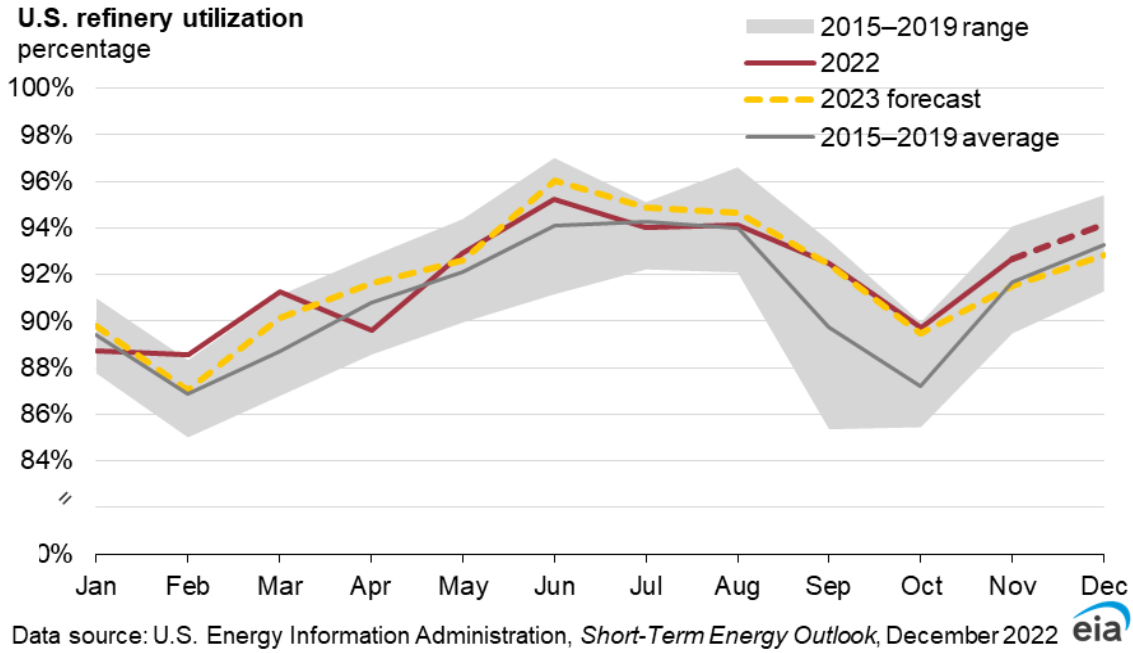
The U.S. Department of the Treasury issued General License (GL) 41 at the end of November, allowing Chevron to resume oil production in Venezuela for export to the United States. This issuance introduces additional uncertainty related to our oil production forecast for Venezuela. Chevron's ability to increase production will depend on the state of production facilities, which have yet to be evaluated. We have raised our outlook for Venezuela's production starting in 1Q23.

Petroleum products

Refinery utilization: On average, U.S. refinery utilization has been higher in 2022 than its pre-pandemic five-year (2015–2019) average, and we estimate that this year's November utilization of 93% was slightly above the pre-pandemic five-year average for the month. According to our *Weekly Petroleum Status Report* (WPSR), refineries on the East Coast (PADD 1) operated at more than 100% of capacity during the last two weeks of October and all of November. The utilization of more than 100% is partially the result of an increase in capacity that was updated in our September PSM but not reflected in WPSR, leading to the reported operable capacity amount to be lower than actual in October and November. Also, our calculation of refinery utilization can briefly exceed 100% because we calculate it as gross inputs of crude oil divided by refinery capacity in barrels per calendar day, which is designed to

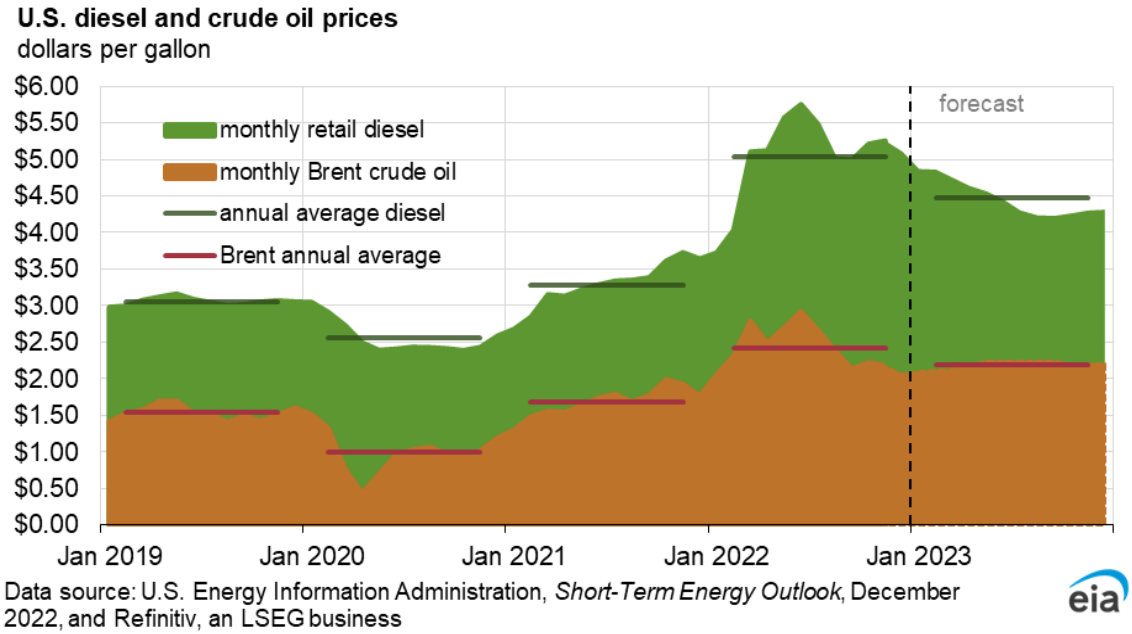
account for realistic operating conditions such as allowing for down time. With refinery utilization back up to pre-pandemic levels and relatively weak demand, product inventories increased in November, contributing to decreasing gasoline and distillate prices.

The United States has less refining capacity than during the pre-pandemic years, which means similar levels of utilization will result in less refinery output than in previous years. We forecast utilization will remain within the pre-pandemic five-year range in 2023, and average near the 2022 utilization of 92%. We also expect new refinery capacity to be added in the first half of 2023 (1H23) with the expansion of ExxonMobil's Beaumont refinery.



Distillate: The retail diesel price on December 5 was $4.97 per gallon (gal), down 35 cents/gal from October 31. We expect that high refinery utilization will allow U.S. retail diesel prices to continue to decrease in December 2022 and to fall further in 1H23, averaging about $4.50/gal next year.

Most of our forecast price decrease from 2022 to 2023 results from lower distillate refinery margins, which moderate beginning in early 2023 based on our expectation that distillate demand will decline in 2023 as production of distillate fuel increases. Although we expect the diesel refinery margin to decrease 19% in 2023 from 2022, we still expect it to be more than double 2021 levels.



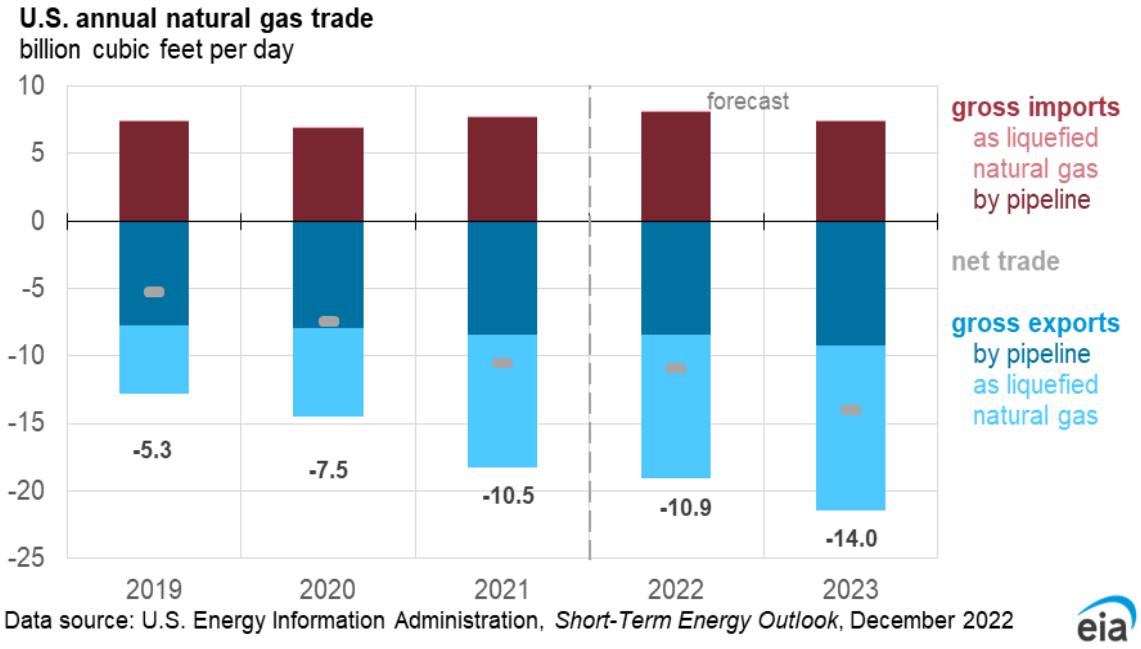
With higher-than-average refinery margins and high crude oil prices, we expect 2023 retail diesel prices to remain relatively high, albeit not as high as in 2022, as U.S. distillate inventories remain at or near multiyear lows through the end of our forecast. Ongoing constraints on global refining capacity will continue to limit distillate supplies and inventory builds during this time. Furthermore, the EU's ban on seaborne refined product imports from Russia beginning in February 2023 will keep supplies particularly tight in the Atlantic Basin.

Gasoline: We forecast U.S. retail gasoline prices will average about $3.50/gal in 2023. U.S. retail gasoline prices finished November at their lowest price since February 2022, as high refinery utilization and falling demand contributed to rising gasoline inventories, which facilitated November's price decreases. As refiners maintain high utilization in response to high distillate margins, we expect this trend to continue and for gasoline inventories to reach five-year average levels in 2023, limiting upward pressure on gasoline prices. We expect high blend rates of fuel ethanol through 2023 as the petroleum component of gasoline remains relatively expensive compared with the price of ethanol, continuing the trend that started this summer.

Natural gas

Natural gas trade: We forecast U.S. natural gas exports to increase in 2023, driven largely by growth in LNG exports. U.S. LNG exports peaked in the first half of 2022 (1H22) as facilities operated close to maximum capacity, and a new facility, Calcasieu Pass, came online and steadily increased output in 2022. However, a fire at Freeport LNG in June resulted in the shutdown of the facility, removing about 2.0 billion cubic feet per day (Bcf/d) of U.S. LNG export capacity in 2H22. The Freeport facility recently announced plans to come back online in December and to increase output to about 2.0 Bcf/d in January 2023. When Freeport LNG resumes, we forecast U.S. LNG exports will establish a new record close to 12.5 Bcf/d in March 2023. We expect LNG exports will then reach 12.7 Bcf/d by the end of 2023.

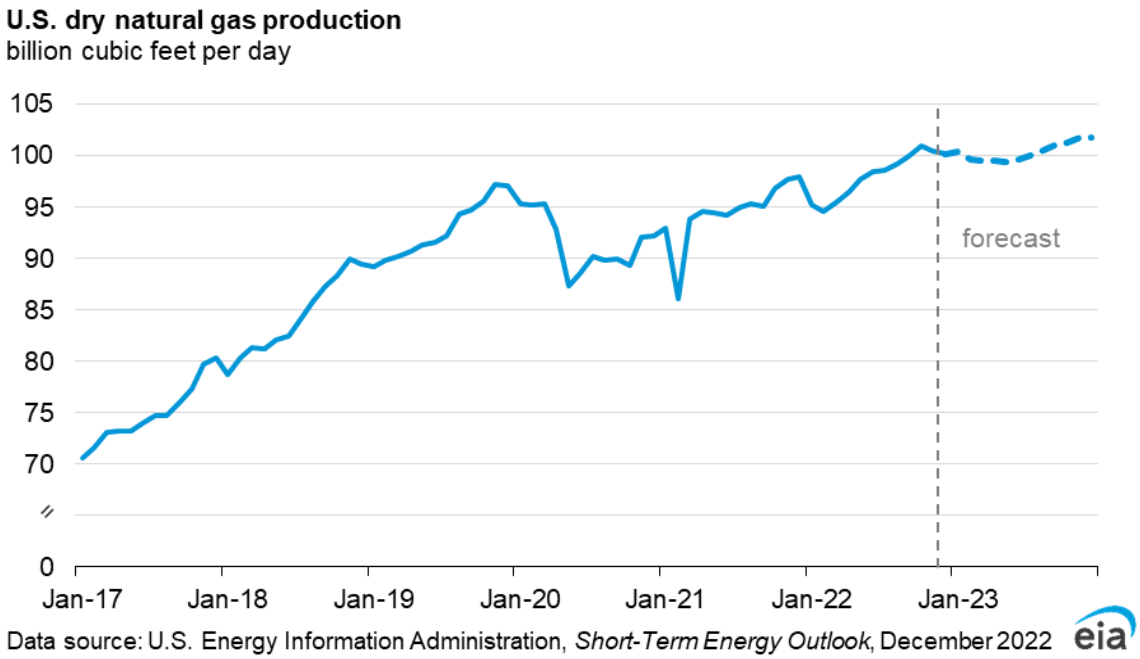
No new U.S. LNG export facilities are scheduled to come online in 2023. We forecast U.S. LNG exports will average 12.3 Bcf/d throughout 2023 as facilities continue to operate close to maximum capacity to meet high demand for natural gas in Europe and Asia.



Natural gas pipeline exports reached almost 9.0 Bcf/d in November, near its previous record. We forecast natural gas pipeline exports will reach record highs between 9.0 Bcf/d and 10.0 Bcf/d through the upcoming winter months. Natural gas pipeline exports from the United States flow to either Canada or Mexico.

Natural gas production: We forecast that U.S. production of dry natural gas will average about 100.0 Bcf/d from December through March, down about 0.5 Bcf/d from November due to weather-related declines, usually caused by freeze-offs and the possibility of extreme winter weather events. Mild weather in key producing regions could prevent those declines.

Dry natural gas production has increased during 2022 in the United States, averaging more than 100 Bcf/d in October and November and exceeding pre-pandemic monthly production records from 2019. Growth in natural gas production was driven by increased drilling activity in the Haynesville region in Louisiana and East Texas and in the Permian region in West Texas and Southeast New Mexico. Recent pipeline infrastructure expansions in both these regions facilitated the increases in production.



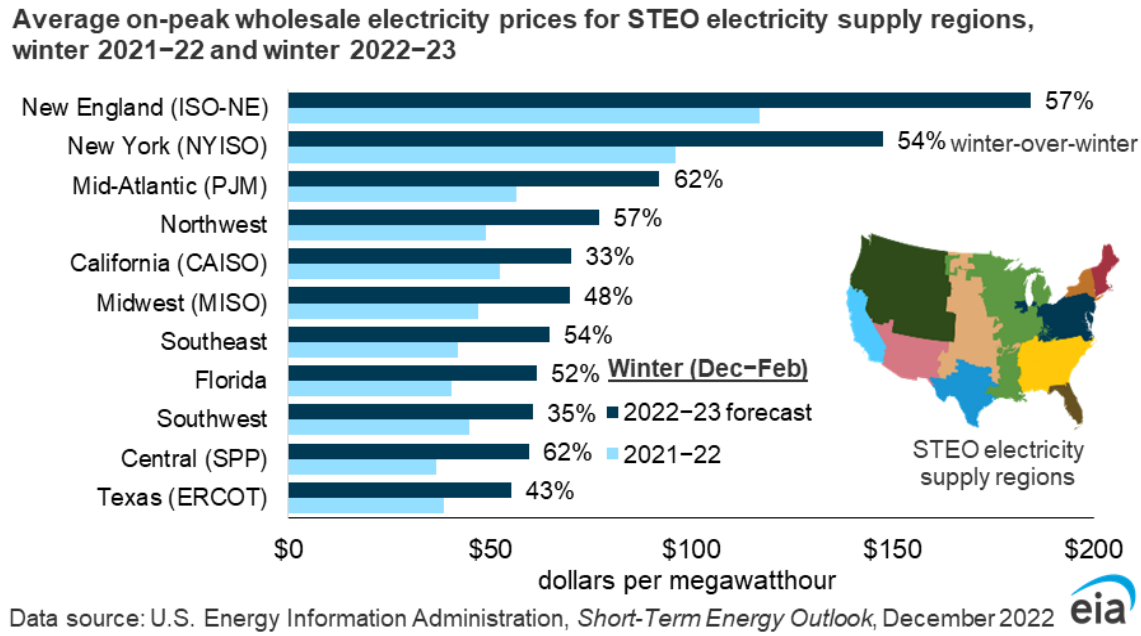
We forecast production to grow slightly in 2023, averaging between 100 Bcf/d and 101 Bcf/d for the year, about 2% more than in 2022. Production in our forecast for 1H23 is limited by pipeline constraints and declining natural gas prices. In 2H23, more pipeline infrastructure expansion projects are set to come online and contribute to increases in dry natural gas production. The pace at which these projects are completed is a notable uncertainty in our forecast, and delays could result in lower production than we expect.

Electricity, coal, and renewables

Electricity prices: We forecast wholesale prices for on-peak power to rise in all areas of the country during the winter months as the weather becomes colder. Increases in wholesale electricity prices this winter (December–February) range from 33% higher than last winter in California (CAISO) to more than 60% higher in the mid-Atlantic (PJM) and central (SPP) regions.

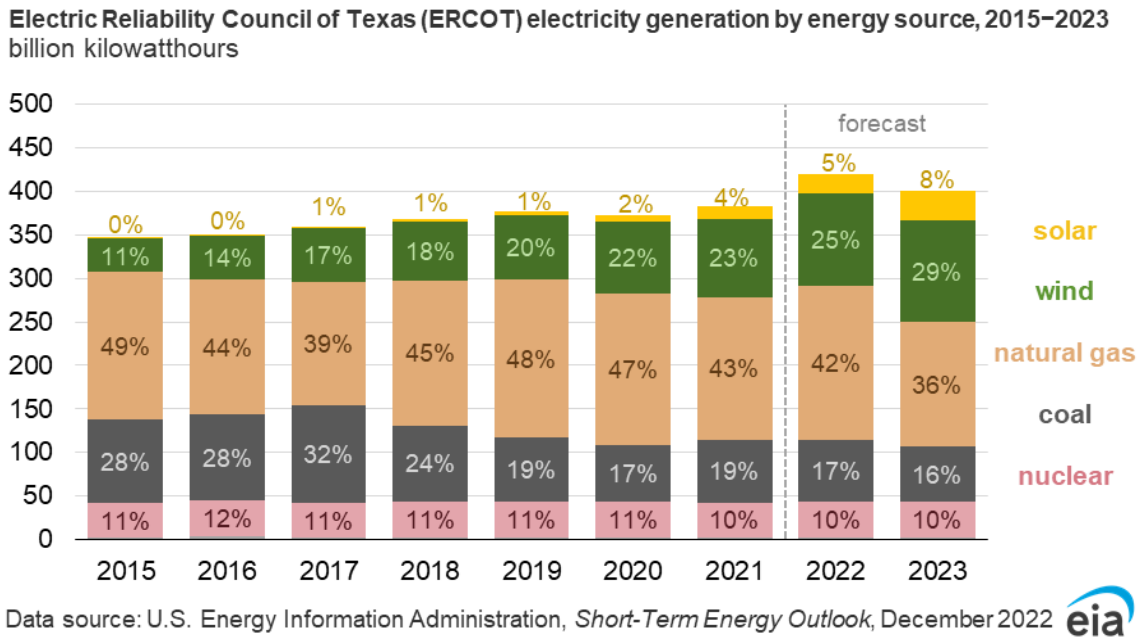
Forecast on-peak wholesale prices for most regions generally average between $60 and $80 per megawatthour (MWh) between December and February. We expect the highest wholesale prices to occur in New England, where prices could average in excess of $180/MWh, with winter peaks of more than $200/MWh. We also expect high prices in New York (NYISO) and in mid-Atlantic (PJM) markets. However, if significant market stressors occur, such as periods of extreme cold weather or fuel supply problems, wholesale prices could be significantly higher than forecast.

We also forecast retail electricity prices to be higher this winter. However, retail prices grow less than wholesale prices because of regulatory and contractual factors that vary widely across the United States. The U.S. residential electricity price in the core winter months from December through February averages 14.5 cents per kilowatthour, which is 6% higher than last winter. Price increases range from almost no change in the West North Central region to 18% in New England.

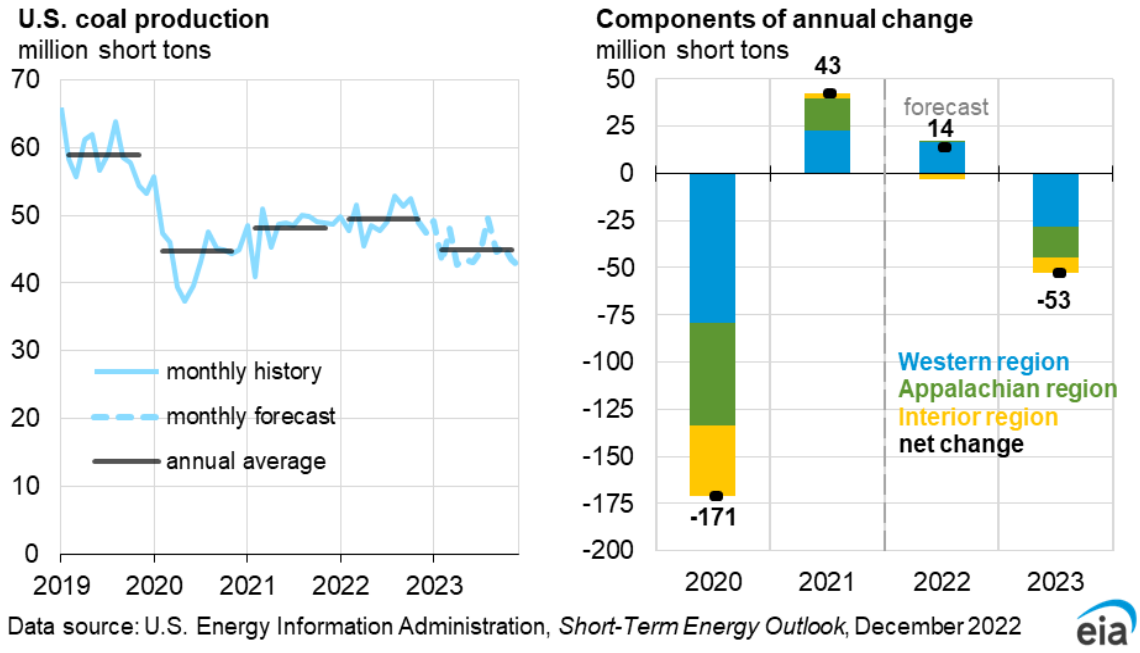


Electricity generation: Despite our forecast decline in natural gas prices in 2023, we expect the share of U.S. electric power generation supplied by natural gas will fall from 39% this year to 37% in 2023 as more renewable generating capacity comes online. We estimate that wind and solar combined account for 14% of U.S. generation in 2022, and we forecast that share will grow to 16% in 2023. Increasing generation from renewable energy, along with retirements reducing the available capacity of coal-fired power plants, contribute to our forecast that coal's generation share will fall from 20% this year to 19% in 2023.

The Texas region (ERCOT) is likely to experience the largest shift in generation mix in 2023. We expect that the share of electric power generation from wind in ERCOT will grow from 25% in 2022 to 29% in 2023 and that the solar share will grow from 5% to 8%. ERCOT's share of generation from coal in the forecast falls from 17% this year to 16% in 2023. But we expect growing generation from renewables, especially during peak hours, will cause the natural gas share to fall from 42% in 2022 to 36% in 2023.



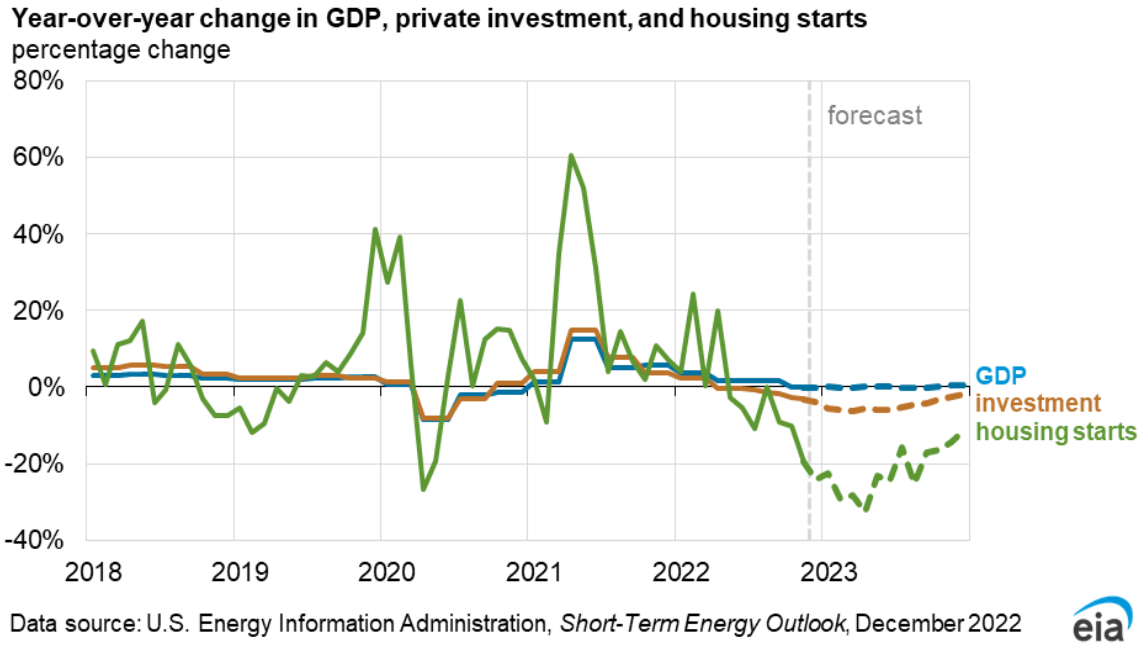
Coal markets: After increasing in both 2021 and 2022, we expect U.S. coal production to decline by 9% to less than 540 million short tons (MMst) in 2023. The primary reason for the decrease is our forecast of a 7% reduction in coal use by the electric power sector. That decline largely reflects almost 12 gigawatts (GW) of coal-fired capacity retirements in 2022 and another 9 GW in 2023. Those plant closures represent about 10% of the existing U.S. coal-fired generating fleet. Lower natural gas prices and growth in renewable resources also will reduce coal use by the electric power sector.



Economy, weather, and CO_2

U.S. macroeconomics: We base our U.S. macroeconomic forecasts on S&P Global's macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic assumptions.

S&P Global forecasts a milder and shorter contraction in U.S. economic activity compared with last month's forecast. The upward revision in U.S. economic activity reflects the recent GDP data release for 3Q22 and Consumer Price Index inflation in October. On an annual basis, we assume U.S. real GDP will remain relatively flat in 2023 after economic activity declines quarter over quarter between 4Q22 and 1Q23. The forecast is primarily driven by real private fixed investment, which declines by 5% in 2023. A large component of this decline occurs in the residential sector, which has fallen due to slowing demand for housing. As a result, housing starts decline by more than 20% in 2023 in our assumptions, which will limit overall energy consumption growth in the United States in 2023.



Emissions: We forecast energy-related CO_2 emissions have increased slightly in the United States during 2022, driven by more consumption of natural gas and petroleum and partly offset by less coal consumption. Our forecast of natural gas emissions increase the most as a result of rising demand for that fuel in the electric power sector. Increases in CO_2 emissions from petroleum use reflect increased travel following the pandemic as well as increased industrial activity. We expect fossil fuel consumption (and related emissions) to decline in 2023 by almost 3%.

We expect U.S. energy consumption to grow faster than CO_2 emissions in 2022, and to fall more slowly than emissions in 2023. This reflects a decrease in our projected carbon intensity of energy—the emissions output per unit of energy consumed—of around 1% in 2022 and around 2% in 2023.

Weather: In October and November, U.S. population-weighted heating degree days (HDDs) were 13% more than last year and 4% more than the 10-year average. Based on forecasts from the National Oceanic and Atmospheric Administration, we expect the entire winter (October–March) to be colder than last winter, with 7% more HDDs in the United States compared with last winter and 2% more than the 10-year average.

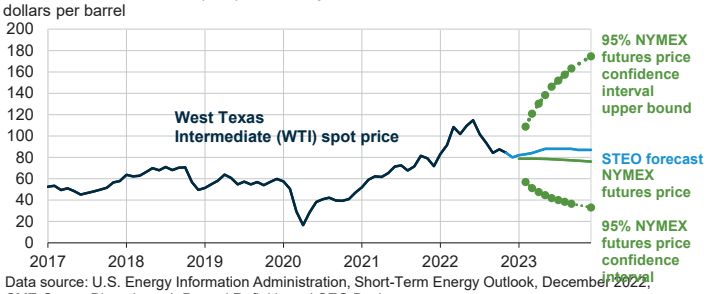
The U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (DOE), prepared this report. By law, our data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report do not represent those of DOE or any other federal agencies.

Short-Term Energy Outlook
Chart Gallery

December 6, 2022

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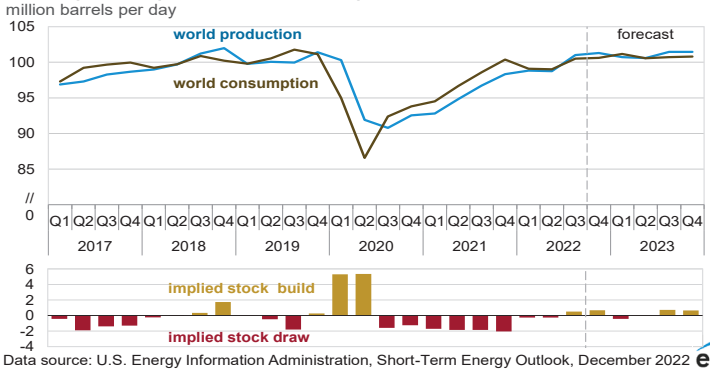
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



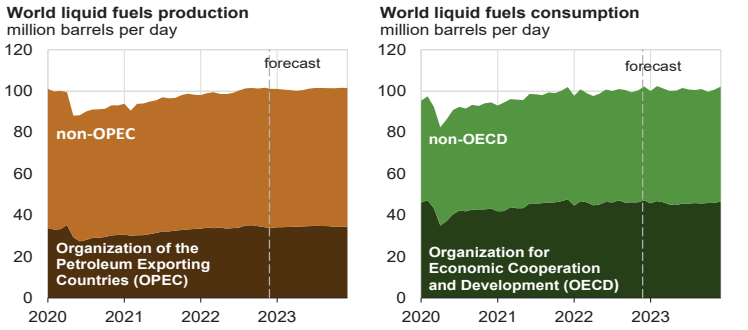
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022; CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending December 1, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

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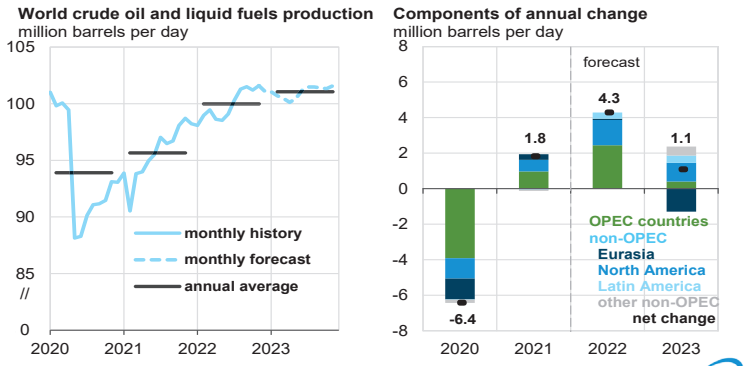
World liquid fuels production and consumption balance
million barrels per day



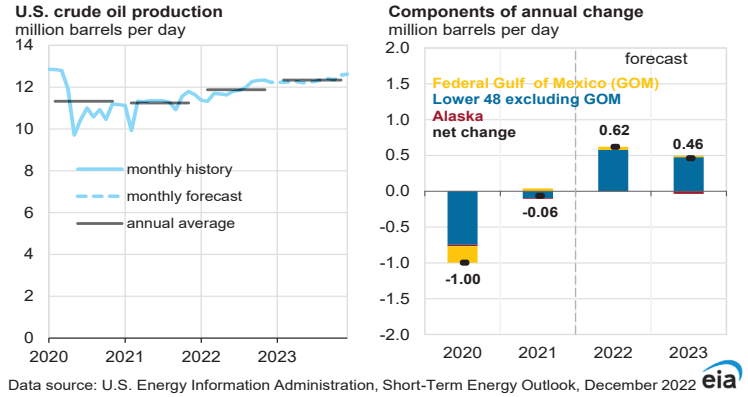
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022 eia



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

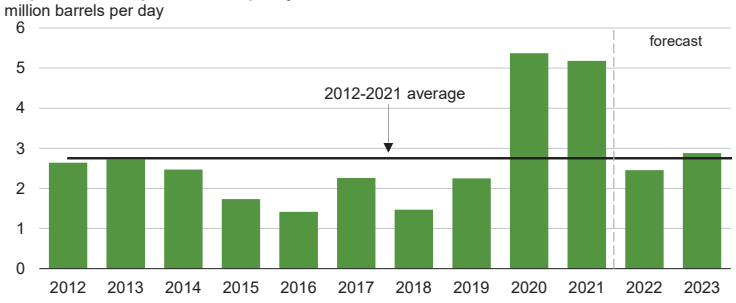


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022



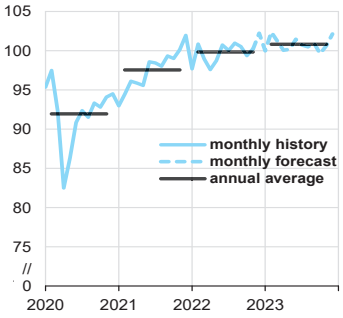
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day

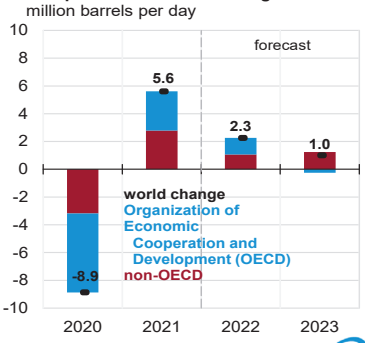


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
Note: Black line represents 2012-2021 average (2.8 million barrels per day).

World liquid fuels consumption
million barrels per day

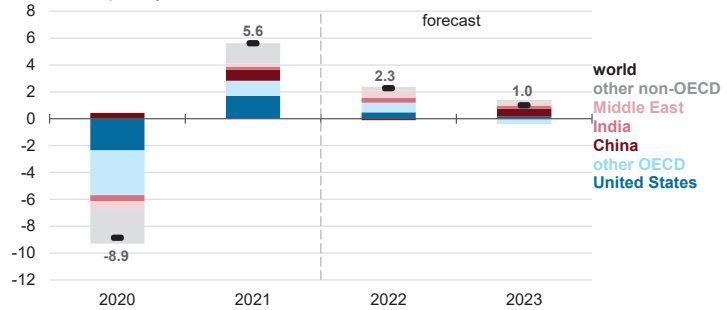


Components of annual change
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

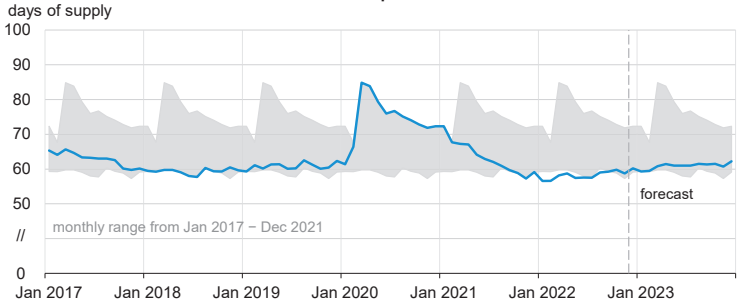
Annual change in world liquid fuels consumption
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids

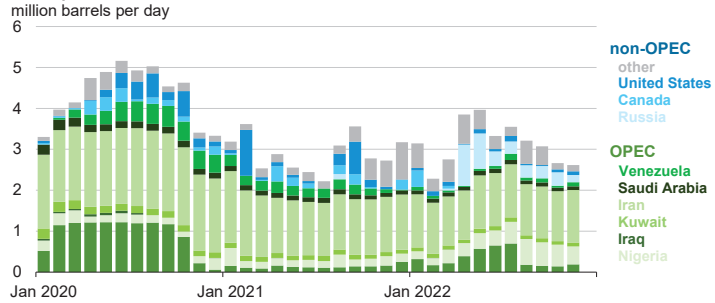
days of supply



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers

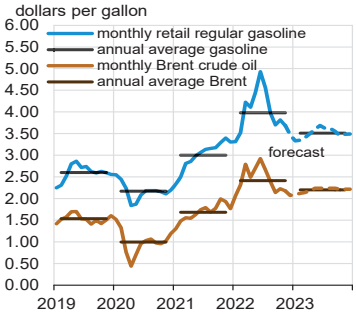
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

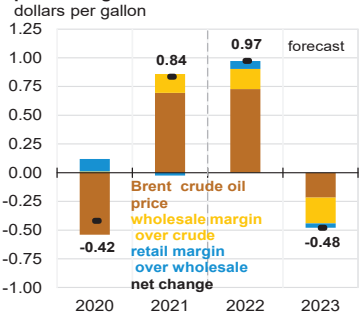
U.S. gasoline and crude oil prices

dollars per gallon

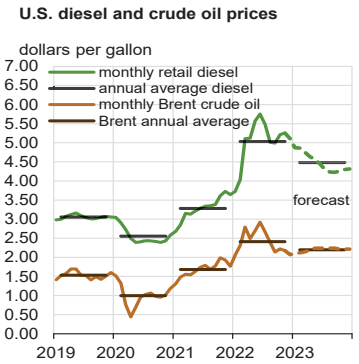


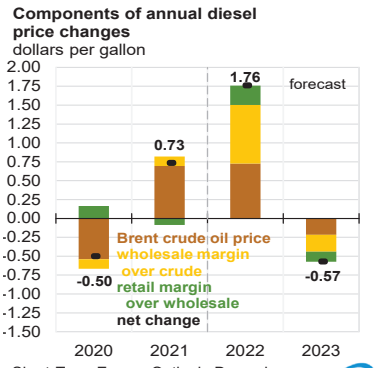
Components of annual gasoline price changes

dollars per gallon

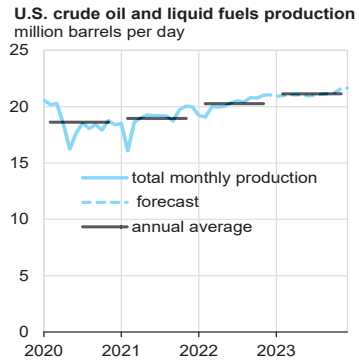


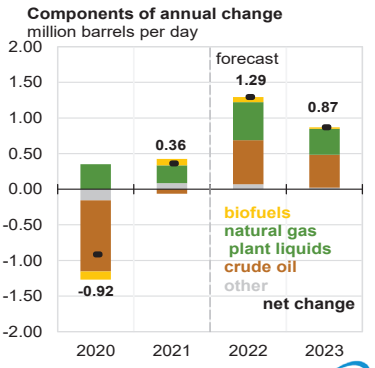
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022, and Refinitiv an LSEG Business



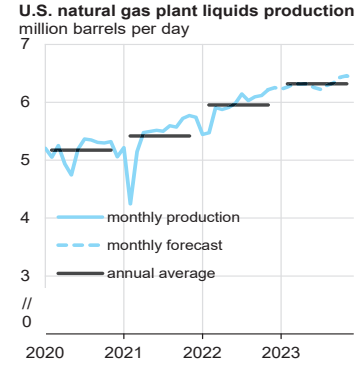


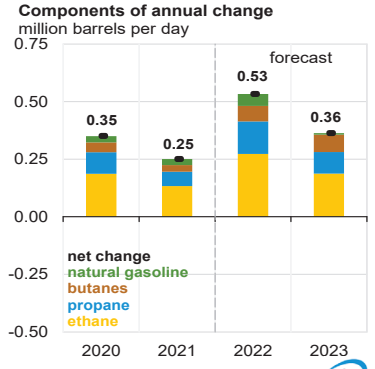
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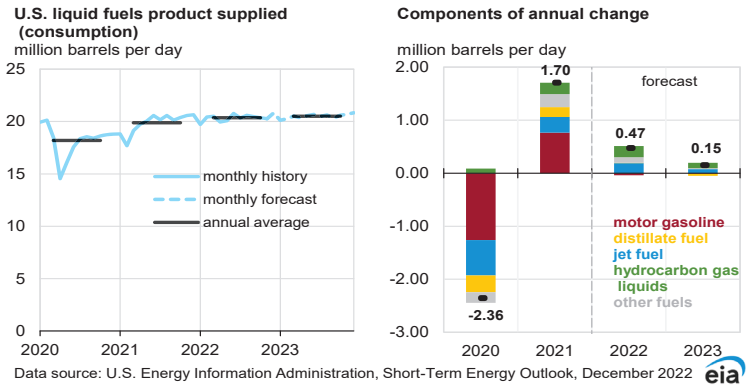


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

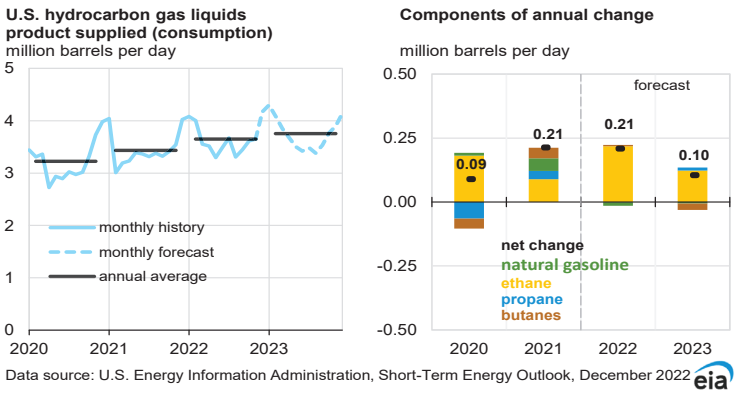




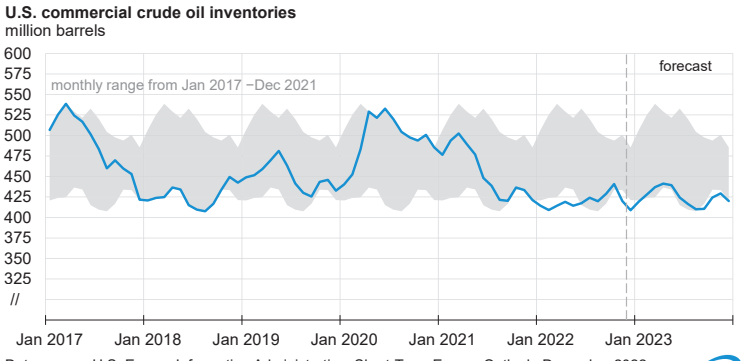
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

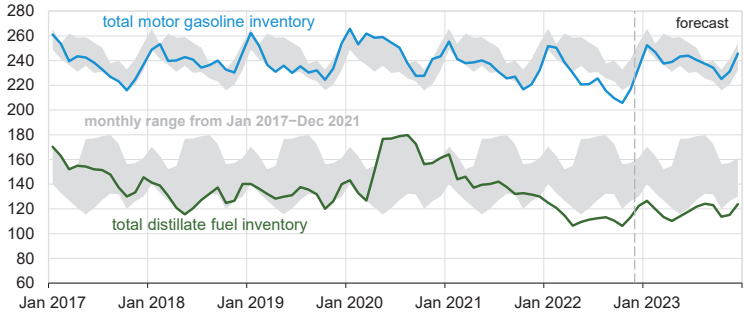


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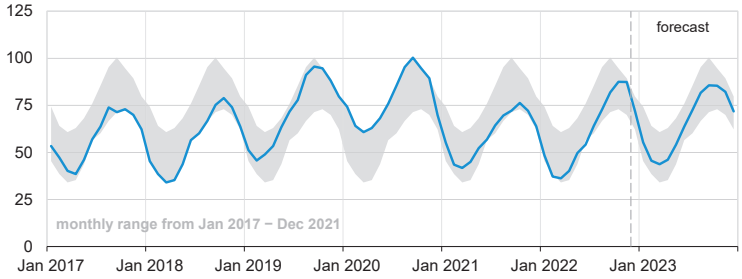
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

U.S. gasoline and distillate inventories
million barrels



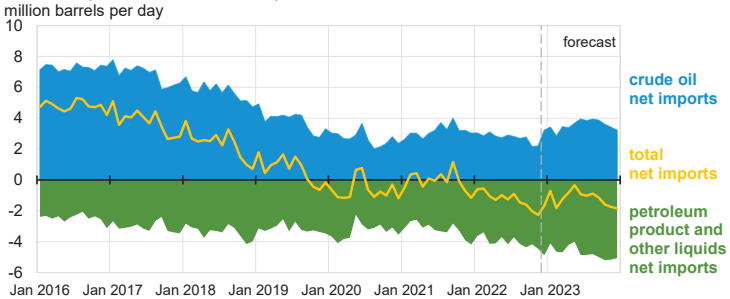
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

U.S. commercial propane inventories
million barrels



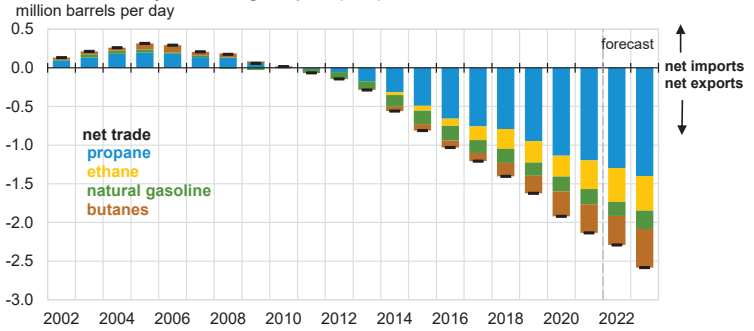
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
Note: Excludes propylene.

U.S. net imports of crude oil and liquid fuels
million barrels per day



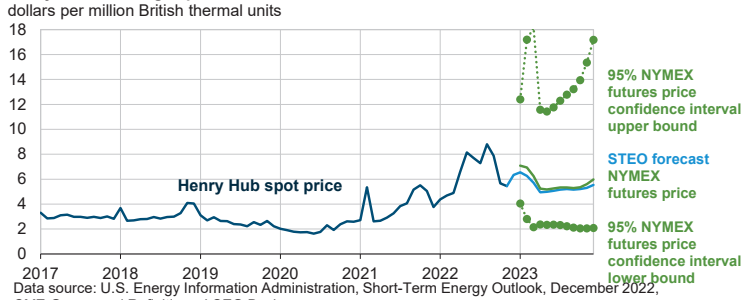
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

U.S. net trade of hydrocarbon gas liquids (HGL)
million barrels per day



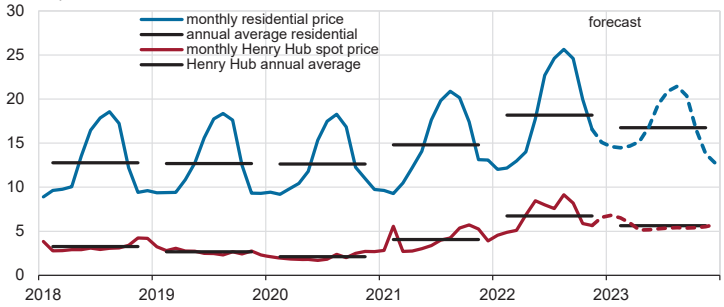
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units

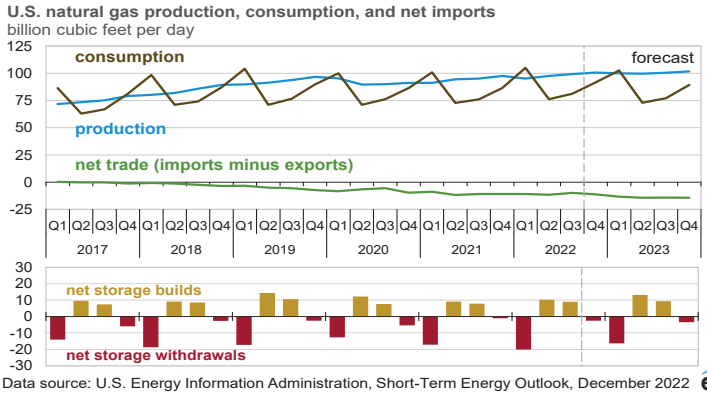


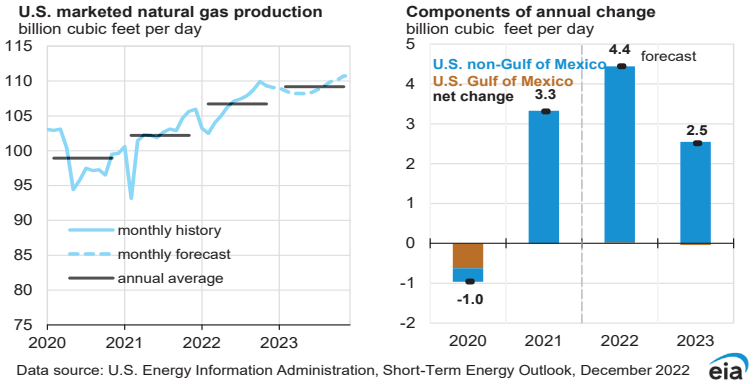
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022, CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending December 1, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

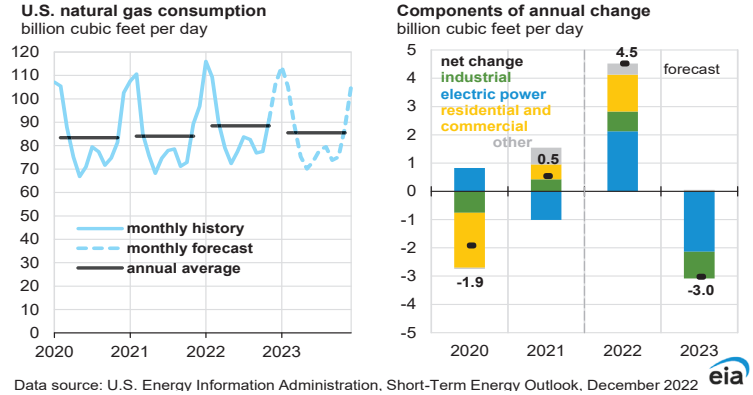
U.S. natural gas prices
dollars per thousand cubic feet

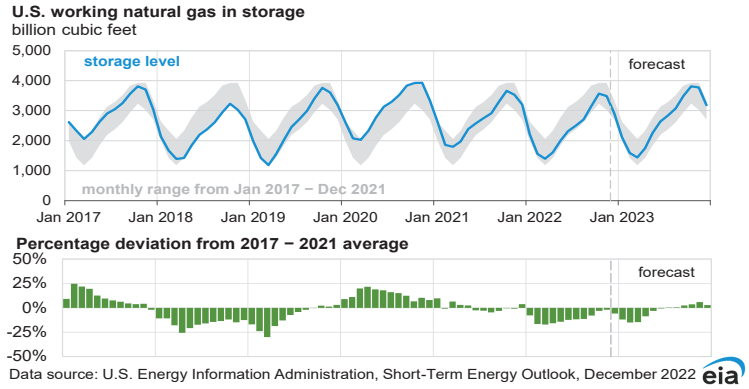


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022, and Refinitiv an LSEG Business

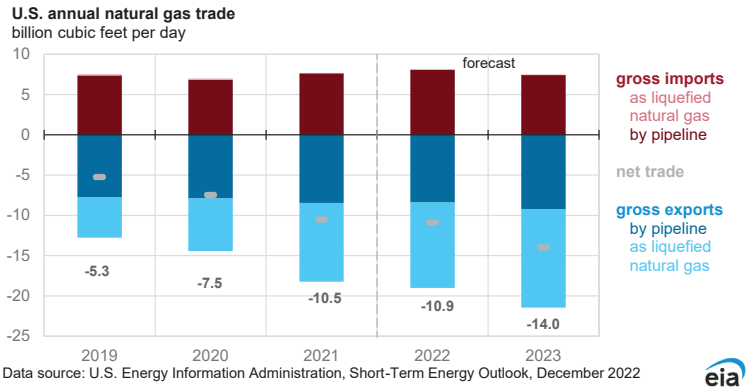

U.S. natural gas production, consumption, and net imports
billion cubic feet per day
consumption
forecast
production
net trade (imports minus exports)
net storage builds
net storage withdrawals
Q1 Q2 Q3 Q4
2017
2018
2019
2020
2021
2022
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
eia


U.S. marketed natural gas production
billion cubic feet per day
monthly history
monthly forecast
annual average
Components of annual change
billion cubic feet per day
U.S. non-Gulf of Mexico
U.S. Gulf of Mexico
net change
forecast
-1.0
3.3
4.4
2.5
2020
2021
2022
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
eia

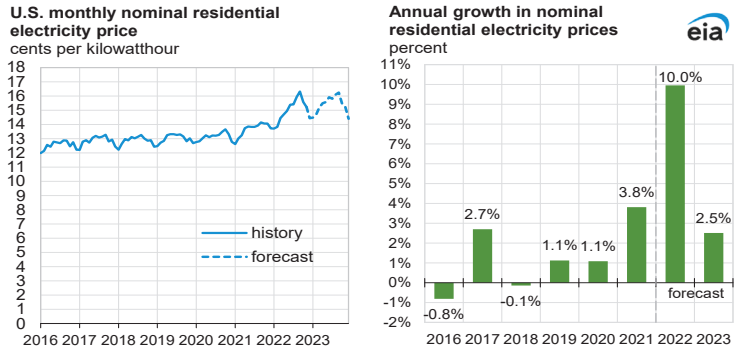

U.S. natural gas consumption
billion cubic feet per day
monthly history
monthly forecast
annual average
Components of annual change
billion cubic feet per day
net change
industrial
electric power
residential and commercial
other
forecast
-1.9
0.5
4.5
-3.0
2020
2021
2022
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
eia



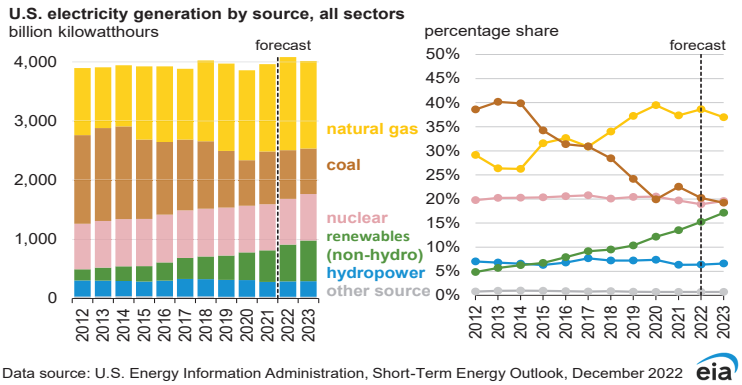
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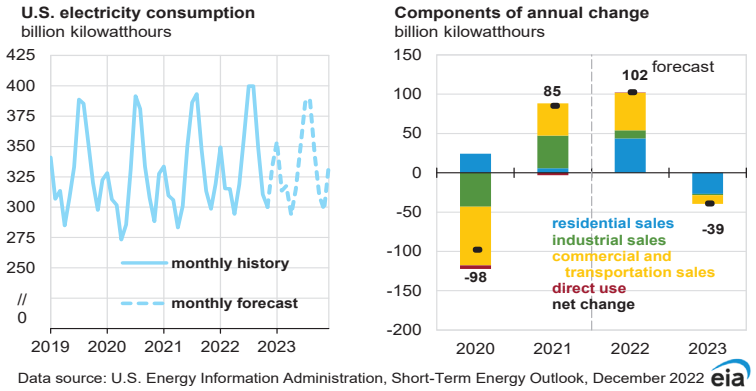
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022



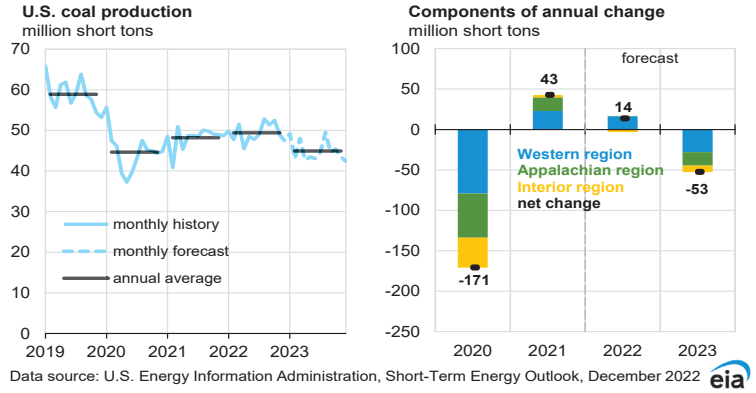
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022



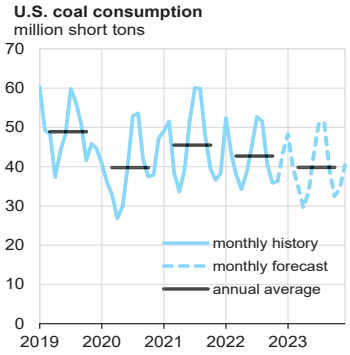
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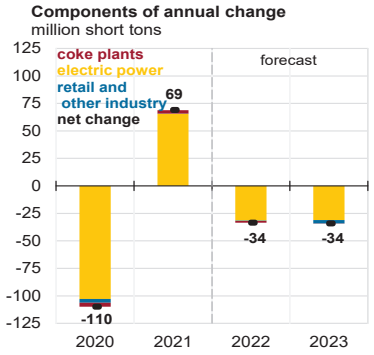


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

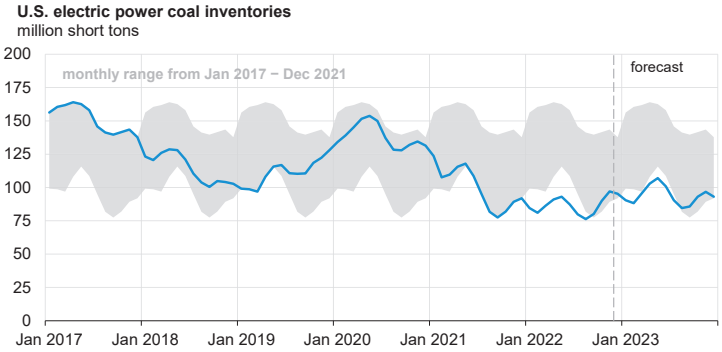


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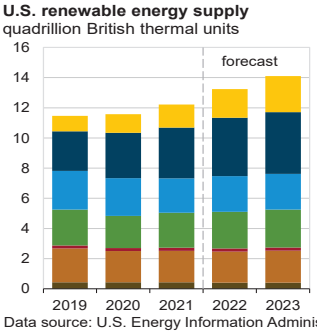


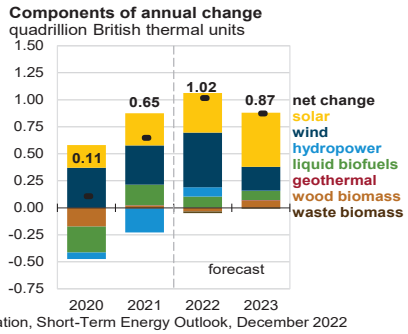


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022



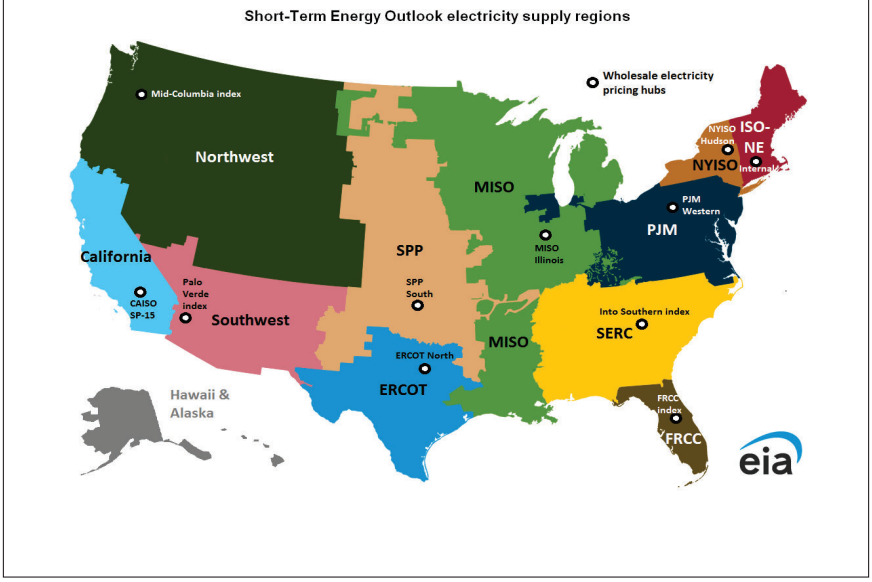
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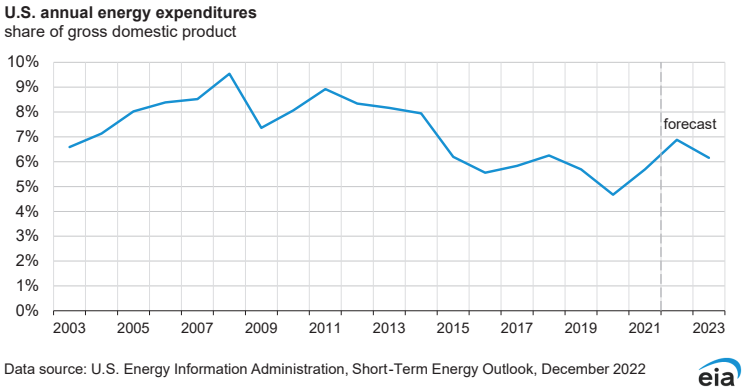


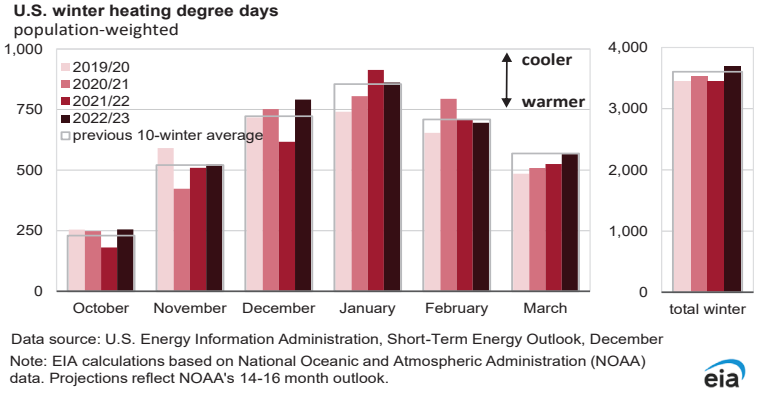


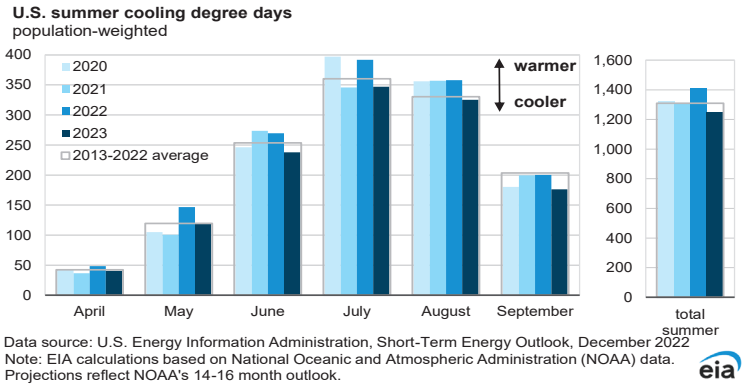
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

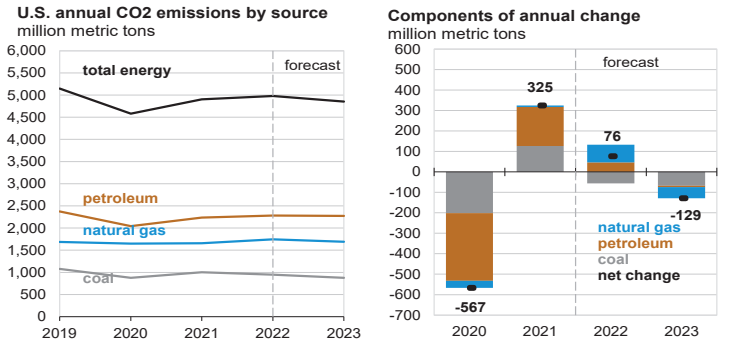

Short-Term Energy Outlook electricity supply regions
Wholesale electricity pricing hubs
Mid-Columbia index
Northwest
California
CAISO SP-15
Palo Verde index
Southwest
SPP
SPP South
MISO
MISO Illinois
MISO
PJM
PJM Western
NYISO
NYISO Hudson
ISO-NE
Internal
Into Southern index
SERC
ERCOT North
ERCOT
Hawaii & Alaska
FRCC index
FRCC
eia


U.S. annual energy expenditures
share of gross domestic product
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
forecast
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
eia


U.S. winter heating degree days
population-weighted
1,000
750
500
250
0
2019/20
2020/21
2021/22
2022/23
previous 10-winter average
cooler
warmer
October
November
December
January
February
March
4,000
3,000
2,000
1,000
0
total winter
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.
eia



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data.
Projections reflect NOAA's 14-16 month outlook.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, December 2022

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.70**	**12.03**	*12.29*	*12.24*	*12.24*	*12.34*	*12.51*	**11.25**	*11.87*	*12.34*
Dry Natural Gas Production															
(billion cubic feet per day)	**91.14**	**94.43**	**95.14**	**97.49**	**95.10**	**97.59**	**99.21**	*100.54*	*99.87*	*99.52*	*100.49*	*101.60*	**94.57**	*98.13*	*100.38*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**149**	**142**	**153**	*149*	*140*	*129*	*139*	*131*	**578**	*593*	*539*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.47**	*20.48*	*20.30*	*20.53*	*20.49*	*20.71*	**19.89**	*20.36*	*20.51*
Natural Gas															
(billion cubic feet per day)	**100.80**	**72.82**	**75.94**	**86.30**	**104.89**	**76.27**	**81.14**	*91.63*	*102.46*	*72.88*	*77.14*	*89.33*	**83.90**	*88.42*	*85.40*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	**118**	**145**	*116*	*122*	*106*	*142*	*107*	**546**	*512*	*478*
Electricity															
(billion kilowatt hours per day)	**10.55**	**10.26**	**12.25**	**10.12**	**10.89**	**10.67**	**12.49**	*10.26*	*10.95*	*10.53*	*12.17*	*10.23*	**10.80**	*11.08*	*10.97*
Renewables (c)															
(quadrillion Btu)	**2.94**	**3.17**	**2.97**	**3.13**	**3.35**	**3.55**	**3.16**	*3.19*	*3.46*	*3.84*	*3.38*	*3.43*	**12.21**	*13.24*	*14.11*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.26**	**23.28**	**24.66**	**24.70**	**26.56**	**23.88**	**25.01**	*25.24*	*26.15*	*23.74*	*24.74*	*25.16*	**97.91**	*100.69*	*99.79*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	**93.07**	*83.91*	*83.03*	*87.40*	*88.00*	*87.00*	**68.21**	*95.22*	*86.36*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	**7.99**	*5.82*	*6.17*	*5.00*	*5.18*	*5.35*	**3.91**	*6.48*	*5.43*
Coal															
(dollars per million Btu)	**1.91**	**1.92**	**2.03**	**2.05**	**2.18**	**2.26**	**2.50**	*2.49*	*2.50*	*2.50*	*2.50*	*2.46*	**1.98**	*2.36*	*2.49*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,216**	**19,544**	**19,673**	**20,006**	**19,924**	**19,895**	**20,022**	*19,997*	*19,911*	*19,914*	*19,984*	*20,080*	**19,610**	*19,960*	*19,972*
Percent change from prior year	**1.2**	**12.5**	**5.0**	**5.7**	**3.7**	**1.8**	**1.8**	*0.0*	*-0.1*	*0.1*	*-0.2*	*0.4*	**5.9**	*1.8*	*0.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**116.2**	**118.0**	**119.8**	**121.8**	**124.2**	**126.9**	**128.2**	*129.4*	*130.4*	*131.3*	*132.2*	*133.1*	**118.9**	*127.2*	*131.8*
Percent change from prior year	**2.4**	**4.4**	**5.0**	**6.1**	**6.9**	**7.6**	**7.0**	*6.3*	*5.0*	*3.5*	*3.1*	*2.9*	**4.5**	*6.9*	*3.6*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,325**	**15,921**	**15,735**	**15,537**	**15,109**	**15,052**	**15,108**	*15,248*	*15,430*	*15,525*	*15,670*	*15,785*	**16,130**	*15,129*	*15,602*
Percent change from prior year	**14.5**	**-4.4**	**-1.5**	**-0.4**	**-12.8**	**-5.5**	**-4.0**	*-1.9*	*2.1*	*3.1*	*3.7*	*3.5*	**1.9**	*-6.2*	*3.1*
Manufacturing Production Index															
(Index, 2017=100)	**96.9**	**98.3**	**99.2**	**100.6**	**101.5**	**102.4**	**102.9**	*103.0*	*102.7*	*102.3*	*102.4*	*103.0*	**98.8**	*102.5*	*102.6*
Percent change from prior year	**-0.8**	**15.8**	**5.1**	**4.5**	**4.8**	**4.2**	**3.8**	*2.4*	*1.2*	*-0.1*	*-0.5*	*0.0*	**5.8**	*3.8*	*0.1*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,307**	**2,148**	**492**	**54**	*1,569*	*2,124*	*494*	*75*	*1,553*	**3,937**	*4,263*	*4,246*
U.S. Cooling Degree-Days	**50**	**410**	**902**	**128**	**46**	**464**	**950**	*91*	*44*	*398*	*849*	*93*	**1,490**	*1,552*	*1,384*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	**108.93**	**93.07**	*83.91*	*83.03*	*87.40*	*88.00*	*87.00*	**68.21**	*95.22*	*86.36*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	**113.84**	**100.53**	*90.55*	*89.03*	*93.40*	*94.00*	*93.00*	**70.89**	*101.48*	*92.36*
U.S. Imported Average	**55.29**	**64.75**	**68.42**	**73.66**	**89.85**	**107.23**	**93.02**	*80.65*	*80.25*	*84.64*	*85.25*	*84.25*	**65.92**	*92.93*	*83.73*
U.S. Refiner Average Acquisition Cost	**57.14**	**66.11**	**70.31**	**76.36**	**92.62**	**109.86**	**95.66**	*83.39*	*82.51*	*86.86*	*87.50*	*86.50*	**67.83**	*95.36*	*85.91*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**278**	**376**	**311**	*269*	*244*	*277*	*276*	*262*	**219**	*309*	*265*
Diesel Fuel	**178**	**204**	**219**	**241**	**301**	**418**	**356**	*368*	*332*	*323*	*307*	*309*	**211**	*362*	*318*
Fuel Oil	**162**	**180**	**197**	**222**	**284**	**419**	**343**	*372*	*327*	*319*	*300*	*304*	**188**	*357*	*321*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**283**	**400**	**340**	*329*	*300*	*296*	*292*	*288*	**195**	*340*	*294*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**252**	**258**	**228**	*201*	*210*	*218*	*223*	*222*	**190**	*235*	*218*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**371**	**450**	**408**	*366*	*336*	*360*	*360*	*347*	**302**	*399*	*351*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	**460**	**419**	*378*	*349*	*373*	*373*	*361*	**311**	*410*	*365*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**432**	**549**	**516**	*519*	*482*	*455*	*426*	*429*	**329**	*505*	*448*
Heating Oil	**272**	**283**	**297**	**346**	**415**	**555**	**497**	*524*	*475*	*444*	*409*	*424*	**300**	*475*	*448*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	**8.30**	*6.04*	*6.42*	*5.20*	*5.38*	*5.56*	**4.06**	*6.74*	*5.64*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	**7.48**	**7.99**	*5.82*	*6.17*	*5.00*	*5.18*	*5.35*	**3.91**	*6.48*	*5.43*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.77**	**4.13**	**5.09**	**6.82**	**6.82**	**8.24**	**9.26**	*7.72*	*7.98*	*6.44*	*6.25*	*6.61*	**5.50**	*7.95*	*6.85*
Commercial Sector	**7.54**	**8.86**	**10.14**	**10.27**	**10.00**	**11.71**	**14.10**	*12.59*	*11.66*	*11.47*	*11.31*	*10.16*	**8.81**	*11.50*	*11.13*
Residential Sector	**9.71**	**13.82**	**20.27**	**13.71**	**12.32**	**16.57**	**24.94**	*16.33*	*14.58*	*16.54*	*20.87*	*13.68*	**12.21**	*15.04*	*15.06*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.92**	**2.03**	**2.05**	**2.18**	**2.26**	**2.50**	*2.49*	*2.50*	*2.50*	*2.50*	*2.46*	**1.98**	*2.36*	*2.49*
Natural Gas	**7.80**	**3.31**	**4.48**	**5.70**	**5.95**	**7.39**	**8.23**	*6.29*	*6.80*	*5.26*	*5.40*	*5.75*	**5.20**	*7.11*	*5.76*
Residual Fuel Oil (c)	**11.29**	**13.08**	**14.22**	**16.12**	**16.81**	**26.17**	**26.53**	*19.99*	*18.15*	*18.62*	*17.87*	*17.60*	**13.67**	*21.60*	*18.05*
Distillate Fuel Oil	**13.25**	**15.67**	**16.27**	**18.13**	**21.23**	**30.70**	**26.79**	*27.76*	*25.37*	*24.69*	*23.47*	*23.58*	**15.62**	*25.65*	*24.40*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.00**	**6.86**	**7.52**	**7.29**	**7.42**	**8.41**	**9.42**	*7.86*	*7.71*	*8.24*	*9.13*	*7.76*	**7.18**	*8.30*	*8.23*
Commercial Sector	**10.89**	**11.04**	**11.54**	**11.32**	**11.63**	**12.34**	**13.37**	*12.14*	*12.30*	*12.74*	*13.55*	*12.03*	**11.22**	*12.42*	*12.69*
Residential Sector	**12.94**	**13.81**	**13.95**	**13.94**	**13.97**	**15.05**	**15.85**	*15.03*	*14.76*	*15.68*	*16.04*	*14.98*	**13.66**	*15.02*	*15.39*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.25**	**30.84**	**31.13**	**32.23**	**31.62**	**31.87**	**32.50**	*33.37*	*33.72*	*33.44*	*33.61*	*34.38*	**31.12**	*32.34*	*33.79*
U.S. (50 States)	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	**20.57**	*20.94*	*20.98*	*21.01*	*21.09*	*21.49*	**18.98**	*20.27*	*21.14*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.51**	**5.71**	*5.92*	*5.98*	*5.69*	*5.90*	*6.11*	**5.54**	*5.70*	*5.92*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	**1.89**	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
Other OECD	**4.91**	**4.37**	**4.72**	**4.71**	**4.61**	**4.35**	**4.33**	*4.65*	*4.86*	*4.88*	*4.80*	*4.99*	**4.68**	*4.48*	*4.88*
Non-OECD	**62.56**	**63.98**	**65.60**	**66.11**	**67.21**	**66.87**	**68.52**	*67.92*	*67.01*	*67.14*	*67.84*	*67.08*	**64.57**	*67.64*	*67.27*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.76**	**34.71**	*34.21*	*34.26*	*34.59*	*34.78*	*34.42*	**31.66**	*34.11*	*34.52*
Crude Oil Portion	**25.07**	**25.49**	**26.84**	**27.67**	**28.19**	**28.33**	**29.24**	*28.69*	*28.67*	*29.13*	*29.28*	*28.89*	**26.28**	*28.61*	*29.00*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Eurasia	**13.42**	**13.65**	**13.63**	**14.27**	**14.39**	**13.39**	**13.58**	*13.87*	*13.09*	*12.14*	*12.40*	*12.48*	**13.74**	*13.81*	*12.52*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.18**	**5.11**	*5.15*	*5.21*	*5.24*	*5.23*	*5.27*	**4.99**	*5.15*	*5.24*
Other Non-OECD	**13.80**	**14.41**	**14.69**	**13.80**	**13.90**	**14.54**	**15.11**	*14.69*	*14.45*	*15.18*	*15.43*	*14.91*	**14.18**	*14.56*	*15.00*
Total World Production	**92.81**	**94.82**	**96.74**	**98.33**	**98.83**	**98.75**	**101.02**	*101.29*	*100.73*	*100.58*	*101.45*	*101.46*	**95.70**	*99.98*	*101.06*
Non-OPEC Production	**62.48**	**63.94**	**64.46**	**65.23**	**65.08**	**64.98**	**66.30**	*67.08*	*66.47*	*65.99*	*66.67*	*67.04*	**64.03**	*65.87*	*66.54*
Consumption (million barrels per day) (c)															
OECD	**42.58**	**44.13**	**45.87**	**46.89**	**45.84**	**45.45**	**46.46**	*46.54*	*46.24*	*45.21*	*45.72*	*46.14*	**44.88**	*46.08*	*45.83*
U.S. (50 States)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.47**	*20.48*	*20.30*	*20.53*	*20.49*	*20.71*	**19.89**	*20.36*	*20.51*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	**0.20**	**0.20**	*0.21*	*0.21*	*0.19*	*0.20*	*0.21*	**0.20**	*0.21*	*0.20*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.25**	**2.21**	**2.41**	*2.33*	*2.27*	*2.22*	*2.32*	*2.30*	**2.28**	*2.30*	*2.28*
Europe	**11.95**	**12.66**	**13.88**	**13.94**	**13.15**	**13.43**	**13.92**	*13.83*	*13.56*	*13.18*	*13.58*	*13.34*	**13.12**	*13.58*	*13.42*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**3.03**	**3.19**	*3.51*	*3.69*	*3.05*	*3.07*	*3.37*	**3.41**	*3.36*	*3.29*
Other OECD	**5.89**	**5.93**	**5.90**	**6.23**	**6.30**	**6.33**	**6.28**	*6.18*	*6.20*	*6.04*	*6.07*	*6.21*	**5.99**	*6.27*	*6.13*
Non-OECD	**51.94**	**52.54**	**52.73**	**53.48**	**53.26**	**53.56**	**54.05**	*54.08*	*54.92*	*55.35*	*55.01*	*54.67*	**52.68**	*53.74*	*54.99*
Eurasia	**4.57**	**4.63**	**4.98**	**4.84**	**4.49**	**4.36**	**4.71**	*4.65*	*4.25*	*4.40*	*4.72*	*4.63*	**4.76**	*4.55*	*4.50*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.76**	**0.76**	**0.76**	*0.77*	*0.74*	*0.76*	*0.77*	*0.77*	**0.75**	*0.76*	*0.76*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.13**	**15.11**	**15.10**	*15.29*	*16.14*	*16.07*	*15.45*	*15.37*	**15.27**	*15.16*	*15.76*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.82**	**13.83**	**13.51**	*13.89*	*14.35*	*14.32*	*13.75*	*14.04*	**13.23**	*13.76*	*14.11*
Other Non-OECD	**17.93**	**18.71**	**19.18**	**18.86**	**19.06**	**19.50**	**19.96**	*19.48*	*19.43*	*19.79*	*20.33*	*19.85*	**18.68**	*19.50*	*19.86*
Total World Consumption	**94.52**	**96.67**	**98.59**	**100.37**	**99.10**	**99.02**	**100.51**	*100.62*	*101.16*	*100.57*	*100.73*	*100.81*	**97.56**	*99.82*	*100.82*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.36**	**0.51**	**0.37**	**0.83**	**0.81**	**0.51**	**0.45**	*0.83*	*-0.03*	*-0.36*	*-0.10*	*0.45*	**0.52**	*0.65*	*-0.01*
Other OECD	**0.88**	**0.14**	**0.91**	**0.73**	**-0.09**	**-0.29**	**-0.52**	*-0.49*	*0.15*	*0.11*	*-0.20*	*-0.35*	**0.66**	*-0.35*	*-0.07*
Other Stock Draws and Balance	**0.46**	**1.20**	**0.58**	**0.48**	**-0.44**	**0.05**	**-0.44**	*-1.01*	*0.32*	*0.24*	*-0.43*	*-0.75*	**0.68**	*-0.46*	*-0.16*
Total Stock Draw	**1.71**	**1.85**	**1.85**	**2.04**	**0.27**	**0.27**	**-0.51**	*-0.67*	*0.43*	*-0.01*	*-0.72*	*-0.65*	**1.86**	*-0.16*	*-0.24*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,311**	**1,281**	**1,251**	**1,199**	**1,154**	**1,180**	**1,215**	*1,184*	*1,188*	*1,236*	*1,251*	*1,219*	**1,199**	*1,184*	*1,219*
OECD Commercial Inventory	**2,916**	**2,873**	**2,759**	**2,640**	**2,604**	**2,656**	**2,739**	*2,753*	*2,744*	*2,782*	*2,814*	*2,816*	**2,640**	*2,753*	*2,816*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.34**	**26.47**	**26.42**	**27.51**	**27.01**	**27.52**	**28.17**	*28.72*	*28.86*	*28.56*	*28.81*	*29.39*	**26.44**	*27.86*	*28.91*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.51**	**5.71**	*5.92*	*5.98*	*5.69*	*5.90*	*6.11*	**5.54**	*5.70*	*5.92*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	**1.89**	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
United States	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	**20.57**	*20.94*	*20.98*	*21.01*	*21.09*	*21.49*	**18.98**	*20.27*	*21.14*
Central and South America	**5.64**	**6.29**	**6.69**	**5.79**	**5.83**	**6.41**	**7.00**	*6.60*	*6.33*	*7.08*	*7.37*	*6.88*	**6.10**	*6.47*	*6.92*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.77**	**0.78**	**0.79**	*0.81*	*0.85*	*0.86*	*0.87*	*0.90*	**0.70**	*0.79*	*0.87*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.33**	**3.79**	**4.28**	*3.82*	*3.49*	*4.22*	*4.52*	*3.98*	**3.69**	*3.81*	*4.05*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.77**	**0.77**	**0.78**	*0.79*	*0.77*	*0.77*	*0.78*	*0.77*	**0.76**	*0.78*	*0.77*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.48**	**0.47**	**0.49**	*0.51*	*0.52*	*0.52*	*0.53*	*0.53*	**0.48**	*0.49*	*0.52*
Other Central and S. America	**0.48**	**0.46**	**0.49**	**0.46**	**0.49**	**0.60**	**0.67**	*0.68*	*0.71*	*0.71*	*0.68*	*0.70*	**0.47**	*0.61*	*0.70*
Europe	**4.33**	**3.83**	**4.12**	**4.11**	**4.04**	**3.76**	**3.83**	*4.11*	*4.31*	*4.34*	*4.27*	*4.46*	**4.10**	*3.94*	*4.35*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.97**	**1.74**	**1.91**	*2.04*	*2.26*	*2.28*	*2.29*	*2.37*	**2.03**	*1.92*	*2.30*
United Kingdom	**1.07**	**0.81**	**0.93**	**0.93**	**0.97**	**0.91**	**0.80**	*0.94*	*0.93*	*0.92*	*0.84*	*0.93*	**0.94**	*0.90*	*0.91*
Eurasia	**13.42**	**13.65**	**13.63**	**14.27**	**14.39**	**13.39**	**13.58**	*13.87*	*13.09*	*12.14*	*12.40*	*12.48*	**13.74**	*13.81*	*12.52*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	**0.67**	**0.65**	*0.65*	*0.65*	*0.63*	*0.63*	*0.64*	**0.72**	*0.67*	*0.64*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**2.01**	**1.77**	**1.62**	*1.90*	*2.02*	*1.95*	*1.95*	*2.02*	**1.86**	*1.82*	*1.99*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	**10.59**	**10.92**	*10.92*	*10.01*	*9.14*	*9.41*	*9.41*	**10.78**	*10.93*	*9.49*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.26**	**0.26**	*0.26*	*0.27*	*0.27*	*0.27*	*0.27*	**0.25**	*0.26*	*0.27*
Other Eurasia	**0.13**	**0.14**	**0.14**	**0.13**	**0.14**	**0.11**	**0.13**	*0.14*	*0.14*	*0.14*	*0.13*	*0.13*	**0.13**	*0.13*	*0.14*
Middle East	**3.09**	**3.12**	**3.16**	**3.17**	**3.23**	**3.29**	**3.29**	*3.23*	*3.23*	*3.23*	*3.22*	*3.22*	**3.13**	*3.26*	*3.22*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.05**	**1.07**	**1.10**	*1.08*	*1.06*	*1.06*	*1.06*	*1.06*	**0.98**	*1.07*	*1.06*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.85**	**1.86**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.03**	**8.96**	**9.16**	**9.17**	**8.99**	*9.11*	*9.21*	*9.21*	*9.17*	*9.20*	**9.07**	*9.11*	*9.20*
Australia	**0.46**	**0.42**	**0.47**	**0.49**	**0.44**	**0.47**	**0.39**	*0.43*	*0.43*	*0.43*	*0.42*	*0.42*	**0.46**	*0.43*	*0.42*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.18**	**5.11**	*5.15*	*5.21*	*5.24*	*5.23*	*5.27*	**4.99**	*5.15*	*5.24*
India	**0.90**	**0.90**	**0.89**	**0.88**	**0.88**	**0.89**	**0.89**	*0.88*	*0.90*	*0.90*	*0.89*	*0.88*	**0.89**	*0.89*	*0.89*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.84**	**0.83**	**0.81**	*0.82*	*0.81*	*0.81*	*0.80*	*0.79*	**0.86**	*0.82*	*0.80*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.61**	**0.60**	**0.58**	*0.62*	*0.63*	*0.62*	*0.61*	*0.61*	**0.61**	*0.60*	*0.62*
Vietnam	**0.21**	**0.21**	**0.20**	**0.21**	**0.21**	**0.20**	**0.20**	*0.19*	*0.18*	*0.18*	*0.18*	*0.18*	**0.21**	*0.20*	*0.18*
Africa	**1.48**	**1.47**	**1.41**	**1.41**	**1.41**	**1.44**	**1.44**	*1.43*	*1.44*	*1.44*	*1.42*	*1.42*	**1.44**	*1.43*	*1.43*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.66**	**0.68**	**0.67**	*0.66*	*0.68*	*0.67*	*0.67*	*0.68*	**0.66**	*0.66*	*0.68*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	**0.15**	**0.16**	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**62.48**	**63.94**	**64.46**	**65.23**	**65.08**	**64.98**	**66.30**	*67.08*	*66.47*	*65.99*	*66.67*	*67.04*	**64.03**	*65.87*	*66.54*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Non-OPEC + OPEC non-crude	**67.74**	**69.33**	**69.90**	**70.67**	**70.64**	**70.42**	**71.78**	*72.60*	*72.06*	*71.45*	*72.17*	*72.57*	**69.42**	*71.37*	*72.06*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.86**	**0.76**	**1.31**	**0.78**	-	-	-	-	-	**0.70**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.86**	**0.88**	**0.92**	**0.95**	**0.97**	**1.00**	**1.02**	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	**1.19**	**1.16**	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	**0.29**	**0.29**	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	**0.09**	**0.09**	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	**0.19**	**0.20**	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	**2.53**	**2.53**	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	**4.42**	**4.55**	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	**2.69**	**2.80**	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	**0.76**	**0.95**	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	**1.11**	**0.97**	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	**10.30**	**10.85**	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	**3.04**	**3.17**	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	**0.72**	**0.66**	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.07**	**25.49**	**26.84**	**27.67**	**28.19**	**28.33**	**29.24**	*28.69*	*28.67*	*29.13*	*29.28*	*28.89*	**26.28**	*28.61*	*29.00*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.76**	**34.71**	*34.21*	*34.26*	*34.59*	*34.78*	*34.42*	**31.66**	*34.11*	*34.52*
Crude Oil Production Capacity															
Middle East	**25.21**	**25.50**	**25.50**	**25.48**	**25.48**	**25.46**	**25.55**	*25.63*	*25.90*	*26.03*	*26.03*	*26.03*	**25.42**	*25.53*	*26.00*
Other	**6.12**	**6.10**	**5.96**	**5.98**	**5.83**	**5.45**	**5.35**	*5.52*	*5.70*	*5.96*	*5.94*	*5.91*	**6.04**	*5.54*	*5.88*
OPEC Total	**31.33**	**31.59**	**31.45**	**31.46**	**31.31**	**30.92**	**30.90**	*31.16*	*31.60*	*31.99*	*31.97*	*31.94*	**31.46**	*31.07*	*31.88*
Surplus Crude Oil Production Capacity															
Middle East	**5.66**	**5.52**	**4.21**	**3.53**	**3.00**	**2.48**	**1.66**	*2.45*	*2.90*	*2.83*	*2.66*	*3.03*	**4.72**	*2.39*	*2.85*
Other	**0.59**	**0.59**	**0.40**	**0.27**	**0.12**	**0.11**	**0.01**	*0.02*	*0.03*	*0.03*	*0.03*	*0.03*	**0.46**	*0.06*	*0.03*
OPEC Total	**6.25**	**6.10**	**4.61**	**3.80**	**3.12**	**2.59**	**1.67**	*2.46*	*2.93*	*2.86*	*2.69*	*3.06*	**5.18**	*2.46*	*2.88*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	**2.42**	**2.50**	-	-	-	-	-	**2.20**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.40**	**23.95**	**24.34**	**24.60**	**24.24**	**24.47**	**24.76**	*24.52*	*24.29*	*24.50*	*24.55*	*24.77*	**23.83**	*24.50*	*24.53*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.25**	**2.21**	**2.41**	*2.33*	*2.27*	*2.22*	*2.32*	*2.30*	**2.28**	*2.30*	*2.28*
Mexico	**1.63**	**1.66**	**1.61**	**1.72**	**1.76**	**1.99**	**1.88**	*1.70*	*1.71*	*1.74*	*1.74*	*1.75*	**1.65**	*1.83*	*1.73*
United States	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.47**	*20.48*	*20.30*	*20.53*	*20.49*	*20.71*	**19.89**	*20.36*	*20.51*
Central and South America	**6.09**	**6.17**	**6.34**	**6.34**	**6.27**	**6.40**	**6.51**	*6.53*	*6.28*	*6.41*	*6.51*	*6.45*	**6.24**	*6.43*	*6.41*
Brazil	**2.79**	**2.86**	**2.95**	**2.95**	**2.85**	**2.93**	**3.02**	*3.02*	*2.88*	*2.94*	*3.01*	*3.00*	**2.89**	*2.95*	*2.96*
Europe	**12.69**	**13.41**	**14.62**	**14.70**	**13.91**	**14.19**	**14.68**	*14.60*	*14.31*	*13.94*	*14.34*	*14.11*	**13.86**	*14.35*	*14.18*
Eurasia	**4.57**	**4.63**	**4.98**	**4.84**	**4.49**	**4.36**	**4.71**	*4.65*	*4.25*	*4.40*	*4.72*	*4.63*	**4.76**	*4.55*	*4.50*
Russia	**3.34**	**3.42**	**3.70**	**3.56**	**3.34**	**3.27**	**3.54**	*3.45*	*3.16*	*3.24*	*3.53*	*3.39*	**3.51**	*3.40*	*3.33*
Middle East	**8.13**	**8.80**	**9.26**	**8.76**	**8.99**	**9.30**	**9.74**	*9.08*	*9.26*	*9.45*	*9.99*	*9.39*	**8.74**	*9.28*	*9.52*
Asia and Oceania	**36.28**	**35.34**	**34.78**	**36.67**	**36.69**	**35.79**	**35.70**	*36.71*	*38.20*	*37.27*	*36.11*	*36.78*	**35.76**	*36.22*	*37.09*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.13**	**15.11**	**15.10**	*15.29*	*16.14*	*16.07*	*15.45*	*15.37*	**15.27**	*15.16*	*15.76*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**3.03**	**3.19**	*3.51*	*3.69*	*3.05*	*3.07*	*3.37*	**3.41**	*3.36*	*3.29*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.08**	**5.06**	**4.80**	*5.05*	*5.25*	*5.32*	*4.96*	*5.28*	**4.65**	*5.00*	*5.20*
Africa	**4.36**	**4.38**	**4.28**	**4.47**	**4.51**	**4.50**	**4.40**	*4.53*	*4.58*	*4.59*	*4.51*	*4.67*	**4.37**	*4.49*	*4.59*
Total OECD Liquid Fuels Consumption	**42.58**	**44.13**	**45.87**	**46.89**	**45.84**	**45.45**	**46.46**	*46.54*	*46.24*	*45.21*	*45.72*	*46.14*	**44.88**	*46.08*	*45.83*
Total non-OECD Liquid Fuels Consumption	**51.94**	**52.54**	**52.73**	**53.48**	**53.26**	**53.56**	**54.05**	*54.08*	*54.92*	*55.35*	*55.01*	*54.67*	**52.68**	*53.74*	*54.99*
Total World Liquid Fuels Consumption	**94.52**	**96.67**	**98.59**	**100.37**	**99.10**	**99.02**	**100.51**	*100.62*	*101.16*	*100.57*	*100.73*	*100.81*	**97.56**	*99.82*	*100.82*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.5**	**117.8**	**119.2**	**120.8**	**121.5**	**121.9**	**122.8**	*123.1*	*123.4*	*123.9*	*124.8*	*125.9*	**118.6**	*122.3*	*124.5*
Percent change from prior year	**3.5**	**11.6**	**5.2**	**4.8**	**4.3**	**3.5**	**3.0**	*1.9*	*1.5*	*1.6*	*1.6*	*2.3*	**6.2**	*3.2*	*1.8*
OECD Index, 2015 = 100													**109.9**	*112.9*	*112.9*
Percent change from prior year													**5.6**	*2.8*	*0.0*
Non-OECD Index, 2015 = 100													**123.9**	*128.3*	*132.3*
Percent change from prior year													**6.6**	*3.5*	*3.2*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**109.6**	**113.0**	**117.3**	*121.4*	*121.8*	*121.7*	*121.5*	*121.2*	**107.3**	*115.3*	*121.6*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**2.9**	**6.5**	**9.1**	*11.3*	*11.2*	*7.7*	*3.6*	*-0.1*	**-3.9**	*7.5*	*5.4*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.70**	**12.03**	*12.29*	*12.24*	*12.24*	*12.34*	*12.51*	**11.25**	*11.87*	*12.34*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	**0.44**	**0.42**	*0.44*	*0.43*	*0.37*	*0.39*	*0.41*	**0.44**	*0.44*	*0.40*
Federal Gulf of Mexico (b)	**1.83**	**1.80**	**1.49**	**1.71**	**1.67**	**1.70**	**1.80**	*1.83*	*1.84*	*1.81*	*1.73*	*1.72*	**1.71**	*1.75*	*1.77*
Lower 48 States (excl GOM)	**8.54**	**9.10**	**9.29**	**9.50**	**9.35**	**9.56**	**9.80**	*10.02*	*9.96*	*10.06*	*10.23*	*10.39*	**9.11**	*9.69*	*10.16*
Crude Oil Net Imports (c)	**2.88**	**2.94**	**3.64**	**3.13**	**3.00**	**2.81**	**2.75**	*2.52*	*3.24*	*3.65*	*3.88*	*3.41*	**3.15**	*2.77*	*3.55*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	**0.80**	**0.84**	*0.50*	*0.01*	*0.17*	*0.06*	*0.11*	**0.12**	*0.61*	*0.09*
Commercial Inventory Net Withdrawals	**-0.19**	**0.60**	**0.30**	**-0.01**	**0.08**	**-0.03**	**-0.12**	*0.22*	*-0.31*	*0.14*	*0.15*	*-0.10*	**0.18**	*0.03*	*-0.03*
Crude Oil Adjustment (d)	**0.30**	**0.59**	**0.44**	**0.44**	**0.71**	**0.81**	**0.77**	*0.69*	*0.59*	*0.58*	*0.51*	*0.50*	**0.44**	*0.74*	*0.54*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	**16.26**	*16.22*	*15.77*	*16.78*	*16.94*	*16.43*	**15.15**	*16.03*	*16.48*
Other Supply															
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	**1.05**	*0.99*	*1.05*	*1.03*	*1.03*	*1.05*	**0.96**	*1.02*	*1.04*
Natural Gas Plant Liquids Production	**4.89**	**5.50**	**5.56**	**5.74**	**5.61**	**5.92**	**6.09**	*6.20*	*6.27*	*6.30*	*6.28*	*6.43*	**5.42**	*5.96*	*6.32*
Renewables and Oxygenate Production (e)	**1.04**	**1.13**	**1.11**	**1.24**	**1.19**	**1.20**	**1.17**	*1.24*	*1.20*	*1.22*	*1.21*	*1.27*	**1.13**	*1.20*	*1.23*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	**1.01**	**0.97**	*1.03*	*0.99*	*0.99*	*0.98*	*1.01*	**0.98**	*1.01*	*0.99*
Petroleum Products Adjustment (f)	**0.20**	**0.22**	**0.22**	**0.23**	**0.22**	**0.23**	**0.23**	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.23*	*0.22*
Product Net Imports (c)	**-2.79**	**-3.07**	**-3.19**	**-3.79**	**-3.74**	**-3.99**	**-4.07**	*-4.51*	*-4.48*	*-4.35*	*-4.89*	*-5.14*	**-3.21**	*-4.08*	*-4.72*
Hydrocarbon Gas Liquids	**-1.95**	**-2.25**	**-2.15**	**-2.18**	**-2.14**	**-2.31**	**-2.16**	*-2.55*	*-2.58*	*-2.54*	*-2.61*	*-2.61*	**-2.14**	*-2.29*	*-2.59*
Unfinished Oils	**0.18**	**0.30**	**0.25**	**0.10**	**0.09**	**0.25**	**0.28**	*0.25*	*0.23*	*0.27*	*0.38*	*0.19*	**0.21**	*0.22*	*0.27*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.05**	**-0.09**	**-0.10**	**-0.07**	*-0.05*	*-0.07*	*-0.05*	*-0.04*	*-0.04*	**-0.05**	*-0.08*	*-0.05*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.67**	**0.43**	**0.40**	**0.60**	**0.48**	*0.36*	*0.42*	*0.67*	*0.36*	*0.40*	**0.61**	*0.46*	*0.46*
Finished Motor Gasoline	**-0.64**	**-0.64**	**-0.68**	**-0.88**	**-0.76**	**-0.73**	**-0.81**	*-0.87*	*-0.83*	*-0.81*	*-0.97*	*-1.11*	**-0.71**	*-0.79*	*-0.93*
Jet Fuel	**0.03**	**0.08**	**0.08**	**0.01**	**-0.04**	**-0.06**	**-0.11**	*-0.04*	*0.00*	*0.08*	*0.04*	*0.06*	**0.05**	*-0.06*	*0.04*
Distillate Fuel Oil	**-0.48**	**-0.87**	**-0.91**	**-0.86**	**-0.81**	**-1.15**	**-1.29**	*-1.06*	*-1.01*	*-1.36*	*-1.42*	*-1.34*	**-0.78**	*-1.08*	*-1.29*
Residual Fuel Oil	**0.07**	**0.05**	**0.08**	**0.15**	**0.14**	**0.10**	**0.10**	*0.10*	*0.10*	*0.10*	*0.08*	*0.13*	**0.09**	*0.11*	*0.10*
Other Oils (g)	**-0.48**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	**-0.59**	**-0.49**	*-0.65*	*-0.73*	*-0.72*	*-0.71*	*-0.82*	**-0.49**	*-0.57*	*-0.74*
Product Inventory Net Withdrawals	**0.55**	**-0.27**	**0.03**	**0.58**	**0.42**	**-0.25**	**-0.26**	*0.12*	*0.27*	*-0.67*	*-0.30*	*0.44*	**0.22**	*0.01*	*-0.07*
Total Supply	**18.54**	**20.13**	**20.30**	**20.53**	**20.22**	**20.27**	**20.47**	*20.48*	*20.30*	*20.53*	*20.49*	*20.71*	**19.88**	*20.36*	*20.51*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.43**	**3.33**	**3.34**	**3.66**	**3.87**	**3.43**	**3.48**	*3.81*	*4.08*	*3.53*	*3.47*	*3.94*	**3.44**	*3.65*	*3.75*
Other HC/Oxygenates	**0.11**	**0.13**	**0.13**	**0.16**	**0.13**	**0.17**	**0.17**	*0.22*	*0.20*	*0.21*	*0.20*	*0.26*	**0.13**	*0.17*	*0.22*
Unfinished Oils	**0.08**	**0.07**	**-0.05**	**0.00**	**0.13**	**0.04**	**0.11**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	**0.02**	*0.07*	*0.00*
Motor Gasoline	**8.04**	**9.09**	**9.14**	**8.98**	**8.47**	**9.00**	**8.88**	*8.75*	*8.44*	*8.96*	*8.90*	*8.76*	**8.82**	*8.78*	*8.77*
Fuel Ethanol blended into Motor Gasoline	**0.81**	**0.93**	**0.94**	**0.95**	**0.87**	**0.93**	**0.92**	*0.91*	*0.87*	*0.93*	*0.92*	*0.93*	**0.91**	*0.91*	*0.91*
Jet Fuel	**1.12**	**1.34**	**1.52**	**1.50**	**1.45**	**1.61**	**1.60**	*1.58*	*1.53*	*1.67*	*1.68*	*1.66*	**1.37**	*1.56*	*1.64*
Distillate Fuel Oil	**3.99**	**3.96**	**3.90**	**4.03**	**4.14**	**3.89**	**3.86**	*4.02*	*4.03*	*3.91*	*3.85*	*3.96*	**3.97**	*3.98*	*3.94*
Residual Fuel Oil	**0.26**	**0.25**	**0.35**	**0.40**	**0.38**	**0.31**	**0.39**	*0.32*	*0.37*	*0.38*	*0.38*	*0.39*	**0.31**	*0.35*	*0.38*
Other Oils (g)	**1.54**	**1.95**	**1.98**	**1.81**	**1.65**	**1.82**	**1.99**	*1.77*	*1.65*	*1.88*	*2.01*	*1.75*	**1.82**	*1.81*	*1.82*
Total Consumption	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.47**	*20.48*	*20.30*	*20.53*	*20.49*	*20.71*	**19.89**	*20.36*	*20.51*
Total Petroleum and Other Liquids Net Imports	**0.09**	**-0.13**	**0.45**	**-0.65**	**-0.74**	**-1.18**	**-1.32**	*-1.98*	*-1.23*	*-0.70*	*-1.01*	*-1.73*	**-0.06**	*-1.31*	*-1.17*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**502.5**	**448.1**	**420.3**	**421.2**	**414.4**	**417.5**	**428.8**	*408.9*	*436.9*	*424.4*	*410.6*	*420.1*	**421.2**	*408.9*	*420.1*
Hydrocarbon Gas Liquids	**176.9**	**205.3**	**235.5**	**193.1**	**142.0**	**186.7**	**243.6**	*200.6*	*154.3*	*205.9*	*247.3*	*204.4*	**193.1**	*200.6*	*204.4*
Unfinished Oils	**92.5**	**92.3**	**89.5**	**79.7**	**87.9**	**88.8**	**82.3**	*77.0*	*90.7*	*89.1*	*88.8*	*80.5*	**79.7**	*77.0*	*80.5*
Other HC/Oxygenates	**29.3**	**27.7**	**25.7**	**28.7**	**34.1**	**29.4**	**27.3**	*29.0*	*31.0*	*29.8*	*29.5*	*29.8*	**28.7**	*29.0*	*29.8*
Total Motor Gasoline	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	**209.6**	*234.5*	*237.6*	*243.9*	*234.2*	*245.7*	**232.2**	*234.5*	*245.7*
Finished Motor Gasoline	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	**17.6**	*18.7*	*16.6*	*18.0*	*19.7*	*22.3*	**17.8**	*18.7*	*22.3*
Motor Gasoline Blend Comp.	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	**192.0**	*215.8*	*221.0*	*225.8*	*214.5*	*223.3*	**214.4**	*215.8*	*223.3*
Jet Fuel	**39.1**	**44.7**	**42.0**	**35.8**	**35.6**	**39.3**	**36.2**	*34.5*	*36.2*	*40.2*	*42.5*	*39.3*	**35.8**	*34.5*	*39.3*
Distillate Fuel Oil	**146.1**	**140.1**	**132.1**	**130.0**	**114.6**	**111.4**	**110.5**	*122.5*	*113.4*	*117.8*	*123.0*	*123.9*	**130.0**	*122.5*	*123.9*
Residual Fuel Oil	**30.9**	**31.5**	**27.8**	**25.8**	**27.9**	**29.2**	**27.3**	*27.7*	*29.3*	*28.6*	*27.0*	*26.6*	**25.8**	*27.7*	*26.6*
Other Oils (g)	**55.8**	**54.3**	**51.0**	**52.2**	**58.5**	**56.4**	**49.5**	*49.3*	*58.6*	*56.7*	*47.5*	*49.0*	**52.2**	*49.3*	*49.0*
Total Commercial Inventory	**1310.9**	**1281.4**	**1250.9**	**1198.6**	**1153.6**	**1179.7**	**1215.1**	*1184.0*	*1188.0*	*1236.4*	*1250.5*	*1219.3*	**1198.6**	*1184.0*	*1219.3*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	**493.3**	**416.4**	*370.7*	*369.5*	*353.9*	*348.7*	*338.2*	**593.7**	*370.7*	*338.2*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.88**	**2.20**	**2.19**	**2.32**	**2.33**	**2.43**	**2.41**	*2.52*	*2.62*	*2.66*	*2.55*	*2.60*	**2.15**	*2.42*	*2.61*
Propane	**1.63**	**1.76**	**1.77**	**1.82**	**1.77**	**1.85**	**1.92**	*1.99*	*1.96*	*1.94*	*1.97*	*2.04*	**1.74**	*1.89*	*1.98*
Butanes	**0.86**	**0.93**	**0.94**	**0.96**	**0.93**	**0.98**	**1.02**	*1.03*	*1.05*	*1.04*	*1.07*	*1.10*	**0.92**	*0.99*	*1.06*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.66**	**0.64**	**0.59**	**0.67**	**0.74**	*0.65*	*0.64*	*0.66*	*0.69*	*0.68*	**0.61**	*0.66*	*0.67*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.27**	**0.29**	**0.29**	*0.30*	*0.29*	*0.28*	*0.29*	*0.28*	**0.28**	*0.29*	*0.28*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	**0.28**	**0.26**	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	**0.25**	**0.19**	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.20*	**0.04**	*0.05*	*0.04*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.31**	**-0.38**	**-0.37**	**-0.41**	**-0.50**	**-0.40**	**-0.43**	*-0.43*	*-0.45*	*-0.45*	*-0.45*	*-0.45*	**-0.37**	*-0.44*	*-0.45*
Propane/Propylene	**-1.08**	**-1.26**	**-1.22**	**-1.24**	**-1.18**	**-1.33**	**-1.21**	*-1.46*	*-1.38*	*-1.36*	*-1.40*	*-1.45*	**-1.20**	*-1.29*	*-1.40*
Butanes/Butylenes	**-0.34**	**-0.41**	**-0.38**	**-0.35**	**-0.28**	**-0.41**	**-0.34**	*-0.47*	*-0.50*	*-0.50*	*-0.52*	*-0.48*	**-0.37**	*-0.38*	*-0.50*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.17**	**-0.17**	**-0.19**	*-0.19*	*-0.24*	*-0.23*	*-0.24*	*-0.24*	**-0.20**	*-0.18*	*-0.24*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.40**	**0.29**	**0.31**	**0.53**	**0.44**	**0.31**	**0.35**	*0.49*	*0.43*	*0.29*	*0.32*	*0.52*	**0.38**	*0.40*	*0.39*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.20**	**0.20**	**0.22**	*0.19*	*0.17*	*0.18*	*0.19*	*0.18*	**0.17**	*0.20*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.55**	**1.86**	**1.83**	**1.98**	**1.98**	**2.03**	**1.97**	*2.12*	*2.19*	*2.15*	*2.10*	*2.15*	**1.81**	*2.03*	*2.15*
Propane	**1.11**	**0.61**	**0.65**	**0.95**	**1.16**	**0.60**	**0.69**	*0.92*	*1.16*	*0.62*	*0.60*	*1.02*	**0.83**	*0.84*	*0.85*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	**0.29**	**0.28**	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.31**	*0.29*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.26**	**0.20**	**0.23**	**0.26**	**0.29**	*0.21*	*0.19*	*0.24*	*0.23*	*0.23*	**0.24**	*0.25*	*0.22*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.21**	**0.24**	**0.26**	*0.27*	*0.24*	*0.22*	*0.24*	*0.25*	**0.26**	*0.24*	*0.24*
HGL Inventories (million barrels)															
Ethane	**70.4**	**72.3**	**69.8**	**67.4**	**51.1**	**51.7**	**49.9**	*51.5*	*47.7*	*53.4*	*54.7*	*57.6*	**70.0**	*51.0*	*53.4*
Propane	**41.8**	**56.8**	**72.2**	**63.9**	**36.3**	**54.1**	**81.9**	*72.1*	*43.7*	*63.7*	*85.6*	*71.8*	**63.9**	*72.1*	*71.8*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.0**	**1.2**	**1.1**	*1.3*	*1.3*	*1.6*	*1.8*	*1.7*	**1.4**	*1.3*	*1.7*
Butanes/Butylenes	**37.7**	**54.7**	**69.9**	**43.9**	**35.7**	**58.8**	**81.2**	*51.1*	*37.6*	*62.0*	*79.9*	*50.6*	**43.9**	*51.1*	*50.6*
Natural Gasoline (Pentanes Plus)	**23.0**	**22.5**	**22.5**	**20.7**	**19.4**	**22.7**	**27.2**	*26.1*	*23.2*	*24.0*	*24.5*	*23.4*	**20.7**	*26.1*	*23.4*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	**16.26**	*16.22*	*15.77*	*16.78*	*16.94*	*16.43*	**15.15**	*16.03*	*16.48*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.76**	**0.64**	**0.50**	**0.57**	*0.68*	*0.60*	*0.47*	*0.51*	*0.70*	**0.55**	*0.60*	*0.57*
Other Hydrocarbons/Oxygenates	**1.06**	**1.19**	**1.20**	**1.18**	**1.12**	**1.20**	**1.19**	*1.17*	*1.11*	*1.18*	*1.17*	*1.16*	**1.16**	*1.17*	*1.16*
Unfinished Oils	**-0.07**	**0.24**	**0.32**	**0.21**	**-0.12**	**0.21**	**0.24**	*0.30*	*0.08*	*0.28*	*0.38*	*0.28*	**0.18**	*0.16*	*0.26*
Motor Gasoline Blend Components	**0.70**	**0.92**	**0.82**	**0.28**	**0.33**	**0.84**	**0.66**	*0.27*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.03**	**18.43**	**18.41**	**17.92**	**17.53**	**18.84**	**18.92**	*18.64*	*18.04*	*19.44*	*19.59*	*19.10*	**17.71**	*18.49*	*19.04*
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	**1.05**	*0.99*	*1.05*	*1.03*	*1.03*	*1.05*	**0.96**	*1.02*	*1.04*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	**0.84**	**0.75**	*0.40*	*0.49*	*0.83*	*0.77*	*0.37*	**0.62**	*0.62*	*0.62*
Finished Motor Gasoline	**8.75**	**9.83**	**9.83**	**9.70**	**9.22**	**9.74**	**9.73**	*9.78*	*9.34*	*9.85*	*9.95*	*10.07*	**9.53**	*9.62*	*9.80*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.48**	**1.71**	**1.67**	*1.60*	*1.55*	*1.63*	*1.67*	*1.57*	**1.31**	*1.62*	*1.60*
Distillate Fuel	**4.30**	**4.77**	**4.72**	**4.87**	**4.77**	**5.00**	**5.15**	*5.20*	*4.94*	*5.32*	*5.33*	*5.31*	**4.67**	*5.03*	*5.23*
Residual Fuel	**0.20**	**0.21**	**0.22**	**0.23**	**0.26**	**0.22**	**0.26**	*0.23*	*0.28*	*0.26*	*0.29*	*0.25*	**0.21**	*0.24*	*0.27*
Other Oils (a)	**2.10**	**2.43**	**2.44**	**2.33**	**2.26**	**2.39**	**2.40**	*2.42*	*2.49*	*2.57*	*2.62*	*2.58*	**2.32**	*2.37*	*2.56*
Total Refinery and Blender Net Production	**16.88**	**19.41**	**19.37**	**18.96**	**18.49**	**19.90**	**19.97**	*19.63*	*19.09*	*20.46*	*20.62*	*20.15*	**18.66**	*19.50*	*20.08*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.23**	**16.02**	**16.07**	**16.61**	**16.82**	*16.61*	*16.05*	*16.95*	*17.18*	*16.67*	**15.67**	*16.53*	*16.71*
Refinery Operable Distillation Capacity	**18.13**	**18.13**	**18.13**	**18.05**	**17.94**	**17.94**	**17.98**	*18.02*	*18.02*	*18.15*	*18.27*	*18.27*	**18.11**	*17.97*	*18.18*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.90**	**0.93**	**0.94**	*0.92*	*0.89*	*0.93*	*0.94*	*0.91*	**0.87**	*0.92*	*0.92*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**278**	**376**	**311**	*269*	*244*	*277*	*276*	*262*	**219**	*309*	*265*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	**438**	**393**	*347*	*326*	*351*	*351*	*341*	**294**	*386*	*342*
PADD 2	**247**	**288**	**304**	**315**	**352**	**436**	**397**	*354*	*319*	*350*	*350*	*335*	**290**	*386*	*339*
PADD 3	**227**	**267**	**282**	**298**	**340**	**414**	**357**	*304*	*288*	*321*	*324*	*312*	**270**	*354*	*312*
PADD 4	**247**	**311**	**360**	**351**	**360**	**446**	**434**	*368*	*330*	*356*	*369*	*354*	**319**	*404*	*353*
PADD 5	**312**	**366**	**391**	**410**	**452**	**543**	**511**	*492*	*434*	*431*	*427*	*416*	**372**	*500*	*427*
U.S. Average	**256**	**297**	**316**	**333**	**371**	**450**	**408**	*366*	*336*	*360*	*360*	*347*	**302**	*399*	*351*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	**460**	**419**	*378*	*349*	*373*	*373*	*361*	**311**	*410*	*365*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.9**	**53.6**	**54.4**	*56.8*	*58.6*	*66.1*	*61.2*	*64.5*	**61.8**	*56.8*	*64.5*
PADD 2	**50.6**	**50.6**	**46.8**	**50.7**	**56.5**	**46.7**	**44.1**	*50.8*	*53.6*	*50.8*	*48.0*	*52.0*	**50.7**	*50.8*	*52.0*
PADD 3	**82.1**	**81.6**	**83.0**	**81.7**	**87.1**	**83.9**	**80.2**	*88.2*	*87.6*	*89.6*	*87.1*	*89.7*	**81.7**	*88.2*	*89.7*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**8.1**	**6.4**	**6.4**	*7.7*	*8.0*	*7.7*	*7.7*	*8.4*	**8.1**	*7.7*	*8.4*
PADD 5	**31.5**	**29.0**	**30.6**	**29.7**	**29.9**	**30.3**	**24.5**	*31.1*	*29.8*	*29.8*	*30.2*	*31.0*	**29.7**	*31.1*	*31.0*
U.S. Total	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	**209.6**	*234.5*	*237.6*	*243.9*	*234.2*	*245.7*	**232.2**	*234.5*	*245.7*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	**17.6**	*18.7*	*16.6*	*18.0*	*19.7*	*22.3*	**17.8**	*18.7*	*22.3*
Gasoline Blending Components Inventories															
U.S. Total	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	**192.0**	*215.8*	*221.0*	*225.8*	*214.5*	*223.3*	**214.4**	*215.8*	*223.3*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**98.57**	**102.12**	**102.88**	**105.43**	**103.27**	**106.18**	**108.02**	*109.44*	*108.60*	*108.26*	*109.32*	*110.53*	**102.27**	*106.75*	*109.18*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	**1.00**	**0.96**	*1.02*	*1.01*	*0.93*	*0.85*	*0.98*	**0.97**	*1.01*	*0.94*
Federal GOM (a)	**2.33**	**2.30**	**1.82**	**2.10**	**2.05**	**2.11**	**2.19**	*2.30*	*2.26*	*2.18*	*2.05*	*2.00*	**2.14**	*2.16*	*2.12*
Lower 48 States (excl GOM)	**95.22**	**98.87**	**100.16**	**102.30**	**100.16**	**103.07**	**104.87**	*106.13*	*105.33*	*105.15*	*106.43*	*107.56*	**99.16**	*103.58*	*106.13*
Total Dry Gas Production	**91.14**	**94.43**	**95.14**	**97.49**	**95.10**	**97.59**	**99.21**	*100.54*	*99.87*	*99.52*	*100.49*	*101.60*	**94.57**	*98.13*	*100.38*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	**0.01**	**0.06**	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.06**	*0.07*	*0.06*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	**10.80**	**9.74**	*10.38*	*12.37*	*12.34*	*12.02*	*12.28*	**9.76**	*10.60*	*12.25*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.89**	**7.73**	**7.84**	*7.80*	*8.34*	*6.87*	*7.04*	*7.46*	**7.63**	*8.06*	*7.42*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	**8.45**	**8.06**	*8.73*	*9.32*	*8.82*	*9.15*	*9.56*	**8.47**	*8.42*	*9.21*
Supplemental Gaseous Fuels	**0.17**	**0.18**	**0.18**	**0.19**	**0.21**	**0.17**	**0.18**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.19*	*0.19*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	**-10.25**	**-8.95**	*2.51*	*16.33*	*-13.11*	*-9.35*	*3.41*	**0.24**	*0.79*	*-0.74*
Total Supply	**99.74**	**73.84**	**76.62**	**87.84**	**104.56**	**76.00**	**80.54**	*92.00*	*103.15*	*72.34*	*77.24*	*90.89*	**84.46**	*88.22*	*85.85*
Balancing Item (b)	**1.06**	**-1.02**	**-0.68**	**-1.54**	**0.33**	**0.27**	**0.59**	*-0.38*	*-0.69*	*0.54*	*-0.09*	*-1.56*	**-0.55**	*0.20*	*-0.45*
Total Primary Supply	**100.80**	**72.82**	**75.94**	**86.30**	**104.89**	**76.27**	**81.14**	*91.63*	*102.46*	*72.88*	*77.14*	*89.33*	**83.90**	*88.42*	*85.40*
Consumption (billion cubic feet per day)															
Residential	**26.05**	**7.58**	**3.67**	**14.61**	**26.09**	**7.85**	**3.56**	*17.09*	*25.70*	*7.89*	*4.13*	*17.03*	**12.92**	*13.60*	*13.64*
Commercial	**15.03**	**6.31**	**4.73**	**10.17**	**15.61**	**6.68**	**4.74**	*11.73*	*15.12*	*6.65*	*5.27*	*11.62*	**9.04**	*9.67*	*9.64*
Industrial	**24.21**	**21.67**	**21.45**	**23.59**	**25.50**	**22.38**	**21.83**	*24.02*	*24.06*	*21.28*	*21.15*	*23.44*	**22.73**	*23.42*	*22.48*
Electric Power (c)	**26.56**	**29.25**	**37.93**	**29.22**	**28.41**	**31.00**	**42.37**	*29.67*	*28.06*	*28.71*	*38.02*	*28.14*	**30.77**	*32.89*	*30.75*
Lease and Plant Fuel	**5.02**	**5.20**	**5.24**	**5.37**	**5.26**	**5.41**	**5.50**	*5.57*	*5.53*	*5.51*	*5.57*	*5.63*	**5.21**	*5.44*	*5.56*
Pipeline and Distribution Use	**3.77**	**2.65**	**2.78**	**3.19**	**3.86**	**2.81**	**2.99**	*3.41*	*3.84*	*2.69*	*2.86*	*3.33*	**3.09**	*3.27*	*3.18*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**100.80**	**72.82**	**75.94**	**86.30**	**104.89**	**76.27**	**81.14**	*91.63*	*102.46*	*72.88*	*77.14*	*89.33*	**83.90**	*88.42*	*85.40*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	**2,325**	**3,146**	*2,915*	*1,445*	*2,638*	*3,498*	*3,185*	**3,210**	*2,915*	*3,185*
East Region (d)	**313**	**515**	**804**	**766**	**242**	**482**	**759**	*671*	*211*	*560*	*871*	*757*	**766**	*671*	*757*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	**557**	**917**	*827*	*313*	*639*	*993*	*873*	**887**	*827*	*873*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	**885**	**1,007**	*1,051*	*710*	*1,054*	*1,131*	*1,094*	**1,143**	*1,051*	*1,094*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	**137**	**184**	*166*	*84*	*132*	*200*	*182*	**171**	*166*	*182*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	**240**	**247**	*170*	*97*	*223*	*274*	*248*	**218**	*170*	*248*
Alaska	**23**	**27**	**30**	**25**	**21**	**25**	**32**	*30*	*30*	*30*	*30*	*30*	**25**	*30*	*30*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	**7.77**	**8.30**	*6.04*	*6.42*	*5.20*	*5.38*	*5.56*	**4.06**	*6.74*	*5.64*
Residential Retail															
New England	**14.70**	**16.23**	**20.39**	**17.65**	**17.69**	**20.93**	**26.81**	*21.70*	*20.31*	*20.37*	*22.52*	*17.91*	**16.15**	*19.80*	*19.74*
Middle Atlantic	**10.41**	**13.46**	**19.65**	**14.28**	**12.79**	**15.55**	**23.86**	*16.44*	*14.45*	*15.79*	*20.03*	*13.63*	**12.54**	*14.83*	*14.80*
E. N. Central	**7.42**	**12.74**	**22.45**	**11.38**	**9.81**	**14.81**	**25.79**	*14.19*	*12.53*	*14.59*	*20.45*	*11.30*	**10.20**	*12.57*	*12.96*
W. N. Central	**7.52**	**11.60**	**20.46**	**12.48**	**11.40**	**15.25**	**25.07**	*14.92*	*12.63*	*14.58*	*20.38*	*11.87*	**10.22**	*13.52*	*13.17*
S. Atlantic	**11.69**	**17.52**	**26.47**	**16.15**	**13.91**	**22.14**	**32.52**	*19.57*	*16.72*	*20.51*	*26.31*	*15.51*	**14.83**	*17.86*	*17.64*
E. S. Central	**9.41**	**15.00**	**23.30**	**14.36**	**11.80**	**17.16**	**27.62**	*16.40*	*14.27*	*18.96*	*25.14*	*15.59*	**12.11**	*14.35*	*16.27*
W. S. Central	**9.18**	**15.73**	**23.63**	**17.68**	**12.62**	**20.91**	**30.98**	*15.91*	*12.54*	*17.67*	*23.39*	*14.25*	**13.04**	*15.85*	*14.78*
Mountain	**7.93**	**10.64**	**15.52**	**10.83**	**10.31**	**12.87**	**19.38**	*13.32*	*12.38*	*13.49*	*16.57*	*11.04*	**9.78**	*12.16*	*12.46*
Pacific	**14.14**	**14.95**	**15.84**	**16.39**	**17.07**	**17.80**	**20.54**	*18.94*	*18.45*	*18.39*	*18.69*	*17.74*	**15.18**	*18.16*	*18.25*
U.S. Average	**9.71**	**13.82**	**20.27**	**13.71**	**12.32**	**16.57**	**24.94**	*16.33*	*14.58*	*16.54*	*20.87*	*13.68*	**12.21**	*15.04*	*15.06*
Commercial Retail															
New England	**10.39**	**11.15**	**12.42**	**12.59**	**12.62**	**14.46**	**16.18**	*14.97*	*14.45*	*13.82*	*12.82*	*12.31*	**11.35**	*14.02*	*13.58*
Middle Atlantic	**7.92**	**7.99**	**8.26**	**10.13**	**10.36**	**10.79**	**12.01**	*12.92*	*12.43*	*11.36*	*10.20*	*10.24*	**8.61**	*11.41*	*11.35*
E. N. Central	**6.12**	**8.63**	**11.05**	**8.70**	**8.12**	**10.46**	**14.23**	*11.24*	*10.45*	*10.82*	*11.34*	*9.12*	**7.62**	*9.82*	*10.15*
W. N. Central	**6.35**	**7.72**	**9.99**	**10.05**	**10.22**	**11.73**	**15.07**	*11.83*	*10.80*	*10.57*	*11.32*	*9.40*	**7.90**	*11.26*	*10.37*
S. Atlantic	**8.76**	**9.86**	**10.44**	**11.20**	**10.52**	**12.23**	**14.05**	*12.67*	*11.99*	*12.29*	*12.26*	*11.22*	**9.81**	*11.87*	*11.84*
E. S. Central	**8.25**	**9.93**	**12.00**	**11.82**	**10.41**	**12.80**	**15.71**	*13.44*	*12.18*	*12.53*	*12.51*	*11.17*	**9.86**	*12.24*	*11.95*
W. S. Central	**6.94**	**8.62**	**10.20**	**10.91**	**10.09**	**12.86**	**15.00**	*12.67*	*10.76*	*10.71*	*10.58*	*9.70*	**8.64**	*11.98*	*10.45*
Mountain	**6.46**	**7.70**	**9.14**	**8.93**	**8.78**	**9.98**	**12.60**	*11.37*	*10.76*	*10.76*	*11.14*	*9.69*	**7.68**	*10.13*	*10.46*
Pacific	**10.52**	**10.37**	**11.38**	**12.19**	**13.08**	**13.67**	**15.58**	*14.67*	*13.42*	*12.28*	*11.86*	*11.06*	**11.16**	*14.03*	*12.21*
U.S. Average	**7.54**	**8.86**	**10.14**	**10.27**	**10.00**	**11.71**	**14.10**	*12.59*	*11.66*	*11.47*	*11.31*	*10.16*	**8.81**	*11.50*	*11.13*
Industrial Retail															
New England	**8.60**	**8.09**	**7.86**	**10.10**	**11.11**	**12.09**	**12.03**	*12.12*	*11.89*	*10.71*	*9.32*	*10.35*	**8.74**	*11.77*	*10.80*
Middle Atlantic	**8.20**	**7.79**	**8.32**	**11.11**	**10.80**	**10.10**	**11.92**	*11.70*	*11.52*	*10.48*	*9.67*	*9.81*	**8.80**	*11.08*	*10.72*
E. N. Central	**5.62**	**8.64**	**8.45**	**8.18**	**7.66**	**8.72**	**10.75**	*9.78*	*9.39*	*8.41*	*7.99*	*8.02*	**7.14**	*8.80*	*8.66*
W. N. Central	**4.89**	**4.61**	**5.48**	**6.97**	**7.96**	**8.58**	**9.58**	*9.04*	*8.64*	*7.14*	*6.69*	*7.18*	**5.55**	*8.75*	*7.47*
S. Atlantic	**4.88**	**4.58**	**5.66**	**7.36**	**7.44**	**8.84**	**11.17**	*8.80*	*8.65*	*7.24*	*7.05*	*7.43*	**5.63**	*8.98*	*7.64*
E. S. Central	**4.50**	**4.07**	**5.11**	**6.87**	**6.53**	**8.70**	**10.55**	*8.39*	*8.29*	*6.94*	*6.60*	*7.02*	**5.14**	*8.42*	*7.27*
W. S. Central	**5.90**	**3.28**	**4.49**	**6.11**	**5.58**	**7.69**	**8.45**	*6.42*	*6.68*	*5.45*	*5.53*	*5.66*	**4.92**	*7.02*	*5.82*
Mountain	**5.24**	**5.55**	**6.96**	**7.67**	**7.11**	**8.39**	**10.45**	*9.99*	*9.60*	*8.80*	*8.51*	*8.10*	**6.31**	*8.85*	*8.79*
Pacific	**8.08**	**7.05**	**7.60**	**8.69**	**8.82**	**9.02**	**9.60**	*9.88*	*9.80*	*9.02*	*8.62*	*8.63*	**7.95**	*9.31*	*9.07*
U.S. Average	**5.77**	**4.13**	**5.09**	**6.82**	**6.82**	**8.24**	**9.26**	*7.72*	*7.98*	*6.44*	*6.25*	*6.61*	**5.50**	*7.95*	*6.85*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**146.7**	**149.0**	**141.7**	**153.2**	*148.8*	*140.2*	*129.2*	*138.6*	*131.3*	**578.1**	*592.7*	*539.2*
Appalachia	**40.8**	**39.5**	**36.6**	**38.9**	**40.2**	**38.7**	**38.7**	*38.7*	*38.6*	*36.6*	*32.5*	*31.9*	**155.8**	*156.3*	*139.7*
Interior	**25.0**	**23.3**	**22.7**	**22.5**	**23.8**	**21.9**	**22.7**	*21.9*	*22.2*	*20.1*	*20.8*	*19.3*	**93.5**	*90.3*	*82.5*
Western	**74.5**	**80.0**	**89.0**	**85.3**	**85.0**	**81.1**	**91.7**	*87.3*	*79.3*	*72.4*	*85.3*	*80.0*	**328.8**	*345.2*	*317.0*
Primary Inventory Withdrawals	**1.0**	**0.3**	**3.3**	**0.0**	**-1.9**	**0.0**	**3.4**	*-0.2*	*-1.8*	*0.1*	*3.5*	*0.0*	**4.6**	*1.3*	*1.8*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.3**	**1.6**	**2.0**	*1.4*	*1.4*	*1.7*	*2.1*	*1.7*	**5.4**	*6.3*	*7.0*
Exports	**20.7**	**22.0**	**20.6**	**21.8**	**20.2**	**23.0**	**20.7**	*20.4*	*19.7*	*20.8*	*19.1*	*20.3*	**85.1**	*84.3*	*80.0*
Metallurgical Coal	**10.3**	**11.7**	**11.3**	**11.7**	**10.5**	**13.1**	**11.6**	*10.9*	*10.1*	*10.8*	*9.8*	*10.2*	**45.0**	*46.0*	*40.9*
Steam Coal	**10.4**	**10.3**	**9.3**	**10.1**	**9.7**	**9.9**	**9.2**	*9.5*	*9.6*	*10.0*	*9.4*	*10.1*	**40.1**	*38.3*	*39.1*
Total Primary Supply	**121.7**	**122.5**	**132.1**	**126.6**	**128.2**	**120.4**	**137.8**	*129.6*	*120.1*	*110.1*	*125.1*	*112.7*	**503.0**	*516.0*	*467.9*
Secondary Inventory Withdrawals	**22.3**	**0.6**	**31.3**	**-14.2**	**5.9**	**-1.1**	**5.7**	*-15.0*	*0.5*	*-5.5*	*15.0*	*-7.3*	**39.8**	*-4.4*	*2.7*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	**1.9**	**1.9**	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**146.1**	**124.8**	**165.4**	**114.4**	**135.9**	**121.2**	**145.4**	*116.5*	*122.3*	*106.4*	*141.9*	*107.2*	**550.7**	*519.1*	*477.8*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.4**	**4.2**	**3.9**	**3.9**	*4.0*	*3.9*	*3.9*	*3.9*	*4.1*	**17.6**	*15.9*	*15.8*
Electric Power Sector (b)	**127.6**	**113.7**	**157.0**	**103.0**	**122.6**	**107.2**	**134.7**	*105.2*	*112.1*	*97.1*	*132.6*	*97.1*	**501.4**	*469.8*	*438.8*
Retail and Other Industry	**6.9**	**6.3**	**6.5**	**7.0**	**6.9**	**6.7**	**6.3**	*6.5*	*6.4*	*5.4*	*5.3*	*6.0*	**26.7**	*26.4*	*23.2*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	**0.8**	*0.8*	*1.0*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	**6.6**	**6.1**	*6.2*	*6.1*	*5.2*	*5.2*	*5.8*	**25.9**	*25.6*	*22.2*
Total Consumption	**138.9**	**124.5**	**167.9**	**114.4**	**133.7**	**117.9**	**144.9**	*115.7*	*122.3*	*106.4*	*141.9*	*107.2*	**545.6**	*512.1*	*477.8*
Discrepancy (c)	**7.2**	**0.3**	**-2.5**	**0.0**	**2.2**	**3.3**	**0.6**	*0.9*	*0.0*	*0.0*	*0.0*	*0.0*	**5.1**	*7.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**22.6**	**22.4**	**19.0**	**19.0**	**21.0**	**20.9**	**17.5**	*17.7*	*19.5*	*19.4*	*15.9*	*15.9*	**19.0**	*17.7*	*15.9*
Secondary Inventories	**113.9**	**113.4**	**82.1**	**96.3**	**90.5**	**91.5**	**85.8**	*100.8*	*100.3*	*105.8*	*90.8*	*98.1*	**96.3**	*100.8*	*98.1*
Electric Power Sector	**109.6**	**108.7**	**77.5**	**91.9**	**86.3**	**87.4**	**80.2**	*95.3*	*95.6*	*100.9*	*85.7*	*93.1*	**91.9**	*95.3*	*93.1*
Retail and General Industry	**2.5**	**2.6**	**2.6**	**2.6**	**2.4**	**2.4**	**3.6**	*3.5*	*3.0*	*3.0*	*3.2*	*3.2*	**2.6**	*3.5*	*3.2*
Coke Plants	**1.5**	**1.9**	**1.8**	**1.7**	**1.6**	**1.6**	**1.9**	*1.8*	*1.6*	*1.7*	*1.7*	*1.6*	**1.7**	*1.8*	*1.6*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.08**	**6.08**	**6.08**	**6.08**	**6.05**	**6.05**	**6.05**	*6.05*	*5.98*	*5.98*	*5.98*	*5.98*	**6.08**	*6.05*	*5.98*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	**0.247**	*0.243*	*0.249*	*0.240*	*0.237*	*0.247*	**0.258**	*0.249*	*0.243*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.92**	**2.03**	**2.05**	**2.18**	**2.26**	**2.50**	*2.49*	*2.50*	*2.50*	*2.50*	*2.46*	**1.98**	*2.36*	*2.49*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**985**	**987**	**1,166**	**970**	**1,030**	**1,026**	**1,187**	*984*	*1,012*	*1,011*	*1,158*	*982*	**4,108**	*4,227*	*4,163*
Electric Power Sector (a)	**948**	**951**	**1,126**	**931**	**991**	**989**	**1,148**	*946*	*974*	*973*	*1,118*	*943*	**3,956**	*4,074*	*4,009*
Industrial Sector (b)	**34**	**34**	**37**	**36**	**36**	**34**	**36**	*35*	*34*	*34*	*36*	*35*	**140**	*140*	*140*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**3**	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**11**	**11**	**11**	**6**	**9**	**12**	**16**	*11*	*12*	*13*	*14*	*11*	**39**	*48*	*50*
Total Supply	**995**	**999**	**1,177**	**977**	**1,039**	**1,038**	**1,203**	*996*	*1,024*	*1,023*	*1,173*	*993*	**4,148**	*4,275*	*4,212*
Losses and Unaccounted for (c)	**46**	**65**	**50**	**45**	**59**	**67**	**54**	*51*	*39*	*65*	*53*	*52*	**206**	*232*	*208*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**917**	**901**	**1,091**	**897**	**945**	**938**	**1,114**	*910*	*952*	*925*	*1,084*	*907*	**3,806**	*3,908*	*3,868*
Residential Sector	**378**	**327**	**443**	**322**	**380**	**347**	**457**	*330*	*381*	*337*	*438*	*331*	**1,470**	*1,514*	*1,487*
Commercial Sector	**306**	**322**	**378**	**322**	**322**	**335**	**389**	*330*	*325*	*333*	*381*	*326*	**1,328**	*1,376*	*1,365*
Industrial Sector	**232**	**250**	**268**	**251**	**242**	**255**	**266**	*248*	*244*	*254*	*263*	*249*	**1,001**	*1,011*	*1,009*
Transportation Sector	**2**	**1**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**33**	**36**	**34**	**34**	**33**	**35**	*34*	*33*	*33*	*36*	*34*	**136**	*136*	*136*
Total Consumption	**949**	**934**	**1,127**	**931**	**980**	**971**	**1,149**	*944*	*985*	*959*	*1,120*	*941*	**3,941**	*4,044*	*4,004*
Average residential electricity usage per customer (kWh)	**2,730**	**2,366**	**3,206**	**2,330**	**2,711**	**2,475**	**3,265**	*2,360*	*2,700*	*2,388*	*3,103*	*2,342*	**10,632**	*10,812*	*10,532*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**109.6**	**108.7**	**77.5**	**91.9**	**86.3**	**87.4**	**80.2**	*95.3*	*95.6*	*100.9*	*85.7*	*93.1*	**91.9**	*95.3*	*93.1*
Residual Fuel (mmb)	**7.8**	**7.3**	**6.8**	**7.0**	**5.6**	**5.9**	**5.7**	*6.1*	*4.1*	*4.2*	*2.5*	*3.1*	**7.0**	*6.1*	*3.1*
Distillate Fuel (mmb)	**16.7**	**16.6**	**16.6**	**18.2**	**17.6**	**17.7**	**16.7**	*16.8*	*16.5*	*16.3*	*16.3*	*16.5*	**18.2**	*16.8*	*16.5*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.92**	**2.03**	**2.05**	**2.18**	**2.26**	**2.50**	*2.49*	*2.50*	*2.50*	*2.50*	*2.46*	**1.98**	*2.36*	*2.49*
Natural Gas	**7.80**	**3.31**	**4.48**	**5.70**	**5.95**	**7.39**	**8.23**	*6.29*	*6.80*	*5.26*	*5.40*	*5.75*	**5.20**	*7.11*	*5.76*
Residual Fuel Oil	**11.29**	**13.08**	**14.22**	**16.12**	**16.81**	**26.17**	**26.53**	*19.99*	*18.15*	*18.62*	*17.87*	*17.60*	**13.67**	*21.60*	*18.05*
Distillate Fuel Oil	**13.25**	**15.67**	**16.27**	**18.13**	**21.23**	**30.70**	**26.79**	*27.76*	*25.37*	*24.69*	*23.47*	*23.58*	**15.62**	*25.65*	*24.40*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**12.94**	**13.81**	**13.95**	**13.94**	**13.97**	**15.05**	**15.85**	*15.03*	*14.76*	*15.68*	*16.04*	*14.98*	**13.66**	*15.02*	*15.39*
Commercial Sector	**10.89**	**11.04**	**11.54**	**11.32**	**11.63**	**12.34**	**13.37**	*12.14*	*12.30*	*12.74*	*13.55*	*12.03*	**11.22**	*12.42*	*12.69*
Industrial Sector	**7.00**	**6.86**	**7.52**	**7.29**	**7.42**	**8.41**	**9.42**	*7.86*	*7.71*	*8.24*	*9.13*	*7.76*	**7.18**	*8.30*	*8.23*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	**83.19**	**130.71**	*52.19*	*50.67*	*37.39*	*49.72*	*36.72*	**189.54**	*77.20*	*43.63*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	**60.34**	**110.03**	*79.03*	*56.59*	*45.70*	*54.22*	*46.77*	**53.53**	*73.65*	*50.82*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	**73.28**	**99.14**	*90.10*	*173.79*	*63.36*	*57.66*	*97.22*	**51.81**	*94.75*	*98.01*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	**79.72**	**104.71**	*89.75*	*133.34*	*61.33*	*59.31*	*77.96*	**46.14**	*93.57*	*82.98*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	**93.00**	**110.99**	*76.81*	*87.61*	*68.02*	*73.30*	*66.23*	**45.67**	*84.78*	*73.79*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	**89.21**	**101.80**	*62.11*	*65.76*	*55.24*	*57.59*	*51.91*	**46.47**	*75.25*	*57.63*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	**72.85**	**109.97**	*60.35*	*55.87*	*49.11*	*56.83*	*46.75*	**93.88**	*70.10*	*52.14*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	**84.96**	**94.82**	*61.64*	*61.30*	*52.46*	*54.73*	*49.12*	**42.39**	*70.97*	*54.40*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	**78.70**	**92.71**	*60.15*	*59.35*	*52.53*	*53.02*	*47.58*	**37.92**	*68.17*	*53.12*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	**59.39**	**137.82**	*89.07*	*62.45*	*49.27*	*59.01*	*51.41*	**59.53**	*81.53*	*55.53*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	**60.50**	**128.25**	*68.31*	*54.23*	*50.30*	*62.23*	*47.32*	**55.44**	*74.02*	*53.52*

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**13.9**	**11.0**	**13.1**	**10.5**	**13.9**	*10.8*	*12.8*	*10.4*	*12.5*	*10.9*	**48.6**	*48.3*	*46.5*
Middle Atlantic	**35.8**	**30.2**	**41.7**	**30.4**	**36.1**	**30.0**	**42.5**	*30.2*	*36.0*	*30.1*	*39.2*	*30.5*	**138.2**	*138.8*	*135.8*
E. N. Central	**50.0**	**43.0**	**56.1**	**43.1**	**50.8**	**43.8**	**54.8**	*43.9*	*50.3*	*42.8*	*54.6*	*44.6*	**192.2**	*193.3*	*192.4*
W. N. Central	**29.7**	**23.5**	**30.8**	**23.8**	**30.6**	**24.7**	**31.3**	*24.2*	*30.5*	*23.8*	*30.5*	*23.6*	**107.8**	*110.8*	*108.3*
S. Atlantic	**95.2**	**85.0**	**111.4**	**83.1**	**96.0**	**91.5**	**116.2**	*84.0*	*97.9*	*89.6*	*114.3*	*85.7*	**374.7**	*387.7*	*387.6*
E. S. Central	**33.2**	**25.1**	**35.4**	**25.7**	**32.6**	**27.7**	**37.0**	*27.0*	*33.7*	*27.1*	*36.5*	*27.1*	**119.4**	*124.3*	*124.4*
W. S. Central	**56.7**	**49.6**	**75.0**	**46.9**	**56.9**	**58.8**	**81.3**	*50.1*	*55.5*	*55.2*	*76.3*	*49.7*	**228.1**	*247.0*	*236.7*
Mountain	**23.7**	**26.8**	**35.1**	**22.3**	**24.1**	**26.2**	**36.1**	*23.5*	*24.3*	*25.4*	*34.2*	*23.2*	**107.9**	*109.9*	*107.1*
Pacific contiguous	**39.1**	**32.1**	**42.7**	**34.7**	**38.4**	**32.4**	**43.1**	*35.5*	*39.0*	*31.7*	*38.9*	*34.2*	**148.6**	*149.4*	*143.7*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	**1.2**	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.8*	*4.8*
Total	**377.6**	**327.2**	**443.4**	**322.3**	**379.8**	**346.7**	**457.3**	*330.5*	*381.2*	*337.2*	*438.2*	*330.8*	**1,470.5**	*1,514.3*	*1,487.4*
Commercial Sector															
New England	**11.8**	**11.9**	**13.7**	**11.7**	**12.1**	**11.8**	**13.9**	*11.8*	*12.0*	*11.7*	*13.1*	*11.6*	**49.1**	*49.6*	*48.5*
Middle Atlantic	**34.9**	**33.5**	**40.0**	**34.6**	**36.0**	**34.3**	**40.5**	*34.6*	*36.2*	*34.1*	*38.7*	*34.0*	**143.0**	*145.4*	*143.0*
E. N. Central	**41.7**	**42.2**	**49.0**	**42.1**	**43.3**	**42.9**	**48.8**	*42.6*	*43.2*	*42.1*	*47.9*	*41.7*	**175.0**	*177.5*	*174.9*
W. N. Central	**24.1**	**23.7**	**27.6**	**24.0**	**25.1**	**24.6**	**28.1**	*24.7*	*25.2*	*24.2*	*27.5*	*24.1*	**99.4**	*102.4*	*101.1*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.4**	**75.1**	**82.5**	**93.5**	*77.1*	*77.3*	*83.5*	*94.3*	*78.5*	**313.1**	*328.2*	*333.6*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.0**	**22.4**	**26.8**	*20.8*	*21.0*	*21.8*	*26.1*	*20.4*	**89.1**	*91.0*	*89.3*
W. S. Central	**42.8**	**50.9**	**58.8**	**49.3**	**47.0**	**52.1**	**61.2**	*52.7*	*47.6*	*51.6*	*59.6*	*51.7*	**201.8**	*213.0*	*210.6*
Mountain	**22.0**	**24.8**	**28.7**	**23.2**	**23.2**	**25.4**	**29.6**	*23.5*	*23.2*	*25.0*	*28.7*	*23.1*	**98.7**	*101.8*	*100.1*
Pacific contiguous	**35.6**	**35.4**	**43.2**	**39.7**	**37.7**	**37.9**	**45.4**	*40.7*	*38.1*	*37.6*	*43.7*	*39.2*	**153.9**	*161.7*	*158.6*
AK and HI	**1.3**	**1.3**	**1.4**	**1.4**	**1.3**	**1.3**	**1.4**	*1.4*	*1.3*	*1.3*	*1.4*	*1.4*	**5.3**	*5.4*	*5.4*
Total	**305.7**	**322.5**	**378.0**	**322.3**	**321.8**	**335.2**	**389.0**	*329.9*	*325.3*	*333.0*	*380.9*	*325.8*	**1,328.4**	*1,376.0*	*1,365.0*
Industrial Sector															
New England	**3.7**	**4.0**	**4.1**	**3.8**	**3.9**	**3.9**	**4.1**	*3.8*	*3.8*	*3.8*	*4.0*	*3.7*	**15.7**	*15.6*	*15.4*
Middle Atlantic	**17.7**	**18.0**	**19.5**	**18.2**	**17.5**	**18.2**	**19.4**	*18.0*	*17.6*	*18.3*	*19.3*	*18.0*	**73.5**	*73.1*	*73.2*
E. N. Central	**44.3**	**46.2**	**48.4**	**45.8**	**45.9**	**47.0**	**48.8**	*45.5*	*45.9*	*46.5*	*47.9*	*45.2*	**184.7**	*187.2*	*185.5*
W. N. Central	**23.2**	**24.4**	**26.3**	**24.9**	**24.0**	**24.8**	**26.9**	*24.9*	*24.2*	*24.3*	*26.1*	*24.7*	**98.7**	*100.6*	*99.3*
S. Atlantic	**33.6**	**36.1**	**38.4**	**36.3**	**36.3**	**37.5**	**38.7**	*36.1*	*36.9*	*37.3*	*38.0*	*36.1*	**144.3**	*148.6*	*148.3*
E. S. Central	**23.6**	**24.8**	**25.9**	**24.9**	**24.7**	**25.8**	**25.6**	*23.5*	*24.1*	*25.2*	*24.9*	*23.2*	**99.2**	*99.7*	*97.4*
W. S. Central	**46.1**	**52.0**	**57.3**	**54.0**	**49.8**	**53.3**	**53.8**	*54.1*	*51.3*	*54.7*	*55.1*	*55.9*	**209.5**	*211.0*	*217.0*
Mountain	**19.1**	**21.5**	**23.1**	**20.3**	**19.9**	**21.7**	**24.0**	*20.2*	*19.9*	*21.8*	*24.1*	*20.5*	**83.9**	*85.8*	*86.2*
Pacific contiguous	**19.1**	**21.9**	**24.1**	**21.2**	**19.0**	**21.0**	**23.4**	*20.9*	*18.8*	*20.6*	*22.7*	*20.4*	**86.3**	*84.4*	*82.4*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**	**1.3**	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.7**	*4.8*	*4.8*
Total	**231.5**	**250.1**	**268.4**	**250.6**	**242.2**	**254.5**	**265.9**	*248.3*	*243.6*	*253.6*	*263.4*	*248.8*	**1,000.6**	*1,010.9*	*1,009.4*
Total All Sectors (a)															
New England	**28.6**	**26.7**	**31.8**	**26.6**	**29.2**	**26.3**	**32.0**	*26.5*	*28.7*	*26.1*	*29.7*	*26.4*	**113.8**	*114.0*	*110.9*
Middle Atlantic	**89.3**	**82.5**	**102.1**	**83.9**	**90.4**	**83.3**	**103.2**	*83.6*	*90.8*	*83.3*	*98.0*	*83.1*	**357.8**	*360.5*	*355.1*
E. N. Central	**136.2**	**131.4**	**153.7**	**131.1**	**140.2**	**133.8**	**152.4**	*132.2*	*139.6*	*131.5*	*150.5*	*131.7*	**552.4**	*558.6*	*553.3*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.7**	**79.7**	**74.1**	**86.2**	*73.8*	*79.9*	*72.3*	*84.1*	*72.4*	**306.0**	*313.8*	*308.7*
S. Atlantic	**199.8**	**198.7**	**239.7**	**195.0**	**207.7**	**211.8**	**248.6**	*197.4*	*212.4*	*210.6*	*246.9*	*200.6*	**833.3**	*865.5*	*870.5*
E. S. Central	**77.5**	**71.4**	**87.3**	**71.5**	**78.4**	**76.0**	**89.4**	*71.3*	*78.7*	*74.1*	*87.5*	*70.7*	**307.7**	*315.0*	*311.1*
W. S. Central	**145.7**	**152.5**	**191.2**	**150.3**	**153.7**	**164.2**	**196.4**	*156.9*	*154.5*	*161.5*	*191.1*	*157.3*	**639.6**	*671.2*	*664.5*
Mountain	**64.8**	**73.1**	**87.0**	**65.9**	**67.2**	**73.4**	**89.7**	*67.3*	*67.4*	*72.3*	*87.1*	*66.8*	**290.7**	*297.7*	*293.6*
Pacific contiguous	**94.0**	**89.6**	**110.3**	**95.7**	**95.3**	**91.5**	**112.1**	*97.4*	*96.0*	*90.0*	*105.5*	*94.0*	**389.6**	*396.3*	*385.5*
AK and HI	**3.7**	**3.6**	**3.8**	**3.9**	**3.7**	**3.6**	**3.8**	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*15.0*	*14.9*
Total	**916.5**	**901.3**	**1,091.4**	**896.6**	**945.5**	**938.0**	**1,113.9**	*910.3*	*951.8*	*925.3*	*1,084.1*	*906.9*	**3,805.9**	*3,907.6*	*3,868.0*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.36**	**21.32**	**21.45**	**21.96**	**23.96**	**24.31**	**24.80**	*26.38*	*28.13*	*28.10*	*28.06*	*28.99*	**21.51**	*24.82*	*28.30*
Middle Atlantic	**15.65**	**16.50**	**16.93**	**16.85**	**17.13**	**18.29**	**18.97**	*18.10*	*18.01*	*18.53*	*18.81*	*17.85*	**16.48**	*18.15*	*18.32*
E. N. Central	**13.35**	**14.46**	**14.12**	**14.46**	**14.21**	**15.50**	**16.21**	*15.68*	*14.95*	*16.04*	*16.53*	*15.63*	**14.07**	*15.40*	*15.80*
W. N. Central	**10.86**	**12.75**	**13.28**	**11.88**	**11.28**	**13.26**	**14.36**	*12.12*	*11.46*	*13.57*	*14.46*	*11.99*	**12.19**	*12.78*	*12.88*
S. Atlantic	**11.52**	**12.21**	**12.34**	**12.36**	**12.68**	**13.61**	**14.27**	*13.40*	*13.27*	*14.10*	*14.48*	*13.17*	**12.11**	*13.53*	*13.80*
E. S. Central	**11.10**	**12.15**	**11.90**	**11.93**	**11.97**	**13.08**	**13.79**	*12.60*	*12.47*	*13.21*	*13.55*	*12.52*	**11.74**	*12.90*	*12.96*
W. S. Central	**11.24**	**11.83**	**11.82**	**12.29**	**11.82**	**12.93**	**13.81**	*13.75*	*12.75*	*13.47*	*13.96*	*13.51*	**11.78**	*13.13*	*13.47*
Mountain	**11.48**	**12.05**	**12.29**	**12.23**	**12.14**	**12.85**	**13.23**	*12.88*	*12.61*	*13.32*	*13.54*	*12.99*	**12.04**	*12.83*	*13.16*
Pacific	**16.66**	**18.15**	**19.46**	**17.60**	**18.12**	**20.54**	**22.06**	*18.32*	*18.95*	*21.58*	*22.51*	*18.41*	**18.01**	*19.83*	*20.36*
U.S. Average	**12.94**	**13.81**	**13.95**	**13.94**	**13.97**	**15.05**	**15.85**	*15.03*	*14.76*	*15.68*	*16.04*	*14.98*	**13.66**	*15.02*	*15.39*
Commercial Sector															
New England	**16.18**	**15.82**	**16.61**	**16.70**	**18.47**	**17.46**	**18.32**	*18.61*	*20.30*	*18.92*	*19.56*	*19.37*	**16.34**	*18.22*	*19.54*
Middle Atlantic	**12.45**	**13.18**	**14.23**	**13.46**	**14.04**	**14.92**	**16.60**	*14.76*	*14.75*	*15.10*	*16.50*	*14.34*	**13.36**	*15.13*	*15.21*
E. N. Central	**10.38**	**10.69**	**10.67**	**10.91**	**11.06**	**11.85**	**12.15**	*11.68*	*11.67*	*12.19*	*12.18*	*11.46*	**10.66**	*11.70*	*11.89*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.62**	**9.65**	**10.71**	**11.70**	*9.26*	*9.24*	*10.02*	*11.39*	*9.02*	**9.97**	*10.37*	*9.96*
S. Atlantic	**9.22**	**9.11**	**9.45**	**9.87**	**10.30**	**10.87**	**11.52**	*10.69*	*10.87*	*11.21*	*11.60*	*10.37*	**9.41**	*10.88*	*11.05*
E. S. Central	**10.86**	**11.12**	**11.15**	**11.14**	**11.69**	**12.20**	**13.02**	*12.48*	*12.59*	*12.75*	*13.29*	*12.49*	**11.07**	*12.39*	*12.81*
W. S. Central	**10.01**	**8.89**	**8.48**	**8.59**	**8.68**	**9.63**	**10.47**	*8.67*	*8.85*	*9.59*	*10.57*	*8.84*	**8.94**	*9.43*	*9.51*
Mountain	**9.12**	**9.76**	**10.22**	**9.60**	**9.56**	**10.31**	**10.96**	*10.24*	*9.99*	*10.63*	*11.19*	*10.30*	**9.71**	*10.31*	*10.56*
Pacific	**14.42**	**15.99**	**18.07**	**16.08**	**16.10**	**17.77**	**20.29**	*17.69*	*17.93*	*19.50*	*21.41*	*17.97*	**16.23**	*18.07*	*19.27*
U.S. Average	**10.89**	**11.04**	**11.54**	**11.32**	**11.63**	**12.34**	**13.37**	*12.14*	*12.30*	*12.74*	*13.55*	*12.03*	**11.22**	*12.42*	*12.69*
Industrial Sector															
New England	**12.79**	**12.22**	**12.87**	**13.32**	**15.12**	**15.16**	**15.93**	*15.08*	*16.19*	*15.83*	*16.35*	*15.31*	**12.80**	*15.33*	*15.93*
Middle Atlantic	**6.52**	**6.56**	**7.06**	**7.30**	**7.87**	**8.29**	**9.82**	*7.89*	*8.00*	*7.89*	*9.21*	*7.62*	**6.87**	*8.50*	*8.20*
E. N. Central	**6.92**	**6.92**	**7.36**	**7.66**	**7.73**	**8.56**	**9.01**	*8.15*	*8.04*	*8.41*	*8.79*	*8.12*	**7.22**	*8.37*	*8.35*
W. N. Central	**6.97**	**7.30**	**7.99**	**7.06**	**7.16**	**7.99**	**8.70**	*7.25*	*7.40*	*8.02*	*8.69*	*7.34*	**7.35**	*7.80*	*7.88*
S. Atlantic	**6.12**	**6.18**	**6.92**	**6.74**	**6.85**	**8.09**	**9.11**	*6.89*	*7.07*	*7.79*	*8.67*	*6.75*	**6.51**	*7.76*	*7.58*
E. S. Central	**5.68**	**5.80**	**6.20**	**6.18**	**6.35**	**7.36**	**8.41**	*6.88*	*6.65*	*7.18*	*8.12*	*6.77*	**5.97**	*7.27*	*7.19*
W. S. Central	**7.05**	**5.53**	**5.94**	**6.07**	**6.19**	**7.28**	**8.08**	*6.72*	*6.40*	*6.85*	*7.43*	*6.38*	**6.12**	*7.08*	*6.77*
Mountain	**6.20**	**6.59**	**7.34**	**6.48**	**6.57**	**7.27**	**8.41**	*7.12*	*6.88*	*7.36*	*8.36*	*7.11*	**6.68**	*7.39*	*7.47*
Pacific	**9.45**	**10.43**	**12.26**	**10.77**	**10.37**	**11.97**	**14.16**	*11.64*	*10.87*	*12.29*	*14.32*	*11.86*	**10.81**	*12.13*	*12.42*
U.S. Average	**7.00**	**6.86**	**7.52**	**7.29**	**7.42**	**8.41**	**9.42**	*7.86*	*7.71*	*8.24*	*9.13*	*7.76*	**7.18**	*8.30*	*8.23*
All Sectors (a)															
New England	**18.04**	**17.48**	**18.21**	**18.35**	**20.46**	**19.83**	**20.80**	*21.23*	*23.20*	*22.10*	*22.67*	*22.72*	**18.03**	*20.59*	*22.68*
Middle Atlantic	**12.54**	**12.94**	**13.95**	**13.34**	**14.06**	**14.66**	**16.28**	*14.48*	*14.72*	*14.75*	*15.97*	*14.17*	**13.22**	*14.93*	*14.94*
E. N. Central	**10.34**	**10.59**	**10.88**	**10.94**	**11.10**	**11.89**	**12.60**	*11.79*	*11.65*	*12.10*	*12.68*	*11.73*	**10.69**	*11.86*	*12.06*
W. N. Central	**9.14**	**10.05**	**10.84**	**9.48**	**9.53**	**10.65**	**11.73**	*9.52*	*9.53*	*10.52*	*11.66*	*9.41*	**9.90**	*10.39*	*10.31*
S. Atlantic	**9.79**	**9.90**	**10.39**	**10.35**	**10.79**	**11.56**	**12.43**	*11.15*	*11.32*	*11.83*	*12.48*	*10.91*	**10.12**	*11.53*	*11.68*
E. S. Central	**9.39**	**9.63**	**9.98**	**9.70**	**10.12**	**10.88**	**12.02**	*10.68*	*10.72*	*11.03*	*11.92*	*10.63*	**9.69**	*10.97*	*11.11*
W. S. Central	**9.55**	**8.70**	**9.02**	**8.83**	**9.03**	**10.05**	**11.20**	*9.62*	*9.44*	*9.99*	*11.02*	*9.44*	**9.02**	*10.05*	*10.03*
Mountain	**9.12**	**9.67**	**10.29**	**9.53**	**9.60**	**10.32**	**11.19**	*10.22*	*10.01*	*10.59*	*11.33*	*10.26*	**9.70**	*10.40*	*10.60*
Pacific	**14.34**	**15.39**	**17.32**	**15.44**	**15.76**	**17.41**	**19.68**	*16.61*	*16.95*	*18.57*	*20.27*	*16.79*	**15.70**	*17.46*	*18.20*
U.S. Average	**10.75**	**10.88**	**11.53**	**11.14**	**11.49**	**12.28**	**13.45**	*12.02*	*12.11*	*12.58*	*13.48*	*11.93*	**11.10**	*12.36*	*12.56*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**320.3**	**347.1**	**453.7**	**355.7**	**337.0**	**365.5**	**509.4**	*361.0*	*334.4*	*340.8*	*460.2*	*345.9*	**1,476.8**	*1,572.9*	*1,481.3*
Coal	**229.2**	**203.7**	**280.8**	**178.5**	**217.5**	**189.1**	**234.6**	*183.4*	*199.5*	*170.4*	*231.3*	*168.8*	**892.3**	*824.6*	*770.0*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.6**	**184.4**	**201.5**	*189.7*	*193.9*	*187.7*	*206.4*	*196.2*	**778.2**	*771.1*	*784.2*
Renewable Energy Sources:	**193.2**	**208.0**	**182.9**	**201.0**	**233.2**	**244.9**	**197.4**	*206.9*	*239.8*	*270.0*	*215.8*	*227.0*	**785.0**	*882.3*	*952.6*
Conventional Hydropower	**65.6**	**65.8**	**59.2**	**59.8**	**74.4**	**69.2**	**62.3**	*54.4*	*67.2*	*76.2*	*63.0*	*58.8*	**250.4**	*260.3*	*265.2*
Wind	**95.9**	**96.5**	**77.7**	**107.7**	**119.0**	**121.0**	**80.6**	*114.2*	*126.8*	*128.0*	*85.2*	*119.6*	**377.9**	*434.8*	*459.6*
Solar (a)	**21.0**	**35.3**	**35.1**	**23.0**	**29.1**	**44.3**	**43.2**	*27.9*	*35.3*	*55.8*	*56.6*	*38.2*	**114.5**	*144.5*	*185.9*
Biomass	**6.9**	**6.5**	**6.9**	**6.4**	**6.6**	**6.5**	**7.1**	*6.2*	*6.5*	*6.2*	*6.7*	*6.2*	**26.7**	*26.4*	*25.5*
Geothermal	**3.8**	**3.8**	**3.9**	**4.0**	**4.1**	**4.0**	**4.2**	*4.2*	*4.1*	*3.9*	*4.3*	*4.1*	**15.5**	*16.4*	*16.4*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.2**	**-1.3**	**-2.0**	*-1.3*	*-1.2*	*-1.4*	*-2.1*	*-1.4*	**-5.1**	*-5.9*	*-6.2*
Petroleum (b)	**5.1**	**3.8**	**4.9**	**4.6**	**6.4**	**4.1**	**4.5**	*4.1*	*5.3*	*3.8*	*4.4*	*4.2*	**18.3**	*19.1*	*17.6*
Other Gases	**0.7**	**0.9**	**0.9**	**0.8**	**0.8**	**0.9**	**1.0**	*0.8*	*0.8*	*0.8*	*0.9*	*0.8*	**3.3**	*3.5*	*3.3*
Other Nonrenewable Fuels (c)	**1.8**	**1.7**	**1.7**	**1.7**	**1.6**	**1.6**	**1.6**	*1.8*	*1.5*	*1.6*	*1.5*	*1.7*	**7.0**	*6.5*	*6.2*
Total Generation	**947.8**	**950.8**	**1,126.1**	**931.5**	**990.8**	**989.3**	**1,147.8**	*946.2*	*974.0*	*973.5*	*1,118.4*	*943.2*	**3,956.2**	*4,074.2*	*4,009.1*
New England (ISO-NE)															
Natural Gas	**12.1**	**11.8**	**16.7**	**12.9**	**12.1**	**12.6**	**17.4**	*14.1*	*12.0*	*12.5*	*16.1*	*12.3*	**53.4**	*56.2*	*53.0*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.3**	**0.0**	**0.0**	*0.1*	*0.3*	*0.1*	*0.0*	*0.1*	**0.6**	*0.4*	*0.6*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.1**	**5.6**	**7.3**	*7.4*	*7.1*	*5.6*	*7.3*	*6.2*	**27.1**	*27.4*	*26.2*
Conventional hydropower	**1.6**	**1.6**	**1.3**	**1.7**	**1.7**	**1.5**	**1.0**	*1.7*	*2.0*	*2.2*	*1.2*	*1.7*	**6.2**	*5.9*	*7.1*
Nonhydro renewables (d)	**2.8**	**2.8**	**2.5**	**2.6**	**3.2**	**3.2**	**3.0**	*2.6*	*3.1*	*3.2*	*3.0*	*2.7*	**10.7**	*11.9*	*12.0*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.4**	**0.4**	**0.4**	*0.4*	*1.0*	*0.3*	*0.3*	*0.4*	**1.4**	*2.5*	*1.9*
Total generation	**24.5**	**23.6**	**28.1**	**23.2**	**25.7**	**23.1**	**29.2**	*26.3*	*25.5*	*23.9*	*27.9*	*23.4*	**99.4**	*104.3*	*100.8*
Net energy for load (f)	**29.3**	**27.0**	**32.4**	**27.6**	**30.2**	**26.0**	**33.0**	*27.3*	*29.8*	*27.7*	*31.9*	*28.7*	**116.4**	*116.4*	*118.2*
New York (NYISO)															
Natural Gas	**13.1**	**14.1**	**19.4**	**15.0**	**14.1**	**15.5**	**21.2**	*12.8*	*13.9*	*16.9*	*18.3*	*13.5*	**61.5**	*63.6*	*62.5*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.3**	**7.0**	**6.4**	**7.0**	**6.4**	*6.7*	*6.6*	*6.4*	*7.0*	*7.0*	**31.2**	*26.6*	*27.0*
Conventional hydropower	**7.1**	**7.0**	**7.1**	**7.5**	**7.3**	**6.9**	**6.6**	*6.9*	*6.8*	*6.8*	*6.8*	*7.1*	**28.7**	*27.7*	*27.5*
Nonhydro renewables (d)	**1.7**	**1.7**	**1.5**	**1.8**	**2.1**	**2.0**	**1.7**	*1.9*	*2.4*	*2.6*	*2.1*	*2.8*	**6.8**	*7.7*	*9.9*
Other energy sources (e)	**0.4**	**0.2**	**0.4**	**0.1**	**1.1**	**0.1**	**0.1**	*0.1*	*0.5*	*0.1*	*0.2*	*0.1*	**1.0**	*1.4*	*0.9*
Total generation	**31.6**	**30.6**	**35.7**	**31.4**	**31.0**	**31.5**	**36.0**	*28.5*	*30.2*	*32.9*	*34.4*	*30.4*	**129.2**	*127.0*	*127.9*
Net energy for load (f)	**36.4**	**34.8**	**42.7**	**35.0**	**37.6**	**34.0**	**43.3**	*34.7*	*36.8*	*35.5*	*41.5*	*35.1*	**149.0**	*149.6*	*148.9*
Mid-Atlantic (PJM)															
Natural Gas	**72.3**	**71.4**	**90.0**	**78.9**	**76.8**	**74.3**	**103.8**	*78.4*	*78.5*	*74.4*	*95.1*	*85.7*	**312.6**	*333.3*	*333.7*
Coal	**49.8**	**39.8**	**55.3**	**29.8**	**48.6**	**35.3**	**42.2**	*30.2*	*44.9*	*30.9*	*42.5*	*29.4*	**174.7**	*156.3*	*147.7*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**69.0**	**65.1**	**69.7**	*66.4*	*67.8*	*67.1*	*72.0*	*68.7*	**271.7**	*270.2*	*275.7*
Conventional hydropower	**2.7**	**2.4**	**2.4**	**2.3**	**2.7**	**2.4**	**1.4**	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.8**	*8.6*	*9.0*
Nonhydro renewables (d)	**11.3**	**10.8**	**9.0**	**11.8**	**13.3**	**13.0**	**9.7**	*12.8*	*14.3*	*13.9*	*11.5*	*14.6*	**43.0**	*48.8*	*54.2*
Other energy sources (e)	**0.8**	**0.7**	**0.5**	**0.8**	**0.7**	**0.4**	**0.2**	*0.6*	*0.6*	*0.4*	*0.2*	*0.6*	**2.7**	*1.9*	*1.8*
Total generation	**205.2**	**189.8**	**227.6**	**191.9**	**211.1**	**190.3**	**227.1**	*190.5*	*208.7*	*189.1*	*223.1*	*201.1*	**814.4**	*819.0*	*822.0*
Net energy for load (f)	**193.6**	**178.2**	**215.0**	**183.4**	**201.0**	**180.3**	**213.2**	*182.1*	*200.2*	*182.0*	*207.4*	*182.9*	**770.2**	*776.5*	*772.5*
Southeast (SERC)															
Natural Gas	**57.0**	**57.0**	**72.4**	**64.1**	**63.5**	**67.1**	**86.7**	*62.6*	*67.0*	*62.5*	*81.9*	*55.8*	**250.5**	*279.9*	*267.2*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**32.3**	**32.8**	**32.0**	*27.1*	*28.4*	*26.5*	*37.0*	*24.7*	**137.7**	*124.2*	*116.7*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.4**	**51.1**	**55.4**	*51.1*	*52.5*	*53.8*	*57.3*	*57.4*	**212.2**	*209.1*	*221.0*
Conventional hydropower	**10.1**	**9.1**	**8.7**	**9.2**	**10.3**	**8.3**	**6.1**	*8.6*	*11.3*	*9.0*	*8.0*	*9.1*	**37.0**	*33.3*	*37.4*
Nonhydro renewables (d)	**3.8**	**5.7**	**5.4**	**4.2**	**5.0**	**7.0**	**6.5**	*4.8*	*5.7*	*8.0*	*7.4*	*5.5*	**19.1**	*23.4*	*26.7*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.2**	**-0.3**	**-0.6**	*-0.2*	*-0.2*	*-0.4*	*-0.7*	*-0.3*	**-1.0**	*-1.4*	*-1.6*
Total generation	**161.0**	**157.5**	**184.4**	**152.6**	**162.3**	**166.0**	**186.2**	*154.1*	*164.6*	*159.5*	*190.9*	*152.2*	**655.5**	*668.5*	*667.3*
Net energy for load (f)	**158.7**	**153.2**	**180.8**	**152.2**	**164.8**	**167.3**	**180.3**	*153.8*	*163.7*	*162.2*	*188.5*	*158.3*	**644.9**	*666.3*	*672.7*
Florida (FRCC)															
Natural Gas	**34.9**	**44.4**	**52.9**	**41.5**	**38.4**	**47.7**	**56.8**	*40.3*	*34.9*	*43.7*	*54.8*	*44.6*	**173.7**	*183.2*	*178.0*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**3.5**	**4.3**	**3.7**	*3.2*	*2.7*	*4.0*	*3.7*	*2.9*	**18.3**	*14.6*	*13.2*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	**7.9**	**7.5**	*8.0*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.7*	*29.2*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	**0.3**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.3**	**3.1**	**2.8**	**2.5**	**2.9**	**3.7**	**3.5**	*3.1*	*3.8*	*5.3*	*4.5*	*3.9*	**10.8**	*13.3*	*17.5*
Other energy sources (e)	**0.7**	**0.7**	**0.6**	**0.5**	**0.7**	**0.6**	**0.7**	*0.6*	*0.7*	*0.6*	*0.7*	*0.7*	**2.6**	*2.6*	*2.7*
Total generation	**50.6**	**60.7**	**69.3**	**53.2**	**52.9**	**64.2**	**72.2**	*55.3*	*49.2*	*60.6*	*71.3*	*59.8*	**233.8**	*244.6*	*240.8*
Net energy for load (f)	**51.5**	**63.2**	**71.1**	**54.8**	**53.3**	**65.8**	**76.6**	*55.5*	*50.3*	*60.4*	*68.1*	*53.1*	**240.7**	*251.1*	*231.9*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**40.8**	**48.0**	**43.2**	**41.6**	**47.4**	**59.7**	*43.9*	*40.7*	*48.7*	*52.3*	*39.8*	**167.5**	*192.7*	*181.6*
Coal	**69.7**	**60.1**	**83.2**	**54.6**	**64.5**	**54.1**	**68.6**	*53.4*	*60.1*	*53.9*	*69.9*	*50.6*	**267.7**	*240.5*	*234.5*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	**19.6**	**24.3**	*23.9*	*22.4*	*21.1*	*24.4*	*20.9*	**95.7**	*91.6*	*88.7*
Conventional hydropower	**2.5**	**2.9**	**2.5**	**2.3**	**2.9**	**2.7**	**2.4**	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.1**	*10.2*	*9.9*
Nonhydro renewables (d)	**23.3**	**22.7**	**18.5**	**27.3**	**32.0**	**28.7**	**20.3**	*27.9*	*34.7*	*30.6*	*22.1*	*29.6*	**91.8**	*109.0*	*117.0*
Other energy sources (e)	**1.9**	**1.5**	**1.8**	**1.8**	**1.4**	**1.7**	**1.3**	*1.3*	*1.5*	*1.4*	*1.4*	*1.5*	**6.9**	*5.8*	*5.8*
Total generation	**156.4**	**150.6**	**179.2**	**153.5**	**166.1**	**154.2**	**176.8**	*152.6*	*161.9*	*158.7*	*172.5*	*144.5*	**639.7**	*649.8*	*637.6*
Net energy for load (f)	**158.3**	**154.5**	**180.5**	**153.9**	**165.1**	**158.9**	**179.5**	*156.6*	*162.9*	*160.8*	*179.4*	*157.6*	**647.2**	*660.2*	*660.6*
Central (Southwest Power Pool)															
Natural Gas	**12.2**	**13.2**	**17.4**	**10.0**	**10.6**	**13.4**	**22.4**	*13.6*	*11.9*	*12.4*	*17.9*	*9.9*	**52.8**	*59.9*	*52.1*
Coal	**19.6**	**18.5**	**28.9**	**17.5**	**22.1**	**20.5**	**30.1**	*18.9*	*20.0*	*16.2*	*24.9*	*16.3*	**84.5**	*91.6*	*77.3*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	**4.3**	**3.9**	*2.2*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*14.7*	*17.3*
Conventional hydropower	**3.6**	**4.3**	**3.5**	**3.1**	**4.3**	**3.9**	**3.2**	*2.7*	*3.4*	*4.2*	*3.7*	*3.1*	**14.5**	*14.1*	*14.3*
Nonhydro renewables (d)	**23.2**	**24.1**	**21.3**	**27.1**	**28.6**	**29.6**	**21.3**	*30.1*	*29.8*	*31.5*	*22.6*	*31.1*	**95.8**	*109.6*	*114.9*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**	**0.4**	**0.2**	*0.3*	*0.3*	*0.3*	*0.1*	*0.3*	**1.3**	*1.1*	*1.1*
Total generation	**63.3**	**63.2**	**75.5**	**62.4**	**70.2**	**72.0**	**81.1**	*67.8*	*69.7*	*68.9*	*73.5*	*65.0*	**264.3**	*291.0*	*277.1*
Net energy for load (f)	**64.5**	**64.8**	**77.2**	**61.1**	**67.3**	**69.0**	**82.6**	*65.3*	*66.1*	*65.1*	*76.7*	*60.7*	**267.6**	*284.2*	*268.7*
Texas (ERCOT)															
Natural Gas	**32.7**	**39.4**	**57.8**	**34.2**	**33.6**	**42.9**	**64.7**	*36.4*	*27.2*	*31.3*	*52.1*	*32.5*	**164.1**	*177.6*	*143.0*
Coal	**15.8**	**17.9**	**22.0**	**16.5**	**17.7**	**16.8**	**20.2**	*15.1*	*15.1*	*15.4*	*18.3*	*14.8*	**72.2**	*69.8*	*63.7*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	**9.9**	**10.7**	*10.0*	*10.7*	*8.9*	*11.0*	*10.1*	**40.2**	*41.6*	*40.7*
Conventional hydropower	**0.1**	**0.2**	**0.1**	**0.1**	**0.2**	**0.1**	**0.0**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.5**	*0.4*	*0.6*
Nonhydro renewables (d)	**25.1**	**27.5**	**23.3**	**28.8**	**30.9**	**39.1**	**28.0**	*30.9*	*36.2*	*45.4*	*34.0*	*34.9*	**104.8**	*128.9*	*150.5*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.5**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**1.4**	*1.6*	*1.5*
Total generation	**84.5**	**95.1**	**114.7**	**89.0**	**93.7**	**109.2**	**124.0**	*92.9*	*89.7*	*101.6*	*115.9*	*92.9*	**383.2**	*419.9*	*400.1*
Net energy for load (f)	**84.5**	**95.1**	**114.7**	**89.0**	**93.7**	**109.2**	**124.0**	*92.9*	*89.7*	*101.6*	*115.9*	*92.9*	**383.2**	*419.9*	*400.1*
Northwest															
Natural Gas	**22.1**	**21.0**	**29.5**	**21.7**	**20.2**	**15.9**	**27.3**	*25.7*	*24.2*	*11.9*	*27.4*	*20.7*	**94.3**	*89.1*	*84.2*
Coal	**24.6**	**20.4**	**29.1**	**24.1**	**21.6**	**18.1**	**26.9**	*26.7*	*20.7*	*16.7*	*25.3*	*21.9*	**98.2**	*93.3*	*84.6*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	**2.3**	**2.5**	*2.5*	*2.4*	*1.2*	*2.4*	*2.4*	**8.5**	*9.8*	*8.4*
Conventional hydropower	**32.9**	**31.5**	**26.3**	**28.8**	**38.9**	**35.7**	**33.9**	*25.3*	*32.5*	*38.8*	*30.1*	*28.2*	**119.5**	*133.7*	*129.6*
Nonhydro renewables (d)	**15.7**	**17.1**	**15.7**	**17.3**	**19.2**	**20.4**	**15.9**	*19.0*	*20.3*	*22.0*	*17.7*	*20.0*	**65.8**	*74.6*	*80.0*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.7**	*0.6*	*0.5*
Total generation	**97.9**	**91.4**	**103.4**	**94.5**	**102.6**	**92.6**	**106.7**	*99.3*	*100.0*	*90.7*	*103.2*	*93.3*	**387.2**	*401.2*	*387.3*
Net energy for load (f)	**89.0**	**86.9**	**98.1**	**90.1**	**89.9**	**87.6**	**99.0**	*90.4*	*91.7*	*86.7*	*96.6*	*88.6*	**364.2**	*366.8*	*363.6*
Southwest															
Natural Gas	**10.7**	**15.3**	**19.3**	**11.4**	**9.6**	**12.9**	**18.6**	*12.1*	*10.7*	*13.4*	*18.9*	*10.6*	**56.7**	*53.1*	*53.6*
Coal	**6.0**	**6.2**	**9.0**	**8.0**	**6.1**	**6.3**	**8.1**	*6.3*	*5.5*	*4.7*	*6.5*	*5.8*	**29.2**	*26.8*	*22.5*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	**7.5**	**8.7**	*7.5*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.9*	*32.0*
Conventional hydropower	**2.0**	**2.3**	**2.0**	**1.5**	**1.9**	**2.1**	**1.8**	*1.3*	*1.8*	*2.0*	*1.9*	*1.4*	**7.9**	*7.1*	*6.9*
Nonhydro renewables (d)	**3.2**	**3.9**	**3.2**	**3.9**	**4.6**	**5.7**	**3.9**	*4.8*	*4.6*	*6.3*	*4.2*	*6.2*	**14.3**	*19.0*	*21.3*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.4**	**35.0**	**42.2**	**32.2**	**30.4**	**34.4**	**41.1**	*32.2*	*31.0*	*33.9*	*40.1*	*31.4*	**139.8**	*138.1*	*136.4*
Net energy for load (f)	**20.4**	**26.7**	**33.3**	**22.6**	**21.7**	**27.2**	**34.9**	*22.0*	*21.1*	*25.9*	*33.3*	*21.9*	**103.0**	*105.8*	*102.2*
California															
Natural Gas	**17.0**	**18.1**	**29.4**	**22.0**	**15.8**	**15.5**	**29.9**	*20.1*	*12.6*	*12.4*	*24.8*	*19.7*	**86.5**	*81.4*	*69.6*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**0.5**	**0.7**	**2.4**	*2.0*	*1.4*	*1.6*	*2.6*	*1.9*	**7.6**	*5.5*	*7.5*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.6**	**4.2**	**5.0**	*3.8*	*4.6*	*4.7*	*4.6*	*4.1*	**16.5**	*17.6*	*18.0*
Conventional hydropower	**2.5**	**4.1**	**4.9**	**2.9**	**3.6**	**5.3**	**5.3**	*3.0*	*3.8*	*7.1*	*6.7*	*3.5*	**14.4**	*17.2*	*21.1*
Nonhydro renewables (d)	**14.8**	**22.1**	**20.0**	**13.3**	**16.7**	**22.8**	**20.7**	*14.1*	*17.5*	*24.5*	*23.1*	*16.3*	**70.3**	*74.2*	*81.3*
Other energy sources (e)	**-0.1**	**-0.1**	**0.0**	**-0.1**	**0.0**	**-0.2**	**0.1**	*-0.1*	*-0.1*	*-0.2*	*0.1*	*-0.2*	**-0.2**	*-0.2*	*-0.4*
Total generation	**38.9**	**49.9**	**62.3**	**43.9**	**41.2**	**48.2**	**63.4**	*42.8*	*39.9*	*50.1*	*61.9*	*45.4*	**195.0**	*195.7*	*197.2*
Net energy for load (f)	**55.3**	**63.3**	**77.6**	**59.7**	**57.3**	**61.9**	**79.6**	*61.9*	*58.0*	*62.2*	*75.2*	*59.6*	**255.9**	*260.7*	*255.1*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.033**	**0.033**	**0.035**	**0.036**	**0.036**	**0.035**	**0.037**	*0.037*	*0.036*	*0.034*	*0.038*	*0.037*	**0.137**	*0.145*	*0.145*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.671**	**0.621**	**0.582**	*0.484*	*0.598*	*0.678*	*0.561*	*0.524*	**2.272**	*2.358*	*2.361*
Solar (b)	**0.187**	**0.314**	**0.313**	**0.205**	**0.259**	**0.394**	**0.384**	*0.248*	*0.314*	*0.497*	*0.504*	*0.341*	**1.020**	*1.286*	*1.655*
Waste Biomass (c)	**0.059**	**0.057**	**0.057**	**0.056**	**0.055**	**0.053**	**0.053**	*0.054*	*0.054*	*0.053*	*0.054*	*0.053*	**0.229**	*0.215*	*0.214*
Wood Biomass	**0.051**	**0.045**	**0.054**	**0.047**	**0.051**	**0.046**	**0.056**	*0.042*	*0.046*	*0.041*	*0.051*	*0.042*	**0.197**	*0.196*	*0.180*
Wind	**0.854**	**0.860**	**0.692**	**0.959**	**1.060**	**1.077**	**0.718**	*1.017*	*1.129*	*1.139*	*0.758*	*1.065*	**3.365**	*3.872*	*4.092*
Subtotal	**1.788**	**1.887**	**1.684**	**1.863**	**2.133**	**2.227**	**1.829**	*1.883*	*2.178*	*2.444*	*1.965*	*2.061*	**7.221**	*8.072*	*8.648*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.203**	**0.199**	*0.208*	*0.197*	*0.200*	*0.199*	*0.206*	**0.789**	*0.813*	*0.801*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	**0.011**	**0.012**	*0.008*	*0.009*	*0.012*	*0.012*	*0.009*	**0.035**	*0.039*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.042**	**0.040**	**0.038**	*0.041*	*0.040*	*0.039*	*0.038*	*0.041*	**0.160**	*0.161*	*0.158*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.315**	**0.321**	**0.334**	*0.326*	*0.339*	*0.340*	*0.357*	*0.343*	**1.342**	*1.296*	*1.380*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.576**	**0.583**	**0.591**	*0.592*	*0.592*	*0.599*	*0.614*	*0.607*	**2.361**	*2.342*	*2.413*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.025*	*0.024*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	**0.048**	**0.048**	*0.034*	*0.039*	*0.057*	*0.057*	*0.040*	**0.140**	*0.163*	*0.193*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.010**	**0.009**	**0.010**	*0.009*	*0.009*	*0.009*	*0.009*	*0.009*	**0.035**	*0.038*	*0.037*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	**0.021**	**0.021**	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.084**	**0.086**	**0.072**	**0.077**	**0.092**	**0.093**	*0.078*	*0.082*	*0.101*	*0.102*	*0.084*	**0.313**	*0.340*	*0.368*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.079**	**0.118**	**0.119**	*0.085*	*0.096*	*0.149*	*0.151*	*0.106*	**0.329**	*0.402*	*0.502*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.119**	**0.121**	**0.120**	*0.117*	*0.119*	*0.121*	*0.120*	*0.117*	**0.464**	*0.477*	*0.477*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.208**	**0.249**	**0.250**	*0.212*	*0.225*	*0.279*	*0.282*	*0.233*	**0.832**	*0.919*	*1.019*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.083**	**0.099**	**0.094**	**0.110**	**0.094**	**0.117**	**0.116**	*0.138*	*0.126*	*0.134*	*0.133*	*0.159*	**0.386**	*0.465*	*0.552*
Ethanol (g)	**0.242**	**0.281**	**0.285**	**0.289**	**0.259**	**0.281**	**0.279**	*0.278*	*0.260*	*0.281*	*0.281*	*0.284*	**1.098**	*1.097*	*1.106*
Subtotal	**0.326**	**0.379**	**0.379**	**0.400**	**0.353**	**0.397**	**0.395**	*0.421*	*0.386*	*0.415*	*0.414*	*0.443*	**1.484**	*1.566*	*1.657*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.083**	**0.099**	**0.094**	**0.110**	**0.094**	**0.117**	**0.116**	*0.138*	*0.126*	*0.134*	*0.133*	*0.159*	**0.386**	*0.465*	*0.552*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.203**	**0.203**	**0.199**	*0.208*	*0.197*	*0.200*	*0.199*	*0.206*	**0.789**	*0.813*	*0.801*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.302**	**0.271**	**0.293**	**0.292**	*0.291*	*0.272*	*0.294*	*0.293*	*0.296*	**1.147**	*1.146*	*1.156*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.051**	**0.051**	**0.052**	*0.054*	*0.053*	*0.051*	*0.055*	*0.054*	**0.206**	*0.209*	*0.213*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.674**	**0.624**	**0.584**	*0.487*	*0.601*	*0.681*	*0.563*	*0.526*	**2.283**	*2.369*	*2.372*
Solar (b)(f)	**0.288**	**0.466**	**0.463**	**0.307**	**0.380**	**0.572**	**0.564**	*0.375*	*0.457*	*0.715*	*0.725*	*0.495*	**1.524**	*1.891*	*2.392*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	**0.102**	**0.102**	*0.105*	*0.103*	*0.101*	*0.101*	*0.103*	**0.431**	*0.416*	*0.408*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.512**	**0.506**	**0.509**	**0.531**	*0.506*	*0.525*	*0.523*	*0.549*	*0.523*	**2.085**	*2.052*	*2.120*
Wind	**0.854**	**0.860**	**0.692**	**0.959**	**1.060**	**1.077**	**0.718**	*1.017*	*1.129*	*1.139*	*0.758*	*1.065*	**3.365**	*3.872*	*4.092*
Total Consumption	**2.940**	**3.171**	**2.968**	**3.130**	**3.347**	**3.548**	**3.158**	*3.186*	*3.463*	*3.838*	*3.377*	*3.428*	**12.210**	*13.239*	*14.106*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,130**	**6,110**	**6,081**	**6,087**	**6,083**	**6,084**	**6,020**	*5,994*	*5,991*	*6,027*	*6,027*	*6,009*	**6,087**	*5,994*	*6,009*
Waste	**3,680**	**3,660**	**3,646**	**3,652**	**3,649**	**3,649**	**3,585**	*3,560*	*3,557*	*3,592*	*3,592*	*3,590*	**3,652**	*3,560*	*3,590*
Wood	**2,450**	**2,450**	**2,435**	**2,435**	**2,435**	**2,435**	**2,435**	*2,435*	*2,435*	*2,435*	*2,435*	*2,419*	**2,435**	*2,435*	*2,419*
Conventional Hydroelectric	**79,538**	**79,608**	**79,611**	**79,611**	**79,653**	**79,653**	**79,586**	*79,502*	*79,701*	*79,715*	*79,742*	*79,749*	**79,611**	*79,502*	*79,749*
Geothermal	**2,523**	**2,523**	**2,523**	**2,523**	**2,523**	**2,540**	**2,578**	*2,578*	*2,603*	*2,603*	*2,603*	*2,603*	**2,523**	*2,578*	*2,603*
Large-Scale Solar (b)	**50,533**	**52,435**	**55,700**	**61,009**	**63,189**	**65,458**	**67,201**	*75,992*	*79,694*	*83,611*	*89,983*	*106,994*	**61,009**	*75,992*	*106,994*
Wind	**120,974**	**124,729**	**126,684**	**132,629**	**134,862**	**137,384**	**138,100**	*143,904*	*144,798*	*145,176*	*145,376*	*148,740*	**132,629**	*143,904*	*148,740*
Other Sectors (c)															
Biomass	**6,319**	**6,321**	**6,325**	**6,306**	**6,306**	**6,300**	**6,312**	*6,339*	*6,339*	*6,339*	*6,339*	*6,330*	**6,306**	*6,339*	*6,330*
Waste	**826**	**828**	**827**	**817**	**817**	**817**	**817**	*817*	*817*	*817*	*817*	*817*	**817**	*817*	*817*
Wood	**5,493**	**5,493**	**5,498**	**5,489**	**5,489**	**5,483**	**5,495**	*5,522*	*5,522*	*5,522*	*5,522*	*5,513*	**5,489**	*5,522*	*5,513*
Conventional Hydroelectric	**301**	**301**	**299**	**299**	**299**	**302**	**302**	*302*	*302*	*302*	*300*	*300*	**299**	*302*	*300*
Large-Scale Solar (b)	**477**	**479**	**519**	**541**	**559**	**569**	**571**	*575*	*580*	*589*	*634*	*634*	**541**	*575*	*634*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**34,700**	**36,348**	**38,092**	*40,216*	*42,444*	*44,795*	*47,276*	*49,896*	**32,972**	*40,216*	*49,896*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**22,293**	**23,588**	**24,993**	*26,570*	*28,231*	*29,992*	*31,859*	*33,838*	**21,022**	*26,570*	*33,838*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**10,175**	**10,502**	**10,807**	*11,294*	*11,800*	*12,327*	*12,878*	*13,455*	**9,728**	*11,294*	*13,455*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,232**	**2,257**	**2,291**	*2,352*	*2,413*	*2,475*	*2,539*	*2,603*	**2,223**	*2,352*	*2,603*
Wind	**122**	**122**	**122**	**125**	**125**	**125**	**125**	*125*	*125*	*125*	*125*	*125*	**125**	*125*	*125*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**6.9**	**6.5**	**6.9**	**6.4**	**6.6**	**6.5**	**7.1**	*6.2*	*6.5*	*6.2*	*6.7*	*6.2*	**26.7**	*26.4*	*25.5*
Waste	**3.8**	**3.7**	**3.7**	**3.6**	**3.5**	**3.6**	**3.6**	*3.6*	*3.6*	*3.5*	*3.6*	*3.5*	**14.8**	*14.2*	*14.2*
Wood	**3.1**	**2.7**	**3.3**	**2.8**	**3.1**	**2.9**	**3.6**	*2.6*	*2.9*	*2.6*	*3.2*	*2.6*	**11.9**	*12.2*	*11.3*
Conventional Hydroelectric	**65.6**	**65.8**	**59.2**	**59.8**	**74.4**	**69.2**	**62.3**	*54.4*	*67.2*	*76.2*	*63.0*	*58.8*	**250.4**	*260.3*	*265.2*
Geothermal	**3.8**	**3.8**	**3.9**	**4.0**	**4.1**	**4.0**	**4.2**	*4.2*	*4.1*	*3.9*	*4.3*	*4.1*	**15.5**	*16.4*	*16.4*
Large-Scale Solar (b)	**21.0**	**35.3**	**35.1**	**23.0**	**29.1**	**44.3**	**43.2**	*27.9*	*35.3*	*55.8*	*56.6*	*38.2*	**114.5**	*144.5*	*185.9*
Wind	**95.9**	**96.5**	**77.7**	**107.7**	**119.0**	**121.0**	**80.6**	*114.2*	*126.8*	*128.0*	*85.2*	*119.6*	**377.9**	*434.8*	*459.6*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.0**	**6.8**	**6.7**	**6.8**	**6.8**	*6.8*	*6.7*	*6.8*	*6.8*	*6.8*	**27.5**	*27.2*	*27.2*
Waste	**0.7**	**0.7**	**0.7**	**0.8**	**0.7**	**0.7**	**0.7**	*0.8*	*0.7*	*0.7*	*0.7*	*0.8*	**3.0**	*2.9*	*2.9*
Wood	**6.1**	**6.1**	**6.3**	**6.1**	**6.0**	**6.1**	**6.2**	*6.1*	*6.0*	*6.1*	*6.2*	*6.1*	**24.6**	*24.3*	*24.3*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.2**	**0.3**	**0.3**	*0.2*	*0.2*	*0.3*	*0.3*	*0.3*	**0.7**	*1.0*	*1.1*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**12.0**	**17.7**	**17.8**	*12.5*	*14.4*	*21.9*	*22.4*	*15.6*	**49.0**	*60.1*	*74.3*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.6**	**11.3**	**11.4**	*8.1*	*9.3*	*14.5*	*14.8*	*10.4*	**30.1**	*38.4*	*49.0*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.6**	**5.2**	**5.2**	*3.6*	*4.2*	*6.1*	*6.2*	*4.3*	**15.1**	*17.6*	*20.8*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	**1.2**	**1.2**	*0.8*	*0.9*	*1.3*	*1.3*	*0.9*	**3.8**	*4.1*	*4.5*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,216**	**19,544**	**19,673**	**20,006**	**19,924**	**19,895**	**20,022**	*19,997*	*19,911*	*19,914*	*19,984*	*20,080*	**19,610**	*19,960*	*19,972*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,387**	**13,774**	**13,874**	**13,982**	**14,028**	**14,099**	**14,134**	*14,207*	*14,195*	*14,227*	*14,260*	*14,295*	**13,754**	*14,117*	*14,244*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,540**	**3,591**	**3,581**	**3,586**	**3,629**	**3,582**	**3,537**	*3,473*	*3,413*	*3,374*	*3,372*	*3,385*	**3,575**	*3,555*	*3,386*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-102**	**-159**	**-55**	**240**	**257**	**145**	**100**	*40*	*11*	*-10*	*26*	*65*	**-19**	*136*	*23*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,449**	**3,422**	**3,421**	**3,413**	**3,393**	**3,379**	**3,400**	*3,409*	*3,436*	*3,445*	*3,455*	*3,467*	**3,426**	*3,395*	*3,451*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,318**	**2,345**	**2,339**	**2,466**	**2,437**	**2,517**	**2,603**	*2,601*	*2,582*	*2,584*	*2,600*	*2,627*	**2,367**	*2,540*	*2,598*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,482**	**3,549**	**3,606**	**3,763**	**3,926**	**3,947**	**3,877**	*3,871*	*3,874*	*3,855*	*3,870*	*3,890*	**3,600**	*3,905*	*3,872*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,325**	**15,921**	**15,735**	**15,537**	**15,109**	**15,052**	**15,108**	*15,248*	*15,430*	*15,525*	*15,670*	*15,785*	**16,130**	*15,129*	*15,602*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.4**	**151.6**	**152.7**	*153.4*	*153.3*	*152.4*	*151.6*	*151.1*	**146.1**	*152.0*	*152.1*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	**3.6**	**3.6**	*3.8*	*4.0*	*4.6*	*5.2*	*5.5*	**5.4**	*3.7*	*4.8*
Housing Starts															
(millions - SAAR)	**1.58**	**1.59**	**1.57**	**1.68**	**1.72**	**1.65**	**1.47**	*1.37*	*1.26*	*1.20*	*1.18*	*1.18*	**1.61**	*1.55*	*1.20*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.1**	**99.7**	**100.5**	**101.7**	**102.9**	**104.2**	**104.9**	*105.1*	*104.9*	*104.6*	*104.7*	*105.4*	**100.0**	*104.3*	*104.9*
Manufacturing	**96.9**	**98.3**	**99.2**	**100.6**	**101.5**	**102.4**	**102.9**	*103.0*	*102.7*	*102.3*	*102.4*	*103.0*	**98.8**	*102.5*	*102.6*
Food	**104.5**	**103.3**	**102.0**	**103.5**	**105.5**	**105.1**	**104.7**	*104.3*	*104.1*	*103.9*	*103.9*	*104.1*	**103.3**	*104.9*	*104.0*
Paper	**95.0**	**96.0**	**96.0**	**95.2**	**96.4**	**97.3**	**96.5**	*95.2*	*95.0*	*94.7*	*94.2*	*94.0*	**95.5**	*96.4*	*94.5*
Petroleum and Coal Products	**86.0**	**92.3**	**93.5**	**96.0**	**94.2**	**94.0**	**95.3**	*95.7*	*95.6*	*95.2*	*94.8*	*94.6*	**92.0**	*94.8*	*95.1*
Chemicals	**94.3**	**101.1**	**101.2**	**102.6**	**102.4**	**103.2**	**104.2**	*103.8*	*104.6*	*104.6*	*104.0*	*104.4*	**99.8**	*103.4*	*104.4*
Nonmetallic Mineral Products	**97.8**	**96.0**	**97.3**	**99.1**	**102.9**	**103.4**	**104.6**	*104.0*	*102.4*	*101.3*	*100.7*	*100.7*	**97.5**	*103.7*	*101.2*
Primary Metals	**93.0**	**96.6**	**98.3**	**98.7**	**95.6**	**97.4**	**96.4**	*94.5*	*96.3*	*96.1*	*95.3*	*96.2*	**96.6**	*96.0*	*96.0*
Coal-weighted Manufacturing (a)	**91.1**	**94.9**	**95.5**	**96.6**	**96.2**	**96.8**	**96.9**	*95.9*	*96.3*	*95.8*	*95.0*	*95.3*	**94.5**	*96.4*	*95.6*
Distillate-weighted Manufacturing (a)	**100.9**	**102.2**	**102.7**	**104.2**	**105.7**	**106.1**	**106.3**	*105.3*	*104.5*	*103.6*	*103.0*	*103.3*	**102.5**	*105.8*	*103.6*
Electricity-weighted Manufacturing (a)	**93.1**	**96.4**	**96.5**	**97.6**	**98.0**	**98.7**	**98.7**	*97.8*	*98.1*	*97.8*	*97.2*	*97.6*	**95.9**	*98.3*	*97.7*
Natural Gas-weighted Manufacturing (a)	**88.8**	**94.6**	**94.1**	**95.2**	**95.2**	**95.5**	**95.4**	*94.4*	*94.9*	*94.6*	*93.7*	*94.0*	**93.1**	*95.1*	*94.3*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.85**	**2.92**	**2.96**	*2.99*	*3.02*	*3.04*	*3.06*	*3.09*	**2.71**	*2.93*	*3.05*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.53**	**2.73**	**2.70**	*2.61*	*2.55*	*2.50*	*2.48*	*2.49*	**2.27**	*2.64*	*2.50*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.72**	**3.16**	**4.21**	**3.74**	*2.98*	*2.74*	*2.89*	*2.87*	*2.80*	**2.41**	*3.52*	*2.83*
GDP Implicit Price Deflator															
(index, 2012=100)	**116.2**	**118.0**	**119.8**	**121.8**	**124.2**	**126.9**	**128.2**	*129.4*	*130.4*	*131.3*	*132.2*	*133.1*	**118.9**	*127.2*	*131.8*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,125**	**9,368**	**8,934**	**8,373**	**9,164**	**9,318**	*8,905*	*8,483*	*9,286*	*9,421*	*9,074*	**8,843**	*8,942*	*9,068*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**537**	**597**	**658**	**667**	**656**	**686**	**689**	*704*	*714*	*744*	*750*	*743*	**615**	*684*	*738*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**245**	**340**	**372**	**376**	**356**	**419**	**414**	*380*	*365*	*407*	*410*	*386*	**334**	*392*	*392*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**225.6**	**328.7**	**293.1**	*294.1*	*246.9*	*296.5*	*278.5*	*263.6*	**217.5**	*285.4*	*271.4*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	**0.253**	**0.247**	*0.243*	*0.249*	*0.240*	*0.237*	*0.247*	**0.258**	*0.249*	*0.243*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**521**	**562**	**571**	**580**	**562**	**564**	**578**	*576*	*556*	*569*	*573*	*577*	**2,234**	*2,280*	*2,274*
Natural Gas	**493**	**357**	**377**	**430**	**512**	**375**	**399**	*457*	*501*	*359*	*384*	*445*	**1,657**	*1,743*	*1,689*
Coal	**256**	**229**	**307**	**210**	**245**	**216**	**270**	*214*	*223*	*196*	*261*	*199*	**1,002**	*946*	*878*
Total Energy (c)	**1,272**	**1,150**	**1,259**	**1,223**	**1,322**	**1,158**	**1,251**	*1,250*	*1,282*	*1,126*	*1,220*	*1,224*	**4,904**	*4,981*	*4,852*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**985**	**1,009**	**1,018**	**1,033**	**1,032**	**1,024**	**1,030**	*1,028*	*1,024*	*1,024*	*1,028*	*1,032*	**1,011**	*1,028*	*1,027*
Middle Atlantic	**2,729**	**2,774**	**2,802**	**2,859**	**2,858**	**2,858**	**2,876**	*2,870*	*2,854*	*2,851*	*2,859*	*2,873*	**2,791**	*2,866*	*2,859*
E. N. Central	**2,498**	**2,542**	**2,547**	**2,588**	**2,596**	**2,583**	**2,593**	*2,586*	*2,576*	*2,575*	*2,582*	*2,591*	**2,544**	*2,590*	*2,581*
W. N. Central	**1,198**	**1,216**	**1,207**	**1,215**	**1,220**	**1,215**	**1,221**	*1,220*	*1,216*	*1,218*	*1,223*	*1,229*	**1,209**	*1,219*	*1,221*
S. Atlantic	**3,425**	**3,488**	**3,519**	**3,585**	**3,578**	**3,578**	**3,597**	*3,599*	*3,584*	*3,586*	*3,599*	*3,617*	**3,504**	*3,588*	*3,597*
E. S. Central	**852**	**862**	**865**	**879**	**884**	**883**	**887**	*886*	*882*	*881*	*883*	*886*	**865**	*885*	*883*
W. S. Central	**2,327**	**2,348**	**2,352**	**2,381**	**2,377**	**2,383**	**2,409**	*2,411*	*2,406*	*2,409*	*2,420*	*2,435*	**2,352**	*2,395*	*2,418*
Mountain	**1,298**	**1,317**	**1,330**	**1,361**	**1,359**	**1,354**	**1,364**	*1,361*	*1,355*	*1,356*	*1,362*	*1,369*	**1,327**	*1,360*	*1,360*
Pacific	**3,713**	**3,786**	**3,825**	**3,888**	**3,805**	**3,802**	**3,828**	*3,820*	*3,800*	*3,799*	*3,813*	*3,831*	**3,803**	*3,814*	*3,811*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.2**	**96.7**	**97.4**	**98.4**	**99.3**	**100.1**	**100.2**	*100.1*	*99.9*	*99.6*	*99.8*	*100.4*	**96.9**	*99.9*	*99.9*
Middle Atlantic	**93.0**	**94.2**	**94.7**	**95.8**	**96.6**	**97.4**	**97.4**	*97.6*	*97.4*	*96.8*	*96.8*	*97.4*	**94.4**	*97.3*	*97.1*
E. N. Central	**95.4**	**95.9**	**96.6**	**98.3**	**98.9**	**99.4**	**99.5**	*99.6*	*99.6*	*99.1*	*99.0*	*99.3*	**96.5**	*99.4*	*99.2*
W. N. Central	**98.3**	**99.3**	**100.0**	**100.7**	**102.0**	**102.6**	**103.0**	*103.0*	*102.7*	*102.4*	*102.6*	*103.4*	**99.6**	*102.7*	*102.8*
S. Atlantic	**99.3**	**100.4**	**101.3**	**102.6**	**103.4**	**104.6**	**105.3**	*105.3*	*104.9*	*104.3*	*104.1*	*104.8*	**100.9**	*104.7*	*104.5*
E. S. Central	**97.7**	**98.6**	**99.2**	**100.5**	**100.9**	**101.3**	**101.5**	*101.6*	*101.2*	*100.6*	*100.4*	*100.8*	**99.0**	*101.3*	*100.7*
W. S. Central	**98.5**	**100.0**	**100.6**	**102.1**	**103.5**	**105.0**	**106.0**	*106.2*	*106.0*	*105.8*	*106.0*	*106.8*	**100.3**	*105.2*	*106.2*
Mountain	**106.5**	**108.5**	**109.4**	**111.1**	**112.7**	**113.9**	**115.1**	*115.2*	*114.7*	*114.3*	*114.3*	*115.0*	**108.9**	*114.2*	*114.6*
Pacific	**94.1**	**95.7**	**96.0**	**97.0**	**97.8**	**98.7**	**99.0**	*99.2*	*99.0*	*98.7*	*99.0*	*99.9*	**95.7**	*98.7*	*99.1*
Real Personal Income (Billion $2012)															
New England	**1,017**	**966**	**954**	**944**	**935**	**926**	**930**	*935*	*937*	*939*	*943*	*945*	**971**	*931*	*941*
Middle Atlantic	**2,634**	**2,472**	**2,448**	**2,408**	**2,385**	**2,378**	**2,384**	*2,392*	*2,405*	*2,408*	*2,415*	*2,419*	**2,491**	*2,385*	*2,412*
E. N. Central	**2,763**	**2,544**	**2,506**	**2,481**	**2,464**	**2,451**	**2,446**	*2,454*	*2,467*	*2,470*	*2,476*	*2,480*	**2,573**	*2,454*	*2,473*
W. N. Central	**1,276**	**1,195**	**1,173**	**1,158**	**1,156**	**1,154**	**1,156**	*1,161*	*1,170*	*1,173*	*1,178*	*1,181*	**1,201**	*1,157*	*1,176*
S. Atlantic	**3,772**	**3,500**	**3,472**	**3,473**	**3,436**	**3,426**	**3,443**	*3,458*	*3,482*	*3,490*	*3,504*	*3,515*	**3,554**	*3,441*	*3,498*
E. S. Central	**1,044**	**949**	**941**	**938**	**931**	**926**	**923**	*924*	*930*	*931*	*933*	*934*	**968**	*926*	*932*
W. S. Central	**2,242**	**2,083**	**2,067**	**2,072**	**2,056**	**2,062**	**2,072**	*2,081*	*2,096*	*2,102*	*2,112*	*2,119*	**2,116**	*2,067*	*2,107*
Mountain	**1,408**	**1,308**	**1,300**	**1,304**	**1,291**	**1,287**	**1,295**	*1,302*	*1,308*	*1,312*	*1,317*	*1,322*	**1,330**	*1,294*	*1,315*
Pacific	**3,296**	**3,110**	**3,096**	**3,047**	**2,985**	**2,969**	**2,982**	*3,042*	*3,008*	*3,015*	*3,025*	*3,031*	**3,137**	*2,994*	*3,020*
Households (Thousands)															
New England	**6,024**	**6,042**	**6,057**	**6,071**	**6,085**	**6,089**	**6,091**	*6,094*	*6,103*	*6,112*	*6,119*	*6,126*	**6,071**	*6,094*	*6,126*
Middle Atlantic	**16,327**	**16,354**	**16,389**	**16,418**	**16,449**	**16,457**	**16,459**	*16,468*	*16,494*	*16,519*	*16,540*	*16,557*	**16,418**	*16,468*	*16,557*
E. N. Central	**18,974**	**19,031**	**19,094**	**19,146**	**19,197**	**19,205**	**19,207**	*19,215*	*19,242*	*19,271*	*19,295*	*19,315*	**19,146**	*19,215*	*19,315*
W. N. Central	**8,668**	**8,702**	**8,735**	**8,766**	**8,796**	**8,813**	**8,826**	*8,837*	*8,856*	*8,876*	*8,893*	*8,909*	**8,766**	*8,837*	*8,909*
S. Atlantic	**26,140**	**26,277**	**26,400**	**26,538**	**26,673**	**26,761**	**26,836**	*26,905*	*26,999*	*27,090*	*27,172*	*27,251*	**26,538**	*26,905*	*27,251*
E. S. Central	**7,771**	**7,806**	**7,838**	**7,871**	**7,903**	**7,922**	**7,937**	*7,949*	*7,968*	*7,987*	*8,004*	*8,019*	**7,871**	*7,949*	*8,019*
W. S. Central	**15,249**	**15,331**	**15,412**	**15,498**	**15,582**	**15,639**	**15,687**	*15,730*	*15,788*	*15,845*	*15,898*	*15,946*	**15,498**	*15,730*	*15,946*
Mountain	**9,559**	**9,623**	**9,687**	**9,747**	**9,805**	**9,845**	**9,881**	*9,912*	*9,954*	*9,997*	*10,035*	*10,073*	**9,747**	*9,912*	*10,073*
Pacific	**18,898**	**18,934**	**18,977**	**19,024**	**19,078**	**19,097**	**19,108**	*19,115*	*19,144*	*19,173*	*19,197*	*19,218*	**19,024**	*19,115*	*19,218*
Total Non-farm Employment (Millions)															
New England	**7.1**	**7.1**	**7.2**	**7.3**	**7.4**	**7.4**	**7.5**	*7.5*	*7.5*	*7.5*	*7.4*	*7.4*	**7.2**	*7.4*	*7.4*
Middle Atlantic	**18.5**	**18.7**	**18.9**	**19.2**	**19.4**	**19.6**	**19.7**	*19.8*	*19.8*	*19.7*	*19.6*	*19.5*	**18.8**	*19.6*	*19.6*
E. N. Central	**21.1**	**21.2**	**21.5**	**21.6**	**21.8**	**21.9**	**22.0**	*22.1*	*22.1*	*22.0*	*21.8*	*21.8*	**21.4**	*22.0*	*21.9*
W. N. Central	**10.4**	**10.4**	**10.5**	**10.5**	**10.6**	**10.7**	**10.7**	*10.8*	*10.8*	*10.8*	*10.7*	*10.7*	**10.5**	*10.7*	*10.7*
S. Atlantic	**28.2**	**28.5**	**28.9**	**29.2**	**29.5**	**29.8**	**30.1**	*30.2*	*30.2*	*30.0*	*29.9*	*29.8*	**28.7**	*29.9*	*30.0*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.3**	**8.4**	**8.4**	**8.5**	*8.5*	*8.5*	*8.4*	*8.4*	*8.4*	**8.2**	*8.4*	*8.4*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.8**	**18.1**	**18.3**	**18.5**	*18.6*	*18.5*	*18.5*	*18.4*	*18.3*	**17.5**	*18.3*	*18.4*
Mountain	**10.8**	**11.0**	**11.2**	**11.3**	**11.4**	**11.5**	**11.6**	*11.6*	*11.6*	*11.5*	*11.5*	*11.4*	**11.1**	*11.5*	*11.5*
Pacific	**22.2**	**22.7**	**23.1**	**23.3**	**23.6**	**23.9**	**24.1**	*24.2*	*24.1*	*24.0*	*23.9*	*23.8*	**22.8**	*23.9*	*23.9*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,013**	**780**	**84**	**1,922**	**3,140**	**788**	**115**	*2,065*	*3,120*	*862*	*137*	*2,217*	**5,799**	*6,108*	*6,337*
Middle Atlantic	**2,820**	**668**	**57**	**1,726**	**2,943**	**671**	**73**	*1,978*	*2,923*	*697*	*86*	*2,026*	**5,272**	*5,665*	*5,731*
E. N. Central	**3,087**	**708**	**69**	**1,889**	**3,270**	**755**	**99**	*2,279*	*3,170*	*739*	*121*	*2,267*	**5,753**	*6,403*	*6,297*
W. N. Central	**3,227**	**718**	**87**	**2,024**	**3,483**	**792**	**111**	*2,500*	*3,276*	*709*	*154*	*2,455*	**6,057**	*6,886*	*6,595*
South Atlantic	**1,347**	**212**	**10**	**799**	**1,342**	**189**	**13**	*977*	*1,372*	*195*	*13*	*975*	**2,368**	*2,520*	*2,555*
E. S. Central	**1,794**	**316**	**19**	**1,038**	**1,822**	**248**	**23**	*1,389*	*1,808*	*252*	*20*	*1,326*	**3,167**	*3,482*	*3,406*
W. S. Central	**1,295**	**122**	**1**	**497**	**1,344**	**57**	**2**	*911*	*1,161*	*79*	*5*	*821*	**1,915**	*2,314*	*2,065*
Mountain	**2,307**	**662**	**110**	**1,635**	**2,301**	**738**	**85**	*2,005*	*2,259*	*711*	*153*	*1,879*	**4,714**	*5,129*	*5,002*
Pacific	**1,561**	**485**	**78**	**1,203**	**1,392**	**605**	**48**	*1,222*	*1,578*	*616*	*93*	*1,234*	**3,328**	*3,267*	*3,521*
U.S. Average	**2,107**	**472**	**51**	**1,307**	**2,148**	**492**	**54**	*1,569*	*2,124*	*494*	*75*	*1,553*	**3,937**	*4,263*	*4,246*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,100**	**853**	**107**	*2,104*	*3,151*	*859*	*106*	*2,102*	**6,195**	*6,164*	*6,218*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	**684**	**71**	*1,908*	*2,945*	*692*	*70*	*1,913*	**5,572**	*5,551*	*5,620*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	**727**	**97**	*2,162*	*3,215*	*742*	*93*	*2,174*	**6,161**	*6,119*	*6,224*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	**726**	**125**	*2,357*	*3,317*	*754*	*121*	*2,371*	**6,477**	*6,426*	*6,563*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	**187**	**11**	*905*	*1,401*	*190*	*10*	*904*	**2,503**	*2,483*	*2,505*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	**243**	**15**	*1,228*	*1,810*	*251*	*14*	*1,235*	**3,267**	*3,249*	*3,310*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	**93**	**3**	*754*	*1,189*	*96*	*3*	*774*	**2,015**	*1,995*	*2,061*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	**685**	**132**	*1,817*	*2,201*	*701*	*129*	*1,840*	**4,877**	*4,816*	*4,870*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,455**	**523**	**79**	*1,136*	*1,439*	*523*	*75*	*1,141*	**3,242**	*3,192*	*3,178*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,096**	**479**	**62**	*1,473*	*2,133*	*486*	*60*	*1,479*	**4,147**	*4,110*	*4,159*
Cooling Degree Days															
New England	**0**	**141**	**457**	**7**	**0**	**79**	**559**	*1*	*0*	*85*	*413*	*1*	**604**	*640*	*500*
Middle Atlantic	**0**	**182**	**626**	**23**	**0**	**152**	**682**	*2*	*0*	*152*	*538*	*4*	**831**	*836*	*694*
E. N. Central	**2**	**250**	**628**	**30**	**1**	**255**	**555**	*2*	*0*	*211*	*539*	*7*	**910**	*813*	*757*
W. N. Central	**8**	**312**	**748**	**23**	**3**	**305**	**734**	*8*	*3*	*261*	*673*	*10*	**1,092**	*1,050*	*947*
South Atlantic	**155**	**616**	**1,171**	**285**	**155**	**709**	**1,197**	*225*	*127*	*642*	*1,154*	*232*	**2,227**	*2,286*	*2,155*
E. S. Central	**40**	**432**	**1,014**	**125**	**28**	**599**	**1,064**	*41*	*29*	*505*	*1,045*	*65*	**1,611**	*1,733*	*1,643*
W. S. Central	**89**	**770**	**1,471**	**314**	**55**	**1,092**	**1,664**	*191*	*91*	*887*	*1,490*	*193*	**2,643**	*3,002*	*2,660*
Mountain	**10**	**529**	**964**	**68**	**17**	**470**	**1,018**	*64*	*17*	*414*	*907*	*73*	**1,571**	*1,570*	*1,411*
Pacific	**24**	**251**	**707**	**59**	**31**	**220**	**763**	*82*	*25*	*163*	*568*	*62*	**1,041**	*1,096*	*817*
U.S. Average	**50**	**410**	**902**	**128**	**46**	**464**	**950**	*91*	*44*	*398*	*849*	*93*	**1,490**	*1,552*	*1,384*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	**87**	**471**	*2*	*0*	*87*	*479*	*2*	**555**	*560*	*568*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	**162**	**608**	*8*	*0*	*159*	*613*	*8*	**779**	*779*	*781*
E. N. Central	**3**	**234**	**572**	**7**	**3**	**238**	**571**	*9*	*1*	*234*	*561*	*10*	**816**	*821*	*805*
W. N. Central	**7**	**294**	**686**	**10**	**7**	**299**	**681**	*11*	*4*	*292*	*674*	*12*	**997**	*999*	*982*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	**668**	**1,188**	*269*	*144*	*675*	*1,192*	*273*	**2,276**	*2,272*	*2,284*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	**518**	**1,057**	*84*	*36*	*521*	*1,059*	*84*	**1,713**	*1,702*	*1,699*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	**853**	**1,536**	*224*	*101*	*861*	*1,548*	*225*	**2,772**	*2,726*	*2,734*
Mountain	**24**	**441**	**949**	**85**	**23**	**459**	**945**	*84*	*23*	*456*	*951*	*82*	**1,499**	*1,511*	*1,512*
Pacific	**31**	**193**	**648**	**86**	**31**	**208**	**665**	*86*	*32*	*214*	*676*	*86*	**959**	*989*	*1,007*
U.S. Average	**52**	**413**	**892**	**104**	**53**	**412**	**889**	*109*	*50*	*415*	*894*	*110*	**1,461**	*1,463*	*1,469*

- = no data available

Notes: EIA completed modeling and analysis for this report on December 1, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the December 2022 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Oct 2022	Nov 2022	Oct 2022 – Nov 2022 Average	Oct 2021 – Nov 2021 Average	2019 – 2021 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	101.2	101.6	101.4	98.4	96.6
Global Petroleum and Other Liquids Consumption (b)	99.4	100.2	99.8	99.6	96.8
Biofuels Production (c)	2.8	2.5	2.7	2.6	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.6	3.6	3.6	3.5	3.2
Iran Liquid Fuels Consumption	1.9	2.1	2.0	2.0	2.0
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	94.8	95.4	95.1	92.3	90.7
Consumption (d)	94.9	95.6	95.2	95.0	92.2
Production minus Consumption	-0.1	-0.2	-0.1	-2.7	-1.5
World Inventory Net Withdrawals Including Iran	-1.8	-1.4	-1.6	1.2	0.1
Estimated OECD Inventory Level (e) (million barrels)	2,764	2,771	2,768	2,742	2,946
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	2.0	2.4	2.2	3.9	4.3

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Data source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Oct 2022	Nov 2022	Oct 2022 – Nov 2022 Average	Oct 2021 – Nov 2021 Average	2019 – 2021 Average
Brent Front Month Futures Price ($ per barrel)	93.59	90.85	92.22	82.30	59.44
WTI Front Month Futures Price ($ per barrel)	87.03	84.39	85.71	79.94	54.82
Dubai Front Month Futures Price ($ per barrel)	91.07	85.63	88.35	80.79	58.86
Brent 1st - 13th Month Futures Spread ($ per barrel)	12.24	8.39	10.32	7.84	1.80
WTI 1st - 13th Month Futures Spread ($ per barrel)	10.88	7.27	9.08	8.86	1.37
RBOB Front Month Futures Price ($ per gallon)	2.71	2.52	2.62	2.35	1.67
Heating Oil Front Month Futures Price ($ per gallon)	3.95	3.56	3.75	2.45	1.75
RBOB - Brent Futures Crack Spread ($ per gallon)	0.48	0.36	0.42	0.39	0.25
Heating Oil - Brent Futures Crack Spread ($ per gallon)	1.72	1.39	1.56	0.49	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Data source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

Independent Statistics and Analysis
U.S. Energy Information Administration

Short-Term Energy Outlook

STEO

January 2023



Overview

U.S. energy market indicators	2022	2023	2024
Brent crude oil spot price (dollars per barrel)	**$100.94**	**$83.10**	**$77.57**
Retail gasoline price (dollars per gallon)	**$3.97**	**$3.32**	**$3.09**
U.S. crude oil production (million barrels per day)	**11.86**	**12.41**	**12.81**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$6.42**	**$4.90**	**$4.80**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**10.7**	**12.1**	**12.6**
Shares of U.S. electricity generation			
Natural gas	39%	38%	37%
Coal	20%	18%	17%
Renewables	21%	24%	26%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	**1.9%**	**0.5%**	**1.9%**
U.S. CO_2 emissions (billion metric tons)	**4.99**	**4.83**	**4.81**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* January 2023

- This edition of STEO is the first to include forecasts for 2024.
- **U.S. GDP growth.** Based on the S&P Global macroeconomic model, we expect U.S. real GDP to grow by 0.5% in 2023, with economic growth returning after contraction in the first quarter of 2023 (1Q23) and 2Q23. In 2024, real GDP grows by 1.9%, driven primarily by an increase in household consumption. Relatively flat economic growth in 2023 results in total U.S. energy consumption falling by 0.9% in our forecast. Total energy consumption then rises by 1.0% in 2024.
- **Global liquid fuels markets.** Global production of liquid fuels in our forecast reaches an average of 102.8 million barrels per day (b/d) in 2024, up from 100.0 million b/d in 2022, driven by large growth in non-OPEC production. However, uncertainty over Russia's oil supply will persist, particularly in early 2023. We expect that global consumption of liquid fuels will increase from an average of 99.4 million b/d in 2022 to 102.2 million b/d in 2024. Ongoing concerns about global economic conditions as well as the easing COVID-19 restrictions in China, however, increase the uncertainty of the outcomes of our demand forecasts. With more global oil production than consumption in our forecast, we expect global oil inventories will increase over the next two years.
- **Crude oil prices.** We forecast that the Brent crude oil price will average $83 per barrel (b) in 2023, down 18% from 2022, and continue to fall to $78/b in 2024 as global oil inventories build, putting downward pressure on crude oil prices.

- **Gasoline prices.** Gasoline prices decline in our forecast as both wholesale refining margins and crude oil prices fall. We forecast U.S. gasoline refining margins will fall by 29% in 2023 and fall by 14% in 2024, leading to retail gasoline prices averaging around $3.30 per gallon (gal) in 2023 and $3.10/gal in 2024.

- **Diesel prices.** We forecast that U.S. refining margins for diesel will fall by 20% in 2023 and by 38% in 2024. We expect retail diesel prices to average about $4.20/gal in 2023, down 16% from 2022. In 2024, we expect prices to continue to fall, and average near $3.70/gal.

- **Natural gas prices.** The Henry Hub natural gas spot price averages slightly less than $5.00 per million British thermal units (MMBtu) in 2023 in our forecast—down close to 25% from last year—as domestic consumption declines and liquefied natural gas (LNG) exports remain relatively flat. In 2024, we expect natural gas prices to again average slightly below $5.00/MMBtu, as dry natural gas production outpaces an increase in LNG exports that results from rising LNG export capacity.

- **Natural gas production.** We expect natural gas production in both the Permian and Haynesville regions to grow with the completion of pipeline infrastructure expansions in 2023 and 2024.

- **Electricity generation.** We expect that the share of electricity generation from coal will fall from 20% in 2022 to 18% in 2023 and 17% in 2024. This decline will be partially offset by an increase in the forecast share of combined utility-scale solar and wind generation from 16% in 2023 to 18% in 2024.

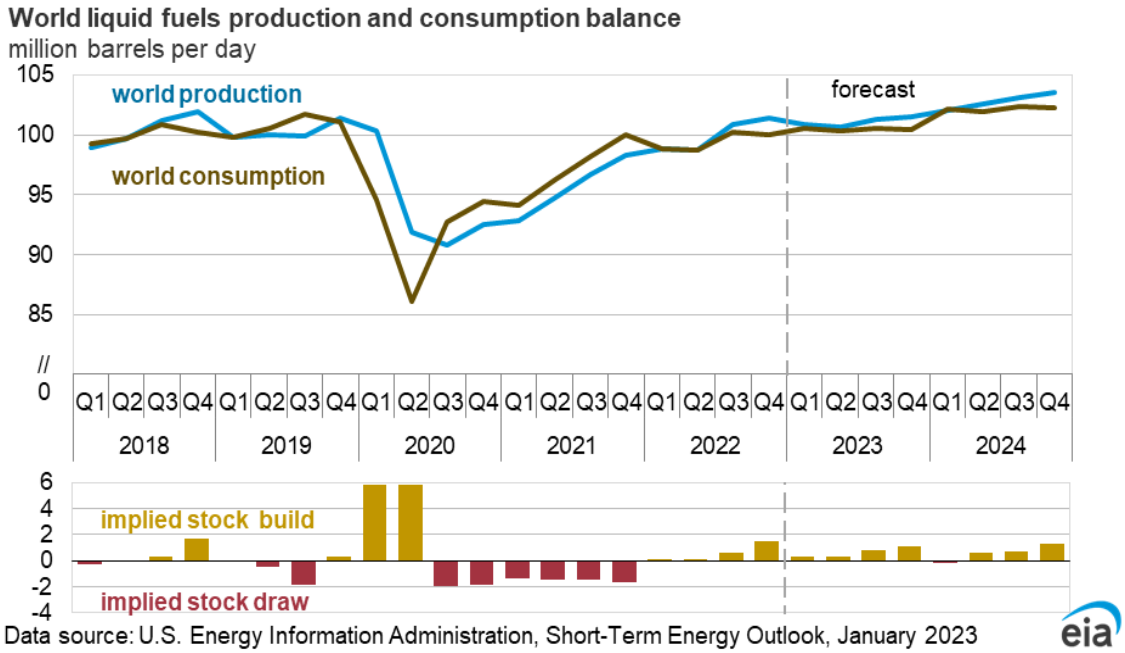
Notable forecast changes

Current forecast: January 10, 2023; previous forecast: December 6, 2022	**2023**	**2024**
Brent spot average (current) (dollars per barrel)	**$83**	**$78**
Previous forecast	$92	---
Percentage change	-10.0%	---
Natural gas price at Henry Hub (current) (dollars per MMBtu)	**$4.90**	**$4.80**
Previous forecast	$5.43	---
Percentage change	-9.8%	---
Gasoline retail prices (current) (dollars per gallon)	**$3.32**	**$3.09**
Previous forecast	$3.51	---
Percentage change	-5.5%	---
U.S. distillate fuel inventories (current) (million barrels)	**127.0**	**125.2**
Previous forecast	123.9	---
Percentage change	2.5%	---
Diesel fuel prices (current) (dollars per gallon)	**$4.22**	**$3.69**
Previous forecast	$4.48	---
Percentage change	-5.7%	---

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* January 2023

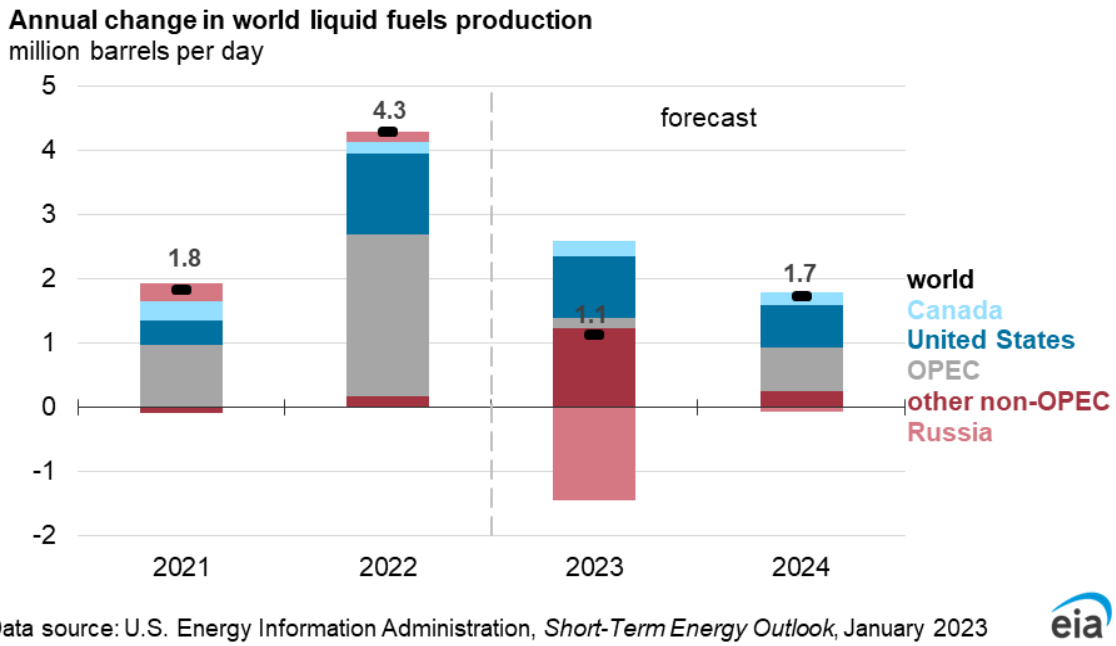
Global oil markets

Crude oil prices: We forecast that Brent crude oil prices will average $83 per barrel (b) in 2023 and $78/b in 2024. Our inaugural edition of *STEO Between the Lines* provides an in-depth summary of our Brent crude oil price assumptions and major risks to our forecast. *Between the Lines* is a new product that will periodically accompany STEO to provide in-depth analysis of issues in our forecast.



Global liquid fuels production: We forecast that world production of petroleum and other liquid fuels will increase by 1.1 million barrels per day (b/d) in 2023 and 1.7 million b/d in 2024. This increase reflects large growth in several non-OPEC countries and in OPEC output that more than offset 1.5 million b/d of declines in Russia's production over the forecast period.

We forecast that the United States and other non-OPEC producers outside of Russia will add 2.4 million b/d of oil production in 2023 and an additional 1.1 million b/d in 2024. The largest source of non-OPEC production growth over the forecast period is the United States, which contributes 40% of growth in 2023 and 60% of growth in 2024. U.S. growth is driven by increases in crude oil production in the Lower 48 states—mostly in the Permian region—as well as a combination of increases to production of hydrocarbon gas liquids and biofuels, which together account for about 40% of U.S. liquid fuels production growth in 2023 and 2024.



Outside of the United States, other major sources of growth in non-OPEC liquid fuels production come from Canada, Brazil, Guyana, and Norway. We expect that increases in Canada's production will be driven by projects to improve distribution bottlenecks, including the start-up of the TransMountain pipeline expansion project. Brazil's increases are driven by new floating production, storage, and offloading (FPSO) deepwater rigs.

A noteworthy new source of world oil supply is Guyana, which first began producing oil in 2019 after the discovery of the new offshore deepwater Liza oil field. Critical investment and new production vessels helped Guyana's oil production increase to an average of 260,000 b/d in 2022. We expect further ramp-ups in output and the development of new oil resources over the next two years, helping oil production in Guyana increase to an average of 540,000 b/d by 4Q24.

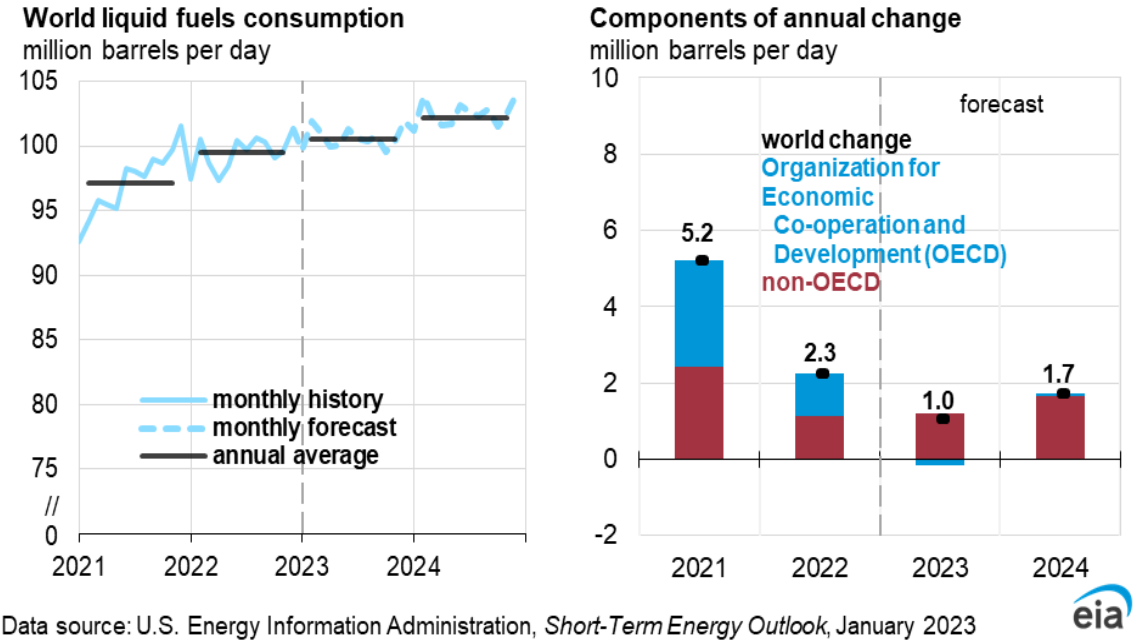
Growth in Norway's oil output in 2023 stems from the recent start-up of the offshore Johan Sverdrup Phase 2 expansion project, which will result in Norway's liquid fuels production rising by more than 500,000 b/d over the forecast to reach almost 2.5 million b/d in 2024.

We expect that these sources of growth in non-OPEC liquid fuels supply will offset declines in Russia's oil production. We forecast that Russia's petroleum and other liquid fuels production will decline to 9.5 million b/d in 2023, from 10.9 million b/d in 2022, and then average 9.4 million b/d in 2024. The extent to which European Union sanctions, other sanctions, and the G7 price cap will affect Russia's crude oil and petroleum product exports and production remains uncertain.

We expect that most crude oil exports from Russia will continue to find buyers. But we expect the sanctions on petroleum products will cause greater disruptions to Russia's oil production and exports because finding alternative buyers as well as transportation and other services to reach those buyers is likely to be more challenging than for crude oil.

OPEC crude oil production in our forecast averages 29.5 million b/d in 2024, up 0.8 million b/d from 2022. Part of this growth is driven by Venezuela. Following the U.S. Department of the Treasury issuing General License (GL) 41 at the end of November, Chevron is resuming oil production in Venezuela for export to the United States. Our OPEC production forecast is subject to considerable uncertainty, driven by a combination of possible outcomes for country compliance to existing OPEC+ production targets and changes to existing OPEC+ targets, as well as ongoing developments in Iran, Libya, and Venezuela.

Global liquid fuels consumption: Forecast global consumption of liquid fuels reaches 102.2 million b/d in 2024, driven primarily by growth in non-OECD countries, such as India and China. Trends in oil consumption largely reflect trends in economic activity. We forecast growth in global demand for oil will slow in 2023 before picking up in 2024, as global GDP growth (based on forecasts from Oxford Economics) rises from 1.8% in 2023 to 3.3% in 2024. Although we forecast global oil consumption to increase, our demand forecast remains uncertain as a result of ongoing concerns around global economic conditions and the impact of the easing COVID-19 restrictions and rising case counts in China.



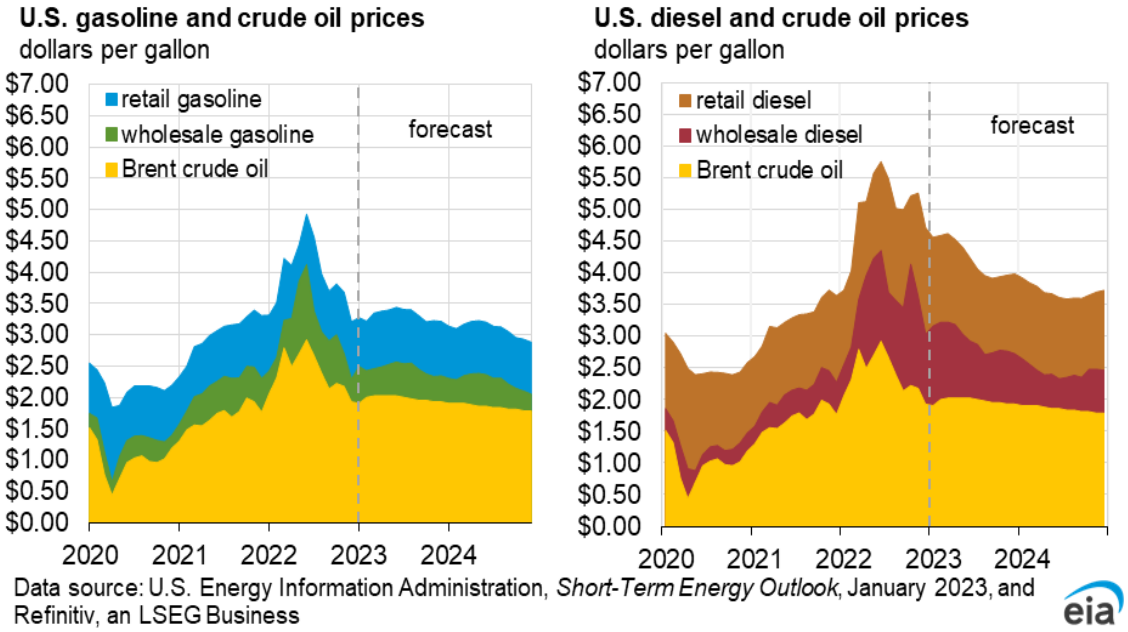
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2023

Petroleum products

Gasoline and diesel prices: Gasoline and diesel prices in our forecast generally decline as wholesale refining margins and crude oil prices fall. In December 2022, the U.S. retail price for regular-grade gasoline averaged $3.21 per gallon (gal), and the retail diesel price averaged $4.71/gal. Both December prices were the lowest since the beginning of Russia's full-scale invasion of Ukraine in February. In our forecast for 2023 and 2024, U.S. refinery runs and gasoline and diesel production are higher than in 2022, which along with increasing global refinery capacity, will contribute to narrowing U.S. refining margins in 2023 and 2024.

We forecast retail gasoline prices will remain close to current levels and average about $3.30/gal in 2023. In 2024, we forecast retail gasoline prices will average about $3.10/gal and fall below $3.00/gal by

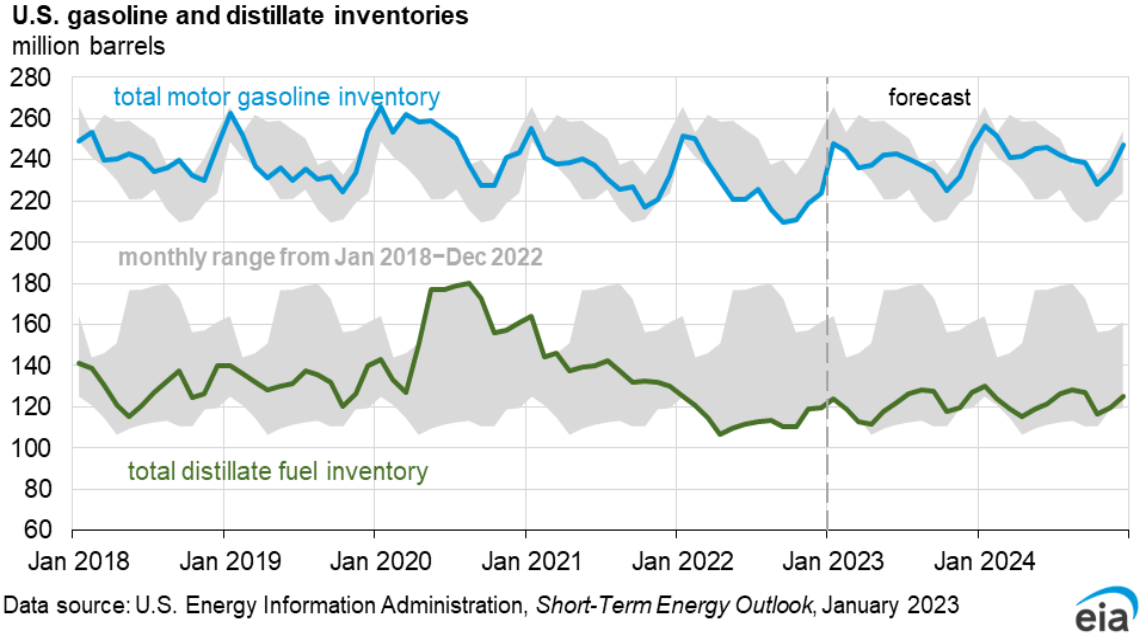
the end of the year. We forecast retail diesel prices to average about $4.20/gal in 2023 and near $3.70/gal in 2024. Diesel prices will remain higher than gasoline prices as the market continues to adjust to disruptions largely related to responses to Russia's full-scale invasion of Ukraine. Russia had been a major supplier of diesel fuel to Europe, which is now importing more diesel from the Middle East and India.



Gasoline and distillate inventories: In 2022, both gasoline and distillate inventories in the United States were below their previous five-year (2017–2021) averages for the entire year because of reduced refinery capacity, less-than-average imports, and expanding exports. Higher refinery runs and less consumption contributed to distillate fuel inventories increasing during 4Q22 by more than the previous five-year average. We estimate that 5.1 million barrels per day (b/d) of distillate was produced in the United States during 4Q22, up 5% from a year earlier, as refiners increased production in response to high crack spreads—the difference between the price at which refiners sell fuel and the price of crude oil.

We expect U.S. distillate inventories will increase in 2023 due to increasing refinery runs as refiners capitalize on high distillate crack spreads. Refiners have a limited ability to shift their product yields, so we also expect gasoline production to increase in 2023 alongside distillate production. As a result, we forecast gasoline inventories will rise above their previous five-year average from May 2023 through the end of the year. Although net U.S. exports of gasoline will increase in 2023, we expect these volumes will come from increased gasoline production. We forecast almost no change in U.S. gasoline consumption over the next two years. Our expectation of relatively flat gasoline consumption stems from increases in vehicle miles traveled being offset by increases in the fuel efficiency of the vehicle fleet.

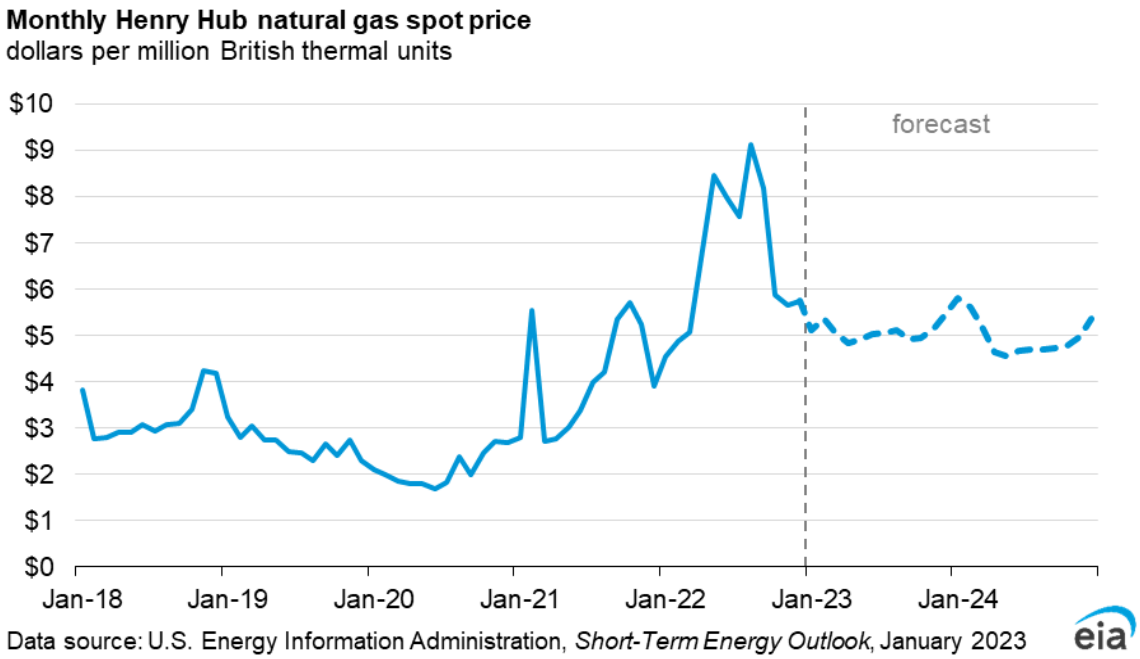
Declining freight activity and declining manufacturing activity in distillate-intensive industries led to decreased U.S. distillate consumption at the end of 2022. Our 4Q22 estimate for U.S. distillate consumption of 3.9 million b/d was the lowest for a fourth quarter since 2015. In our forecast, U.S. distillate consumption declines slightly in 2023. However, we expect distillate consumption will pick up in 2024 as the rate of economic growth increases.



Natural gas

Natural gas prices: We expect the Henry Hub natural gas spot price to average near $5.00 per million British thermal units (MMBtu) in 1Q23. The Henry Hub price began January below $4.00/MMBtu as a result of warmer-than-normal temperatures across much of the country. However, we expect that prices will rise back above $5.00/MMBtu in late-January and stay above that in February as temperatures in our forecast fall and liquefied natural gas (LNG) exports from Freeport LNG resume, increasing demand for natural gas.

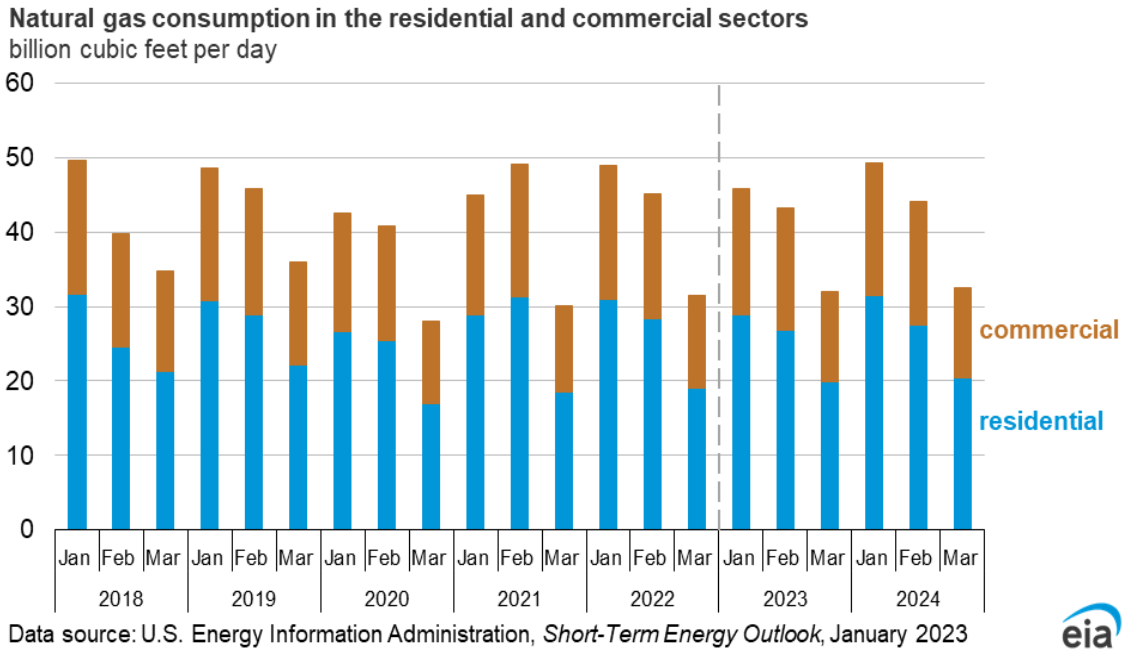
Extreme weather events can cause price spikes and volatility at both the Henry Hub and in regional markets. Spot prices reached more than $50.00/MMBtu in some western markets in December, and potential natural gas supply constraints in New England could cause large price increases if extreme cold weather hits the region. Based on the most recent press release from Freeport LNG, we expect the facility to resume partial operations in January, which will increase U.S. LNG exports and put upward pressure on prices. However, any additional delays to the restart of Freeport, which was originally scheduled to restart partial operations in November, will contribute to downward pressure on prices in the near term.



Once heating demand subsides this winter, we expect prices to average near $5.00/MMBtu for the last three quarters of 2023. Increases in U.S. natural gas production, relatively flat LNG exports, and declining domestic consumption in the electric power and industrial sectors will limit upward pressure on prices in 2023.

Despite our expectation that new LNG export facilities and expansion projects will come online in 2024 we expect natural gas prices to be relatively flat—with the possibility of lower prices—due to continued increases in U.S. natural gas production. We expect production in both the Permian region in West Texas and Southeast New Mexico and in the Haynesville region in Louisiana and East Texas to continue to grow with the completion of new pipeline infrastructure expansions in 2023 and 2024.

Natural gas consumption: During the winter months in the United States, the residential and commercial sectors are large drivers of natural gas consumption because natural gas is used for space heating in homes and commercial buildings and demand for heating rises as the weather gets colder. We expect natural gas consumption in the U.S. residential and commercial sectors to average about 46 billion cubic feet per day (Bcf/d) in January, which is slightly less than the five-year (2018–2022) average. Less-than-average January consumption reflects a relatively mild start to the month across much of the country that reduced space heating demand for natural gas. We expect U.S. residential and commercial natural gas consumption to average 43 Bcf/d in February, which is also less than the five-year average, as forecasts from the National Oceanic and Atmospheric Administration indicate above normal temperatures for February in the eastern part of the United States. Residential and commercial natural gas consumption can be highly variable in winter months due to extreme weather events, such as in February 2021 when extreme cold weather across much of the United States led to increased residential and commercial natural gas consumption.



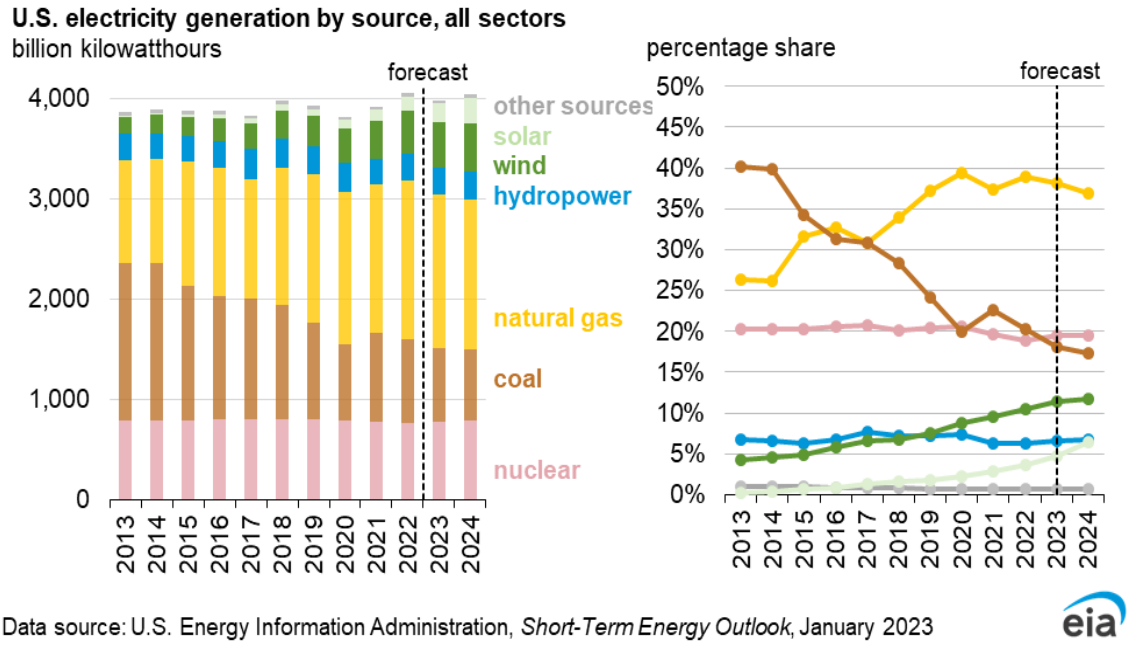
Electricity, coal, and renewables

Electricity consumption: We forecast that total consumption of electricity in the United States will remain fairly stable, falling by 1% in 2023 and then growing by just over 1% in 2024. We estimate that electricity consumption grew by 3% in 2022.

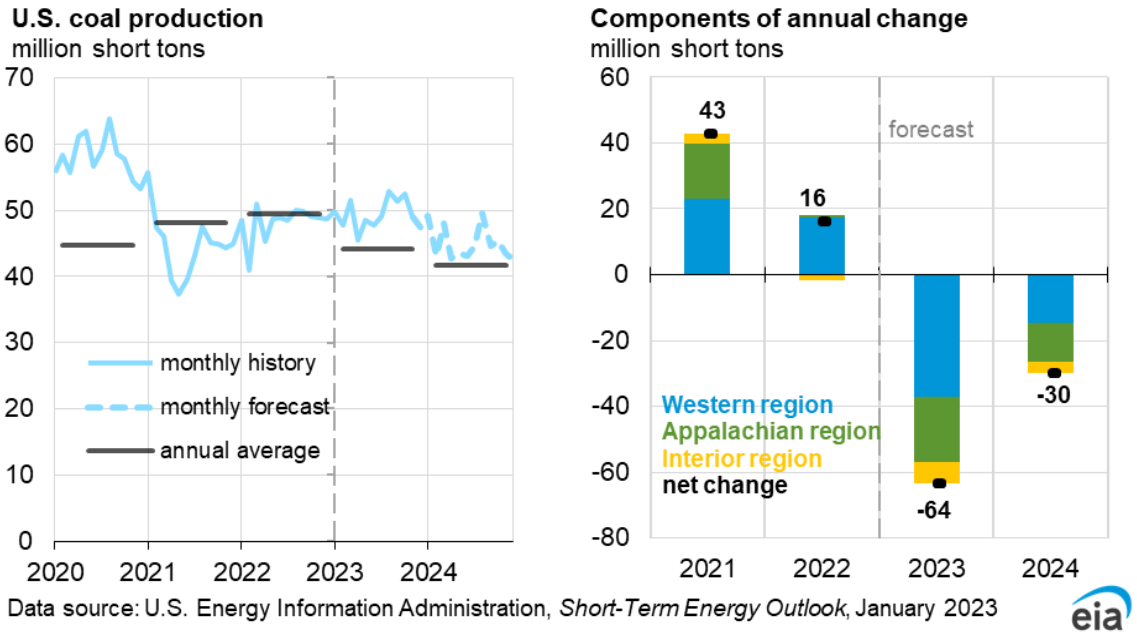
Most of our expected change in U.S. electricity demand occurs in the residential sector, where we expect retail sales will fall as a result of a milder summer in 2023 compared with 2022 with about 10% fewer cooling degree days. Residential electricity sales grow in 2024 because we expect 5% more heating degree days in 1Q24 compared with 1Q23. The forecast also reflects trends in the housing stock. Our forecast assumes the U.S. housing starts resume growing in 2024 after a sharp decline in growth in 2023.

Electricity generation: U.S. generation in our forecast largely follows consumption, declining in 2023 then rising in 2024. Generation from renewable sources is the main contributor of growth in U.S. electricity generation. The forecast share of U.S. renewables generation rises from 21% in 2022 to 24% in 2023 and to 26% in 2024. About two-thirds of this forecast increase in renewables generation comes from new utility-scale solar photovoltaic capacity, and most of the rest is from new wind projects. We expect the share of electricity generation supplied by natural gas to decrease from 39% in 2022 to 38% in 2023 and 37% 2024 while the share of electricity generated by coal will fall from 20% in 2022 to 18% in 2023 and 17% in 2024. The share of nuclear power generation remains close to 19% over the next two years.

Power generators plan to add 32 gigawatts (GW) of utility-scale solar photovoltaic (PV) in 2023 and another estimated 32 GW in 2024. We forecast that small-scale solar capacity will grow by 9 GW in 2023 and by 12 GW in 2024. Wind capacity increases by 6 GW in both 2023 and 2024. Battery storage additions to capacity in our forecast are 10 GW in 2023 and 9 GW in 2024.



Coal Markets: After increasing in both 2021 and 2022, we expect U.S. coal production to decline by 11% to about 530 million short tons (MMst) in 2023, and a further 6% to 500 MMst in 2024. The primary reason for the decrease is our forecast of an 11% reduction in coal consumption in the electric power sector in 2023 followed by a 3% reduction in 2024. That decline largely reflects almost 10 GW of coal-fired capacity retirements in 2023 and another 4 GW in 2024. At the same time, renewable generation increases by 20% between 2022 and 2024, reducing coal-fired generation.

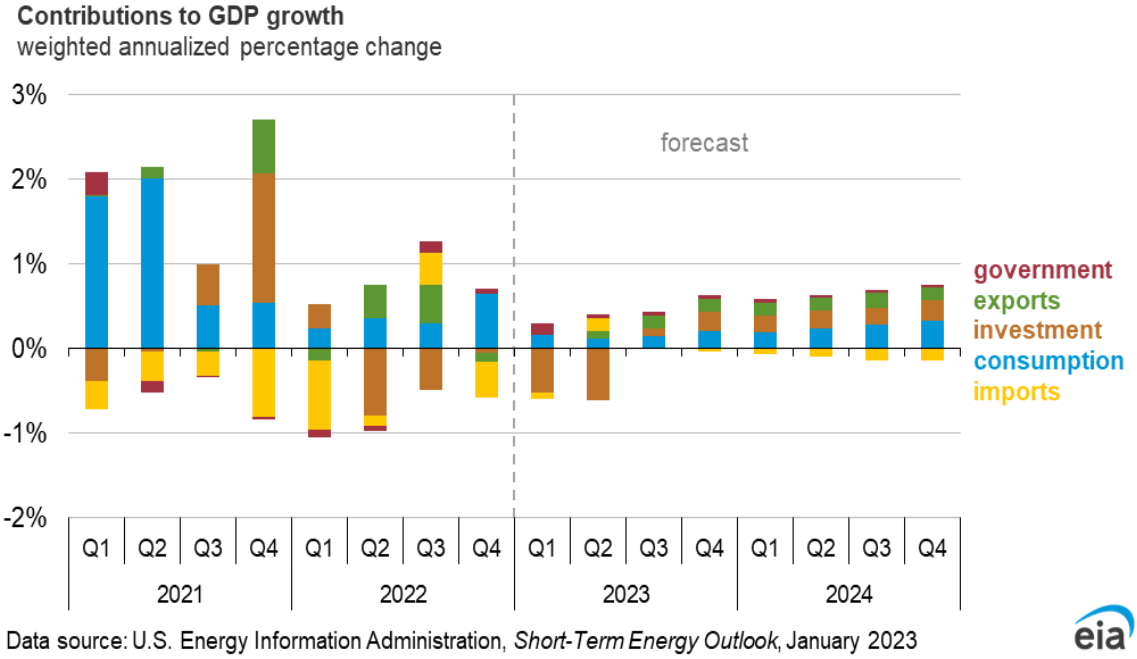


Economy, weather, and CO_2

U.S. macroeconomics: We incorporate STEO energy price forecasts into our S&P Global macroeconomic model to obtain the final U.S. macroeconomic outlook for our forecast,

S&P Global is forecasting a mild recession, starting in 1Q23. As a result, we forecast GDP to grow by 0.5% in 2023, with the economy recovering from the recession and returning to positive GDP growth in 3Q23. In 1Q23, real GDP contracts at an annual rate of 0.7%, mostly due to a decline in residential fixed investment and private business inventories of goods. We expect the recovery to be led by net exports and personal consumption expenditures in 2Q23, with the entire economy returning to growth later in the year.

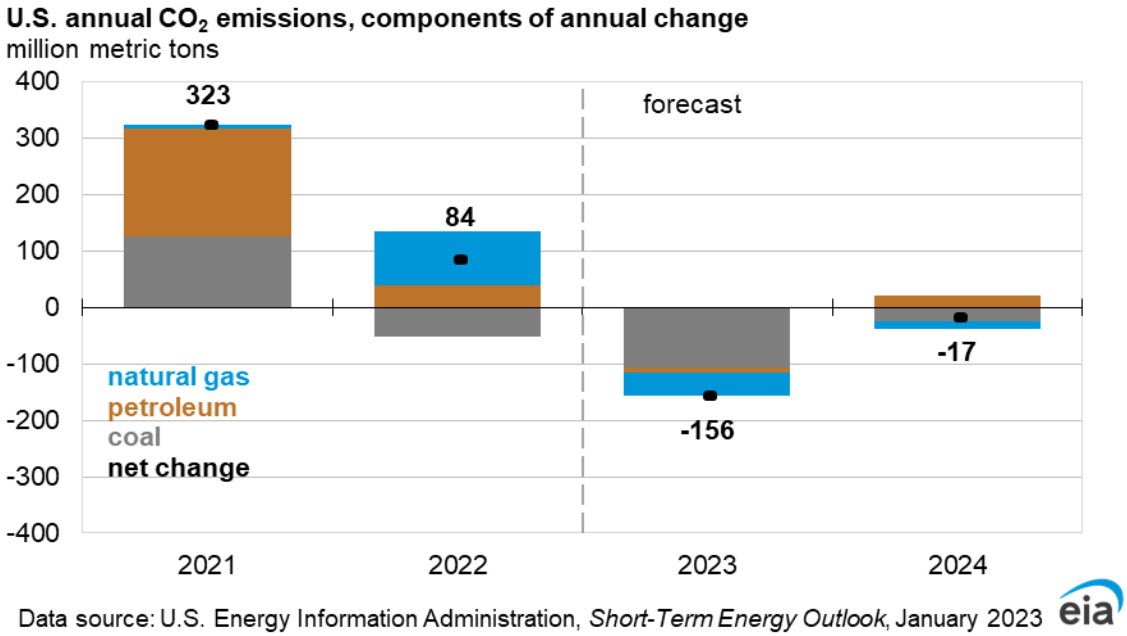
We expect personal consumption expenditures to grow through 2024, despite an increase in consumer savings from historically low levels. Throughout 2023, we expect the labor market to weaken, with the unemployment rate reaching a peak of 5.2% in 4Q23.



Emissions: We forecast total energy-related carbon dioxide (CO_2) emissions to decrease in the United States by more than 3% in 2023. Relatively flat economic growth and an increase in electricity generation from renewable sources decreases fossil fuel consumption, and therefore emissions. Among the major fossil fuel categories, CO_2 emissions from coal decline the most in the United States at around 11%, mostly from decreasing coal-fired electricity generation. More renewable generation contributes to decreases in natural gas-fired electricity generation, which in turn decreases CO_2 emissions from natural gas by 2%. We expect petroleum emissions to remain about the same.

U.S. energy-related CO_2 emissions in 2024 remain unchanged from 2023 in our forecast because increasing emissions from petroleum products offsets decreasing emissions from natural gas. Petroleum CO_2 emissions increase slightly as a result of increases in air and road travel, as well as increasing

hydrocarbon gas liquid consumption, particularly propane. More consumption of propane arises from increased industrial activity, as propane is used as a petrochemical feedstock.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2023

Weather: In December, the United States experienced 27% more population-weighted heating degree days (HDDs) than last year and 9% more than the 10-year average. Based on forecasts from the National Oceanic and Atmospheric Administration, we expect 1Q23 to be milder than last winter, with 5% fewer HDDs in the United States compared with 1Q22 and 4% fewer than the 10-year average. We have updated our expectations for winter heating fuel expenditures based on the most recent temperature and price forecasts.

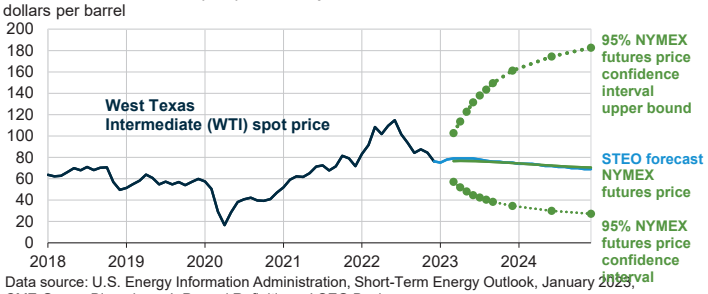
The U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (DOE), prepared this report. By law, our data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report do not represent those of DOE or any other federal agencies.

Short-Term Energy Outlook
Chart Gallery

January 10, 2023

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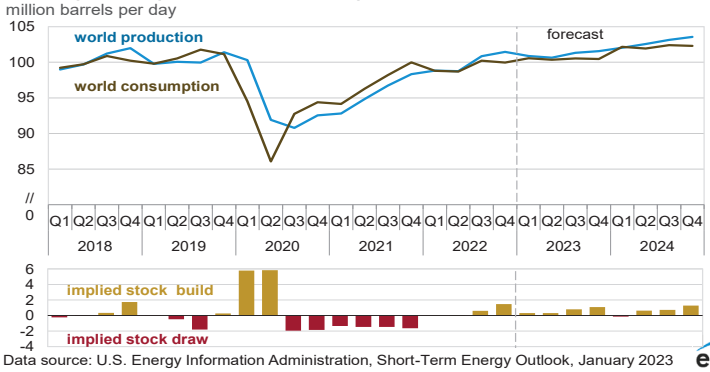
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending January 5, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.

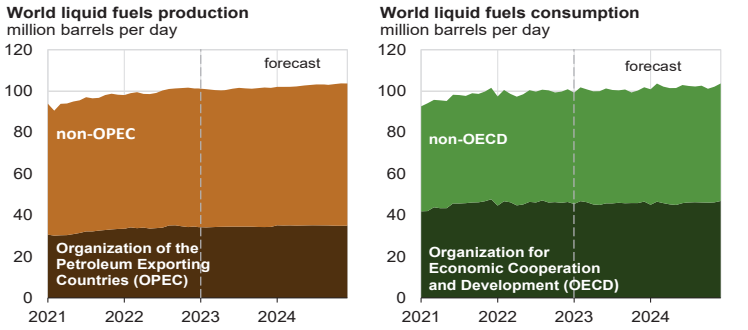
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World liquid fuels production and consumption balance
million barrels per day

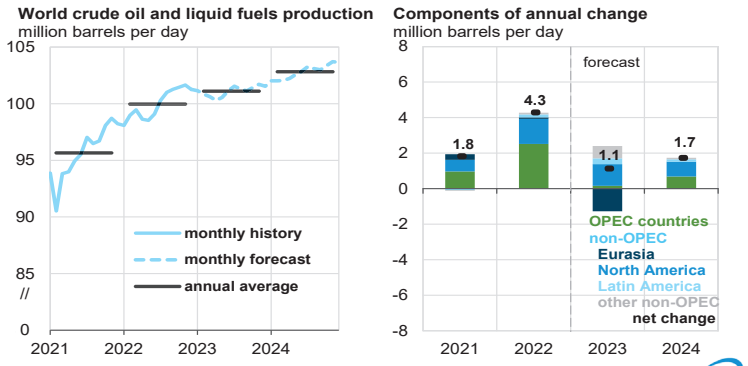


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

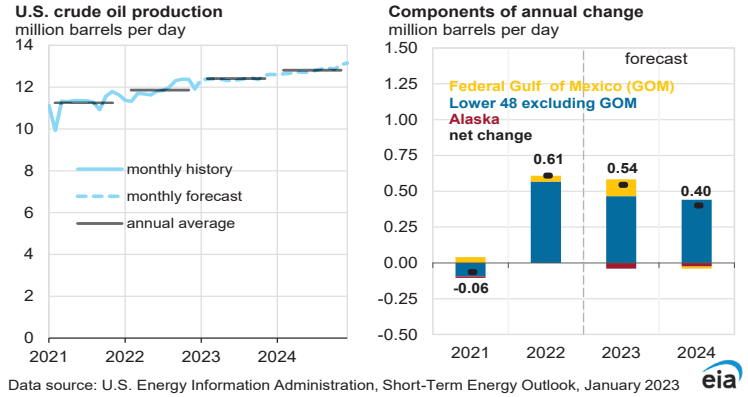
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Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

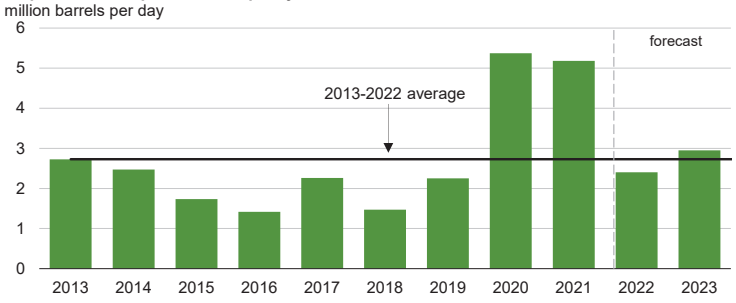


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023



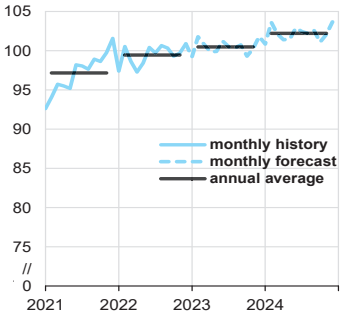
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day

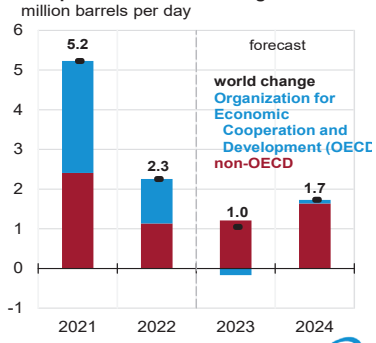


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: Black line represents 2013-2022 average (2.7 million barrels per day).

World liquid fuels consumption
million barrels per day

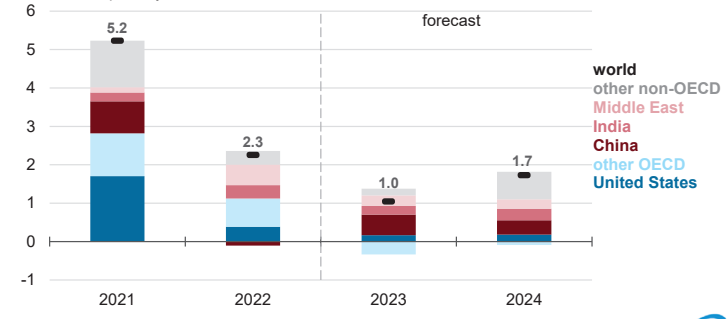


Components of annual change
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

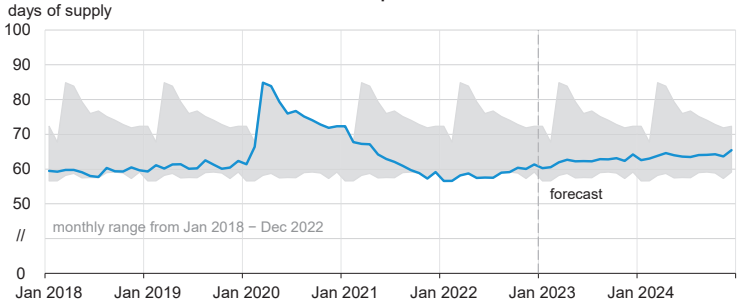
Annual change in world liquid fuels consumption
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids

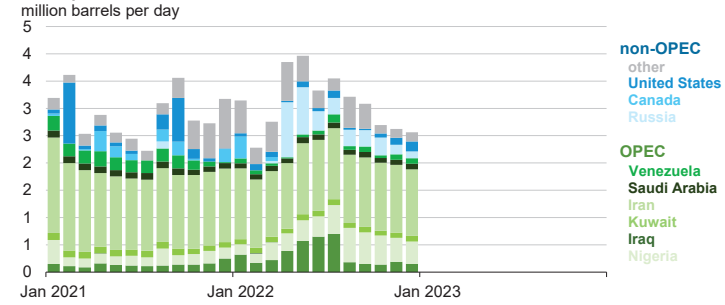
days of supply



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers

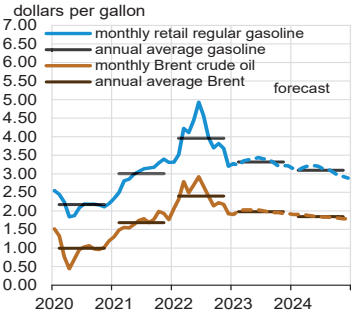
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

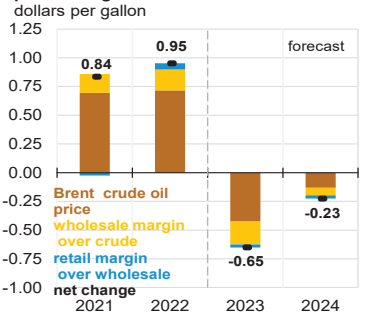
U.S. gasoline and crude oil prices

dollars per gallon



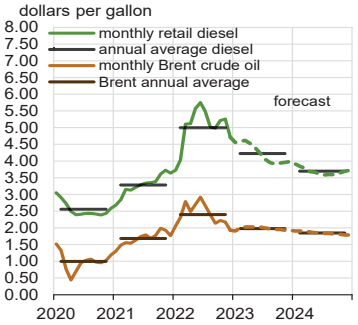
Components of annual gasoline price changes

dollars per gallon

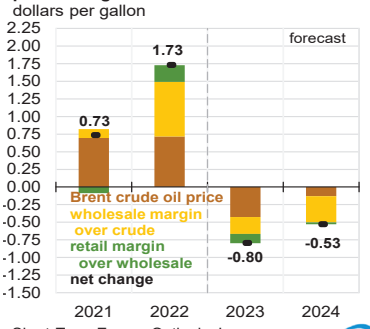


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, and Refinitiv an LSEG Business

U.S. diesel and crude oil prices

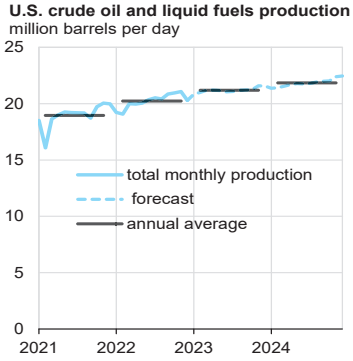


Components of annual diesel price changes

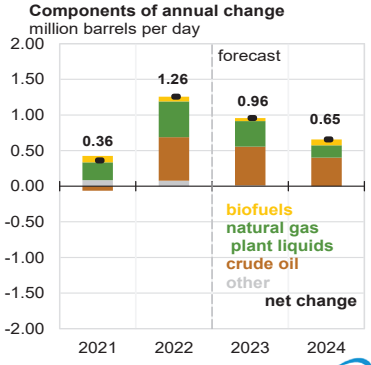


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, and Refinitiv an LSEG Business

U.S. crude oil and liquid fuels production

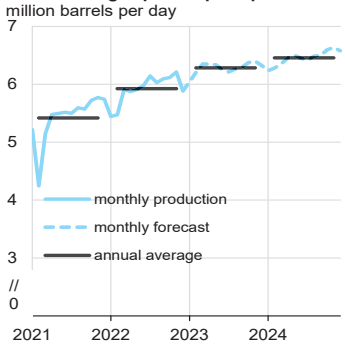


Components of annual change

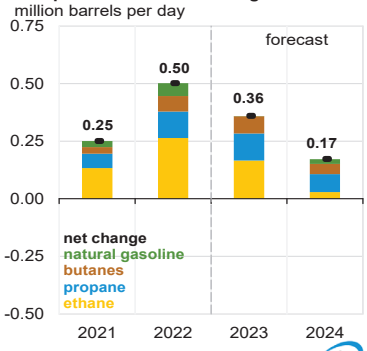


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

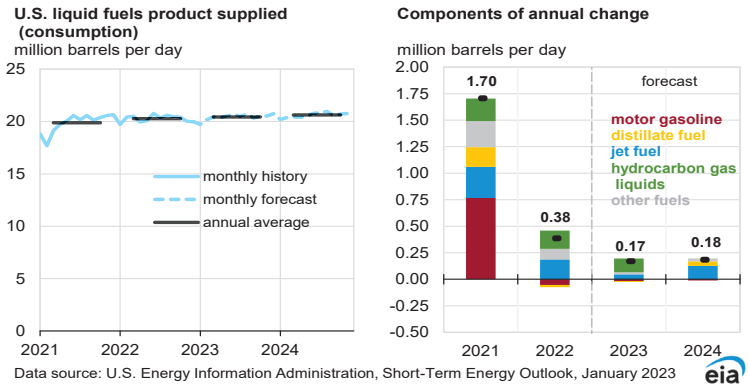
U.S. natural gas plant liquids production

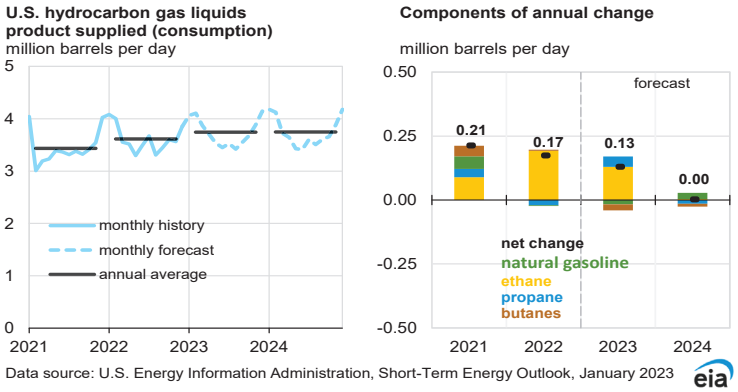


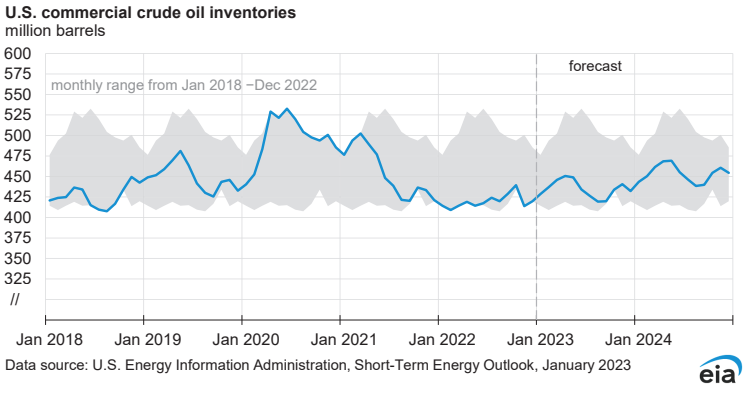
Components of annual change



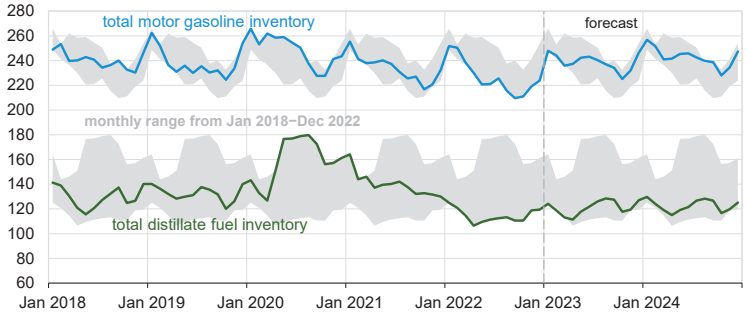
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023


U.S. liquid fuels product supplied (consumption)
million barrels per day
25
20
15
10
5
0
2021
2022
2023
2024
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
-0.25
-0.50
1.70
0.38
0.17
0.18
forecast
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
eia


U.S. hydrocarbon gas liquids product supplied (consumption)
million barrels per day
5
4
3
2
1
0
2021
2022
2023
2024
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
0.50
0.25
0.00
-0.25
-0.50
0.21
0.17
0.13
0.00
forecast
net change
natural gasoline
ethane
propane
butanes
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
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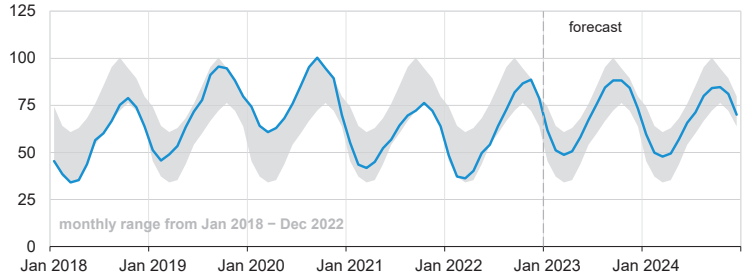

U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from Jan 2018 –Dec 2022
forecast
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Jan 2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
eia

U.S. gasoline and distillate inventories
million barrels



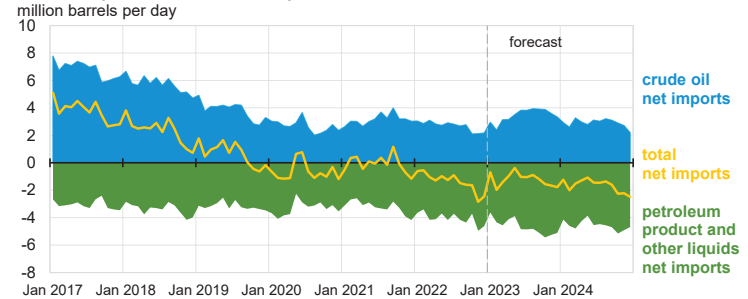
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. commercial propane inventories
million barrels



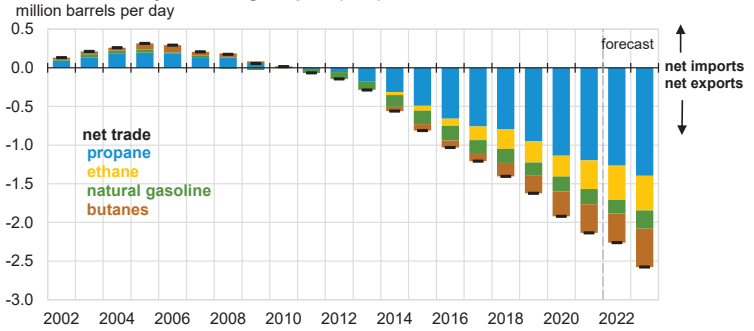
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: Excludes propylene.

U.S. net imports of crude oil and liquid fuels
million barrels per day



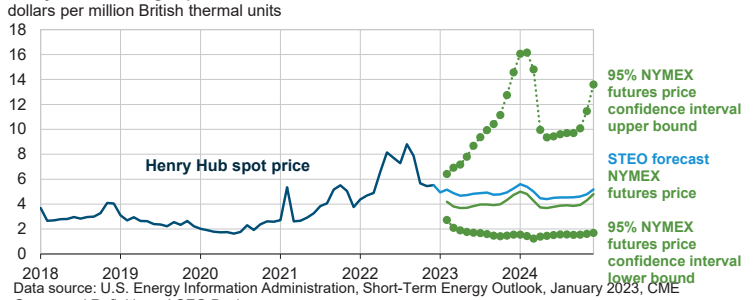
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

U.S. net trade of hydrocarbon gas liquids (HGL)
million barrels per day



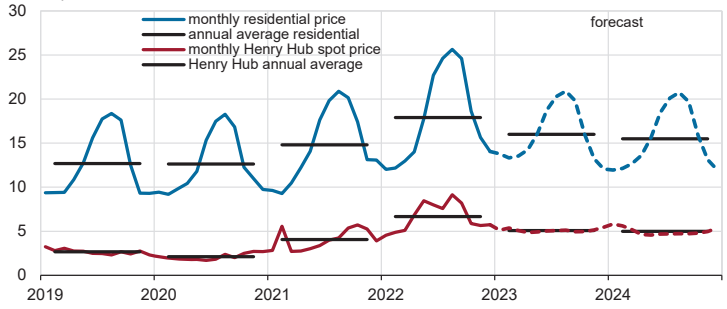
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units



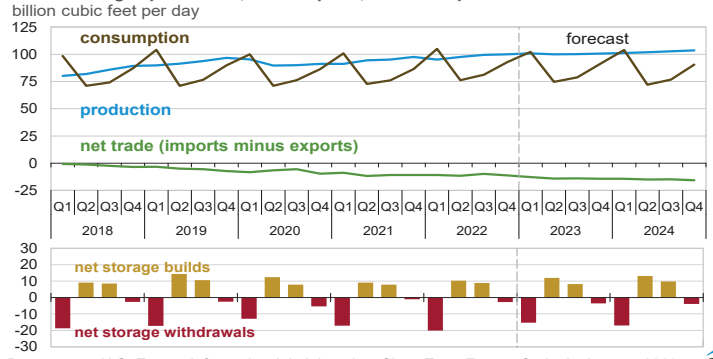
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023; CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending January 5, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.

U.S. natural gas prices
dollars per thousand cubic feet



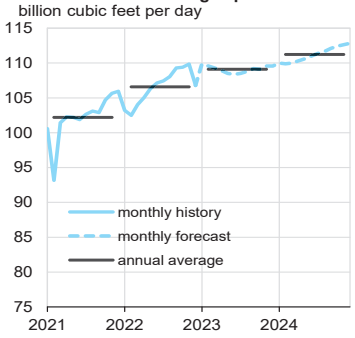
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, and Refinitiv an LSEG Business

U.S. natural gas production, consumption, and net imports
billion cubic feet per day

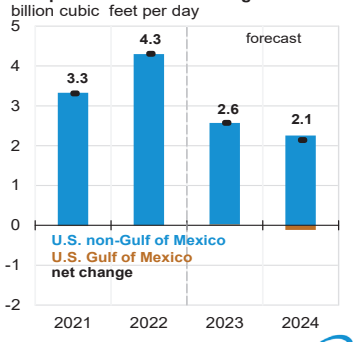


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. marketed natural gas production
billion cubic feet per day

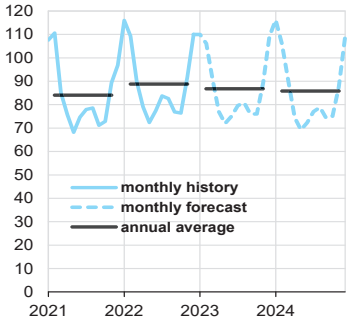


Components of annual change
billion cubic feet per day

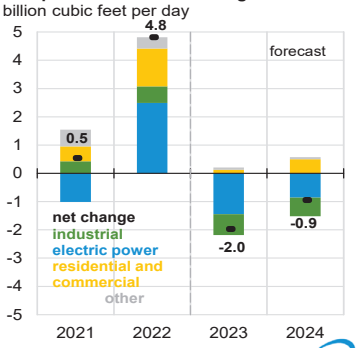


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

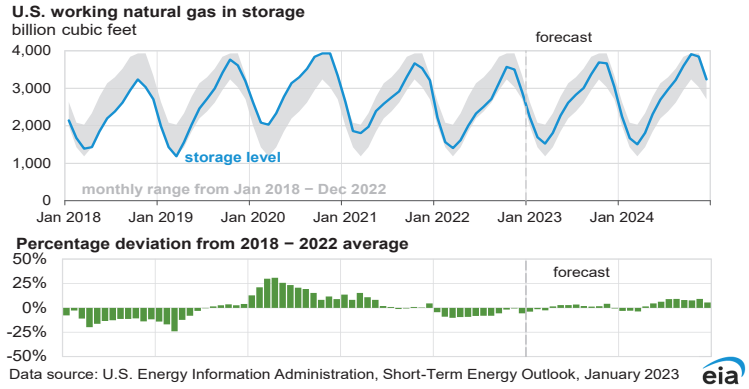
U.S. natural gas consumption
billion cubic feet per day

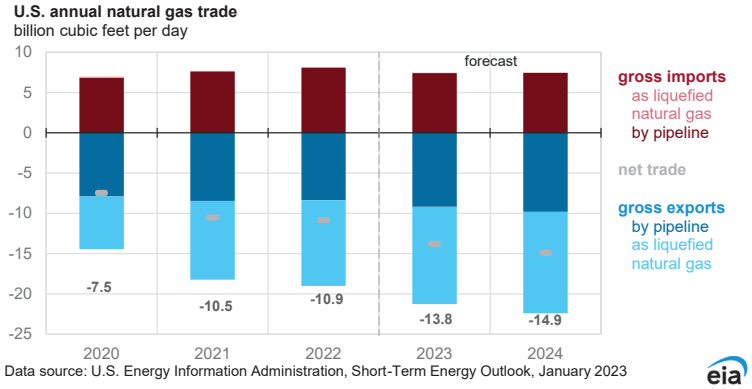


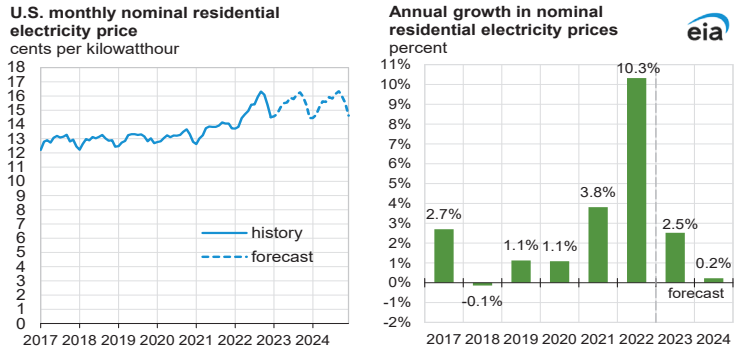
Components of annual change
billion cubic feet per day

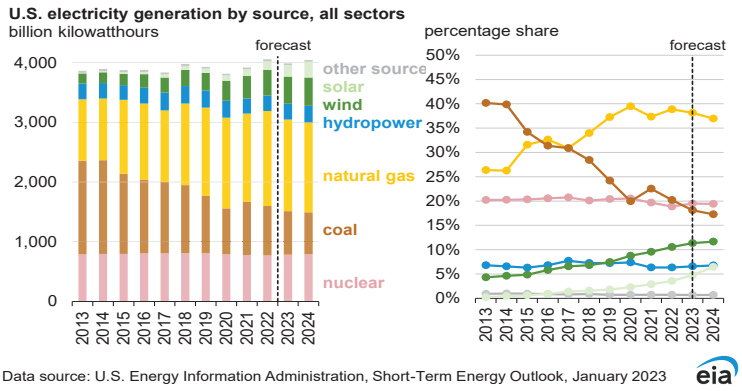


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

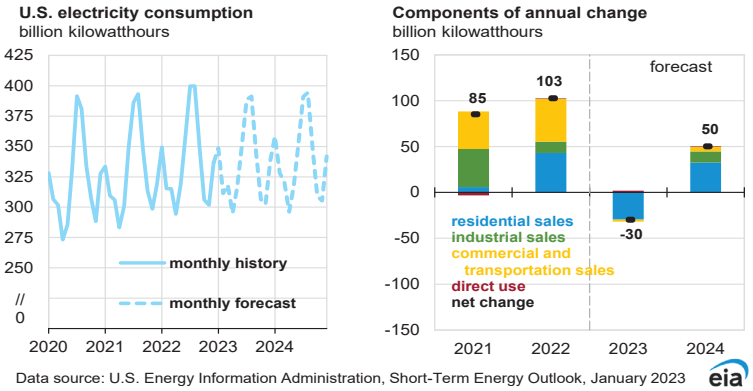

U.S. working natural gas in storage
billion cubic feet
forecast
4,000
3,000
2,000
1,000
0
storage level
monthly range from Jan 2018 – Dec 2022
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Jan 2024
Percentage deviation from 2018 – 2022 average
50%
25%
0%
-25%
-50%
forecast
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
eia


U.S. annual natural gas trade
billion cubic feet per day
10
5
0
-5
-10
-15
-20
-25
forecast
-7.5
-10.5
-10.9
-13.8
-14.9
2020
2021
2022
2023
2024
gross imports
as liquefied
natural gas
by pipeline
net trade
gross exports
by pipeline
as liquefied
natural gas
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
eia

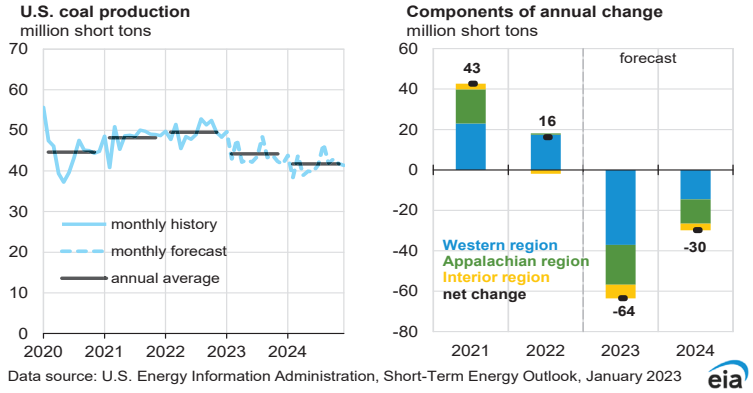

U.S. monthly nominal residential electricity price
cents per kilowatthour
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
history
forecast
2017 2018 2019 2020 2021 2022 2023 2024
Annual growth in nominal residential electricity prices
percent
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
2.7%
-0.1%
1.1%
1.1%
3.8%
10.3%
2.5%
0.2%
forecast
2017 2018 2019 2020 2021 2022 2023 2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
eia



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

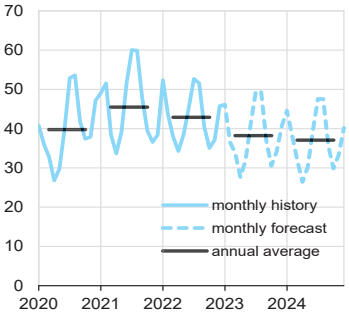


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

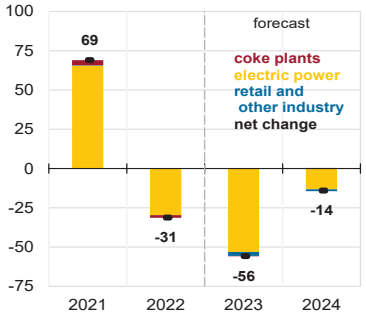


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. coal consumption
million short tons

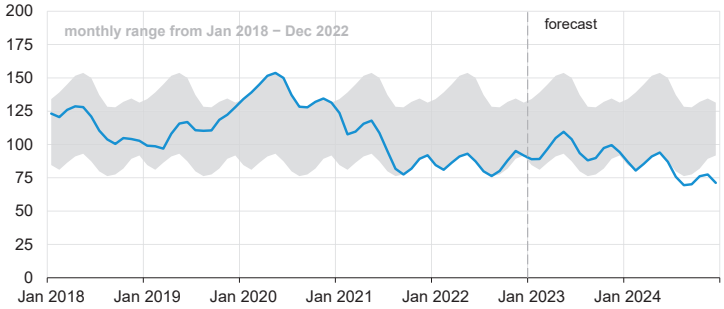


Components of annual change
million short tons



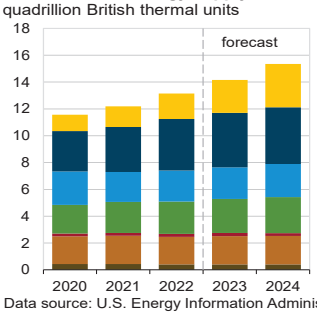
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. electric power coal inventories
million short tons

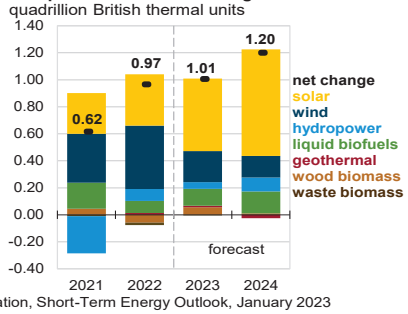


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. renewable energy supply
quadrillion British thermal units

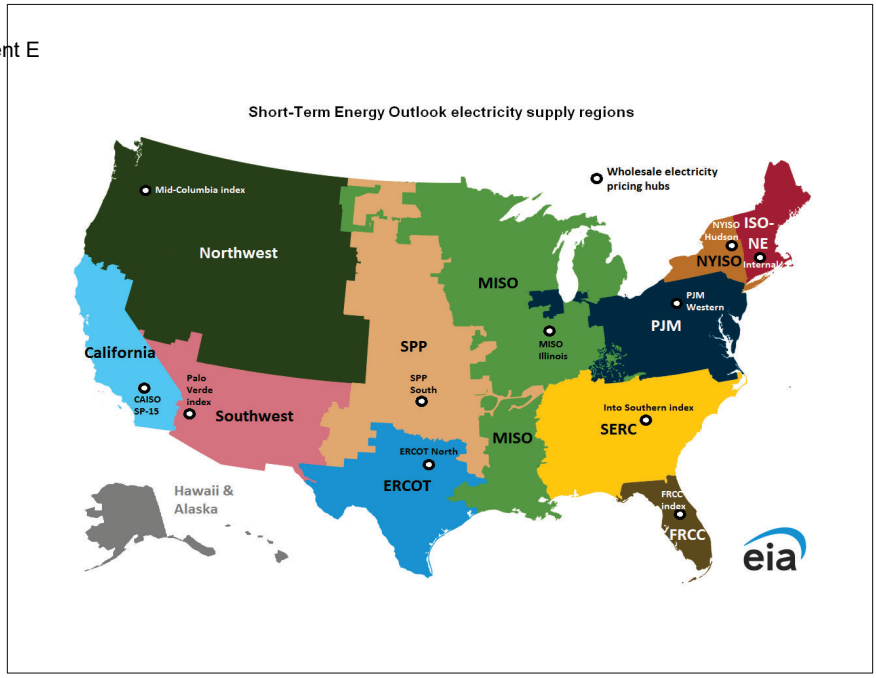


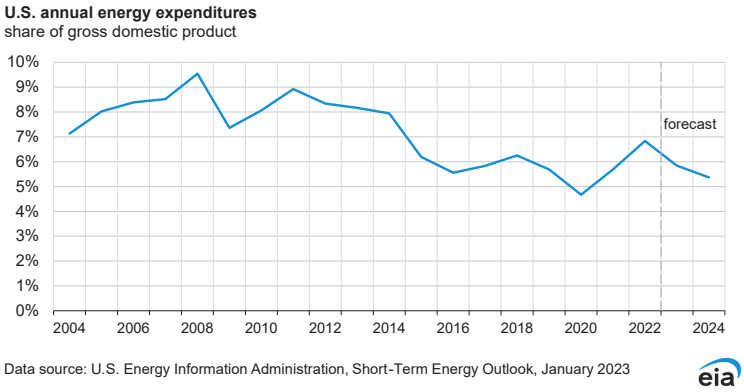
Components of annual change
quadrillion British thermal units

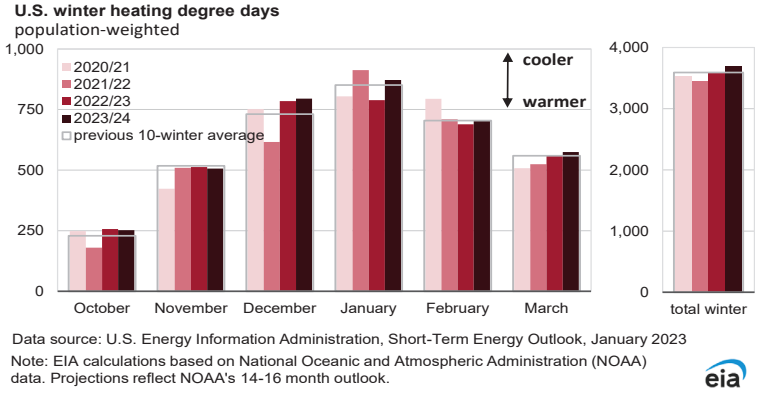


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

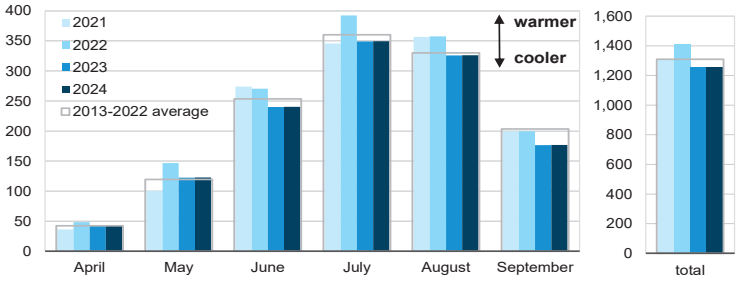
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.


Short-Term Energy Outlook electricity supply regions
Wholesale electricity pricing hubs
Mid-Columbia index
Northwest
MISO
NYISO Hudson
ISO-NE
NYISO
Internal
PJM Western
PJM
MISO Illinois
California
SPP
CAISO SP-15
Palo Verde index
Southwest
SPP South
Into Southern index
SERC
MISO
ERCOT North
ERCOT
Hawaii & Alaska
FRCC index
FRCC
eia


U.S. annual energy expenditures
share of gross domestic product
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
forecast
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
eia

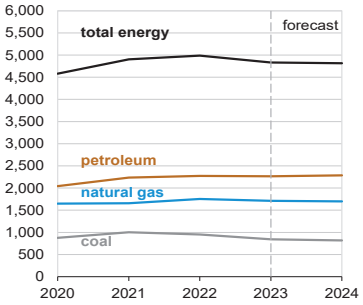

U.S. winter heating degree days
population-weighted
1,000
750
500
250
0
2020/21
2021/22
2022/23
2023/24
previous 10-winter average
cooler
warmer
October
November
December
January
February
March
4,000
3,000
2,000
1,000
0
total winter
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.
eia

U.S. summer cooling degree days
population-weighted

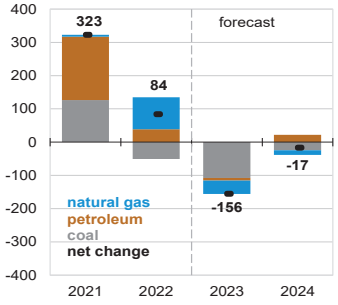


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data.
Projections reflect NOAA's 14-16 month outlook.

U.S. annual CO2 emissions by source
million metric tons



Components of annual change
million metric tons



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**11.47**	**11.70**	**12.05**	**12.23**	*12.37*	*12.34*	*12.40*	*12.51*	*12.63*	*12.72*	*12.86*	*13.03*	**11.86**	*12.41*	*12.81*
Dry Natural Gas Production															
(billion cubic feet per day)	**95.10**	**97.59**	**99.44**	**99.87**	*100.82*	*99.87*	*100.08*	*100.62*	*101.12*	*101.75*	*102.72*	*103.57*	**98.02**	*100.34*	*102.29*
Coal Production															
(million short tons)	**149**	**142**	**153**	**150**	*140*	*127*	*135*	*128*	*126*	*119*	*130*	*126*	**594**	*531*	*501*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Natural Gas															
(billion cubic feet per day)	**104.89**	**76.27**	**81.15**	**92.77**	*102.20*	*74.66*	*78.84*	*91.47*	*103.97*	*72.01*	*76.73*	*90.52*	**88.72**	*86.74*	*85.79*
Coal (b)															
(million short tons)	**134**	**118**	**145**	**118**	*116*	*101*	*136*	*105*	*115*	*96*	*131*	*103*	**514**	*459*	*444*
Electricity															
(billion kilowatt hours per day)	**10.89**	**10.67**	**12.49**	**10.27**	*10.87*	*10.59*	*12.23*	*10.30*	*11.07*	*10.63*	*12.32*	*10.40*	**11.08**	*11.00*	*11.10*
Renewables (c)															
(quadrillion Btu)	**3.34**	**3.54**	**3.11**	**3.15**	*3.49*	*3.85*	*3.39*	*3.43*	*3.78*	*4.18*	*3.73*	*3.67*	**13.15**	*14.16*	*15.36*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.53**	**23.86**	**24.93**	**25.37**	*25.96*	*23.80*	*24.78*	*25.28*	*26.74*	*23.82*	*24.89*	*25.36*	**100.69**	*99.82*	*100.82*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**95.18**	**108.93**	**93.07**	**82.69**	*77.37*	*79.00*	*77.00*	*75.35*	*74.00*	*72.34*	*70.69*	*69.36*	**94.91**	*77.18*	*71.57*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	*4.99*	*4.75*	*4.85*	*4.99*	*5.33*	*4.46*	*4.54*	*4.86*	**6.42**	*4.90*	*4.80*
Coal															
(dollars per million Btu)	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,924**	**19,895**	**20,039**	**20,086**	*20,051*	*20,019*	*20,098*	*20,208*	*20,308*	*20,415*	*20,524*	*20,645*	**19,986**	*20,094*	*20,473*
Percent change from prior year	**3.7**	**1.8**	**1.9**	**0.4**	*0.6*	*0.6*	*0.3*	*0.6*	*1.3*	*2.0*	*2.1*	*2.2*	**1.9**	*0.5*	*1.9*
GDP Implicit Price Deflator															
(Index, 2012=100)	**124.2**	**126.9**	**128.2**	**129.4**	*130.3*	*131.3*	*132.1*	*133.0*	*133.7*	*134.3*	*134.9*	*135.6*	**127.2**	*131.6*	*134.6*
Percent change from prior year	**6.9**	**7.6**	**7.1**	**6.2**	*4.9*	*3.4*	*3.0*	*2.8*	*2.6*	*2.3*	*2.1*	*2.0*	**6.9**	*3.5*	*2.3*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,109**	**15,022**	**15,056**	**15,186**	*15,420*	*15,478*	*15,623*	*15,770*	*15,943*	*16,099*	*16,223*	*16,331*	**15,093**	*15,573*	*16,149*
Percent change from prior year	**-12.8**	**-5.7**	**-4.3**	**-2.3**	*2.1*	*3.0*	*3.8*	*3.8*	*3.4*	*4.0*	*3.8*	*3.6*	**-6.4**	*3.2*	*3.7*
Manufacturing Production Index															
(Index, 2017=100)	**101.5**	**102.4**	**102.6**	**102.7**	*102.7*	*102.2*	*102.1*	*102.8*	*103.5*	*104.2*	*105.0*	*106.1*	**102.3**	*102.5*	*104.7*
Percent change from prior year	**4.8**	**4.2**	**3.4**	**2.1**	*1.2*	*-0.2*	*-0.4*	*0.1*	*0.7*	*1.9*	*2.8*	*3.2*	**3.6**	*0.2*	*2.2*
Weather															
U.S. Heating Degree-Days	**2,147**	**492**	**54**	**1,555**	*2,040*	*490*	*75*	*1,554*	*2,149*	*489*	*75*	*1,552*	**4,248**	*4,158*	*4,265*
U.S. Cooling Degree-Days	**46**	**466**	**950**	**91**	*49*	*404*	*851*	*93*	*41*	*405*	*853*	*93*	**1,552**	*1,398*	*1,392*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**95.18**	**108.93**	**93.07**	**82.69**	*77.37*	*79.00*	*77.00*	*75.35*	*74.00*	*72.34*	*70.69*	*69.36*	**94.91**	*77.18*	*71.57*
Brent Spot Average	**101.17**	**113.84**	**100.53**	**88.44**	*83.03*	*85.00*	*83.00*	*81.35*	*80.00*	*78.34*	*76.69*	*75.36*	**100.94**	*83.10*	*77.57*
U.S. Imported Average	**89.85**	**107.23**	**91.83**	**79.07**	*74.56*	*76.25*	*74.25*	*72.61*	*71.25*	*69.58*	*67.93*	*66.63*	**92.77**	*74.39*	*68.89*
U.S. Refiner Average Acquisition Cost	**92.62**	**109.86**	**95.20**	**82.09**	*76.83*	*78.50*	*76.52*	*74.83*	*73.50*	*71.82*	*70.18*	*68.83*	**94.97**	*76.67*	*71.06*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**278**	**376**	**311**	**267**	*246*	*253*	*251*	*235*	*231*	*237*	*227*	*210*	**309**	*246*	*226*
Diesel Fuel	**301**	**418**	**357**	**363**	*320*	*304*	*277*	*276*	*255*	*237*	*236*	*247*	**360**	*294*	*244*
Fuel Oil	**284**	**419**	**344**	**358**	*309*	*301*	*268*	*269*	*251*	*231*	*225*	*242*	**352**	*300*	*242*
Refiner Prices to End Users															
Jet Fuel	**283**	**400**	**340**	**331**	*315*	*295*	*268*	*262*	*242*	*229*	*226*	*239*	**340**	*284*	*234*
No. 6 Residual Fuel Oil (a)	**252**	**258**	**228**	**201**	*198*	*200*	*198*	*194*	*193*	*186*	*183*	*180*	**236**	*198*	*185*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**371**	**450**	**408**	**357**	*328*	*340*	*337*	*321*	*314*	*321*	*310*	*292*	**397**	*332*	*309*
Gasoline All Grades (b)	**380**	**460**	**419**	**369**	*341*	*354*	*351*	*336*	*328*	*335*	*325*	*307*	**408**	*345*	*324*
On-highway Diesel Fuel	**432**	**549**	**516**	**507**	*459*	*439*	*397*	*396*	*385*	*365*	*359*	*369*	**502**	*422*	*369*
Heating Oil	**415**	**555**	**497**	**497**	*447*	*420*	*376*	*389*	*377*	*347*	*332*	*365*	**468**	*417*	*365*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**4.84**	**7.77**	**8.30**	**5.76**	*5.19*	*4.93*	*5.04*	*5.19*	*5.54*	*4.63*	*4.72*	*5.05*	**6.67**	*5.09*	*4.98*
Henry Hub Spot (dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	*4.99*	*4.75*	*4.85*	*4.99*	*5.33*	*4.46*	*4.54*	*4.86*	**6.42**	*4.90*	*4.80*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**6.82**	**8.24**	**9.26**	**7.28**	*6.91*	*5.99*	*5.93*	*6.21*	*6.94*	*5.80*	*5.60*	*6.06*	**7.84**	*6.28*	*6.14*
Commercial Sector	**10.00**	**11.71**	**14.10**	**11.96**	*10.89*	*10.68*	*10.79*	*9.68*	*9.72*	*10.11*	*10.34*	*9.37*	**11.31**	*10.47*	*9.75*
Residential Sector	**12.32**	**16.57**	**24.94**	**15.26**	*13.57*	*15.72*	*20.29*	*13.07*	*12.19*	*15.22*	*20.14*	*12.97*	**14.70**	*14.25*	*13.48*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*
Natural Gas	**5.95**	**7.39**	**8.23**	**5.86**	*5.56*	*4.97*	*5.04*	*5.37*	*5.93*	*4.72*	*4.75*	*5.24*	**7.00**	*5.21*	*5.13*
Residual Fuel Oil (c)	**16.81**	**26.17**	**26.53**	**20.32**	*17.41*	*17.60*	*16.28*	*15.67*	*15.60*	*15.55*	*14.54*	*14.33*	**21.64**	*16.77*	*15.03*
Distillate Fuel Oil	**21.23**	**30.70**	**26.79**	**26.55**	*24.45*	*23.40*	*21.35*	*21.14*	*20.07*	*18.35*	*18.12*	*18.98*	**25.43**	*22.78*	*19.08*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.42**	**8.41**	**9.42**	**8.08**	*7.69*	*8.25*	*9.15*	*7.99*	*7.69*	*8.19*	*9.10*	*7.96*	**8.36**	*8.28*	*8.25*
Commercial Sector	**11.63**	**12.34**	**13.37**	**12.35**	*12.30*	*12.75*	*13.62*	*12.37*	*12.23*	*12.76*	*13.57*	*12.29*	**12.47**	*12.80*	*12.75*
Residential Sector	**13.97**	**15.05**	**15.85**	**15.26**	*14.82*	*15.66*	*16.02*	*15.18*	*14.75*	*15.73*	*16.09*	*15.30*	**15.07**	*15.45*	*15.48*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

STF-3-12 Attachment E

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Production (million barrels per day) (a)															
OECD	**31.62**	**31.87**	**32.54**	**33.23**	*33.86*	*33.72*	*33.87*	*34.55*	*34.65*	*34.56*	*34.81*	*35.62*	**32.32**	*34.00*	*34.91*
U.S. (50 States)	**19.44**	**20.12**	**20.59**	**20.77**	*21.01*	*21.14*	*21.16*	*21.46*	*21.44*	*21.74*	*21.90*	*22.29*	**20.24**	*21.19*	*21.85*
Canada	**5.66**	**5.51**	**5.72**	**5.94**	*6.01*	*5.72*	*5.93*	*6.14*	*6.21*	*5.92*	*6.13*	*6.34*	**5.71**	*5.95*	*6.15*
Mexico	**1.91**	**1.89**	**1.90**	**1.92**	*1.94*	*1.94*	*1.94*	*1.92*	*1.94*	*1.93*	*1.91*	*1.87*	**1.91**	*1.93*	*1.91*
Other OECD	**4.61**	**4.35**	**4.33**	**4.60**	*4.90*	*4.92*	*4.85*	*5.03*	*5.06*	*4.97*	*4.87*	*5.12*	**4.47**	*4.93*	*5.00*
Non-OECD	**67.21**	**66.87**	**68.30**	**68.21**	*67.00*	*66.94*	*67.46*	*67.00*	*67.38*	*68.00*	*68.32*	*67.95*	**67.65**	*67.10*	*67.91*
OPEC	**33.75**	**33.76**	**34.71**	**34.48**	*34.18*	*34.41*	*34.46*	*34.30*	*35.06*	*35.04*	*35.07*	*34.91*	**34.18**	*34.34*	*35.02*
Crude Oil Portion	**28.19**	**28.33**	**29.23**	**28.96**	*28.64*	*29.00*	*29.01*	*28.82*	*29.48*	*29.58*	*29.58*	*29.38*	**28.68**	*28.87*	*29.51*
Other Liquids (b)	**5.56**	**5.43**	**5.48**	**5.52**	*5.54*	*5.41*	*5.45*	*5.49*	*5.58*	*5.45*	*5.49*	*5.53*	**5.50**	*5.47*	*5.51*
Eurasia	**14.39**	**13.39**	**13.58**	**13.94**	*13.13*	*12.17*	*12.43*	*12.51*	*12.54*	*12.52*	*12.49*	*12.58*	**13.82**	*12.56*	*12.53*
China	**5.18**	**5.18**	**5.05**	**5.12**	*5.21*	*5.24*	*5.23*	*5.27*	*5.21*	*5.23*	*5.22*	*5.26*	**5.13**	*5.24*	*5.23*
Other Non-OECD	**13.90**	**14.54**	**14.96**	**14.68**	*14.49*	*15.12*	*15.34*	*14.92*	*14.57*	*15.21*	*15.53*	*15.19*	**14.52**	*14.97*	*15.13*
Total World Production	**98.83**	**98.75**	**100.85**	**101.45**	*100.87*	*100.65*	*101.33*	*101.55*	*102.03*	*102.56*	*103.13*	*103.57*	**99.98**	*101.10*	*102.83*
Non-OPEC Production	**65.08**	**64.98**	**66.14**	**66.97**	*66.69*	*66.25*	*66.87*	*67.25*	*66.97*	*67.53*	*68.06*	*68.66*	**65.80**	*66.77*	*67.81*
Consumption (million barrels per day) (c)															
OECD	**45.84**	**45.45**	**46.47**	**46.23**	*46.13*	*45.28*	*45.82*	*46.10*	*45.79*	*45.33*	*46.17*	*46.40*	**46.00**	*45.83*	*45.92*
U.S. (50 States)	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
U.S. Territories	**0.22**	**0.19**	**0.20**	**0.21**	*0.21*	*0.19*	*0.20*	*0.21*	*0.21*	*0.19*	*0.20*	*0.21*	**0.21**	*0.20*	*0.20*
Canada	**2.25**	**2.21**	**2.41**	**2.33**	*2.28*	*2.23*	*2.33*	*2.30*	*2.30*	*2.25*	*2.35*	*2.33*	**2.30**	*2.28*	*2.31*
Europe	**13.15**	**13.43**	**13.93**	**13.85**	*13.59*	*13.20*	*13.60*	*13.37*	*13.15*	*13.30*	*13.70*	*13.46*	**13.59**	*13.44*	*13.40*
Japan	**3.70**	**3.03**	**3.19**	**3.51**	*3.69*	*3.05*	*3.07*	*3.37*	*3.54*	*2.94*	*3.04*	*3.36*	**3.36**	*3.29*	*3.22*
Other OECD	**6.30**	**6.33**	**6.28**	**6.19**	*6.24*	*6.08*	*6.11*	*6.25*	*6.24*	*6.08*	*6.10*	*6.25*	**6.27**	*6.17*	*6.17*
Non-OECD	**52.96**	**53.25**	**53.76**	**53.73**	*54.43*	*55.06*	*54.71*	*54.37*	*56.39*	*56.60*	*56.24*	*55.89*	**53.43**	*54.64*	*56.28*
Eurasia	**4.42**	**4.29**	**4.64**	**4.57**	*4.18*	*4.33*	*4.64*	*4.55*	*4.37*	*4.52*	*4.84*	*4.75*	**4.48**	*4.42*	*4.62*
Europe	**0.75**	**0.75**	**0.76**	**0.77**	*0.74*	*0.76*	*0.76*	*0.76*	*0.74*	*0.76*	*0.77*	*0.77*	**0.76**	*0.75*	*0.76*
China	**15.13**	**15.11**	**15.10**	**15.29**	*15.92*	*16.06*	*15.44*	*15.36*	*16.49*	*16.38*	*15.74*	*15.66*	**15.16**	*15.69*	*16.06*
Other Asia	**13.75**	**13.76**	**13.47**	**13.90**	*14.31*	*14.28*	*13.71*	*14.00*	*14.89*	*14.86*	*14.26*	*14.58*	**13.72**	*14.07*	*14.65*
Other Non-OECD	**18.91**	**19.34**	**19.79**	**19.21**	*19.28*	*19.63*	*20.17*	*19.69*	*19.90*	*20.08*	*20.63*	*20.14*	**19.31**	*19.70*	*20.19*
Total World Consumption	**98.80**	**98.71**	**100.23**	**99.97**	*100.56*	*100.34*	*100.53*	*100.47*	*102.18*	*101.93*	*102.41*	*102.29*	**99.43**	*100.48*	*102.20*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.81**	**0.51**	**0.45**	**0.69**	*-0.04*	*-0.41*	*-0.10*	*0.32*	*-0.08*	*-0.53*	*-0.17*	*0.30*	**0.61**	*-0.06*	*-0.12*
Other OECD	**-0.09**	**-0.29**	**-0.52**	**-0.71**	*-0.09*	*0.03*	*-0.22*	*-0.45*	*0.07*	*-0.03*	*-0.17*	*-0.50*	**-0.40**	*-0.18*	*-0.16*
Other Stock Draws and Balance	**-0.75**	**-0.27**	**-0.54**	**-1.46**	*-0.18*	*0.07*	*-0.47*	*-0.96*	*0.15*	*-0.07*	*-0.38*	*-1.08*	**-0.75**	*-0.39*	*-0.35*
Total Stock Draw	**-0.03**	**-0.04**	**-0.61**	**-1.48**	*-0.31*	*-0.31*	*-0.79*	*-1.09*	*0.14*	*-0.63*	*-0.72*	*-1.28*	**-0.55**	*-0.63*	*-0.62*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,154**	**1,180**	**1,215**	**1,197**	*1,202*	*1,253*	*1,266*	*1,236*	*1,237*	*1,279*	*1,289*	*1,255*	**1,197**	*1,236*	*1,255*
OECD Commercial Inventory	**2,604**	**2,656**	**2,739**	**2,786**	*2,800*	*2,848*	*2,880*	*2,892*	*2,887*	*2,932*	*2,957*	*2,969*	**2,786**	*2,892*	*2,969*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	**27.01**	**27.52**	**28.22**	**28.63**	*28.96*	*28.80*	*29.02*	*29.52*	*29.59*	*29.60*	*29.94*	*30.50*	**27.85**	*29.08*	*29.91*
Canada	**5.66**	**5.51**	**5.72**	**5.94**	*6.01*	*5.72*	*5.93*	*6.14*	*6.21*	*5.92*	*6.13*	*6.34*	**5.71**	*5.95*	*6.15*
Mexico	**1.91**	**1.89**	**1.90**	**1.92**	*1.94*	*1.94*	*1.94*	*1.92*	*1.94*	*1.93*	*1.91*	*1.87*	**1.91**	*1.93*	*1.91*
United States	**19.44**	**20.12**	**20.59**	**20.77**	*21.01*	*21.14*	*21.16*	*21.46*	*21.44*	*21.74*	*21.90*	*22.29*	**20.24**	*21.19*	*21.85*
Central and South America	**5.83**	**6.41**	**6.87**	**6.61**	*6.35*	*7.01*	*7.27*	*6.87*	*6.53*	*7.20*	*7.53*	*7.22*	**6.43**	*6.88*	*7.12*
Argentina	**0.77**	**0.78**	**0.79**	**0.82**	*0.85*	*0.87*	*0.88*	*0.92*	*0.89*	*0.92*	*0.93*	*0.98*	**0.79**	*0.88*	*0.93*
Brazil	**3.33**	**3.79**	**4.15**	**3.81**	*3.51*	*4.14*	*4.40*	*3.93*	*3.64*	*4.28*	*4.55*	*4.07*	**3.77**	*4.00*	*4.13*
Colombia	**0.77**	**0.77**	**0.78**	**0.79**	*0.78*	*0.78*	*0.78*	*0.79*	*0.77*	*0.77*	*0.78*	*0.79*	**0.78**	*0.78*	*0.78*
Ecuador	**0.48**	**0.47**	**0.49**	**0.49**	*0.50*	*0.50*	*0.51*	*0.51*	*0.55*	*0.54*	*0.54*	*0.54*	**0.48**	*0.51*	*0.54*
Guyana	**0.12**	**0.24**	**0.32**	**0.35**	*0.35*	*0.36*	*0.36*	*0.36*	*0.36*	*0.36*	*0.43*	*0.54*	**0.26**	*0.36*	*0.42*
Europe	**4.04**	**3.76**	**3.83**	**4.06**	*4.35*	*4.38*	*4.31*	*4.50*	*4.53*	*4.44*	*4.35*	*4.61*	**3.92**	*4.39*	*4.48*
Norway	**1.97**	**1.74**	**1.91**	**2.04**	*2.31*	*2.33*	*2.33*	*2.42*	*2.45*	*2.39*	*2.40*	*2.56*	**1.92**	*2.35*	*2.45*
United Kingdom	**0.97**	**0.91**	**0.80**	**0.90**	*0.92*	*0.91*	*0.84*	*0.93*	*0.93*	*0.92*	*0.82*	*0.90*	**0.89**	*0.90*	*0.89*
Eurasia	**14.39**	**13.39**	**13.58**	**13.94**	*13.13*	*12.17*	*12.43*	*12.51*	*12.54*	*12.52*	*12.49*	*12.58*	**13.82**	*12.56*	*12.53*
Azerbaijan	**0.70**	**0.67**	**0.65**	**0.67**	*0.67*	*0.65*	*0.64*	*0.65*	*0.66*	*0.66*	*0.66*	*0.67*	**0.67**	*0.65*	*0.66*
Kazakhstan	**2.01**	**1.77**	**1.62**	**1.92**	*2.04*	*1.97*	*1.97*	*2.04*	*2.05*	*2.03*	*2.01*	*2.09*	**1.83**	*2.01*	*2.05*
Russia	**11.30**	**10.59**	**10.92**	**10.96**	*10.01*	*9.14*	*9.41*	*9.41*	*9.43*	*9.43*	*9.43*	*9.43*	**10.94**	*9.49*	*9.43*
Turkmenistan	**0.26**	**0.26**	**0.26**	**0.26**	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	**0.26**	*0.27*	*0.27*
Middle East	**3.23**	**3.29**	**3.29**	**3.22**	*3.23*	*3.23*	*3.22*	*3.22*	*3.23*	*3.23*	*3.23*	*3.22*	**3.26**	*3.22*	*3.23*
Oman	**1.05**	**1.07**	**1.10**	**1.08**	*1.06*	*1.06*	*1.06*	*1.06*	*1.07*	*1.07*	*1.07*	*1.07*	**1.07**	*1.06*	*1.07*
Qatar	**1.85**	**1.86**	**1.86**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.86**	*1.86*	*1.86*
Asia and Oceania	**9.16**	**9.17**	**8.92**	**9.07**	*9.21*	*9.21*	*9.18*	*9.20*	*9.15*	*9.15*	*9.13*	*9.15*	**9.08**	*9.20*	*9.15*
Australia	**0.44**	**0.47**	**0.39**	**0.44**	*0.44*	*0.43*	*0.43*	*0.42*	*0.41*	*0.40*	*0.40*	*0.39*	**0.43**	*0.43*	*0.40*
China	**5.18**	**5.18**	**5.05**	**5.12**	*5.21*	*5.24*	*5.23*	*5.27*	*5.21*	*5.23*	*5.22*	*5.26*	**5.13**	*5.24*	*5.23*
India	**0.88**	**0.89**	**0.89**	**0.88**	*0.91*	*0.90*	*0.89*	*0.88*	*0.91*	*0.91*	*0.90*	*0.90*	**0.89**	*0.90*	*0.90*
Indonesia	**0.84**	**0.83**	**0.81**	**0.80**	*0.80*	*0.79*	*0.78*	*0.77*	*0.77*	*0.76*	*0.76*	*0.75*	**0.82**	*0.78*	*0.76*
Malaysia	**0.61**	**0.60**	**0.58**	**0.62**	*0.62*	*0.62*	*0.61*	*0.61*	*0.60*	*0.60*	*0.59*	*0.59*	**0.60**	*0.61*	*0.59*
Africa	**1.41**	**1.44**	**1.44**	**1.43**	*1.45*	*1.45*	*1.44*	*1.43*	*1.39*	*1.38*	*1.38*	*1.37*	**1.43**	*1.44*	*1.38*
Egypt	**0.66**	**0.68**	**0.67**	**0.67**	*0.69*	*0.69*	*0.69*	*0.69*	*0.66*	*0.65*	*0.65*	*0.66*	**0.67**	*0.69*	*0.65*
South Sudan	**0.15**	**0.15**	**0.16**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.17*	*0.17*
Total non-OPEC liquids	**65.08**	**64.98**	**66.14**	**66.97**	*66.69*	*66.25*	*66.87*	*67.25*	*66.97*	*67.53*	*68.06*	*68.66*	**65.80**	*66.77*	*67.81*
OPEC non-crude liquids	**5.56**	**5.43**	**5.48**	**5.52**	*5.54*	*5.41*	*5.45*	*5.49*	*5.58*	*5.45*	*5.49*	*5.53*	**5.50**	*5.47*	*5.51*
Non-OPEC + OPEC non-crude	**70.64**	**70.42**	**71.62**	**72.49**	*72.23*	*71.66*	*72.32*	*72.74*	*72.55*	*72.98*	*73.55*	*74.19*	**71.30**	*72.24*	*73.32*
Unplanned non-OPEC Production Outages	**0.76**	**1.31**	**0.78**	**0.50**	-	-	-	-	-	-	-	-	**0.84**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil															
Algeria	**0.97**	**1.00**	**1.02**	**1.02**	-	-	-	-	-	-	-	-	**1.00**	-	-
Angola	**1.15**	**1.19**	**1.16**	**1.10**	-	-	-	-	-	-	-	-	**1.15**	-	-
Congo (Brazzaville)	**0.27**	**0.29**	**0.28**	**0.26**	-	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.09**	**0.09**	**0.09**	**0.07**	-	-	-	-	-	-	-	-	**0.09**	-	-
Gabon	**0.19**	**0.19**	**0.20**	**0.21**	-	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.55**	**2.53**	**2.53**	**2.56**	-	-	-	-	-	-	-	-	**2.54**	-	-
Iraq	**4.30**	**4.42**	**4.55**	**4.53**	-	-	-	-	-	-	-	-	**4.45**	-	-
Kuwait	**2.61**	**2.69**	**2.80**	**2.72**	-	-	-	-	-	-	-	-	**2.71**	-	-
Libya	**1.06**	**0.76**	**0.95**	**1.14**	-	-	-	-	-	-	-	-	**0.98**	-	-
Nigeria	**1.27**	**1.11**	**0.97**	**1.07**	-	-	-	-	-	-	-	-	**1.10**	-	-
Saudi Arabia	**10.08**	**10.30**	**10.85**	**10.51**	-	-	-	-	-	-	-	-	**10.44**	-	-
United Arab Emirates	**2.94**	**3.04**	**3.17**	**3.09**	-	-	-	-	-	-	-	-	**3.06**	-	-
Venezuela	**0.70**	**0.72**	**0.66**	**0.69**	-	-	-	-	-	-	-	-	**0.69**	-	-
OPEC Total	**28.19**	**28.33**	**29.23**	**28.96**	*28.64*	*29.00*	*29.01*	*28.82*	*29.48*	*29.58*	*29.58*	*29.38*	**28.68**	*28.87*	*29.51*
Other Liquids (a)	**5.56**	**5.43**	**5.48**	**5.52**	*5.54*	*5.41*	*5.45*	*5.49*	*5.58*	*5.45*	*5.49*	*5.53*	**5.50**	*5.47*	*5.51*
Total OPEC Production	**33.75**	**33.76**	**34.71**	**34.48**	*34.18*	*34.41*	*34.46*	*34.30*	*35.06*	*35.04*	*35.07*	*34.91*	**34.18**	*34.34*	*35.02*
Crude Oil Production Capacity															
Middle East	**25.48**	**25.46**	**25.55**	**25.66**	*25.85*	*25.98*	*25.98*	*25.98*	*26.48*	*26.58*	*26.63*	*26.63*	**25.54**	*25.95*	*26.58*
Other	**5.83**	**5.45**	**5.35**	**5.56**	*5.71*	*5.94*	*5.92*	*5.89*	*5.84*	*5.87*	*5.83*	*5.80*	**5.54**	*5.87*	*5.83*
OPEC Total	**31.31**	**30.91**	**30.89**	**31.22**	*31.56*	*31.92*	*31.90*	*31.87*	*32.32*	*32.45*	*32.46*	*32.43*	**31.08**	*31.82*	*32.42*
Surplus Crude Oil Production Capacity															
Middle East	**3.00**	**2.47**	**1.65**	**2.25**	*2.90*	*2.89*	*2.86*	*3.03*	*2.81*	*2.84*	*2.86*	*3.03*	**2.34**	*2.92*	*2.88*
Other	**0.12**	**0.11**	**0.01**	**0.01**	*0.03*	*0.03*	*0.03*	*0.03*	*0.03*	*0.02*	*0.02*	*0.02*	**0.06**	*0.03*	*0.02*
OPEC Total	**3.12**	**2.58**	**1.67**	**2.26**	*2.93*	*2.92*	*2.89*	*3.06*	*2.84*	*2.86*	*2.88*	*3.05*	**2.40**	*2.95*	*2.91*
Unplanned OPEC Production Outages	**1.98**	**2.42**	**2.50**	**2.13**	-	-	-	-	-	-	-	-	**2.26**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2022				2023				2024						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	**24.24**	**24.47**	**24.77**	**24.19**	*24.16*	*24.54*	*24.63*	*24.70*	*24.38*	*24.58*	*24.90*	*24.89*	**24.42**	*24.51*	*24.69*
Canada	**2.25**	**2.21**	**2.41**	**2.33**	*2.28*	*2.23*	*2.33*	*2.30*	*2.30*	*2.25*	*2.35*	*2.33*	**2.30**	*2.28*	*2.31*
Mexico	**1.76**	**1.99**	**1.88**	**1.71**	*1.75*	*1.78*	*1.77*	*1.79*	*1.73*	*1.75*	*1.75*	*1.76*	**1.84**	*1.77*	*1.75*
United States	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Central and South America	**6.26**	**6.39**	**6.50**	**6.52**	*6.26*	*6.39*	*6.50*	*6.44*	*6.39*	*6.53*	*6.63*	*6.57*	**6.42**	*6.40*	*6.53*
Brazil	**2.85**	**2.93**	**3.02**	**3.02**	*2.88*	*2.93*	*3.01*	*2.99*	*2.96*	*3.02*	*3.09*	*3.08*	**2.95**	*2.95*	*3.04*
Europe	**13.90**	**14.18**	**14.68**	**14.62**	*14.33*	*13.96*	*14.36*	*14.13*	*13.89*	*14.06*	*14.46*	*14.23*	**14.35**	*14.20*	*14.16*
Eurasia	**4.42**	**4.29**	**4.64**	**4.57**	*4.18*	*4.33*	*4.64*	*4.55*	*4.37*	*4.52*	*4.84*	*4.75*	**4.48**	*4.42*	*4.62*
Russia	**3.34**	**3.27**	**3.54**	**3.45**	*3.15*	*3.23*	*3.52*	*3.38*	*3.31*	*3.40*	*3.69*	*3.55*	**3.40**	*3.32*	*3.49*
Middle East	**8.91**	**9.22**	**9.65**	**8.89**	*9.18*	*9.38*	*9.91*	*9.31*	*9.56*	*9.58*	*10.12*	*9.51*	**9.17**	*9.45*	*9.69*
Asia and Oceania	**36.61**	**35.72**	**35.66**	**36.72**	*37.94*	*37.21*	*36.06*	*36.73*	*38.95*	*38.02*	*36.90*	*37.61*	**36.18**	*36.98*	*37.87*
China	**15.13**	**15.11**	**15.10**	**15.29**	*15.92*	*16.06*	*15.44*	*15.36*	*16.49*	*16.38*	*15.74*	*15.66*	**15.16**	*15.69*	*16.06*
Japan	**3.70**	**3.03**	**3.19**	**3.51**	*3.69*	*3.05*	*3.07*	*3.37*	*3.54*	*2.94*	*3.04*	*3.36*	**3.36**	*3.29*	*3.22*
India	**5.08**	**5.06**	**4.83**	**5.13**	*5.29*	*5.36*	*5.01*	*5.32*	*5.60*	*5.67*	*5.30*	*5.63*	**5.03**	*5.25*	*5.55*
Africa	**4.44**	**4.44**	**4.33**	**4.46**	*4.51*	*4.53*	*4.45*	*4.61*	*4.63*	*4.64*	*4.56*	*4.72*	**4.42**	*4.52*	*4.64*
Total OECD Liquid Fuels Consumption	**45.84**	**45.45**	**46.47**	**46.23**	*46.13*	*45.28*	*45.82*	*46.10*	*45.79*	*45.33*	*46.17*	*46.40*	**46.00**	*45.83*	*45.92*
Total non-OECD Liquid Fuels Consumption	**52.96**	**53.25**	**53.76**	**53.73**	*54.43*	*55.06*	*54.71*	*54.37*	*56.39*	*56.60*	*56.24*	*55.89*	**53.43**	*54.64*	*56.28*
Total World Liquid Fuels Consumption	**98.80**	**98.71**	**100.23**	**99.97**	*100.56*	*100.34*	*100.53*	*100.47*	*102.18*	*101.93*	*102.41*	*102.29*	**99.43**	*100.48*	*102.20*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**121.6**	**121.9**	**123.0**	**123.3**	*123.7*	*124.1*	*124.9*	*125.9*	*127.0*	*128.1*	*129.4*	*130.6*	**122.5**	*124.7*	*128.8*
Percent change from prior year	**4.4**	**3.6**	**3.1**	**2.0**	*1.7*	*1.8*	*1.5*	*2.1*	*2.7*	*3.2*	*3.6*	*3.8*	**3.2**	*1.8*	*3.3*
OECD Index, 2015 = 100													**113.2**	*113.3*	*115.1*
Percent change from prior year													**2.9**	*0.1*	*1.6*
Non-OECD Index, 2015 = 100													**128.3**	*132.3*	*138.4*
Percent change from prior year													**3.5**	*3.1*	*4.6*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**109.6**	**113.0**	**117.3**	**120.1**	*119.5*	*119.7*	*119.8*	*119.8*	*119.4*	*118.7*	*117.8*	*116.8*	**115.0**	*119.7*	*118.2*
Percent change from prior year	**2.9**	**6.5**	**9.1**	**10.1**	*9.1*	*6.0*	*2.1*	*-0.3*	*-0.1*	*-0.8*	*-1.6*	*-2.5*	**7.2**	*4.1*	*-1.3*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

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Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

STF-3-12 Attachment E

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.47**	**11.70**	**12.05**	**12.23**	*12.37*	*12.34*	*12.40*	*12.51*	*12.63*	*12.72*	*12.86*	*13.03*	**11.86**	*12.41*	*12.81*
Alaska	**0.45**	**0.44**	**0.42**	**0.45**	*0.43*	*0.36*	*0.39*	*0.42*	*0.40*	*0.34*	*0.36*	*0.40*	**0.44**	*0.40*	*0.37*
Federal Gulf of Mexico (b)	**1.67**	**1.70**	**1.80**	**1.82**	*1.92*	*1.90*	*1.82*	*1.82*	*1.89*	*1.87*	*1.81*	*1.84*	**1.75**	*1.87*	*1.85*
Lower 48 States (excl GOM)	**9.35**	**9.56**	**9.83**	**9.95**	*10.02*	*10.08*	*10.19*	*10.27*	*10.34*	*10.51*	*10.68*	*10.79*	**9.67**	*10.14*	*10.58*
Crude Oil Net Imports (c)	**3.00**	**2.81**	**2.75**	**2.12**	*2.84*	*3.49*	*3.88*	*3.60*	*2.93*	*2.95*	*3.10*	*2.60*	**2.67**	*3.46*	*2.89*
SPR Net Withdrawals	**0.31**	**0.80**	**0.84**	**0.49**	*0.02*	*0.15*	*0.04*	*0.00*	*-0.07*	*-0.07*	*-0.07*	*-0.07*	**0.61**	*0.05*	*-0.07*
Commercial Inventory Net Withdrawals	**0.08**	**-0.03**	**-0.12**	**0.10**	*-0.29*	*0.13*	*0.15*	*-0.13*	*-0.32*	*0.07*	*0.17*	*-0.16*	**0.00**	*-0.03*	*-0.06*
Crude Oil Adjustment (d)	**0.71**	**0.81**	**0.75**	**0.98**	*0.49*	*0.59*	*0.50*	*0.48*	*0.56*	*0.63*	*0.52*	*0.52*	**0.81**	*0.52*	*0.56*
Total Crude Oil Input to Refineries	**15.56**	**16.09**	**16.26**	**15.91**	*15.43*	*16.70*	*16.98*	*16.46*	*15.73*	*16.29*	*16.58*	*15.92*	**15.96**	*16.40*	*16.13*
Other Supply															
Refinery Processing Gain	**0.95**	**1.07**	**1.05**	**1.02**	*1.03*	*1.03*	*1.04*	*1.07*	*1.05*	*1.03*	*1.03*	*1.05*	**1.02**	*1.04*	*1.04*
Natural Gas Plant Liquids Production	**5.61**	**5.92**	**6.09**	**6.07**	*6.20*	*6.32*	*6.26*	*6.37*	*6.29*	*6.47*	*6.47*	*6.60*	**5.93**	*6.29*	*6.46*
Renewables and Oxygenate Production (e)	**1.19**	**1.20**	**1.17**	**1.23**	*1.21*	*1.23*	*1.24*	*1.29*	*1.26*	*1.31*	*1.33*	*1.39*	**1.20**	*1.24*	*1.32*
Fuel Ethanol Production	**1.02**	**1.01**	**0.97**	**1.01**	*0.99*	*0.99*	*0.98*	*1.01*	*1.00*	*1.00*	*0.99*	*1.03*	**1.00**	*0.99*	*1.01*
Petroleum Products Adjustment (f)	**0.22**	**0.23**	**0.23**	**0.22**	*0.21*	*0.22*	*0.22*	*0.23*	*0.22*	*0.22*	*0.22*	*0.22*	**0.23**	*0.22*	*0.22*
Product Net Imports (c)	**-3.74**	**-3.99**	**-4.07**	**-4.42**	*-4.17*	*-4.28*	*-4.92*	*-5.27*	*-4.51*	*-4.21*	*-4.57*	*-4.92*	**-4.06**	*-4.66*	*-4.55*
Hydrocarbon Gas Liquids	**-2.14**	**-2.31**	**-2.16**	**-2.43**	*-2.61*	*-2.54*	*-2.56*	*-2.60*	*-2.61*	*-2.81*	*-2.75*	*-2.85*	**-2.26**	*-2.58*	*-2.75*
Unfinished Oils	**0.09**	**0.25**	**0.28**	**0.16**	*0.13*	*0.25*	*0.37*	*0.19*	*0.19*	*0.25*	*0.30*	*0.18*	**0.20**	*0.24*	*0.23*
Other HC/Oxygenates	**-0.09**	**-0.10**	**-0.07**	**-0.04**	*-0.06*	*-0.05*	*-0.04*	*-0.05*	*-0.07*	*-0.06*	*-0.05*	*-0.06*	**-0.07**	*-0.05*	*-0.06*
Motor Gasoline Blend Comp.	**0.40**	**0.60**	**0.48**	**0.39**	*0.55*	*0.68*	*0.37*	*0.41*	*0.40*	*0.66*	*0.39*	*0.37*	**0.47**	*0.50*	*0.46*
Finished Motor Gasoline	**-0.76**	**-0.73**	**-0.81**	**-0.84**	*-0.82*	*-0.80*	*-1.07*	*-1.28*	*-0.96*	*-0.77*	*-0.88*	*-1.02*	**-0.79**	*-0.99*	*-0.91*
Jet Fuel	**-0.04**	**-0.06**	**-0.11**	**-0.06**	*-0.09*	*-0.04*	*0.00*	*0.00*	*0.11*	*0.16*	*0.17*	*0.14*	**-0.07**	*-0.03*	*0.15*
Distillate Fuel Oil	**-0.81**	**-1.15**	**-1.29**	**-1.10**	*-0.79*	*-1.28*	*-1.44*	*-1.38*	*-1.09*	*-1.17*	*-1.28*	*-1.28*	**-1.09**	*-1.22*	*-1.20*
Residual Fuel Oil	**0.14**	**0.10**	**0.10**	**0.05**	*0.08*	*0.11*	*0.08*	*0.13*	*0.06*	*0.10*	*0.08*	*0.16*	**0.10**	*0.10*	*0.10*
Other Oils (g)	**-0.54**	**-0.59**	**-0.49**	**-0.56**	*-0.55*	*-0.61*	*-0.64*	*-0.69*	*-0.56*	*-0.56*	*-0.57*	*-0.56*	**-0.54**	*-0.62*	*-0.56*
Product Inventory Net Withdrawals	**0.42**	**-0.25**	**-0.26**	**0.10**	*0.22*	*-0.69*	*-0.29*	*0.46*	*0.31*	*-0.53*	*-0.26*	*0.53*	**0.00**	*-0.07*	*0.01*
Total Supply	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.87**	**3.43**	**3.48**	**3.67**	*4.01*	*3.56*	*3.50*	*3.90*	*4.01*	*3.49*	*3.57*	*3.91*	**3.61**	*3.74*	*3.74*
Other HC/Oxygenates	**0.13**	**0.17**	**0.17**	**0.22**	*0.20*	*0.20*	*0.21*	*0.24*	*0.22*	*0.25*	*0.27*	*0.31*	**0.17**	*0.21*	*0.26*
Unfinished Oils	**0.13**	**0.04**	**0.11**	**0.05**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.08**	*0.00*	*0.00*
Motor Gasoline	**8.47**	**9.00**	**8.88**	**8.69**	*8.42*	*8.97*	*8.88*	*8.70*	*8.46*	*8.92*	*8.86*	*8.69*	**8.76**	*8.74*	*8.73*
Fuel Ethanol blended into Motor Gasoline	**0.87**	**0.93**	**0.92**	**0.90**	*0.87*	*0.93*	*0.92*	*0.93*	*0.88*	*0.93*	*0.92*	*0.94*	**0.91**	*0.91*	*0.92*
Jet Fuel	**1.45**	**1.61**	**1.60**	**1.57**	*1.47*	*1.62*	*1.68*	*1.64*	*1.63*	*1.74*	*1.80*	*1.74*	**1.56**	*1.60*	*1.73*
Distillate Fuel Oil	**4.14**	**3.89**	**3.86**	**3.91**	*4.00*	*3.92*	*3.86*	*4.00*	*4.08*	*3.96*	*3.89*	*4.01*	**3.95**	*3.94*	*3.99*
Residual Fuel Oil	**0.38**	**0.31**	**0.39**	**0.27**	*0.36*	*0.38*	*0.38*	*0.39*	*0.32*	*0.35*	*0.39*	*0.40*	**0.34**	*0.38*	*0.37*
Other Oils (g)	**1.65**	**1.82**	**1.99**	**1.76**	*1.66*	*1.88*	*2.00*	*1.74*	*1.63*	*1.85*	*2.00*	*1.74*	**1.80**	*1.82*	*1.81*
Total Consumption	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Total Petroleum and Other Liquids Net Imports	**-0.74**	**-1.18**	**-1.32**	**-2.30**	*-1.34*	*-0.79*	*-1.04*	*-1.66*	*-1.58*	*-1.27*	*-1.47*	*-2.32*	**-1.39**	*-1.21*	*-1.66*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**414.4**	**417.5**	**428.8**	**419.9**	*445.9*	*434.0*	*419.9*	*432.2*	*461.5*	*455.1*	*439.8*	*454.5*	**419.9**	*432.2*	*454.5*
Hydrocarbon Gas Liquids	**142.0**	**186.7**	**243.6**	**208.9**	*158.1*	*208.3*	*248.4*	*203.8*	*164.9*	*212.6*	*249.1*	*203.8*	**208.9**	*203.8*	*203.8*
Unfinished Oils	**87.9**	**88.8**	**82.3**	**82.3**	*92.0*	*89.5*	*88.9*	*81.0*	*91.2*	*88.5*	*87.4*	*79.3*	**82.3**	*81.0*	*79.3*
Other HC/Oxygenates	**34.1**	**29.4**	**27.3**	**30.2**	*32.3*	*31.0*	*30.8*	*31.0*	*33.1*	*31.9*	*31.6*	*31.9*	**30.2**	*31.0*	*31.9*
Total Motor Gasoline	**238.5**	**221.0**	**209.6**	**223.8**	*235.9*	*243.1*	*234.0*	*246.2*	*240.9*	*245.8*	*238.7*	*247.3*	**223.8**	*246.2*	*247.3*
Finished Motor Gasoline	**17.3**	**17.1**	**17.6**	**16.1**	*15.2*	*16.9*	*18.8*	*21.5*	*18.4*	*19.6*	*21.3*	*23.5*	**16.1**	*21.5*	*23.5*
Motor Gasoline Blend Comp.	**221.2**	**203.8**	**192.0**	**207.7**	*220.7*	*226.2*	*215.3*	*224.7*	*222.5*	*226.2*	*217.4*	*223.7*	**207.7**	*224.7*	*223.7*
Jet Fuel	**35.6**	**39.3**	**36.2**	**34.0**	*37.5*	*40.4*	*42.1*	*39.3*	*40.2*	*40.3*	*42.1*	*38.3*	**34.0**	*39.3*	*38.3*
Distillate Fuel Oil	**114.6**	**111.4**	**110.5**	**119.4**	*113.0*	*121.8*	*127.5*	*127.0*	*119.1*	*121.4*	*126.7*	*125.2*	**119.4**	*127.0*	*125.2*
Residual Fuel Oil	**27.9**	**29.2**	**27.3**	**29.9**	*30.1*	*29.4*	*27.7*	*27.2*	*28.8*	*28.0*	*26.3*	*25.8*	**29.9**	*27.2*	*25.8*
Other Oils (g)	**58.5**	**56.4**	**49.5**	**48.3**	*57.7*	*55.8*	*46.8*	*48.4*	*57.6*	*55.6*	*46.5*	*48.0*	**48.3**	*48.4*	*48.0*
Total Commercial Inventory	**1153.6**	**1179.7**	**1215.1**	**1196.7**	*1202.6*	*1253.3*	*1266.0*	*1236.1*	*1237.2*	*1279.1*	*1288.1*	*1253.9*	**1196.7**	*1236.1*	*1253.9*
Crude Oil in SPR	**566.1**	**493.3**	**416.4**	**371.5**	*369.6*	*356.0*	*352.6*	*352.6*	*358.7*	*364.7*	*370.7*	*376.7*	**371.5**	*352.6*	*376.7*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
HGL Production															
Natural Gas Processing Plants															
Ethane	**2.33**	**2.43**	**2.41**	**2.48**	*2.53*	*2.66*	*2.54*	*2.58*	*2.58*	*2.64*	*2.56*	*2.65*	**2.41**	*2.58*	*2.61*
Propane	**1.77**	**1.85**	**1.92**	**1.89**	*1.97*	*1.95*	*1.97*	*2.02*	*1.99*	*2.04*	*2.07*	*2.12*	**1.86**	*1.98*	*2.06*
Butanes	**0.93**	**0.98**	**1.02**	**1.03**	*1.06*	*1.04*	*1.06*	*1.09*	*1.09*	*1.10*	*1.11*	*1.13*	**0.99**	*1.06*	*1.11*
Natural Gasoline (Pentanes Plus)	**0.59**	**0.67**	**0.74**	**0.67**	*0.64*	*0.66*	*0.69*	*0.67*	*0.64*	*0.69*	*0.72*	*0.70*	**0.66**	*0.67*	*0.69*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	*0.00*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.27**	**0.29**	**0.29**	**0.29**	*0.28*	*0.27*	*0.28*	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	**0.29**	*0.28*	*0.28*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.26**	**0.26**	*0.28*	*0.29*	*0.28*	*0.29*	*0.28*	*0.28*	*0.28*	*0.28*	**0.27**	*0.28*	*0.28*
Butanes/Butylenes	**-0.07**	**0.25**	**0.19**	**-0.19**	*-0.08*	*0.26*	*0.19*	*-0.20*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.05**	*0.04*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.50**	**-0.40**	**-0.43**	**-0.44**	*-0.45*	*-0.45*	*-0.45*	*-0.45*	*-0.47*	*-0.47*	*-0.46*	*-0.49*	**-0.44**	*-0.45*	*-0.47*
Propane/Propylene	**-1.18**	**-1.33**	**-1.21**	**-1.35**	*-1.40*	*-1.36*	*-1.37*	*-1.46*	*-1.37*	*-1.51*	*-1.47*	*-1.60*	**-1.27**	*-1.40*	*-1.49*
Butanes/Butylenes	**-0.28**	**-0.41**	**-0.34**	**-0.47**	*-0.51*	*-0.51*	*-0.51*	*-0.46*	*-0.53*	*-0.59*	*-0.59*	*-0.53*	**-0.38**	*-0.50*	*-0.56*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.17**	**-0.19**	**-0.17**	*-0.25*	*-0.23*	*-0.23*	*-0.23*	*-0.24*	*-0.24*	*-0.23*	*-0.22*	**-0.17**	*-0.24*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.44**	**0.31**	**0.35**	**0.52**	*0.42*	*0.29*	*0.32*	*0.52*	*0.40*	*0.28*	*0.31*	*0.51*	**0.40**	*0.39*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.22**	**0.18**	*0.17*	*0.18*	*0.19*	*0.18*	*0.17*	*0.18*	*0.19*	*0.18*	**0.20**	*0.18*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.98**	**2.03**	**1.97**	**2.02**	*2.14*	*2.15*	*2.10*	*2.13*	*2.12*	*2.13*	*2.12*	*2.17*	**2.00**	*2.13*	*2.13*
Propane	**1.16**	**0.60**	**0.69**	**0.86**	*1.17*	*0.64*	*0.63*	*0.99*	*1.15*	*0.60*	*0.68*	*0.94*	**0.83**	*0.86*	*0.84*
Propylene (refinery-grade)	**0.30**	**0.29**	**0.28**	**0.28**	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	*0.29*	*0.30*	**0.29**	*0.30*	*0.30*
Butanes/Butylenes	**0.23**	**0.26**	**0.29**	**0.21**	*0.19*	*0.24*	*0.23*	*0.23*	*0.19*	*0.23*	*0.21*	*0.21*	**0.25**	*0.22*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.21**	**0.24**	**0.26**	**0.31**	*0.22*	*0.23*	*0.24*	*0.26*	*0.25*	*0.23*	*0.28*	*0.29*	**0.25**	*0.24*	*0.26*
HGL Inventories (million barrels)															
Ethane	**51.1**	**51.7**	**49.9**	**53.5**	*50.0*	*54.7*	*55.9*	*58.3*	*56.4*	*60.4*	*60.3*	*61.2*	**51.5**	*54.7*	*59.6*
Propane	**36.3**	**54.1**	**81.9**	**78.6**	*48.7*	*67.3*	*88.2*	*73.3*	*47.8*	*65.8*	*84.1*	*70.0*	**78.6**	*73.3*	*70.0*
Propylene (at refineries only)	**1.0**	**1.2**	**1.1**	**1.0**	*1.1*	*1.5*	*1.8*	*1.7*	*1.5*	*1.7*	*1.9*	*1.8*	**1.0**	*1.7*	*1.8*
Butanes/Butylenes	**35.7**	**58.8**	**81.2**	**48.5**	*35.1*	*59.5*	*77.3*	*47.8*	*37.8*	*62.3*	*80.3*	*51.1*	**48.5**	*47.8*	*51.1*
Natural Gasoline (Pentanes Plus)	**19.4**	**22.7**	**27.2**	**26.3**	*23.4*	*24.2*	*24.6*	*23.5*	*20.7*	*21.6*	*22.2*	*21.2*	**26.3**	*23.5*	*21.2*
Refinery and Blender Net Inputs															
Crude Oil	**15.56**	**16.09**	**16.26**	**15.91**	*15.43*	*16.70*	*16.98*	*16.46*	*15.73*	*16.29*	*16.58*	*15.92*	**15.96**	*16.40*	*16.13*
Hydrocarbon Gas Liquids	**0.64**	**0.50**	**0.57**	**0.70**	*0.60*	*0.47*	*0.51*	*0.70*	*0.56*	*0.46*	*0.50*	*0.69*	**0.60**	*0.57*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**1.20**	**1.19**	**1.16**	*1.11*	*1.20*	*1.20*	*1.19*	*1.15*	*1.21*	*1.21*	*1.21*	**1.17**	*1.17*	*1.20*
Unfinished Oils	**-0.12**	**0.21**	**0.24**	**0.11**	*0.02*	*0.28*	*0.38*	*0.28*	*0.08*	*0.28*	*0.31*	*0.27*	**0.11**	*0.24*	*0.23*
Motor Gasoline Blend Components	**0.33**	**0.84**	**0.66**	**0.31**	*0.52*	*0.72*	*0.59*	*0.53*	*0.55*	*0.72*	*0.59*	*0.53*	**0.54**	*0.59*	*0.59*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.53**	**18.84**	**18.92**	**18.20**	*17.67*	*19.37*	*19.65*	*19.16*	*18.07*	*18.96*	*19.19*	*18.61*	**18.38**	*18.97*	*18.71*
Refinery Processing Gain	**0.95**	**1.07**	**1.05**	**1.02**	*1.03*	*1.03*	*1.04*	*1.07*	*1.05*	*1.03*	*1.03*	*1.05*	**1.02**	*1.04*	*1.04*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.49**	**0.84**	**0.75**	**0.37**	*0.48*	*0.83*	*0.77*	*0.37*	*0.48*	*0.84*	*0.77*	*0.37*	**0.61**	*0.61*	*0.61*
Finished Motor Gasoline	**9.22**	**9.74**	**9.73**	**9.58**	*9.32*	*9.85*	*10.03*	*10.18*	*9.47*	*9.76*	*9.82*	*9.90*	**9.57**	*9.85*	*9.74*
Jet Fuel	**1.48**	**1.71**	**1.67**	**1.60**	*1.60*	*1.70*	*1.70*	*1.61*	*1.52*	*1.59*	*1.65*	*1.56*	**1.62**	*1.65*	*1.58*
Distillate Fuel	**4.77**	**5.00**	**5.15**	**5.11**	*4.72*	*5.29*	*5.36*	*5.37*	*5.08*	*5.16*	*5.23*	*5.28*	**5.01**	*5.19*	*5.19*
Residual Fuel	**0.26**	**0.22**	**0.26**	**0.24**	*0.28*	*0.26*	*0.29*	*0.25*	*0.27*	*0.25*	*0.29*	*0.24*	**0.25**	*0.27*	*0.26*
Other Oils (a)	**2.26**	**2.39**	**2.40**	**2.31**	*2.31*	*2.47*	*2.54*	*2.45*	*2.30*	*2.39*	*2.47*	*2.32*	**2.34**	*2.44*	*2.37*
Total Refinery and Blender Net Production	**18.49**	**19.90**	**19.97**	**19.22**	*18.70*	*20.39*	*20.69*	*20.23*	*19.12*	*19.99*	*20.22*	*19.66*	**19.40**	*20.01*	*19.75*
Refinery Distillation Inputs	**16.07**	**16.61**	**16.82**	**16.41**	*15.74*	*16.88*	*17.21*	*16.70*	*16.01*	*16.52*	*16.86*	*16.22*	**16.48**	*16.64*	*16.40*
Refinery Operable Distillation Capacity	**17.94**	**17.94**	**17.98**	**18.02**	*18.02*	*18.15*	*18.27*	*18.27*	*18.05*	*18.01*	*18.01*	*18.01*	**17.97**	*18.18*	*18.02*
Refinery Distillation Utilization Factor	**0.90**	**0.93**	**0.94**	**0.91**	*0.87*	*0.93*	*0.94*	*0.91*	*0.89*	*0.92*	*0.94*	*0.90*	**0.92**	*0.92*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Prices (cents per gallon)															
Refiner Wholesale Price	**278**	**376**	**311**	**267**	*246*	*253*	*251*	*235*	*231*	*237*	*227*	*210*	**309**	*246*	*226*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**364**	**438**	**393**	**340**	*319*	*335*	*331*	*314*	*308*	*313*	*302*	*287*	**384**	*325*	*302*
PADD 2	**352**	**436**	**397**	**345**	*310*	*323*	*320*	*309*	*301*	*309*	*299*	*279*	**383**	*316*	*297*
PADD 3	**340**	**414**	**357**	**300**	*287*	*302*	*302*	*286*	*277*	*283*	*273*	*254*	**353**	*294*	*272*
PADD 4	**360**	**446**	**434**	**359**	*323*	*344*	*350*	*328*	*311*	*325*	*318*	*297*	**402**	*337*	*313*
PADD 5	**452**	**543**	**511**	**478**	*417*	*416*	*408*	*391*	*382*	*394*	*379*	*360*	**497**	*408*	*379*
U.S. Average	**371**	**450**	**408**	**357**	*328*	*340*	*337*	*321*	*314*	*321*	*310*	*292*	**397**	*332*	*309*
Gasoline All Grades Including Taxes	**380**	**460**	**419**	**369**	*341*	*354*	*351*	*336*	*328*	*335*	*325*	*307*	**408**	*345*	*324*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**56.9**	**53.6**	**54.4**	**57.4**	*60.2*	*67.1*	*62.2*	*65.4*	*61.7*	*66.8*	*61.9*	*64.8*	**57.4**	*65.4*	*64.8*
PADD 2	**56.5**	**46.7**	**44.1**	**46.0**	*50.6*	*48.8*	*46.7*	*51.2*	*53.2*	*50.4*	*47.5*	*51.4*	**46.0**	*51.2*	*51.4*
PADD 3	**87.1**	**83.9**	**80.2**	**80.3**	*87.1*	*89.7*	*87.1*	*90.0*	*87.7*	*91.0*	*91.3*	*91.4*	**80.3**	*90.0*	*91.4*
PADD 4	**8.1**	**6.4**	**6.4**	**7.3**	*8.0*	*7.7*	*7.8*	*8.5*	*8.3*	*7.8*	*7.8*	*8.5*	**7.3**	*8.5*	*8.5*
PADD 5	**29.9**	**30.3**	**24.5**	**32.8**	*30.1*	*29.9*	*30.2*	*31.1*	*30.0*	*29.9*	*30.2*	*31.1*	**32.8**	*31.1*	*31.1*
U.S. Total	**238.5**	**221.0**	**209.6**	**223.8**	*235.9*	*243.1*	*234.0*	*246.2*	*240.9*	*245.8*	*238.7*	*247.3*	**223.8**	*246.2*	*247.3*
Finished Gasoline Inventories															
U.S. Total	**17.3**	**17.1**	**17.6**	**16.1**	*15.2*	*16.9*	*18.8*	*21.5*	*18.4*	*19.6*	*21.3*	*23.5*	**16.1**	*21.5*	*23.5*
Gasoline Blending Components Inventories															
U.S. Total	**221.2**	**203.8**	**192.0**	**207.7**	*220.7*	*226.2*	*215.3*	*224.7*	*222.5*	*226.2*	*217.4*	*223.7*	**207.7**	*224.7*	*223.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (billion cubic feet per day)															
Total Marketed Production	**103.27**	**106.18**	**108.25**	**108.67**	*109.58*	*108.60*	*108.83*	*109.42*	*109.96*	*110.65*	*111.70*	*112.63*	**106.61**	*109.11*	*111.24*
Alaska	**1.06**	**1.00**	**0.96**	**1.03**	*1.01*	*0.93*	*0.85*	*0.98*	*1.00*	*0.92*	*0.84*	*0.97*	**1.01**	*0.94*	*0.93*
Federal GOM (a)	**2.05**	**2.11**	**2.19**	**2.21**	*2.29*	*2.22*	*2.09*	*2.04*	*2.14*	*2.08*	*1.97*	*2.00*	**2.14**	*2.16*	*2.05*
Lower 48 States (excl GOM)	**100.16**	**103.07**	**105.10**	**105.43**	*106.28*	*105.44*	*105.90*	*106.40*	*106.83*	*107.64*	*108.88*	*109.66*	**103.46**	*106.01*	*108.26*
Total Dry Gas Production	**95.10**	**97.59**	**99.44**	**99.87**	*100.82*	*99.87*	*100.08*	*100.62*	*101.12*	*101.75*	*102.72*	*103.57*	**98.02**	*100.34*	*102.29*
LNG Gross Imports	**0.15**	**0.01**	**0.06**	**0.05**	*0.10*	*0.04*	*0.04*	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.07**	*0.06*	*0.06*
LNG Gross Exports	**11.50**	**10.80**	**9.74**	**10.60**	*11.88*	*12.14*	*11.96*	*12.28*	*12.63*	*12.46*	*12.12*	*13.17*	**10.65**	*12.06*	*12.59*
Pipeline Gross Imports	**8.89**	**7.73**	**7.84**	**7.90**	*8.28*	*6.85*	*7.05*	*7.50*	*8.31*	*6.86*	*7.05*	*7.50*	**8.09**	*7.42*	*7.43*
Pipeline Gross Exports	**8.43**	**8.45**	**8.06**	**8.48**	*9.27*	*8.81*	*9.15*	*9.56*	*9.99*	*9.38*	*9.71*	*10.14*	**8.35**	*9.20*	*9.81*
Supplemental Gaseous Fuels	**0.21**	**0.17**	**0.18**	**0.18**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.20*	**0.18**	*0.19*	*0.19*
Net Inventory Withdrawals	**20.14**	**-10.25**	**-8.94**	**2.72**	*15.28*	*-11.99*	*-8.25*	*3.52*	*16.97*	*-13.13*	*-9.78*	*3.93*	**0.84**	*-0.41*	*-0.51*
Total Supply	**104.56**	**76.01**	**80.78**	**91.65**	*103.52*	*74.01*	*78.00*	*90.05*	*104.06*	*73.87*	*78.40*	*91.96*	**88.19**	*86.34*	*87.06*
Balancing Item (b)	**0.33**	**0.27**	**0.37**	**1.12**	*-1.32*	*0.65*	*0.84*	*1.41*	*-0.09*	*-1.86*	*-1.67*	*-1.44*	**0.52**	*0.41*	*-1.27*
Total Primary Supply	**104.89**	**76.27**	**81.15**	**92.77**	*102.20*	*74.66*	*78.84*	*91.47*	*103.97*	*72.01*	*76.73*	*90.52*	**88.72**	*86.74*	*85.79*
Consumption (billion cubic feet per day)															
Residential	**26.09**	**7.85**	**3.56**	**17.22**	*25.18*	*8.02*	*4.26*	*17.59*	*26.40*	*8.09*	*4.31*	*17.65*	**13.63**	*13.71*	*14.10*
Commercial	**15.61**	**6.68**	**4.74**	**11.71**	*15.05*	*6.76*	*5.26*	*11.84*	*15.50*	*6.72*	*5.25*	*11.86*	**9.66**	*9.70*	*9.83*
Industrial	**25.50**	**22.38**	**21.83**	**23.59**	*23.96*	*21.43*	*21.29*	*23.66*	*24.17*	*20.65*	*20.24*	*22.62*	**23.31**	*22.58*	*21.92*
Electric Power (c)	**28.41**	**31.00**	**42.37**	**31.12**	*28.46*	*30.01*	*39.42*	*29.25*	*28.24*	*28.11*	*38.26*	*29.13*	**33.26**	*31.81*	*30.95*
Lease and Plant Fuel	**5.26**	**5.41**	**5.51**	**5.53**	*5.58*	*5.53*	*5.54*	*5.57*	*5.60*	*5.64*	*5.69*	*5.74*	**5.43**	*5.56*	*5.67*
Pipeline and Distribution Use	**3.86**	**2.81**	**2.99**	**3.46**	*3.83*	*2.76*	*2.92*	*3.42*	*3.90*	*2.66*	*2.84*	*3.38*	**3.28**	*3.23*	*3.19*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**104.89**	**76.27**	**81.15**	**92.77**	*102.20*	*74.66*	*78.84*	*91.47*	*103.97*	*72.01*	*76.73*	*90.52*	**88.72**	*86.74*	*85.79*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,401**	**2,325**	**3,146**	**2,897**	*1,521*	*2,612*	*3,371*	*3,047*	*1,503*	*2,698*	*3,597*	*3,236*	**2,897**	*3,047*	*3,236*
East Region (d)	**242**	**482**	**759**	**686**	*296*	*597*	*844*	*726*	*254*	*581*	*871*	*727*	**686**	*726*	*727*
Midwest Region (d)	**296**	**557**	**917**	**832**	*343*	*635*	*966*	*843*	*325*	*655*	*1,024*	*890*	**832**	*843*	*890*
South Central Region (d)	**587**	**885**	**1,006**	**1,033**	*715*	*1,032*	*1,079*	*1,035*	*627*	*1,003*	*1,129*	*1,096*	**1,033**	*1,035*	*1,096*
Mountain Region (d)	**90**	**137**	**184**	**155**	*57*	*108*	*183*	*170*	*107*	*152*	*217*	*197*	**155**	*170*	*197*
Pacific Region (d)	**165**	**240**	**247**	**163**	*82*	*213*	*271*	*245*	*162*	*279*	*329*	*298*	**163**	*245*	*298*
Alaska	**21**	**25**	**32**	**28**	*28*	*28*	*28*	*28*	*28*	*28*	*28*	*28*	**28**	*28*	*28*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Wholesale/Spot															
Henry Hub Spot Price	**4.84**	**7.77**	**8.30**	**5.76**	*5.19*	*4.93*	*5.04*	*5.19*	*5.54*	*4.63*	*4.72*	*5.05*	**6.67**	*5.09*	*4.98*
Residential Retail															
New England	**17.69**	**20.93**	**26.81**	**21.03**	*19.64*	*19.69*	*21.98*	*17.33*	*16.67*	*17.46*	*20.29*	*16.08*	**19.67**	*19.09*	*16.84*
Middle Atlantic	**12.79**	**15.55**	**23.86**	**15.96**	*13.63*	*15.00*	*19.48*	*13.06*	*12.05*	*14.20*	*18.96*	*12.72*	**14.79**	*14.08*	*13.02*
E. N. Central	**9.81**	**14.81**	**25.79**	**13.69**	*11.63*	*13.94*	*19.94*	*10.76*	*10.20*	*13.01*	*19.42*	*10.57*	**12.50**	*12.24*	*11.31*
W. N. Central	**11.40**	**15.25**	**25.07**	**12.75**	*11.05*	*13.54*	*19.74*	*11.23*	*10.29*	*13.08*	*19.36*	*10.97*	**13.04**	*12.02*	*11.43*
S. Atlantic	**13.91**	**22.14**	**32.52**	**17.47**	*15.12*	*19.24*	*25.56*	*14.77*	*13.12*	*18.15*	*24.89*	*14.36*	**17.38**	*16.42*	*15.02*
E. S. Central	**11.80**	**17.16**	**27.62**	**15.72**	*13.51*	*18.03*	*24.78*	*15.01*	*13.16*	*18.09*	*24.91*	*15.15*	**14.29**	*15.56*	*15.21*
W. S. Central	**12.62**	**20.91**	**30.98**	**15.70**	*11.82*	*16.88*	*23.05*	*13.59*	*10.89*	*16.57*	*22.77*	*13.53*	**15.79**	*14.08*	*13.37*
Mountain	**10.31**	**12.87**	**19.38**	**13.72**	*11.86*	*12.78*	*15.96*	*10.36*	*10.11*	*11.97*	*15.62*	*10.26*	**12.29**	*11.84*	*10.87*
Pacific	**17.07**	**17.80**	**20.54**	**17.68**	*17.37*	*17.37*	*18.07*	*17.21*	*17.86*	*18.50*	*19.13*	*18.19*	**17.79**	*17.41*	*18.22*
U.S. Average	**12.32**	**16.57**	**24.94**	**15.26**	*13.57*	*15.72*	*20.29*	*13.07*	*12.19*	*15.22*	*20.14*	*12.97*	**14.70**	*14.25*	*13.48*
Commercial Retail															
New England	**12.62**	**14.46**	**16.18**	**15.34**	*14.17*	*13.23*	*12.38*	*11.89*	*12.34*	*12.38*	*11.81*	*11.50*	**14.13**	*13.17*	*12.04*
Middle Atlantic	**10.36**	**10.79**	**12.01**	**11.77**	*11.33*	*10.41*	*9.50*	*9.66*	*9.97*	*9.59*	*8.88*	*9.22*	**11.06**	*10.46*	*9.57*
E. N. Central	**8.12**	**10.46**	**14.23**	**10.68**	*9.64*	*9.96*	*10.90*	*8.70*	*8.97*	*9.88*	*10.72*	*8.60*	**9.66**	*9.48*	*9.11*
W. N. Central	**10.22**	**11.73**	**15.07**	**10.81**	*9.83*	*9.79*	*10.88*	*8.97*	*9.16*	*9.58*	*10.60*	*8.77*	**10.97**	*9.63*	*9.21*
S. Atlantic	**10.52**	**12.23**	**14.05**	**12.56**	*11.49*	*11.73*	*11.95*	*10.77*	*10.68*	*11.50*	*11.66*	*10.60*	**11.86**	*11.37*	*10.92*
E. S. Central	**10.41**	**12.80**	**15.71**	**13.53**	*11.83*	*11.91*	*12.10*	*10.74*	*10.28*	*11.26*	*11.62*	*10.40*	**12.27**	*11.52*	*10.60*
W. S. Central	**10.09**	**12.86**	**15.00**	**12.41**	*10.18*	*9.93*	*10.14*	*9.24*	*8.77*	*9.48*	*9.78*	*9.00*	**11.91**	*9.88*	*9.10*
Mountain	**8.78**	**9.98**	**12.60**	**11.44**	*10.49*	*10.26*	*10.69*	*9.19*	*8.92*	*9.24*	*9.95*	*8.65*	**10.16**	*10.06*	*8.99*
Pacific	**13.08**	**13.67**	**15.58**	**13.27**	*12.19*	*11.21*	*11.11*	*10.41*	*10.37*	*10.18*	*10.39*	*9.91*	**13.64**	*11.28*	*10.19*
U.S. Average	**10.00**	**11.71**	**14.10**	**11.96**	*10.89*	*10.68*	*10.79*	*9.68*	*9.72*	*10.11*	*10.34*	*9.37*	**11.31**	*10.47*	*9.75*
Industrial Retail															
New England	**11.11**	**12.09**	**12.03**	**12.59**	*11.46*	*10.17*	*9.01*	*9.98*	*10.66*	*9.90*	*8.70*	*9.75*	**11.90**	*10.37*	*9.92*
Middle Atlantic	**10.80**	**10.10**	**11.92**	**11.78**	*10.90*	*9.68*	*9.16*	*9.39*	*9.90*	*9.35*	*8.79*	*9.08*	**11.09**	*10.13*	*9.49*
E. N. Central	**7.66**	**8.72**	**10.75**	**9.27**	*8.49*	*7.80*	*7.66*	*7.61*	*8.24*	*7.70*	*7.36*	*7.43*	**8.64**	*8.02*	*7.82*
W. N. Central	**7.96**	**8.58**	**9.58**	**8.18**	*7.61*	*6.51*	*6.32*	*6.79*	*7.39*	*6.36*	*6.00*	*6.56*	**8.52**	*6.85*	*6.62*
S. Atlantic	**7.44**	**8.84**	**11.17**	**8.62**	*7.57*	*6.77*	*6.77*	*7.02*	*7.75*	*6.64*	*6.43*	*6.85*	**8.93**	*7.06*	*6.96*
E. S. Central	**6.53**	**8.70**	**10.55**	**7.83**	*7.18*	*6.43*	*6.29*	*6.61*	*7.33*	*6.30*	*5.96*	*6.45*	**8.27**	*6.66*	*6.56*
W. S. Central	**5.58**	**7.69**	**8.45**	**5.92**	*5.46*	*5.08*	*5.23*	*5.26*	*5.71*	*4.86*	*4.87*	*5.08*	**6.89**	*5.25*	*5.12*
Mountain	**7.11**	**8.39**	**10.45**	**10.30**	*9.39*	*8.44*	*8.16*	*7.73*	*7.84*	*7.46*	*7.45*	*7.24*	**8.95**	*8.48*	*7.51*
Pacific	**8.82**	**9.02**	**9.60**	**9.03**	*8.86*	*8.17*	*8.09*	*8.12*	*8.63*	*8.21*	*7.99*	*8.01*	**9.07**	*8.34*	*8.23*
U.S. Average	**6.82**	**8.24**	**9.26**	**7.28**	*6.91*	*5.99*	*5.93*	*6.21*	*6.94*	*5.80*	*5.60*	*6.06*	**7.84**	*6.28*	*6.14*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million short tons)															
Production	**149.0**	**141.7**	**153.2**	**150.3**	*140.4*	*127.1*	*135.2*	*127.9*	*126.0*	*118.6*	*130.0*	*126.2*	**594.2**	*530.7*	*500.8*
Appalachia	**40.2**	**38.7**	**38.7**	**38.8**	*38.2*	*35.9*	*31.7*	*31.0*	*32.8*	*32.4*	*29.4*	*30.1*	**156.4**	*136.8*	*124.7*
Interior	**23.8**	**21.9**	**22.7**	**23.1**	*23.3*	*20.7*	*21.1*	*19.6*	*21.1*	*19.6*	*20.9*	*20.0*	**91.6**	*84.8*	*81.6*
Western	**85.0**	**81.1**	**91.7**	**88.3**	*78.8*	*70.4*	*82.4*	*77.4*	*72.1*	*66.6*	*79.8*	*76.1*	**346.2**	*309.1*	*294.5*
Primary Inventory Withdrawals	**-1.9**	**0.0**	**3.4**	**-0.2**	*-1.8*	*0.1*	*3.5*	*0.0*	*-1.7*	*0.1*	*3.5*	*0.0*	**1.3**	*1.9*	*1.9*
Imports	**1.3**	**1.6**	**2.0**	**1.1**	*0.8*	*1.0*	*1.3*	*1.0*	*0.7*	*0.9*	*1.2*	*0.9*	**6.0**	*4.1*	*3.6*
Exports	**20.2**	**23.0**	**20.7**	**20.5**	*20.7*	*21.8*	*19.9*	*20.9*	*21.8*	*23.6*	*22.7*	*24.6*	**84.4**	*83.3*	*92.6*
Metallurgical Coal	**10.5**	**13.1**	**11.6**	**11.2**	*10.7*	*11.6*	*10.4*	*10.7*	*11.4*	*12.6*	*11.9*	*12.6*	**46.3**	*43.4*	*48.5*
Steam Coal	**9.7**	**9.9**	**9.2**	**9.7**	*9.9*	*10.2*	*9.5*	*10.2*	*10.4*	*11.0*	*10.8*	*11.9*	**38.5**	*39.9*	*44.1*
Total Primary Supply	**128.2**	**120.4**	**137.8**	**130.8**	*118.7*	*106.5*	*120.2*	*108.0*	*103.2*	*96.0*	*112.1*	*102.5*	**517.2**	*453.4*	*413.8*
Secondary Inventory Withdrawals	**5.9**	**-1.1**	**5.7**	**-11.4**	*-4.2*	*-7.3*	*13.9*	*-4.4*	*9.5*	*-1.8*	*16.7*	*-1.1*	**-0.9**	*-2.1*	*23.4*
Waste Coal (a)	**1.9**	**1.9**	**1.9**	**1.9**	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	**7.5**	*7.2*	*7.2*
Total Supply	**135.9**	**121.2**	**145.4**	**121.2**	*116.4*	*100.9*	*135.8*	*105.4*	*114.6*	*96.1*	*130.6*	*103.2*	**523.8**	*458.5*	*444.4*
Consumption (million short tons)															
Coke Plants	**4.2**	**3.9**	**3.9**	**3.9**	*3.9*	*3.9*	*3.9*	*4.0*	*4.0*	*4.0*	*4.0*	*4.1*	**15.9**	*15.8*	*16.1*
Electric Power Sector (b)	**122.6**	**107.2**	**134.7**	**107.1**	*105.8*	*91.3*	*126.3*	*95.1*	*104.3*	*86.8*	*121.3*	*93.0*	**471.7**	*418.6*	*405.4*
Retail and Other Industry	**6.9**	**6.7**	**6.3**	**6.8**	*6.7*	*5.7*	*5.6*	*6.2*	*6.3*	*5.2*	*5.3*	*6.1*	**26.7**	*24.1*	*22.9*
Residential and Commercial	**0.2**	**0.1**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.4*	*0.2*	*0.2*	*0.3*	**0.8**	*1.0*	*1.0*
Other Industrial	**6.7**	**6.6**	**6.1**	**6.6**	*6.3*	*5.5*	*5.4*	*6.0*	*5.9*	*5.0*	*5.1*	*5.8*	**25.9**	*23.2*	*21.9*
Total Consumption	**133.7**	**117.9**	**144.9**	**117.9**	*116.4*	*100.9*	*135.8*	*105.4*	*114.6*	*96.1*	*130.6*	*103.2*	**514.4**	*458.5*	*444.4*
Discrepancy (c)	**2.2**	**3.3**	**0.6**	**3.3**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**9.4**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**21.0**	**20.9**	**17.5**	**17.7**	*19.5*	*19.3*	*15.8*	*15.8*	*17.5*	*17.3*	*13.8*	*13.9*	**17.7**	*15.8*	*13.9*
Secondary Inventories	**90.5**	**91.5**	**85.8**	**97.2**	*101.4*	*108.8*	*94.9*	*99.3*	*89.8*	*91.5*	*74.8*	*75.9*	**97.2**	*99.3*	*75.9*
Electric Power Sector	**86.3**	**87.4**	**80.2**	**91.7**	*96.7*	*103.9*	*89.8*	*94.3*	*85.5*	*87.1*	*70.1*	*71.2*	**91.7**	*94.3*	*71.2*
Retail and General Industry	**2.4**	**2.4**	**3.6**	**3.5**	*3.0*	*3.0*	*3.2*	*3.2*	*2.7*	*2.8*	*3.0*	*3.1*	**3.5**	*3.2*	*3.1*
Coke Plants	**1.6**	**1.6**	**1.9**	**1.8**	*1.6*	*1.7*	*1.7*	*1.6*	*1.4*	*1.5*	*1.5*	*1.5*	**1.8**	*1.6*	*1.5*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.1*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.05**	**6.05**	**6.05**	**6.05**	*5.98*	*5.98*	*5.98*	*5.98*	*5.80*	*5.80*	*5.80*	*5.80*	**6.05**	*5.98*	*5.80*
Total Raw Steel Production (Million short tons per day)	**0.253**	**0.253**	**0.247**	**0.235**	*0.242*	*0.237*	*0.234*	*0.236*	*0.241*	*0.236*	*0.239*	*0.247*	**0.247**	*0.237*	*0.241*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electricity Supply (billion kilowatthours)															
Electricity Generation	**1,030**	**1,026**	**1,187**	**1,002**	*1,009*	*1,016*	*1,164*	*988*	*1,039*	*1,020*	*1,173*	*998*	**4,245**	*4,177*	*4,230*
Electric Power Sector (a)	**991**	**989**	**1,148**	**963**	*970*	*978*	*1,123*	*950*	*1,000*	*983*	*1,132*	*959*	**4,091**	*4,022*	*4,074*
Industrial Sector (b)	**36**	**34**	**36**	**35**	*35*	*35*	*37*	*36*	*35*	*35*	*37*	*36*	**141**	*142*	*143*
Commercial Sector (b)	**3**	**3**	**3**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**9**	**12**	**16**	**11**	*12*	*12*	*14*	*11*	*12*	*12*	*14*	*11*	**48**	*49*	*50*
Total Supply	**1,039**	**1,038**	**1,203**	**1,013**	*1,021*	*1,029*	*1,178*	*999*	*1,051*	*1,033*	*1,187*	*1,009*	**4,293**	*4,227*	*4,279*
Losses and Unaccounted for (c)	**59**	**68**	**54**	**68**	*42*	*65*	*53*	*52*	*44*	*65*	*53*	*53*	**249**	*213*	*215*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**945**	**938**	**1,114**	**910**	*944*	*930*	*1,089*	*913*	*973*	*934*	*1,097*	*922*	**3,908**	*3,876*	*3,926*
Residential Sector	**380**	**347**	**457**	**330**	*373*	*338*	*440*	*333*	*394*	*342*	*444*	*336*	**1,514**	*1,484*	*1,517*
Commercial Sector	**322**	**335**	**389**	**329**	*326*	*336*	*384*	*328*	*329*	*335*	*385*	*329*	**1,375**	*1,373*	*1,378*
Industrial Sector	**242**	**255**	**266**	**250**	*244*	*254*	*264*	*250*	*247*	*255*	*267*	*255*	**1,013**	*1,013*	*1,025*
Transportation Sector	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**34**	**33**	**35**	**34**	*34*	*34*	*36*	*34*	*34*	*34*	*36*	*35*	**136**	*138*	*139*
Total Consumption	**980**	**971**	**1,149**	**944**	*978*	*963*	*1,125*	*947*	*1,007*	*967*	*1,133*	*956*	**4,044**	*4,014*	*4,064*
Average residential electricity usage per customer (kWh)	**2,711**	**2,475**	**3,265**	**2,354**	*2,640*	*2,395*	*3,112*	*2,358*	*2,769*	*2,403*	*3,117*	*2,357*	**10,806**	*10,505*	*10,646*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**86.3**	**87.4**	**80.2**	**91.7**	*96.7*	*103.9*	*89.8*	*94.3*	*85.5*	*87.1*	*70.1*	*71.2*	**91.7**	*94.3*	*71.2*
Residual Fuel (mmb)	**5.6**	**5.9**	**5.7**	**5.8**	*4.1*	*4.2*	*2.5*	*2.9*	*1.3*	*1.9*	*0.4*	*1.0*	**5.8**	*2.9*	*1.0*
Distillate Fuel (mmb)	**17.6**	**17.7**	**16.7**	**16.8**	*16.6*	*16.4*	*16.3*	*16.5*	*16.4*	*16.2*	*16.2*	*16.4*	**16.8**	*16.5*	*16.4*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*
Natural Gas	**5.95**	**7.39**	**8.23**	**5.86**	*5.56*	*4.97*	*5.04*	*5.37*	*5.93*	*4.72*	*4.75*	*5.24*	**7.00**	*5.21*	*5.13*
Residual Fuel Oil	**16.81**	**26.17**	**26.53**	**20.32**	*17.41*	*17.60*	*16.28*	*15.67*	*15.60*	*15.55*	*14.54*	*14.33*	**21.64**	*16.77*	*15.03*
Distillate Fuel Oil	**21.23**	**30.70**	**26.79**	**26.55**	*24.45*	*23.40*	*21.35*	*21.14*	*20.07*	*18.35*	*18.12*	*18.98*	**25.43**	*22.78*	*19.08*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.97**	**15.05**	**15.85**	**15.26**	*14.82*	*15.66*	*16.02*	*15.18*	*14.75*	*15.73*	*16.09*	*15.30*	**15.07**	*15.45*	*15.48*
Commercial Sector	**11.63**	**12.34**	**13.37**	**12.35**	*12.30*	*12.75*	*13.62*	*12.37*	*12.23*	*12.76*	*13.57*	*12.29*	**12.47**	*12.80*	*12.75*
Industrial Sector	**7.42**	**8.41**	**9.42**	**8.08**	*7.69*	*8.25*	*9.15*	*7.99*	*7.69*	*8.19*	*9.10*	*7.96*	**8.36**	*8.28*	*8.25*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**42.73**	**83.19**	**130.71**	**53.01**	*42.16*	*39.45*	*51.53*	*38.67*	*39.00*	*33.10*	*42.12*	*32.84*	**77.41**	*42.95*	*36.77*
CAISO SP15 zone	**45.20**	**60.34**	**110.03**	**135.13**	*145.24*	*62.71*	*97.65*	*60.25*	*57.04*	*32.14*	*72.58*	*55.34*	**87.67**	*91.46*	*54.28*
ISO-NE Internal hub	**116.48**	**73.28**	**99.14**	**80.77**	*141.38*	*59.04*	*54.03*	*92.66*	*147.12*	*50.92*	*54.80*	*86.52*	**92.42**	*86.78*	*84.84*
NYISO Hudson Valley zone	**100.10**	**79.72**	**104.71**	**77.17**	*102.02*	*55.51*	*53.78*	*73.52*	*108.24*	*49.15*	*52.79*	*71.97*	**90.42**	*71.21*	*70.54*
PJM Western hub	**58.33**	**93.00**	**110.99**	**71.60**	*65.52*	*61.29*	*67.30*	*63.30*	*78.76*	*58.56*	*64.68*	*64.66*	**83.48**	*64.35*	*66.67*
Midcontinent ISO Illinois hub	**47.88**	**89.21**	**101.80**	**57.87**	*52.67*	*50.77*	*55.76*	*52.25*	*58.90*	*49.07*	*55.80*	*53.05*	**74.19**	*52.86*	*54.21*
SPP ISO South hub	**37.25**	**72.85**	**109.97**	**56.06**	*44.90*	*46.81*	*52.76*	*47.95*	*51.63*	*45.81*	*54.13*	*48.71*	**69.03**	*48.11*	*50.07*
SERC index, Into Southern	**42.45**	**84.96**	**94.82**	**59.33**	*51.40*	*50.34*	*55.22*	*51.36*	*56.65*	*48.49*	*53.75*	*51.17*	**70.39**	*52.08*	*52.51*
FRCC index, Florida Reliability	**41.11**	**78.70**	**92.71**	**58.54**	*51.73*	*50.69*	*52.83*	*48.43*	*50.15*	*46.16*	*48.49*	*46.59*	**67.77**	*50.92*	*47.85*
Northwest index, Mid-Columbia	**39.85**	**59.39**	**137.82**	**151.39**	*149.00*	*64.69*	*110.25*	*59.56*	*56.51*	*31.83*	*73.62*	*54.40*	**97.11**	*95.87*	*54.09*
Southwest index, Palo Verde	**39.02**	**60.50**	**128.25**	**130.12**	*127.67*	*64.87*	*107.64*	*55.87*	*54.52*	*33.98*	*73.38*	*50.50*	**89.47**	*89.02*	*53.10*

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	**13.1**	**10.5**	**13.9**	**10.8**	*12.6*	*10.5*	*12.5*	*11.1*	*13.1*	*10.5*	*12.6*	*11.2*	**48.3**	*46.6*	*47.4*
Middle Atlantic	**36.1**	**30.0**	**42.5**	**29.9**	*35.2*	*30.1*	*39.3*	*30.3*	*36.8*	*30.2*	*39.4*	*30.4*	**138.4**	*134.9*	*136.9*
E. N. Central	**50.8**	**43.8**	**54.8**	**43.0**	*49.2*	*42.9*	*54.9*	*44.1*	*51.7*	*43.4*	*55.4*	*44.3*	**192.3**	*191.2*	*194.7*
W. N. Central	**30.6**	**24.7**	**31.3**	**25.0**	*30.2*	*24.3*	*31.1*	*25.4*	*31.6*	*24.8*	*31.6*	*25.8*	**111.6**	*111.0*	*113.7*
S. Atlantic	**96.0**	**91.5**	**116.2**	**83.8**	*95.2*	*89.7*	*114.5*	*85.5*	*103.3*	*91.0*	*115.7*	*86.1*	**387.5**	*384.9*	*396.1*
E. S. Central	**32.6**	**27.7**	**37.0**	**26.5**	*32.2*	*27.1*	*36.5*	*27.0*	*34.9*	*27.4*	*36.7*	*27.1*	**123.8**	*122.8*	*126.1*
W. S. Central	**56.9**	**58.8**	**81.3**	**49.4**	*54.1*	*55.6*	*76.6*	*50.4*	*58.2*	*56.7*	*77.9*	*51.3*	**246.3**	*236.6*	*244.0*
Mountain	**24.1**	**26.2**	**36.1**	**23.7**	*24.3*	*25.4*	*34.3*	*23.4*	*24.7*	*25.7*	*34.8*	*23.7*	**110.2**	*107.3*	*108.9*
Pacific contiguous	**38.4**	**32.4**	**43.1**	**36.4**	*38.8*	*31.6*	*38.8*	*34.7*	*39.0*	*31.6*	*38.8*	*34.7*	**150.3**	*144.0*	*144.1*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.2*	*1.1*	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.8**	*4.8*	*4.8*
Total	**379.8**	**346.7**	**457.3**	**329.7**	*372.9*	*338.4*	*439.7*	*333.2*	*394.5*	*342.4*	*444.1*	*335.8*	**1,513.5**	*1,484.1*	*1,516.7*
Commercial Sector															
New England	**12.1**	**11.8**	**13.9**	**11.8**	*12.0*	*11.8*	*13.2*	*11.7*	*12.1*	*11.6*	*13.1*	*11.6*	**49.5**	*48.7*	*48.4*
Middle Atlantic	**36.0**	**34.3**	**40.5**	**34.6**	*36.2*	*34.2*	*38.8*	*34.1*	*36.2*	*33.9*	*38.6*	*33.9*	**145.3**	*143.3*	*142.5*
E. N. Central	**43.3**	**42.9**	**48.8**	**42.6**	*43.2*	*42.4*	*48.2*	*42.1*	*43.1*	*42.0*	*48.0*	*42.0*	**177.5**	*175.8*	*175.1*
W. N. Central	**25.1**	**24.6**	**28.1**	**24.2**	*25.3*	*24.7*	*27.9*	*24.2*	*25.5*	*24.5*	*27.9*	*24.3*	**101.9**	*102.1*	*102.1*
S. Atlantic	**75.1**	**82.5**	**93.5**	**77.5**	*77.3*	*83.9*	*94.8*	*79.1*	*80.2*	*85.7*	*97.1*	*81.3*	**328.5**	*335.1*	*344.4*
E. S. Central	**21.0**	**22.4**	**26.8**	**20.9**	*21.1*	*22.1*	*26.4*	*20.9*	*21.3*	*21.7*	*26.1*	*20.8*	**91.2**	*90.4*	*89.9*
W. S. Central	**47.0**	**52.1**	**61.2**	**51.1**	*47.7*	*52.0*	*60.1*	*50.9*	*48.1*	*51.7*	*60.1*	*51.1*	**211.5**	*210.6*	*210.9*
Mountain	**23.2**	**25.4**	**29.6**	**23.8**	*23.3*	*25.2*	*28.9*	*23.5*	*23.3*	*25.0*	*28.9*	*23.5*	**102.0**	*100.9*	*100.7*
Pacific contiguous	**37.7**	**37.9**	**45.4**	**40.9**	*38.4*	*38.0*	*44.2*	*39.9*	*38.0*	*37.2*	*43.5*	*39.5*	**161.9**	*160.5*	*158.2*
AK and HI	**1.3**	**1.3**	**1.4**	**1.4**	*1.3*	*1.3*	*1.4*	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	**5.4**	*5.5*	*5.5*
Total	**321.8**	**335.2**	**389.0**	**328.7**	*325.7*	*335.5*	*383.9*	*327.7*	*329.1*	*334.6*	*384.7*	*329.4*	**1,374.8**	*1,372.9*	*1,377.8*
Industrial Sector															
New England	**3.9**	**3.9**	**4.1**	**3.8**	*3.8*	*3.8*	*4.0*	*3.8*	*3.8*	*3.7*	*4.0*	*3.7*	**15.7**	*15.4*	*15.2*
Middle Atlantic	**17.5**	**18.2**	**19.4**	**18.1**	*17.6*	*18.2*	*19.3*	*18.0*	*17.8*	*18.3*	*19.5*	*18.3*	**73.2**	*73.2*	*73.9*
E. N. Central	**45.9**	**47.0**	**48.8**	**45.9**	*45.8*	*46.5*	*47.9*	*45.3*	*45.7*	*46.1*	*48.1*	*46.0*	**187.7**	*185.5*	*185.9*
W. N. Central	**24.0**	**24.8**	**26.9**	**24.8**	*24.2*	*24.7*	*26.5*	*24.8*	*24.7*	*25.0*	*27.1*	*25.6*	**100.5**	*100.3*	*102.3*
S. Atlantic	**36.3**	**37.5**	**38.7**	**36.5**	*36.6*	*37.2*	*38.0*	*36.4*	*37.2*	*37.4*	*38.4*	*37.0*	**149.0**	*148.2*	*150.0*
E. S. Central	**24.7**	**25.8**	**25.6**	**24.2**	*24.7*	*25.5*	*25.1*	*23.9*	*24.6*	*25.2*	*25.0*	*23.9*	**100.4**	*99.1*	*98.7*
W. S. Central	**49.8**	**53.3**	**53.8**	**54.7**	*51.5*	*54.6*	*55.0*	*56.3*	*53.7*	*56.3*	*57.0*	*58.6*	**211.6**	*217.5*	*225.7*
Mountain	**19.9**	**21.7**	**24.0**	**20.4**	*19.9*	*21.9*	*24.2*	*20.6*	*20.3*	*22.0*	*24.4*	*20.9*	**86.0**	*86.6*	*87.6*
Pacific contiguous	**19.0**	**21.0**	**23.4**	**20.7**	*18.7*	*20.5*	*22.7*	*20.1*	*18.5*	*20.1*	*22.3*	*19.9*	**84.1**	*82.0*	*80.8*
AK and HI	**1.1**	**1.2**	**1.3**	**1.2**	*1.1*	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.8**	*4.7*	*4.7*
Total	**242.2**	**254.5**	**265.9**	**250.4**	*244.1*	*254.2*	*263.9*	*250.4*	*247.4*	*255.2*	*266.9*	*255.0*	**1,013.0**	*1,012.5*	*1,024.6*
Total All Sectors (a)															
New England	**29.2**	**26.3**	**32.0**	**26.5**	*28.5*	*26.2*	*29.9*	*26.6*	*29.1*	*26.0*	*29.8*	*26.6*	**114.0**	*111.2*	*111.4*
Middle Atlantic	**90.4**	**83.3**	**103.2**	**83.4**	*89.9*	*83.3*	*98.2*	*83.2*	*91.7*	*83.2*	*98.2*	*83.4*	**360.3**	*354.5*	*356.5*
E. N. Central	**140.2**	**133.8**	**152.4**	**131.6**	*138.4*	*131.9*	*151.1*	*131.6*	*140.7*	*131.5*	*151.6*	*132.4*	**557.9**	*553.0*	*556.2*
W. N. Central	**79.7**	**74.1**	**86.2**	**74.0**	*79.7*	*73.7*	*85.6*	*74.5*	*81.7*	*74.2*	*86.6*	*75.6*	**314.1**	*313.4*	*318.1*
S. Atlantic	**207.7**	**211.8**	**248.6**	**198.0**	*209.4*	*211.1*	*247.5*	*201.2*	*221.0*	*214.3*	*251.5*	*204.6*	**866.1**	*869.2*	*891.5*
E. S. Central	**78.4**	**76.0**	**89.4**	**71.6**	*78.0*	*74.7*	*88.0*	*71.7*	*80.8*	*74.3*	*87.8*	*71.8*	**315.3**	*312.3*	*314.8*
W. S. Central	**153.7**	**164.2**	**196.4**	**155.3**	*153.3*	*162.3*	*191.8*	*157.6*	*160.1*	*164.7*	*195.1*	*161.0*	**669.6**	*665.0*	*680.8*
Mountain	**67.2**	**73.4**	**89.7**	**68.0**	*67.5*	*72.5*	*87.4*	*67.5*	*68.3*	*72.8*	*88.1*	*68.1*	**298.3**	*294.9*	*297.3*
Pacific contiguous	**95.3**	**91.5**	**112.1**	**98.2**	*96.1*	*90.3*	*105.9*	*94.9*	*95.6*	*89.0*	*104.9*	*94.3*	**397.1**	*387.2*	*383.8*
AK and HI	**3.7**	**3.6**	**3.8**	**3.9**	*3.7*	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**15.0**	*15.0*	*15.0*
Total	**945.5**	**938.0**	**1,113.9**	**910.4**	*944.4*	*929.6*	*1,089.1*	*912.8*	*972.7*	*933.7*	*1,097.3*	*921.8*	**3,907.8**	*3,875.9*	*3,925.5*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	**23.96**	**24.31**	**24.80**	**25.67**	*27.82*	*27.86*	*27.81*	*27.90*	*29.53*	*28.96*	*28.61*	*28.57*	**24.66**	*27.84*	*28.93*
Middle Atlantic	**17.13**	**18.29**	**18.97**	**18.39**	*17.85*	*18.35*	*18.68*	*18.05*	*17.97*	*18.44*	*18.73*	*18.13*	**18.22**	*18.25*	*18.33*
E. N. Central	**14.21**	**15.50**	**16.21**	**15.82**	*14.98*	*15.95*	*16.42*	*15.66*	*14.85*	*16.04*	*16.63*	*15.99*	**15.43**	*15.77*	*15.88*
W. N. Central	**11.28**	**13.26**	**14.36**	**12.21**	*11.44*	*13.45*	*14.37*	*11.98*	*11.30*	*13.41*	*14.39*	*12.11*	**12.79**	*12.82*	*12.80*
S. Atlantic	**12.68**	**13.61**	**14.27**	**13.55**	*13.31*	*14.03*	*14.41*	*13.29*	*13.05*	*13.98*	*14.42*	*13.41*	**13.56**	*13.80*	*13.74*
E. S. Central	**11.97**	**13.08**	**13.79**	**12.78**	*12.49*	*13.16*	*13.55*	*12.68*	*12.56*	*13.32*	*13.72*	*12.85*	**12.93**	*12.99*	*13.13*
W. S. Central	**11.82**	**12.93**	**13.81**	**13.90**	*12.84*	*13.44*	*13.95*	*13.62*	*12.62*	*13.48*	*14.00*	*13.65*	**13.16**	*13.51*	*13.48*
Mountain	**12.14**	**12.85**	**13.23**	**13.03**	*12.78*	*13.58*	*13.87*	*13.48*	*12.92*	*13.32*	*13.36*	*13.05*	**12.86**	*13.47*	*13.18*
Pacific	**18.12**	**20.54**	**22.06**	**19.35**	*19.28*	*22.00*	*22.78*	*19.61*	*19.53*	*22.51*	*23.20*	*19.91*	**20.07**	*20.90*	*21.26*
U.S. Average	**13.97**	**15.05**	**15.85**	**15.26**	*14.82*	*15.66*	*16.02*	*15.18*	*14.75*	*15.73*	*16.09*	*15.30*	**15.07**	*15.45*	*15.48*
Commercial Sector															
New England	**18.47**	**17.46**	**18.32**	**18.19**	*20.04*	*18.72*	*19.36*	*18.72*	*20.39*	*18.95*	*19.56*	*18.99*	**18.12**	*19.22*	*19.48*
Middle Atlantic	**14.04**	**14.92**	**16.60**	**14.82**	*14.67*	*14.91*	*16.28*	*14.30*	*14.19*	*14.76*	*16.10*	*14.05*	**15.15**	*15.08*	*14.81*
E. N. Central	**11.06**	**11.85**	**12.15**	**11.78**	*11.62*	*12.06*	*12.03*	*11.47*	*11.34*	*12.03*	*12.16*	*11.58*	**11.72**	*11.80*	*11.79*
W. N. Central	**9.65**	**10.71**	**11.70**	**9.76**	*9.19*	*9.90*	*11.32*	*9.63*	*9.37*	*10.74*	*11.94*	*9.70*	**10.50**	*10.05*	*10.48*
S. Atlantic	**10.30**	**10.87**	**11.52**	**10.95**	*10.84*	*11.13*	*11.51*	*10.57*	*10.43*	*10.95*	*11.41*	*10.56*	**10.94**	*11.04*	*10.87*
E. S. Central	**11.69**	**12.20**	**13.02**	**12.37**	*12.51*	*12.64*	*13.19*	*12.33*	*12.46*	*12.82*	*13.44*	*12.51*	**12.36**	*12.70*	*12.84*
W. S. Central	**8.68**	**9.63**	**10.47**	**9.15**	*8.83*	*9.54*	*10.50*	*9.28*	*9.10*	*9.93*	*10.84*	*9.51*	**9.55**	*9.59*	*9.90*
Mountain	**9.56**	**10.31**	**10.96**	**10.25**	*10.07*	*10.79*	*11.43*	*10.56*	*10.14*	*10.59*	*11.11*	*10.27*	**10.32**	*10.75*	*10.56*
Pacific	**16.10**	**17.77**	**20.29**	**17.87**	*18.25*	*20.25*	*22.62*	*19.38*	*18.96*	*19.92*	*21.84*	*18.73*	**18.12**	*20.21*	*19.92*
U.S. Average	**11.63**	**12.34**	**13.37**	**12.35**	*12.30*	*12.75*	*13.62*	*12.37*	*12.23*	*12.76*	*13.57*	*12.29*	**12.47**	*12.80*	*12.75*
Industrial Sector															
New England	**15.12**	**15.16**	**15.93**	**14.87**	*16.08*	*15.75*	*16.28*	*15.02*	*16.18*	*15.82*	*16.39*	*15.17*	**15.28**	*15.79*	*15.90*
Middle Atlantic	**7.87**	**8.29**	**9.82**	**7.88**	*7.81*	*7.82*	*9.14*	*7.62*	*7.73*	*7.59*	*8.90*	*7.44*	**8.49**	*8.11*	*7.93*
E. N. Central	**7.73**	**8.56**	**9.01**	**8.37**	*7.95*	*8.37*	*8.76*	*8.37*	*8.09*	*8.41*	*8.81*	*8.43*	**8.43**	*8.37*	*8.44*
W. N. Central	**7.16**	**7.99**	**8.70**	**7.37**	*7.33*	*7.98*	*8.65*	*7.47*	*7.50*	*8.11*	*8.79*	*7.58*	**7.83**	*7.87*	*8.01*
S. Atlantic	**6.85**	**8.09**	**9.11**	**7.27**	*6.98*	*7.77*	*8.67*	*7.15*	*6.97*	*7.71*	*8.61*	*7.13*	**7.85**	*7.65*	*7.61*
E. S. Central	**6.35**	**7.36**	**8.41**	**7.02**	*6.62*	*7.17*	*8.13*	*6.94*	*6.64*	*7.13*	*8.09*	*6.92*	**7.30**	*7.22*	*7.20*
W. S. Central	**6.19**	**7.28**	**8.08**	**6.93**	*6.39*	*6.90*	*7.46*	*6.62*	*6.21*	*6.65*	*7.16*	*6.36*	**7.14**	*6.85*	*6.60*
Mountain	**6.57**	**7.27**	**8.41**	**7.26**	*7.02*	*7.42*	*8.48*	*7.20*	*6.91*	*7.34*	*8.44*	*7.22*	**7.42**	*7.57*	*7.52*
Pacific	**10.37**	**11.97**	**14.16**	**12.21**	*11.18*	*12.40*	*14.55*	*12.38*	*11.25*	*12.56*	*14.85*	*12.73*	**12.28**	*12.71*	*12.94*
U.S. Average	**7.42**	**8.41**	**9.42**	**8.08**	*7.69*	*8.25*	*9.15*	*7.99*	*7.69*	*8.19*	*9.10*	*7.96*	**8.36**	*8.28*	*8.25*
All Sectors (a)															
New England	**20.46**	**19.83**	**20.80**	**20.73**	*22.90*	*21.90*	*22.46*	*21.98*	*23.92*	*22.51*	*22.94*	*22.43*	**20.47**	*22.32*	*22.97*
Middle Atlantic	**14.06**	**14.66**	**16.28**	**14.58**	*14.56*	*14.59*	*15.82*	*14.21*	*14.44*	*14.51*	*15.71*	*14.08*	**14.95**	*14.83*	*14.72*
E. N. Central	**11.10**	**11.89**	**12.60**	**11.90**	*11.60*	*12.02*	*12.59*	*11.80*	*11.57*	*12.08*	*12.73*	*11.96*	**11.89**	*12.02*	*12.10*
W. N. Central	**9.53**	**10.65**	**11.73**	**9.78**	*9.48*	*10.42*	*11.60*	*9.71*	*9.55*	*10.74*	*11.85*	*9.80*	**10.46**	*10.34*	*10.51*
S. Atlantic	**10.79**	**11.56**	**12.43**	**11.37**	*11.28*	*11.76*	*12.41*	*11.11*	*11.07*	*11.67*	*12.36*	*11.14*	**11.58**	*11.68*	*11.59*
E. S. Central	**10.12**	**10.88**	**12.02**	**10.71**	*10.64*	*10.96*	*11.89*	*10.67*	*10.73*	*11.08*	*12.03*	*10.78*	**10.98**	*11.08*	*11.19*
W. S. Central	**9.03**	**10.05**	**11.20**	**9.88**	*9.42*	*9.99*	*11.00*	*9.72*	*9.41*	*10.03*	*11.03*	*9.68*	**10.11**	*10.09*	*10.09*
Mountain	**9.60**	**10.32**	**11.19**	**10.33**	*10.14*	*10.75*	*11.57*	*10.54*	*10.19*	*10.57*	*11.25*	*10.30*	**10.42**	*10.81*	*10.63*
Pacific	**15.76**	**17.41**	**19.68**	**17.22**	*17.27*	*19.06*	*20.93*	*17.96*	*17.68*	*19.16*	*20.83*	*17.88*	**17.61**	*18.86*	*18.93*
U.S. Average	**11.49**	**12.28**	**13.45**	**12.23**	*12.10*	*12.58*	*13.50*	*12.19*	*12.09*	*12.60*	*13.50*	*12.19*	**12.41**	*12.63*	*12.63*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
United States															
Natural Gas	**337.0**	**365.5**	**509.4**	**378.5**	*339.8*	*357.0*	*477.5*	*359.1*	*342.3*	*337.1*	*466.6*	*359.8*	**1,590.5**	*1,533.4*	*1,505.7*
Coal	**217.5**	**189.1**	**234.6**	**186.1**	*187.8*	*158.2*	*218.8*	*163.9*	*183.9*	*149.7*	*209.8*	*160.1*	**827.3**	*728.7*	*703.5*
Nuclear	**195.6**	**184.4**	**201.5**	**190.2**	*193.9*	*187.7*	*206.4*	*196.2*	*200.4*	*192.8*	*207.4*	*190.7*	**771.7**	*784.2*	*791.3*
Renewable Energy Sources:	**233.2**	**244.9**	**197.4**	**203.2**	*243.1*	*271.2*	*216.2*	*225.7*	*267.8*	*298.9*	*244.2*	*244.0*	**878.7**	*956.2*	*1,055.0*
Conventional Hydropower	**74.4**	**69.2**	**62.3**	**52.9**	*67.0*	*76.0*	*62.5*	*58.6*	*71.7*	*79.9*	*64.6*	*59.6*	**258.8**	*264.1*	*275.7*
Wind	**119.0**	**121.0**	**80.6**	**110.1**	*127.3*	*128.2*	*85.2*	*115.7*	*133.7*	*131.5*	*88.0*	*121.2*	**430.6**	*456.4*	*474.3*
Solar (a)	**29.1**	**44.3**	**43.2**	**29.3**	*37.3*	*56.8*	*57.2*	*40.6*	*52.1*	*78.4*	*80.3*	*52.8*	**145.9**	*191.9*	*263.6*
Biomass	**6.6**	**6.5**	**7.1**	**6.3**	*6.5*	*6.2*	*6.7*	*6.2*	*6.6*	*6.3*	*6.9*	*6.2*	**26.5**	*25.6*	*26.0*
Geothermal	**4.1**	**4.0**	**4.2**	**4.6**	*4.9*	*4.0*	*4.6*	*4.7*	*3.7*	*2.8*	*4.5*	*4.3*	**16.8**	*18.2*	*15.3*
Pumped Storage Hydropower	**-1.2**	**-1.3**	**-2.0**	**-1.4**	*-1.4*	*-1.5*	*-2.1*	*-1.5*	*-1.4*	*-1.5*	*-2.1*	*-1.4*	**-5.9**	*-6.4*	*-6.4*
Petroleum (b)	**6.4**	**4.1**	**4.5**	**4.4**	*5.3*	*3.8*	*4.4*	*4.2*	*5.5*	*3.7*	*4.4*	*4.3*	**19.4**	*17.7*	*17.8*
Other Gases	**0.8**	**0.9**	**1.0**	**0.9**	*0.8*	*0.8*	*0.9*	*0.8*	*0.8*	*0.9*	*0.9*	*0.8*	**3.5**	*3.3*	*3.4*
Other Nonrenewable Fuels (c)	**1.6**	**1.6**	**1.6**	**1.5**	*1.2*	*1.2*	*1.2*	*1.1*	*0.8*	*0.9*	*0.8*	*0.7*	**6.3**	*4.7*	*3.2*
Total Generation	**990.8**	**989.3**	**1,147.8**	**963.4**	*970.4*	*978.2*	*1,123.4*	*949.7*	*1,000.0*	*982.5*	*1,132.0*	*959.1*	**4,091.4**	*4,021.8*	*4,073.6*
New England (ISO-NE)															
Natural Gas	**12.1**	**12.6**	**17.4**	**13.9**	*11.9*	*12.3*	*15.2*	*12.5*	*12.8*	*11.4*	*15.3*	*12.1*	**56.0**	*52.0*	*51.7*
Coal	**0.3**	**0.0**	**0.0**	**0.1**	*0.2*	*0.0*	*0.0*	*0.0*	*0.3*	*0.0*	*0.0*	*0.1*	**0.4**	*0.3*	*0.4*
Nuclear	**7.1**	**5.6**	**7.3**	**7.5**	*7.1*	*5.6*	*7.3*	*6.2*	*7.2*	*7.2*	*7.3*	*5.7*	**27.5**	*26.2*	*27.4*
Conventional hydropower	**1.7**	**1.5**	**1.0**	**1.5**	*1.9*	*2.2*	*1.2*	*1.7*	*2.0*	*2.2*	*1.2*	*1.7*	**5.6**	*7.0*	*7.1*
Nonhydro renewables (d)	**3.2**	**3.2**	**3.0**	**2.7**	*3.1*	*3.2*	*3.0*	*2.9*	*3.3*	*3.8*	*3.6*	*3.6*	**12.1**	*12.2*	*14.3*
Other energy sources (e)	**1.4**	**0.4**	**0.4**	**0.4**	*1.0*	*0.3*	*0.3*	*0.4*	*0.9*	*0.4*	*0.3*	*0.3*	**2.4**	*1.9*	*1.9*
Total generation	**25.7**	**23.1**	**29.2**	**26.1**	*25.3*	*23.6*	*27.0*	*23.7*	*26.5*	*25.0*	*27.6*	*23.5*	**104.0**	*99.6*	*102.7*
Net energy for load (f)	**30.2**	**26.0**	**33.0**	**27.6**	*29.7*	*27.7*	*32.0*	*28.8*	*31.0*	*28.1*	*32.5*	*29.3*	**116.8**	*118.3*	*120.9*
New York (NYISO)															
Natural Gas	**14.1**	**15.5**	**21.2**	**13.2**	*13.5*	*15.4*	*18.8*	*12.8*	*14.1*	*15.2*	*17.4*	*13.0*	**63.9**	*60.5*	*59.6*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**6.4**	**7.0**	**6.4**	**6.9**	*6.6*	*6.4*	*7.0*	*7.0*	*6.3*	*6.9*	*6.8*	*6.4*	**26.7**	*27.0*	*26.4*
Conventional hydropower	**7.3**	**6.9**	**6.6**	**6.7**	*6.6*	*6.7*	*6.8*	*7.0*	*6.9*	*6.9*	*6.9*	*7.1*	**27.5**	*27.2*	*27.7*
Nonhydro renewables (d)	**2.1**	**2.0**	**1.7**	**2.0**	*2.4*	*2.7*	*2.1*	*2.9*	*3.8*	*4.2*	*3.3*	*3.7*	**7.8**	*10.0*	*14.9*
Other energy sources (e)	**1.1**	**0.1**	**0.1**	**0.1**	*0.5*	*0.1*	*0.2*	*0.1*	*0.7*	*0.1*	*0.2*	*0.1*	**1.5**	*0.9*	*1.1*
Total generation	**31.0**	**31.5**	**36.0**	**28.9**	*29.7*	*31.4*	*34.8*	*29.8*	*31.7*	*33.3*	*34.6*	*30.2*	**127.4**	*125.7*	*129.8*
Net energy for load (f)	**37.6**	**34.0**	**43.3**	**35.0**	*36.5*	*35.3*	*41.5*	*35.0*	*37.1*	*35.3*	*41.6*	*35.3*	**150.0**	*148.3*	*149.3*
Mid-Atlantic (PJM)															
Natural Gas	**76.8**	**74.3**	**103.8**	**83.0**	*86.5*	*88.4*	*104.0*	*86.4*	*78.0*	*86.7*	*103.2*	*84.8*	**337.9**	*365.3*	*352.7*
Coal	**48.6**	**35.3**	**42.2**	**32.3**	*40.9*	*27.7*	*39.1*	*27.1*	*37.9*	*26.4*	*38.2*	*27.2*	**158.3**	*134.7*	*129.8*
Nuclear	**69.0**	**65.1**	**69.7**	**66.5**	*67.8*	*67.1*	*72.0*	*68.7*	*69.0*	*64.8*	*72.0*	*68.6*	**270.3**	*275.6*	*274.5*
Conventional hydropower	**2.7**	**2.4**	**1.4**	**1.8**	*2.6*	*2.6*	*1.7*	*2.1*	*2.7*	*2.6*	*1.7*	*2.1*	**8.4**	*8.9*	*9.0*
Nonhydro renewables (d)	**13.3**	**13.0**	**9.7**	**13.0**	*14.1*	*14.2*	*11.4*	*14.9*	*16.4*	*17.5*	*14.3*	*16.8*	**49.0**	*54.6*	*65.0*
Other energy sources (e)	**0.7**	**0.4**	**0.2**	**0.6**	*0.6*	*0.4*	*0.2*	*0.7*	*0.6*	*0.4*	*0.2*	*0.7*	**1.9**	*1.9*	*2.0*
Total generation	**211.1**	**190.3**	**227.1**	**197.2**	*212.5*	*200.4*	*228.4*	*199.8*	*204.6*	*198.5*	*229.7*	*200.3*	**825.7**	*841.1*	*833.1*
Net energy for load (f)	**201.0**	**180.3**	**213.2**	**187.0**	*197.4*	*181.2*	*207.2*	*182.8*	*202.2*	*181.2*	*208.4*	*184.5*	**781.4**	*768.7*	*776.2*
Southeast (SERC)															
Natural Gas	**63.5**	**67.1**	**86.7**	**65.3**	*68.1*	*64.5*	*82.9*	*62.3*	*72.4*	*61.6*	*83.3*	*66.3*	**282.6**	*277.9*	*283.7*
Coal	**32.3**	**32.8**	**32.0**	**27.0**	*27.0*	*25.9*	*36.8*	*22.9*	*29.4*	*24.7*	*35.4*	*22.6*	**124.1**	*112.5*	*112.1*
Nuclear	**51.4**	**51.1**	**55.4**	**51.1**	*52.5*	*53.8*	*57.3*	*57.4*	*56.7*	*57.6*	*59.3*	*55.0*	**209.1**	*221.0*	*228.5*
Conventional hydropower	**10.3**	**8.3**	**6.1**	**7.8**	*11.0*	*8.9*	*8.0*	*9.1*	*11.5*	*9.0*	*8.1*	*9.1*	**32.5**	*37.1*	*37.7*
Nonhydro renewables (d)	**5.0**	**7.0**	**6.5**	**5.1**	*5.7*	*7.8*	*7.3*	*5.8*	*6.5*	*8.6*	*8.0*	*6.2*	**23.7**	*26.6*	*29.3*
Other energy sources (e)	**-0.2**	**-0.3**	**-0.6**	**-0.4**	*-0.3*	*-0.4*	*-0.7*	*-0.4*	*-0.2*	*-0.4*	*-0.7*	*-0.3*	**-1.5**	*-1.8*	*-1.7*
Total generation	**162.3**	**166.0**	**186.2**	**156.0**	*164.1*	*160.6*	*191.6*	*157.0*	*176.2*	*161.1*	*193.3*	*159.0*	**670.4**	*673.3*	*689.6*
Net energy for load (f)	**164.8**	**167.3**	**180.3**	**154.4**	*165.0*	*165.7*	*191.1*	*160.6*	*178.4*	*169.8*	*195.3*	*164.2*	**666.9**	*682.4*	*707.8*
Florida (FRCC)															
Natural Gas	**38.4**	**47.7**	**56.8**	**39.9**	*34.4*	*40.8*	*56.0*	*41.6*	*41.5*	*43.8*	*59.1*	*44.2*	**182.7**	*172.8*	*188.6*
Coal	**3.5**	**4.3**	**3.7**	**3.6**	*2.6*	*3.3*	*3.5*	*3.7*	*2.4*	*3.0*	*3.3*	*3.6*	**15.0**	*13.1*	*12.3*
Nuclear	**7.3**	**7.9**	**7.5**	**8.1**	*7.0*	*6.9*	*7.5*	*7.7*	*7.2*	*7.8*	*7.1*	*7.1*	**30.8**	*29.2*	*29.3*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.9**	**3.7**	**3.5**	**2.8**	*3.7*	*4.7*	*4.4*	*3.5*	*4.9*	*6.0*	*5.6*	*4.4*	**12.9**	*16.4*	*21.0*
Other energy sources (e)	**0.7**	**0.6**	**0.7**	**0.6**	*0.7*	*0.6*	*0.7*	*0.6*	*0.7*	*0.6*	*0.7*	*0.6*	**2.6**	*2.6*	*2.7*
Total generation	**52.9**	**64.2**	**72.2**	**55.0**	*48.5*	*56.4*	*72.2*	*57.2*	*56.8*	*61.3*	*75.9*	*59.9*	**244.3**	*234.3*	*253.9*
Net energy for load (f)	**53.3**	**65.8**	**76.6**	**57.9**	*49.9*	*60.2*	*67.9*	*53.1*	*51.3*	*60.5*	*68.4*	*53.5*	**253.6**	*231.1*	*233.7*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Midwest (MISO)															
Natural Gas	**41.6**	**47.4**	**59.7**	**44.8**	*36.4*	*48.8*	*53.2*	*41.6*	*42.0*	*48.7*	*56.0*	*44.1*	**193.5**	*180.1*	*190.7*
Coal	**64.5**	**54.1**	**68.6**	**53.0**	*55.6*	*49.6*	*65.4*	*50.2*	*55.3*	*46.0*	*61.3*	*48.0*	**240.1**	*220.8*	*210.6*
Nuclear	**23.8**	**19.6**	**24.3**	**23.7**	*22.4*	*21.1*	*24.4*	*20.9*	*23.2*	*22.5*	*23.8*	*21.4*	**91.4**	*88.7*	*90.9*
Conventional hydropower	**2.9**	**2.7**	**2.4**	**1.9**	*2.4*	*2.9*	*2.3*	*2.2*	*2.5*	*2.9*	*2.3*	*2.2*	**10.0**	*9.8*	*9.9*
Nonhydro renewables (d)	**32.0**	**28.7**	**20.3**	**30.0**	*34.1*	*30.6*	*22.0*	*32.1*	*35.9*	*32.3*	*24.3*	*33.5*	**111.1**	*118.7*	*126.0*
Other energy sources (e)	**1.4**	**1.7**	**1.3**	**1.6**	*1.5*	*1.4*	*1.4*	*1.6*	*1.6*	*1.5*	*1.5*	*1.6*	**6.0**	*5.9*	*6.2*
Total generation	**166.1**	**154.2**	**176.8**	**155.0**	*152.3*	*154.4*	*168.7*	*148.5*	*160.5*	*153.8*	*169.1*	*150.8*	**652.1**	*624.0*	*634.2*
Net energy for load (f)	**165.1**	**158.9**	**179.5**	**157.6**	*160.7*	*160.2*	*179.2*	*157.4*	*164.2*	*160.5*	*180.5*	*159.1*	**661.2**	*657.4*	*664.3*
Central (Southwest Power Pool)															
Natural Gas	**10.6**	**13.4**	**22.4**	**14.6**	*14.1*	*14.3*	*19.7*	*11.9*	*14.6*	*14.2*	*20.2*	*12.8*	**61.0**	*60.0*	*61.8*
Coal	**22.1**	**20.5**	**30.1**	**19.2**	*19.1*	*14.9*	*23.4*	*15.9*	*19.2*	*14.7*	*23.4*	*16.1*	**91.9**	*73.3*	*73.4*
Nuclear	**4.3**	**4.3**	**3.9**	**2.1**	*4.3*	*4.3*	*4.4*	*4.4*	*4.3*	*3.0*	*4.4*	*3.5*	**14.6**	*17.3*	*15.2*
Conventional hydropower	**4.3**	**3.9**	**3.2**	**2.5**	*3.4*	*4.1*	*3.7*	*3.1*	*3.6*	*4.2*	*3.7*	*3.1*	**13.9**	*14.2*	*14.5*
Nonhydro renewables (d)	**28.6**	**29.6**	**21.3**	**27.8**	*31.4*	*31.6*	*22.6*	*28.7*	*33.3*	*32.5*	*23.7*	*30.1*	**107.3**	*114.2*	*119.5*
Other energy sources (e)	**0.3**	**0.4**	**0.2**	**0.3**	*0.3*	*0.3*	*0.2*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	**1.1**	*1.0*	*1.1*
Total generation	**70.2**	**72.0**	**81.1**	**66.6**	*72.5*	*69.5*	*73.9*	*64.2*	*75.3*	*68.9*	*75.5*	*65.9*	**289.9**	*280.1*	*285.6*
Net energy for load (f)	**67.3**	**69.0**	**82.6**	**65.2**	*65.7*	*66.0*	*77.7*	*62.5*	*67.5*	*66.5*	*78.9*	*63.8*	**284.1**	*271.9*	*276.7*
Texas (ERCOT)															
Natural Gas	**33.6**	**42.9**	**64.7**	**41.2**	*27.7*	*31.7*	*50.8*	*34.5*	*25.1*	*24.3*	*42.5*	*30.2*	**182.4**	*144.7*	*122.2*
Coal	**17.7**	**16.8**	**20.2**	**16.5**	*14.9*	*16.2*	*20.9*	*15.6*	*14.7*	*15.6*	*20.4*	*14.4*	**71.1**	*67.6*	*65.2*
Nuclear	**11.0**	**9.9**	**10.7**	**10.1**	*10.7*	*8.9*	*11.0*	*10.1*	*10.9*	*9.7*	*11.0*	*9.1*	**41.7**	*40.7*	*40.6*
Conventional hydropower	**0.2**	**0.1**	**0.0**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.4**	*0.6*	*0.6*
Nonhydro renewables (d)	**30.9**	**39.1**	**28.0**	**28.8**	*36.4*	*45.7*	*34.0*	*33.2*	*41.1*	*52.5*	*42.5*	*39.5*	**126.8**	*149.3*	*175.5*
Other energy sources (e)	**0.4**	**0.5**	**0.4**	**0.4**	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	*0.2*	*0.2*	**1.6**	*1.3*	*0.9*
Total generation	**93.7**	**109.2**	**124.0**	**97.0**	*90.2*	*103.1*	*117.1*	*93.8*	*92.2*	*102.6*	*116.8*	*93.6*	**423.9**	*404.2*	*405.1*
Net energy for load (f)	**93.7**	**109.2**	**124.0**	**97.0**	*90.2*	*103.1*	*117.1*	*93.8*	*92.2*	*102.6*	*116.8*	*93.6*	**423.9**	*404.2*	*405.1*
Northwest															
Natural Gas	**20.2**	**15.9**	**27.3**	**25.9**	*20.0*	*14.2*	*28.3*	*22.2*	*17.1*	*9.6*	*25.6*	*20.8*	**89.4**	*84.6*	*73.0*
Coal	**21.6**	**18.1**	**26.9**	**25.3**	*20.1*	*14.8*	*21.5*	*19.6*	*17.5*	*13.6*	*19.8*	*19.2*	**91.9**	*76.0*	*70.2*
Nuclear	**2.5**	**2.3**	**2.5**	**2.6**	*2.4*	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.9**	*8.4*	*9.6*
Conventional hydropower	**38.9**	**35.7**	**33.9**	**26.1**	*33.0*	*38.9*	*29.8*	*28.1*	*35.4*	*41.2*	*30.7*	*28.2*	**134.5**	*129.8*	*135.4*
Nonhydro renewables (d)	**19.2**	**20.4**	**15.9**	**17.6**	*18.6*	*21.1*	*17.4*	*18.6*	*21.0*	*23.7*	*20.7*	*20.1*	**73.1**	*75.7*	*85.5*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.0*	**0.7**	*0.4*	*0.2*
Total generation	**102.6**	**92.6**	**106.7**	**97.6**	*94.1*	*90.3*	*99.5*	*91.0*	*93.4*	*90.5*	*99.2*	*90.8*	**399.5**	*374.9*	*374.0*
Net energy for load (f)	**89.9**	**87.6**	**98.9**	**95.3**	*91.5*	*86.2*	*96.4*	*88.9*	*91.6*	*85.9*	*96.3*	*88.9*	**371.7**	*363.1*	*362.7*
Southwest															
Natural Gas	**9.6**	**12.9**	**18.6**	**14.1**	*14.7*	*15.1*	*21.9*	*11.8*	*13.0*	*13.1*	*20.7*	*11.6*	**55.1**	*63.5*	*58.4*
Coal	**6.1**	**6.3**	**8.1**	**6.6**	*5.1*	*4.2*	*5.2*	*6.2*	*5.0*	*4.1*	*4.9*	*6.1*	**27.1**	*20.6*	*20.1*
Nuclear	**8.2**	**7.5**	**8.7**	**7.6**	*8.4*	*7.5*	*8.6*	*7.5*	*8.5*	*7.4*	*8.6*	*7.6*	**32.0**	*32.0*	*32.1*
Conventional hydropower	**1.9**	**2.1**	**1.8**	**1.4**	*1.6*	*1.9*	*1.9*	*1.3*	*1.7*	*2.0*	*1.8*	*1.4*	**7.1**	*6.7*	*7.0*
Nonhydro renewables (d)	**4.6**	**5.7**	**3.9**	**3.6**	*4.3*	*6.2*	*4.4*	*4.2*	*5.1*	*7.0*	*4.9*	*4.5*	**17.8**	*19.2*	*21.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.2**	*0.1*	*0.0*
Total generation	**30.4**	**34.4**	**41.1**	**33.4**	*34.2*	*34.8*	*41.9*	*31.1*	*33.3*	*33.6*	*41.0*	*31.1*	**139.3**	*142.0*	*139.0*
Net energy for load (f)	**21.7**	**27.2**	**34.9**	**23.4**	*22.5*	*27.1*	*34.4*	*23.1*	*22.7*	*27.0*	*34.5*	*23.2*	**107.2**	*107.1*	*107.4*
California															
Natural Gas	**15.8**	**15.5**	**29.9**	**21.9**	*11.7*	*10.7*	*26.2*	*20.7*	*10.9*	*8.0*	*22.7*	*19.0*	**83.2**	*69.3*	*60.7*
Coal	**0.5**	**0.7**	**2.4**	**2.3**	*1.9*	*1.2*	*2.6*	*2.3*	*1.8*	*1.1*	*2.6*	*2.4*	**5.9**	*8.1*	*7.9*
Nuclear	**4.6**	**4.2**	**5.0**	**3.9**	*4.6*	*4.7*	*4.6*	*4.1*	*4.7*	*3.6*	*4.7*	*3.9*	**17.7**	*18.0*	*16.9*
Conventional hydropower	**3.6**	**5.3**	**5.3**	**2.7**	*3.8*	*7.1*	*6.6*	*3.5*	*4.7*	*8.3*	*7.7*	*4.2*	**16.9**	*21.0*	*24.9*
Nonhydro renewables (d)	**16.7**	**22.8**	**20.7**	**16.4**	*21.8*	*26.9*	*24.5*	*19.8*	*24.5*	*30.2*	*28.1*	*21.5*	**76.5**	*93.2*	*104.4*
Other energy sources (e)	**0.0**	**-0.2**	**0.1**	**-0.3**	*-0.5*	*-0.5*	*-0.1*	*-0.7*	*-0.7*	*-0.7*	*-0.3*	*-0.9*	**-0.4**	*-1.7*	*-2.7*
Total generation	**41.2**	**48.2**	**63.4**	**46.9**	*43.4*	*50.1*	*64.6*	*49.7*	*45.9*	*50.5*	*65.7*	*50.1*	**199.8**	*207.9*	*212.1*
Net energy for load (f)	**57.3**	**61.9**	**79.6**	**61.6**	*57.7*	*61.9*	*75.1*	*59.8*	*58.3*	*61.7*	*75.0*	*59.8*	**260.5**	*254.5*	*254.8*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electric Power Sector															
Geothermal	**0.036**	**0.035**	**0.037**	**0.041**	*0.044*	*0.035*	*0.040*	*0.042*	*0.033*	*0.025*	*0.040*	*0.038*	**0.149**	*0.161*	*0.135*
Hydroelectric Power (a)	**0.658**	**0.612**	**0.551**	**0.481**	*0.597*	*0.677*	*0.557*	*0.522*	*0.638*	*0.712*	*0.575*	*0.530*	**2.301**	*2.352*	*2.455*
Solar (b)	**0.259**	**0.394**	**0.384**	**0.261**	*0.332*	*0.506*	*0.509*	*0.362*	*0.464*	*0.698*	*0.715*	*0.470*	**1.299**	*1.709*	*2.348*
Waste Biomass (c)	**0.055**	**0.053**	**0.053**	**0.053**	*0.054*	*0.053*	*0.053*	*0.053*	*0.054*	*0.053*	*0.053*	*0.053*	**0.214**	*0.213*	*0.213*
Wood Biomass	**0.051**	**0.046**	**0.056**	**0.044**	*0.046*	*0.041*	*0.051*	*0.043*	*0.048*	*0.044*	*0.053*	*0.043*	**0.197**	*0.181*	*0.187*
Wind	**1.060**	**1.077**	**0.718**	**0.980**	*1.134*	*1.142*	*0.759*	*1.030*	*1.190*	*1.171*	*0.783*	*1.079*	**3.835**	*4.064*	*4.224*
Subtotal	**2.119**	**2.218**	**1.798**	**1.860**	*2.207*	*2.454*	*1.969*	*2.050*	*2.427*	*2.703*	*2.219*	*2.213*	**7.996**	*8.680*	*9.562*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.203**	**0.203**	**0.197**	**0.205**	*0.196*	*0.199*	*0.199*	*0.206*	*0.201*	*0.202*	*0.203*	*0.210*	**0.807**	*0.801*	*0.815*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.008**	**0.011**	**0.012**	**0.008**	*0.009*	*0.012*	*0.012*	*0.009*	*0.009*	*0.013*	*0.014*	*0.009*	**0.039**	*0.042*	*0.046*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	*0.040*	*0.039*	*0.039*	*0.041*	*0.040*	*0.039*	*0.039*	*0.041*	**0.160**	*0.159*	*0.159*
Wood Biomass	**0.319**	**0.324**	**0.322**	**0.328**	*0.332*	*0.335*	*0.348*	*0.350*	*0.338*	*0.335*	*0.347*	*0.350*	**1.292**	*1.365*	*1.370*
Subtotal (e)	**0.580**	**0.586**	**0.576**	**0.590**	*0.586*	*0.594*	*0.606*	*0.614*	*0.596*	*0.598*	*0.610*	*0.618*	**2.331**	*2.399*	*2.423*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.033**	**0.048**	**0.048**	**0.033**	*0.038*	*0.056*	*0.057*	*0.040*	*0.046*	*0.066*	*0.067*	*0.047*	**0.163**	*0.190*	*0.226*
Waste Biomass (c)	**0.009**	**0.009**	**0.009**	**0.010**	*0.009*	*0.009*	*0.009*	*0.010*	*0.009*	*0.009*	*0.009*	*0.010*	**0.037**	*0.037*	*0.038*
Wood Biomass	**0.020**	**0.021**	**0.021**	**0.021**	*0.020*	*0.021*	*0.021*	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.077**	**0.092**	**0.093**	**0.077**	*0.081*	*0.100*	*0.101*	*0.084*	*0.089*	*0.111*	*0.112*	*0.091*	**0.338**	*0.366*	*0.403*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.080**	**0.119**	**0.120**	**0.088**	*0.098*	*0.149*	*0.151*	*0.105*	*0.118*	*0.182*	*0.185*	*0.129*	**0.408**	*0.504*	*0.615*
Wood Biomass	**0.119**	**0.121**	**0.122**	**0.117**	*0.119*	*0.121*	*0.122*	*0.117*	*0.119*	*0.121*	*0.122*	*0.117*	**0.479**	*0.479*	*0.479*
Subtotal	**0.209**	**0.250**	**0.252**	**0.215**	*0.227*	*0.280*	*0.283*	*0.232*	*0.247*	*0.312*	*0.317*	*0.256*	**0.926**	*1.022*	*1.133*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.094**	**0.117**	**0.116**	**0.138**	*0.130*	*0.142*	*0.150*	*0.162*	*0.154*	*0.174*	*0.189*	*0.204*	**0.464**	*0.584*	*0.721*
Ethanol (g)	**0.259**	**0.281**	**0.279**	**0.279**	*0.260*	*0.280*	*0.280*	*0.283*	*0.266*	*0.281*	*0.282*	*0.285*	**1.097**	*1.104*	*1.114*
Subtotal	**0.353**	**0.397**	**0.395**	**0.412**	*0.390*	*0.423*	*0.430*	*0.445*	*0.419*	*0.455*	*0.471*	*0.489*	**1.557**	*1.688*	*1.834*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.094**	**0.117**	**0.116**	**0.138**	*0.130*	*0.142*	*0.150*	*0.162*	*0.154*	*0.174*	*0.189*	*0.204*	**0.464**	*0.584*	*0.721*
Biofuel Losses and Co-products (d)	**0.203**	**0.203**	**0.197**	**0.205**	*0.196*	*0.199*	*0.199*	*0.206*	*0.201*	*0.202*	*0.203*	*0.210*	**0.807**	*0.801*	*0.815*
Ethanol (f)	**0.271**	**0.293**	**0.292**	**0.286**	*0.272*	*0.293*	*0.293*	*0.296*	*0.278*	*0.294*	*0.295*	*0.298*	**1.141**	*1.153*	*1.164*
Geothermal	**0.053**	**0.052**	**0.054**	**0.059**	*0.060*	*0.052*	*0.057*	*0.059*	*0.050*	*0.042*	*0.057*	*0.055*	**0.218**	*0.229*	*0.203*
Hydroelectric Power (a)	**0.661**	**0.615**	**0.553**	**0.483**	*0.600*	*0.679*	*0.559*	*0.524*	*0.641*	*0.715*	*0.577*	*0.533*	**2.312**	*2.362*	*2.466*
Solar (b)(f)	**0.381**	**0.573**	**0.565**	**0.390**	*0.477*	*0.723*	*0.729*	*0.515*	*0.637*	*0.960*	*0.981*	*0.656*	**1.908**	*2.446*	*3.234*
Waste Biomass (c)	**0.106**	**0.102**	**0.099**	**0.105**	*0.103*	*0.101*	*0.101*	*0.103*	*0.103*	*0.101*	*0.101*	*0.103*	**0.413**	*0.409*	*0.409*
Wood Biomass	**0.509**	**0.511**	**0.521**	**0.509**	*0.518*	*0.518*	*0.541*	*0.530*	*0.525*	*0.520*	*0.543*	*0.531*	**2.051**	*2.107*	*2.119*
Wind	**1.060**	**1.077**	**0.718**	**0.980**	*1.134*	*1.142*	*0.759*	*1.030*	*1.190*	*1.171*	*0.783*	*1.079*	**3.835**	*4.064*	*4.224*
Total Consumption	**3.338**	**3.543**	**3.114**	**3.154**	*3.491*	*3.850*	*3.389*	*3.425*	*3.779*	*4.178*	*3.729*	*3.668*	**13.149**	*14.156*	*15.355*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,083**	**6,083**	**6,019**	**5,994**	*5,991*	*6,027*	*6,027*	*6,009*	*6,009*	*6,028*	*6,028*	*6,028*	**5,994**	*6,009*	*6,028*
Waste	**3,648**	**3,649**	**3,585**	**3,560**	*3,557*	*3,592*	*3,592*	*3,590*	*3,590*	*3,609*	*3,609*	*3,609*	**3,560**	*3,590*	*3,609*
Wood	**2,435**	**2,435**	**2,435**	**2,435**	*2,435*	*2,435*	*2,435*	*2,419*	*2,419*	*2,419*	*2,419*	*2,419*	**2,435**	*2,419*	*2,419*
Conventional Hydroelectric	**79,645**	**79,649**	**79,649**	**79,501**	*79,701*	*79,715*	*79,742*	*79,749*	*79,749*	*79,758*	*79,758*	*79,759*	**79,501**	*79,749*	*79,759*
Geothermal	**2,523**	**2,540**	**2,578**	**2,578**	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	**2,578**	*2,603*	*2,603*
Large-Scale Solar (b)	**63,191**	**65,253**	**67,177**	**75,471**	*79,643*	*83,583*	*89,700*	*107,143*	*113,441*	*123,584*	*125,932*	*138,714*	**75,471**	*107,143*	*138,714*
Wind	**134,822**	**137,344**	**138,029**	**142,929**	*144,659*	*145,276*	*145,476*	*148,855*	*149,197*	*151,281*	*151,281*	*155,209*	**142,929**	*148,855*	*155,209*
Other Sectors (c)															
Biomass	**6,306**	**6,298**	**6,310**	**6,312**	*6,339*	*6,339*	*6,339*	*6,330*	*6,330*	*6,330*	*6,330*	*6,330*	**6,312**	*6,330*	*6,330*
Waste	**817**	**817**	**817**	**817**	*817*	*817*	*817*	*817*	*817*	*817*	*817*	*817*	**817**	*817*	*817*
Wood	**5,489**	**5,481**	**5,493**	**5,495**	*5,522*	*5,522*	*5,522*	*5,513*	*5,513*	*5,513*	*5,513*	*5,513*	**5,495**	*5,513*	*5,513*
Conventional Hydroelectric	**299**	**302**	**302**	**302**	*302*	*302*	*300*	*300*	*300*	*300*	*300*	*300*	**302**	*300*	*300*
Large-Scale Solar (b)	**559**	**569**	**571**	**588**	*592*	*601*	*647*	*647*	*647*	*647*	*647*	*647*	**588**	*647*	*647*
Small-Scale Solar (d)	**34,700**	**36,348**	**38,092**	**39,967**	*42,114*	*44,380*	*46,776*	*49,313*	*51,997*	*54,836*	*57,837*	*61,011*	**39,967**	*49,313*	*61,011*
Residential Sector	**22,293**	**23,588**	**24,993**	**26,479**	*28,061*	*29,744*	*31,533*	*33,435*	*35,456*	*37,603*	*39,884*	*42,307*	**26,479**	*33,435*	*42,307*
Commercial Sector	**10,175**	**10,502**	**10,807**	**11,133**	*11,636*	*12,157*	*12,701*	*13,272*	*13,869*	*14,495*	*15,147*	*15,829*	**11,133**	*13,272*	*15,829*
Industrial Sector	**2,232**	**2,257**	**2,291**	**2,355**	*2,417*	*2,479*	*2,542*	*2,606*	*2,671*	*2,738*	*2,806*	*2,875*	**2,355**	*2,606*	*2,875*
Wind	**125**	**125**	**125**	**125**	*125*	*125*	*125*	*125*	*125*	*125*	*125*	*125*	**125**	*125*	*125*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**6.6**	**6.5**	**7.1**	**6.3**	*6.5*	*6.2*	*6.7*	*6.2*	*6.6*	*6.3*	*6.9*	*6.2*	**26.5**	*25.6*	*26.0*
Waste	**3.5**	**3.6**	**3.6**	**3.5**	*3.6*	*3.5*	*3.6*	*3.5*	*3.6*	*3.5*	*3.5*	*3.5*	**14.2**	*14.2*	*14.2*
Wood	**3.1**	**2.9**	**3.6**	**2.8**	*2.9*	*2.6*	*3.2*	*2.7*	*3.0*	*2.7*	*3.3*	*2.7*	**12.3**	*11.4*	*11.8*
Conventional Hydroelectric	**74.4**	**69.2**	**62.3**	**52.9**	*67.0*	*76.0*	*62.5*	*58.6*	*71.7*	*79.9*	*64.6*	*59.6*	**258.8**	*264.1*	*275.7*
Geothermal	**4.1**	**4.0**	**4.2**	**4.6**	*4.9*	*4.0*	*4.6*	*4.7*	*3.7*	*2.8*	*4.5*	*4.3*	**16.8**	*18.2*	*15.3*
Large-Scale Solar (b)	**29.1**	**44.3**	**43.2**	**29.3**	*37.3*	*56.8*	*57.2*	*40.6*	*52.1*	*78.4*	*80.3*	*52.8*	**145.9**	*191.9*	*263.6*
Wind	**119.0**	**121.0**	**80.6**	**110.1**	*127.3*	*128.2*	*85.2*	*115.7*	*133.7*	*131.5*	*88.0*	*121.2*	**430.6**	*456.4*	*474.3*
Other Sectors (c)															
Biomass	**6.7**	**6.8**	**6.8**	**6.6**	*6.7*	*6.8*	*6.8*	*6.6*	*6.8*	*6.8*	*6.8*	*6.6*	**26.9**	*26.9*	*27.0*
Waste	**0.7**	**0.7**	**0.7**	**0.8**	*0.7*	*0.7*	*0.7*	*0.8*	*0.7*	*0.7*	*0.7*	*0.8*	**2.9**	*2.9*	*2.9*
Wood	**6.0**	**6.1**	**6.2**	**5.8**	*6.0*	*6.1*	*6.2*	*5.8*	*6.1*	*6.1*	*6.2*	*5.8*	**24.1**	*24.1*	*24.1*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.3**	**0.3**	**0.2**	*0.2*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	*0.3*	*0.2*	**1.0**	*1.1*	*1.1*
Small-Scale Solar (d)	**12.0**	**17.7**	**17.8**	**12.9**	*14.6*	*21.9*	*22.2*	*15.5*	*17.7*	*26.9*	*27.4*	*19.1*	**60.5**	*74.2*	*91.1*
Residential Sector	**7.6**	**11.3**	**11.4**	**8.6**	*9.6*	*14.5*	*14.8*	*10.3*	*11.8*	*18.2*	*18.6*	*13.0*	**38.9**	*49.3*	*61.7*
Commercial Sector	**3.6**	**5.2**	**5.2**	**3.5**	*4.1*	*6.0*	*6.1*	*4.2*	*4.9*	*7.2*	*7.3*	*5.0*	**17.5**	*20.5*	*24.5*
Industrial Sector	**0.8**	**1.2**	**1.2**	**0.8**	*0.9*	*1.3*	*1.3*	*0.9*	*1.0*	*1.5*	*1.5*	*1.0*	**4.1**	*4.5*	*5.0*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,924**	**19,895**	**20,039**	**20,086**	*20,051*	*20,019*	*20,098*	*20,208*	*20,308*	*20,415*	*20,524*	*20,645*	**19,986**	*20,094*	*20,473*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**14,028**	**14,099**	**14,160**	**14,290**	*14,322*	*14,345*	*14,375*	*14,416*	*14,455*	*14,505*	*14,563*	*14,630*	**14,144**	*14,364*	*14,538*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,629**	**3,582**	**3,544**	**3,504**	*3,458*	*3,415*	*3,414*	*3,433*	*3,458*	*3,486*	*3,514*	*3,544*	**3,565**	*3,430*	*3,500*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**257**	**145**	**85**	**115**	*59*	*-20*	*-2*	*25*	*41*	*56*	*70*	*90*	**151**	*15*	*64*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,393**	**3,379**	**3,405**	**3,417**	*3,445*	*3,454*	*3,463*	*3,472*	*3,480*	*3,487*	*3,492*	*3,499*	**3,399**	*3,458*	*3,489*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,437**	**2,517**	**2,608**	**2,589**	*2,589*	*2,608*	*2,637*	*2,670*	*2,701*	*2,731*	*2,767*	*2,798*	**2,538**	*2,626*	*2,749*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,926**	**3,947**	**3,873**	**3,959**	*3,974*	*3,944*	*3,943*	*3,951*	*3,964*	*3,982*	*4,010*	*4,038*	**3,926**	*3,953*	*3,999*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,109**	**15,022**	**15,056**	**15,186**	*15,420*	*15,478*	*15,623*	*15,770*	*15,943*	*16,099*	*16,223*	*16,331*	**15,093**	*15,573*	*16,149*
Non-Farm Employment															
(millions)	**150.4**	**151.6**	**152.7**	**153.5**	*154.1*	*153.5*	*152.8*	*152.3*	*152.4*	*152.7*	*152.9*	*153.2*	**152.0**	*153.1*	*152.8*
Civilian Unemployment Rate															
(percent)	**3.8**	**3.6**	**3.6**	**3.7**	*3.7*	*4.4*	*4.9*	*5.2*	*5.1*	*5.0*	*4.8*	*4.7*	**3.7**	*4.5*	*4.9*
Housing Starts															
(millions - SAAR)	**1.72**	**1.65**	**1.46**	**1.39**	*1.26*	*1.20*	*1.17*	*1.16*	*1.19*	*1.21*	*1.27*	*1.33*	**1.55**	*1.20*	*1.25*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**102.9**	**104.2**	**104.7**	**104.7**	*105.1*	*104.2*	*103.9*	*104.3*	*104.8*	*105.3*	*105.9*	*106.7*	**104.1**	*104.4*	*105.7*
Manufacturing	**101.5**	**102.4**	**102.6**	**102.7**	*102.7*	*102.2*	*102.1*	*102.8*	*103.5*	*104.2*	*105.0*	*106.1*	**102.3**	*102.5*	*104.7*
Food	**105.5**	**105.1**	**104.2**	**104.5**	*104.7*	*105.0*	*105.0*	*105.1*	*105.3*	*105.5*	*105.9*	*106.3*	**104.8**	*105.0*	*105.8*
Paper	**96.4**	**97.3**	**92.8**	**90.2**	*90.1*	*90.2*	*89.5*	*89.4*	*88.9*	*88.9*	*89.0*	*89.7*	**94.2**	*89.8*	*89.1*
Petroleum and Coal Products	**94.2**	**94.2**	**95.3**	**95.7**	*95.7*	*95.3*	*94.8*	*94.6*	*94.2*	*94.0*	*94.1*	*94.2*	**94.8**	*95.1*	*94.1*
Chemicals	**102.4**	**103.1**	**103.8**	**103.8**	*104.2*	*104.6*	*103.7*	*103.8*	*104.0*	*104.4*	*105.0*	*106.1*	**103.3**	*104.1*	*104.9*
Nonmetallic Mineral Products	**102.9**	**103.3**	**104.8**	**105.1**	*103.5*	*102.3*	*101.7*	*101.6*	*102.0*	*102.4*	*102.9*	*103.6*	**104.0**	*102.3*	*102.7*
Primary Metals	**95.6**	**97.4**	**96.3**	**95.0**	*96.0*	*95.7*	*93.4*	*94.0*	*93.0*	*92.9*	*94.0*	*96.9*	**96.1**	*94.8*	*94.2*
Coal-weighted Manufacturing (a)	**96.2**	**96.8**	**96.6**	**96.1**	*96.1*	*95.8*	*94.3*	*94.4*	*94.0*	*94.0*	*94.6*	*96.1*	**96.4**	*95.1*	*94.7*
Distillate-weighted Manufacturing (a)	**99.8**	**100.3**	**100.2**	**99.4**	*98.8*	*98.2*	*97.4*	*97.6*	*97.7*	*98.0*	*98.5*	*99.4*	**99.9**	*98.0*	*98.4*
Electricity-weighted Manufacturing (a)	**98.0**	**98.6**	**98.3**	**97.8**	*98.0*	*97.9*	*96.8*	*96.9*	*96.9*	*97.1*	*97.8*	*99.0*	**98.2**	*97.4*	*97.7*
Natural Gas-weighted Manufacturing (a)	**95.2**	**95.5**	**95.0**	**94.2**	*94.4*	*94.4*	*93.1*	*93.0*	*92.9*	*93.0*	*93.6*	*94.8*	**95.0**	*93.8*	*93.6*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.85**	**2.92**	**2.96**	**2.99**	*3.01*	*3.03*	*3.05*	*3.07*	*3.09*	*3.10*	*3.11*	*3.13*	**2.93**	*3.04*	*3.11*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.53**	**2.73**	**2.70**	**2.58**	*2.52*	*2.48*	*2.47*	*2.47*	*2.47*	*2.44*	*2.42*	*2.43*	**2.64**	*2.48*	*2.44*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**3.16**	**4.21**	**3.74**	**3.38**	*2.69*	*2.69*	*2.61*	*2.52*	*2.45*	*2.41*	*2.35*	*2.29*	**3.62**	*2.63*	*2.37*
GDP Implicit Price Deflator															
(index, 2012=100)	**124.2**	**126.9**	**128.2**	**129.4**	*130.3*	*131.3*	*132.1*	*133.0*	*133.7*	*134.3*	*134.9*	*135.6*	**127.2**	*131.6*	*134.6*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,372**	**9,164**	**9,317**	**8,901**	*8,472*	*9,308*	*9,425*	*9,064*	*8,650*	*9,420*	*9,573*	*9,220*	**8,941**	*9,070*	*9,217*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**656**	**686**	**692**	**721**	*634*	*664*	*689*	*675*	*624*	*681*	*703*	*671*	**689**	*665*	*670*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**356**	**419**	**422**	**391**	*370*	*409*	*409*	*383*	*372*	*420*	*413*	*401*	**397**	*393*	*402*
Airline Ticket Price Index															
(index, 1982-1984=100)	**225.6**	**328.7**	**293.1**	**287.5**	*244.0*	*310.5*	*303.2*	*302.3*	*285.7*	*337.0*	*314.8*	*303.8*	**283.7**	*290.0*	*310.3*
Raw Steel Production															
(million short tons per day)	**0.253**	**0.253**	**0.247**	**0.235**	*0.242*	*0.237*	*0.234*	*0.236*	*0.241*	*0.236*	*0.239*	*0.247*	**0.247**	*0.237*	*0.241*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**562**	**564**	**576**	**571**	*551*	*567*	*572*	*574*	*563*	*569*	*577*	*577*	**2,272**	*2,264*	*2,286*
Natural Gas	**511**	**375**	**403**	**462**	*498*	*367*	*392*	*455*	*512*	*354*	*381*	*450*	**1,751**	*1,711*	*1,697*
Coal	**246**	**216**	**265**	**225**	*212*	*186*	*250*	*196*	*209*	*177*	*241*	*193*	**952**	*844*	*819*
Total Energy (c)	**1,321**	**1,157**	**1,247**	**1,261**	*1,264*	*1,123*	*1,216*	*1,228*	*1,288*	*1,102*	*1,201*	*1,223*	**4,986**	*4,830*	*4,814*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Real Gross State Product (Billion $2012)															
New England	**1,032**	**1,024**	**1,031**	**1,033**	*1,031*	*1,030*	*1,033*	*1,039*	*1,043*	*1,048*	*1,054*	*1,059*	**1,030**	*1,033*	*1,051*
Middle Atlantic	**2,858**	**2,858**	**2,879**	**2,883**	*2,874*	*2,866*	*2,875*	*2,891*	*2,905*	*2,919*	*2,934*	*2,952*	**2,869**	*2,876*	*2,927*
E. N. Central	**2,596**	**2,583**	**2,595**	**2,598**	*2,594*	*2,589*	*2,596*	*2,608*	*2,619*	*2,632*	*2,644*	*2,657*	**2,593**	*2,597*	*2,638*
W. N. Central	**1,220**	**1,215**	**1,222**	**1,226**	*1,225*	*1,224*	*1,230*	*1,237*	*1,242*	*1,249*	*1,255*	*1,261*	**1,221**	*1,229*	*1,252*
S. Atlantic	**3,578**	**3,578**	**3,601**	**3,615**	*3,609*	*3,605*	*3,619*	*3,640*	*3,657*	*3,677*	*3,697*	*3,719*	**3,593**	*3,618*	*3,688*
E. S. Central	**884**	**883**	**888**	**890**	*888*	*886*	*888*	*892*	*895*	*898*	*902*	*907*	**886**	*888*	*901*
W. S. Central	**2,377**	**2,383**	**2,411**	**2,422**	*2,423*	*2,422*	*2,434*	*2,450*	*2,466*	*2,483*	*2,500*	*2,518*	**2,398**	*2,432*	*2,492*
Mountain	**1,359**	**1,354**	**1,365**	**1,367**	*1,364*	*1,363*	*1,369*	*1,378*	*1,386*	*1,395*	*1,404*	*1,414*	**1,361**	*1,369*	*1,399*
Pacific	**3,805**	**3,802**	**3,832**	**3,837**	*3,826*	*3,819*	*3,835*	*3,855*	*3,874*	*3,894*	*3,913*	*3,936*	**3,819**	*3,834*	*3,904*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**99.3**	**100.0**	**99.9**	**99.8**	*99.9*	*99.5*	*99.5*	*100.2*	*100.9*	*101.6*	*102.3*	*103.3*	**99.8**	*99.8*	*102.0*
Middle Atlantic	**96.6**	**97.4**	**97.1**	**97.3**	*97.3*	*96.8*	*96.6*	*97.2*	*97.7*	*98.2*	*98.8*	*99.7*	**97.1**	*97.0*	*98.6*
E. N. Central	**98.9**	**99.4**	**99.1**	**99.3**	*99.6*	*99.0*	*98.8*	*99.1*	*99.7*	*100.5*	*101.3*	*102.2*	**99.2**	*99.1*	*100.9*
W. N. Central	**102.0**	**102.6**	**102.7**	**102.7**	*102.7*	*102.3*	*102.3*	*103.1*	*103.8*	*104.6*	*105.5*	*106.5*	**102.5**	*102.6*	*105.1*
S. Atlantic	**103.4**	**104.5**	**105.0**	**105.0**	*104.9*	*104.2*	*103.9*	*104.5*	*105.1*	*105.9*	*106.7*	*107.7*	**104.5**	*104.4*	*106.4*
E. S. Central	**100.9**	**101.3**	**101.1**	**101.3**	*101.2*	*100.5*	*100.2*	*100.6*	*101.2*	*101.9*	*102.8*	*103.8*	**101.1**	*100.6*	*102.4*
W. S. Central	**103.5**	**105.0**	**105.6**	**105.9**	*106.0*	*105.7*	*105.8*	*106.6*	*107.2*	*107.8*	*108.7*	*109.7*	**105.0**	*106.0*	*108.3*
Mountain	**112.7**	**113.9**	**114.6**	**114.9**	*114.7*	*114.2*	*114.1*	*114.8*	*115.5*	*116.4*	*117.4*	*118.6*	**114.0**	*114.4*	*117.0*
Pacific	**97.8**	**98.7**	**98.6**	**98.9**	*99.0*	*98.7*	*98.7*	*99.7*	*100.5*	*101.3*	*102.2*	*103.4*	**98.5**	*99.0*	*101.9*
Real Personal Income (Billion $2012)															
New England	**935**	**924**	**928**	**934**	*938*	*938*	*942*	*946*	*953*	*960*	*967*	*972*	**930**	*941*	*963*
Middle Atlantic	**2,385**	**2,373**	**2,379**	**2,391**	*2,406*	*2,405*	*2,412*	*2,422*	*2,441*	*2,458*	*2,472*	*2,486*	**2,382**	*2,411*	*2,464*
E. N. Central	**2,464**	**2,445**	**2,441**	**2,452**	*2,469*	*2,467*	*2,474*	*2,483*	*2,503*	*2,521*	*2,537*	*2,551*	**2,451**	*2,473*	*2,528*
W. N. Central	**1,156**	**1,152**	**1,153**	**1,160**	*1,171*	*1,172*	*1,177*	*1,183*	*1,192*	*1,201*	*1,209*	*1,216*	**1,155**	*1,176*	*1,205*
S. Atlantic	**3,436**	**3,419**	**3,436**	**3,455**	*3,484*	*3,485*	*3,501*	*3,520*	*3,551*	*3,578*	*3,605*	*3,629*	**3,436**	*3,498*	*3,591*
E. S. Central	**931**	**924**	**921**	**923**	*931*	*930*	*932*	*935*	*942*	*948*	*954*	*960*	**925**	*932*	*951*
W. S. Central	**2,056**	**2,057**	**2,067**	**2,079**	*2,097*	*2,099*	*2,110*	*2,122*	*2,141*	*2,159*	*2,175*	*2,190*	**2,065**	*2,107*	*2,166*
Mountain	**1,291**	**1,285**	**1,293**	**1,301**	*1,309*	*1,310*	*1,316*	*1,324*	*1,335*	*1,347*	*1,357*	*1,367*	**1,292**	*1,315*	*1,351*
Pacific	**2,985**	**2,963**	**2,975**	**3,040**	*3,009*	*3,011*	*3,022*	*3,035*	*3,056*	*3,080*	*3,101*	*3,120*	**2,991**	*3,020*	*3,089*
Households (Thousands)															
New England	**6,085**	**6,089**	**6,091**	**6,095**	*6,105*	*6,115*	*6,122*	*6,129*	*6,136*	*6,142*	*6,148*	*6,155*	**6,095**	*6,129*	*6,155*
Middle Atlantic	**16,449**	**16,457**	**16,459**	**16,469**	*16,499*	*16,525*	*16,547*	*16,565*	*16,583*	*16,599*	*16,616*	*16,633*	**16,469**	*16,565*	*16,633*
E. N. Central	**19,197**	**19,205**	**19,207**	**19,217**	*19,248*	*19,278*	*19,303*	*19,325*	*19,346*	*19,366*	*19,386*	*19,406*	**19,217**	*19,325*	*19,406*
W. N. Central	**8,796**	**8,813**	**8,826**	**8,838**	*8,859*	*8,879*	*8,897*	*8,913*	*8,929*	*8,944*	*8,959*	*8,974*	**8,838**	*8,913*	*8,974*
S. Atlantic	**26,673**	**26,761**	**26,836**	**26,907**	*27,008*	*27,100*	*27,183*	*27,265*	*27,343*	*27,421*	*27,495*	*27,569*	**26,907**	*27,265*	*27,569*
E. S. Central	**7,903**	**7,922**	**7,937**	**7,949**	*7,971*	*7,990*	*8,007*	*8,023*	*8,039*	*8,053*	*8,067*	*8,081*	**7,949**	*8,023*	*8,081*
W. S. Central	**15,582**	**15,639**	**15,687**	**15,732**	*15,793*	*15,850*	*15,904*	*15,954*	*16,003*	*16,051*	*16,099*	*16,147*	**15,732**	*15,954*	*16,147*
Mountain	**9,805**	**9,845**	**9,881**	**9,913**	*9,957*	*10,001*	*10,039*	*10,078*	*10,115*	*10,149*	*10,181*	*10,218*	**9,913**	*10,078*	*10,218*
Pacific	**19,078**	**19,097**	**19,108**	**19,117**	*19,150*	*19,180*	*19,204*	*19,228*	*19,254*	*19,281*	*19,312*	*19,344*	**19,117**	*19,228*	*19,344*
Total Non-farm Employment (Millions)															
New England	**7.4**	**7.4**	**7.5**	**7.5**	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.4**	*7.5*	*7.5*
Middle Atlantic	**19.4**	**19.6**	**19.7**	**19.8**	*19.9*	*19.8*	*19.7*	*19.6*	*19.6*	*19.7*	*19.7*	*19.7*	**19.6**	*19.8*	*19.7*
E. N. Central	**21.8**	**21.9**	**22.0**	**22.1**	*22.2*	*22.1*	*22.0*	*21.9*	*21.9*	*22.0*	*22.0*	*22.0*	**22.0**	*22.1*	*22.0*
W. N. Central	**10.6**	**10.7**	**10.7**	**10.8**	*10.9*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	**10.7**	*10.8*	*10.8*
S. Atlantic	**29.5**	**29.8**	**30.1**	**30.2**	*30.3*	*30.2*	*30.1*	*30.0*	*30.0*	*30.1*	*30.1*	*30.2*	**29.9**	*30.2*	*30.1*
E. S. Central	**8.4**	**8.4**	**8.5**	**8.5**	*8.5*	*8.5*	*8.5*	*8.4*	*8.4*	*8.4*	*8.4*	*8.5*	**8.4**	*8.5*	*8.4*
W. S. Central	**18.1**	**18.3**	**18.5**	**18.6**	*18.6*	*18.6*	*18.5*	*18.5*	*18.5*	*18.5*	*18.5*	*18.6*	**18.3**	*18.5*	*18.5*
Mountain	**11.4**	**11.5**	**11.6**	**11.6**	*11.7*	*11.6*	*11.6*	*11.5*	*11.5*	*11.6*	*11.6*	*11.6*	**11.5**	*11.6*	*11.6*
Pacific	**23.6**	**23.9**	**24.1**	**24.2**	*24.3*	*24.2*	*24.0*	*24.0*	*24.0*	*24.0*	*24.1*	*24.1*	**23.9**	*24.1*	*24.0*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Heating Degree Days															
New England	**3,141**	**789**	**115**	**1,995**	*3,024*	*864*	*136*	*2,217*	*3,215*	*864*	*136*	*2,217*	**6,040**	*6,241*	*6,433*
Middle Atlantic	**2,939**	**671**	**73**	**1,949**	*2,790*	*696*	*85*	*2,027*	*2,970*	*695*	*85*	*2,026*	**5,633**	*5,597*	*5,777*
E. N. Central	**3,270**	**755**	**99**	**2,220**	*3,044*	*732*	*121*	*2,268*	*3,165*	*732*	*121*	*2,268*	**6,345**	*6,165*	*6,286*
W. N. Central	**3,483**	**792**	**111**	**2,516**	*3,179*	*696*	*155*	*2,456*	*3,254*	*696*	*155*	*2,456*	**6,902**	*6,486*	*6,562*
South Atlantic	**1,341**	**188**	**13**	**981**	*1,274*	*193*	*13*	*976*	*1,444*	*192*	*13*	*974*	**2,523**	*2,456*	*2,623*
E. S. Central	**1,822**	**248**	**22**	**1,337**	*1,681*	*245*	*20*	*1,327*	*1,859*	*245*	*20*	*1,328*	**3,430**	*3,272*	*3,452*
W. S. Central	**1,343**	**58**	**2**	**840**	*1,081*	*75*	*5*	*823*	*1,207*	*75*	*5*	*823*	**2,242**	*1,984*	*2,109*
Mountain	**2,302**	**738**	**84**	**2,039**	*2,261*	*696*	*152*	*1,880*	*2,269*	*695*	*152*	*1,879*	**5,163**	*4,989*	*4,996*
Pacific	**1,391**	**605**	**49**	**1,272**	*1,569*	*615*	*93*	*1,235*	*1,550*	*616*	*93*	*1,236*	**3,317**	*3,513*	*3,496*
U.S. Average	**2,147**	**492**	**54**	**1,555**	*2,040*	*490*	*75*	*1,554*	*2,149*	*489*	*75*	*1,552*	**4,248**	*4,158*	*4,265*
Heating Degree Days, Prior 10-year Average															
New England	**3,100**	**853**	**107**	**2,103**	*3,151*	*859*	*106*	*2,095*	*3,142*	*861*	*103*	*2,087*	**6,163**	*6,211*	*6,193*
Middle Atlantic	**2,887**	**684**	**71**	**1,908**	*2,945*	*692*	*70*	*1,910*	*2,928*	*692*	*66*	*1,906*	**5,551**	*5,617*	*5,592*
E. N. Central	**3,133**	**727**	**97**	**2,162**	*3,215*	*742*	*93*	*2,168*	*3,191*	*739*	*94*	*2,149*	**6,119**	*6,218*	*6,172*
W. N. Central	**3,219**	**726**	**125**	**2,357**	*3,317*	*754*	*121*	*2,373*	*3,294*	*733*	*126*	*2,346*	**6,426**	*6,565*	*6,500*
South Atlantic	**1,380**	**187**	**11**	**905**	*1,401*	*190*	*10*	*904*	*1,377*	*188*	*10*	*903*	**2,483**	*2,505*	*2,478*
E. S. Central	**1,763**	**243**	**15**	**1,228**	*1,809*	*251*	*14*	*1,230*	*1,784*	*246*	*15*	*1,221*	**3,249**	*3,304*	*3,267*
W. S. Central	**1,145**	**93**	**3**	**754**	*1,189*	*95*	*3*	*767*	*1,179*	*89*	*3*	*748*	**1,994**	*2,054*	*2,019*
Mountain	**2,181**	**685**	**132**	**1,817**	*2,201*	*701*	*129*	*1,843*	*2,185*	*697*	*131*	*1,831*	**4,816**	*4,874*	*4,844*
Pacific	**1,454**	**523**	**79**	**1,136**	*1,438*	*523*	*76*	*1,146*	*1,439*	*535*	*77*	*1,147*	**3,192**	*3,183*	*3,198*
U.S. Average	**2,096**	**479**	**62**	**1,473**	*2,133*	*486*	*60*	*1,478*	*2,115*	*484*	*60*	*1,467*	**4,110**	*4,157*	*4,126*
Cooling Degree Days															
New England	**0**	**80**	**558**	**0**	*0*	*85*	*417*	*1*	*0*	*85*	*417*	*1*	**638**	*503*	*503*
Middle Atlantic	**0**	**152**	**683**	**1**	*0*	*151*	*541*	*4*	*0*	*151*	*542*	*4*	**836**	*697*	*697*
E. N. Central	**1**	**255**	**554**	**2**	*0*	*215*	*541*	*7*	*0*	*215*	*541*	*7*	**812**	*763*	*763*
W. N. Central	**3**	**306**	**734**	**8**	*3*	*271*	*679*	*10*	*3*	*271*	*679*	*10*	**1,051**	*963*	*963*
South Atlantic	**155**	**710**	**1,195**	**228**	*143*	*645*	*1,153*	*232*	*117*	*646*	*1,153*	*233*	**2,287**	*2,172*	*2,149*
E. S. Central	**29**	**600**	**1,066**	**38**	*33*	*513*	*1,046*	*65*	*26*	*513*	*1,046*	*65*	**1,732**	*1,657*	*1,649*
W. S. Central	**55**	**1,094**	**1,666**	**189**	*104*	*909*	*1,499*	*193*	*82*	*910*	*1,499*	*194*	**3,003**	*2,705*	*2,685*
Mountain	**17**	**472**	**1,018**	**65**	*16*	*423*	*912*	*73*	*15*	*423*	*912*	*73*	**1,571**	*1,423*	*1,424*
Pacific	**31**	**222**	**763**	**82**	*24*	*163*	*568*	*62*	*25*	*163*	*567*	*62*	**1,098**	*817*	*816*
U.S. Average	**46**	**466**	**950**	**91**	*49*	*404*	*851*	*93*	*41*	*405*	*853*	*93*	**1,552**	*1,398*	*1,392*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**87**	**472**	**2**	*0*	*87*	*479*	*2*	*0*	*86*	*476*	*2*	**561**	*568*	*564*
Middle Atlantic	**0**	**162**	**608**	**8**	*0*	*159*	*614*	*8*	*0*	*159*	*616*	*8*	**779**	*781*	*783*
E. N. Central	**3**	**238**	**571**	**9**	*1*	*234*	*561*	*10*	*1*	*234*	*568*	*10*	**821**	*805*	*812*
W. N. Central	**7**	**299**	**681**	**11**	*4*	*292*	*674*	*12*	*4*	*296*	*677*	*12*	**999**	*982*	*989*
South Atlantic	**147**	**668**	**1,188**	**269**	*144*	*675*	*1,192*	*273*	*148*	*680*	*1,203*	*270*	**2,272**	*2,284*	*2,301*
E. S. Central	**44**	**518**	**1,057**	**83**	*36*	*521*	*1,059*	*83*	*38*	*527*	*1,072*	*84*	**1,702**	*1,699*	*1,721*
W. S. Central	**113**	**853**	**1,536**	**223**	*101*	*861*	*1,548*	*224*	*104*	*873*	*1,547*	*227*	**2,725**	*2,734*	*2,751*
Mountain	**23**	**459**	**946**	**84**	*23*	*456*	*951*	*82*	*23*	*451*	*951*	*84*	**1,511**	*1,512*	*1,508*
Pacific	**31**	**208**	**664**	**86**	*32*	*214*	*675*	*86*	*32*	*208*	*673*	*87*	**989**	*1,007*	*1,000*
U.S. Average	**53**	**412**	**889**	**109**	*50*	*415*	*894*	*110*	*51*	*418*	*899*	*110*	**1,463**	*1,469*	*1,478*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Independent Statistics and Analysis
U.S. Energy Information Administration

Short-Term Energy Outlook

STEO

February



Short-Term Energy Outlook

Overview

U.S. energy market indicators	2022	2023	2024
Brent crude oil spot price (dollars per barrel)	**$101**	**$84**	**$78**
Retail gasoline price (dollars per gallon)	**$3.97**	**$3.39**	**$3.10**
U.S. crude oil production (million barrels per day)	**11.90**	**12.49**	**12.65**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$6.42**	**$3.40**	**$4.04**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**10.6**	**11.8**	**12.6**
Shares of U.S. electricity generation			
Natural gas	39%	39%	37%
Coal	20%	17%	17%
Renewables	22%	24%	26%
Nuclear	19%	20%	19%
U.S. GDP (percentage change)	**2.0%**	**0.8%**	**2.1%**
U.S. CO_2 emissions (billion metric tons)	**4.97**	**4.78**	**4.79**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* February 2023

- **Natural gas prices.** We forecast that the Henry Hub natural gas spot price will average $3.40 per million British thermal units (MMBtu) in 2023, down almost 50% from last year and about 30% from our January *Short-Term Energy Outlook* (STEO) forecast. We revised our outlook for Henry Hub prices as a result of significantly warmer-than-normal weather in January that led to less-than-normal consumption of natural gas for space heating and pushed inventories above the five-year average.

- **Natural gas storage.** As a result of less-than-normal natural gas consumption in January, natural gas inventories ended the month above their five-year (2018–2022) average. We now expect inventories will close the withdrawal season at the end of March at more than 1.8 trillion cubic feet, 16% more than the five-year average.

- **Global liquid fuels consumption.** We expect global liquid fuels consumption to increase by 1.1 million barrels per day (b/d) in 2023 and by 1.8 million b/d in 2024, driven primarily by growth in China and other non-OECD countries. The outcomes of our demand forecast remain uncertain as China shifts away from its zero-COVID-19 policy and global economic conditions evolve.

- **Global liquid fuels production.** We expect oil production in Russia to average 9.9 million b/d in 2023, down 1.1 million b/d from 2022. Our forecast for Russia's 2023 production is 0.4 million b/d more than in the January STEO because crude oil liftings data suggest that Russia's exports have remained higher than we expected following the EU's ban on seaborne imports of crude oil from Russia that began on December 5. However, we still forecast Russia's oil production to fall

in the coming months, as we expect the EU's ban on seaborne petroleum products from Russia that began February 5 will cause refineries in Russia to reduce crude oil inputs, which will disrupt crude oil production.

- **Electricity generation.** Electricity generation in our forecast falls by 2% in 2023 and then rises by 2% 2024. The generation mix continues to shift away from coal. The share of U.S. electricity generated from coal falls from 20% in 2022 to 17% in 2024. As the share of coal declines, it will be offset by increases in the share of generation from renewable sources of energy, which rises from 22% in 2022 to 26% in 2024.

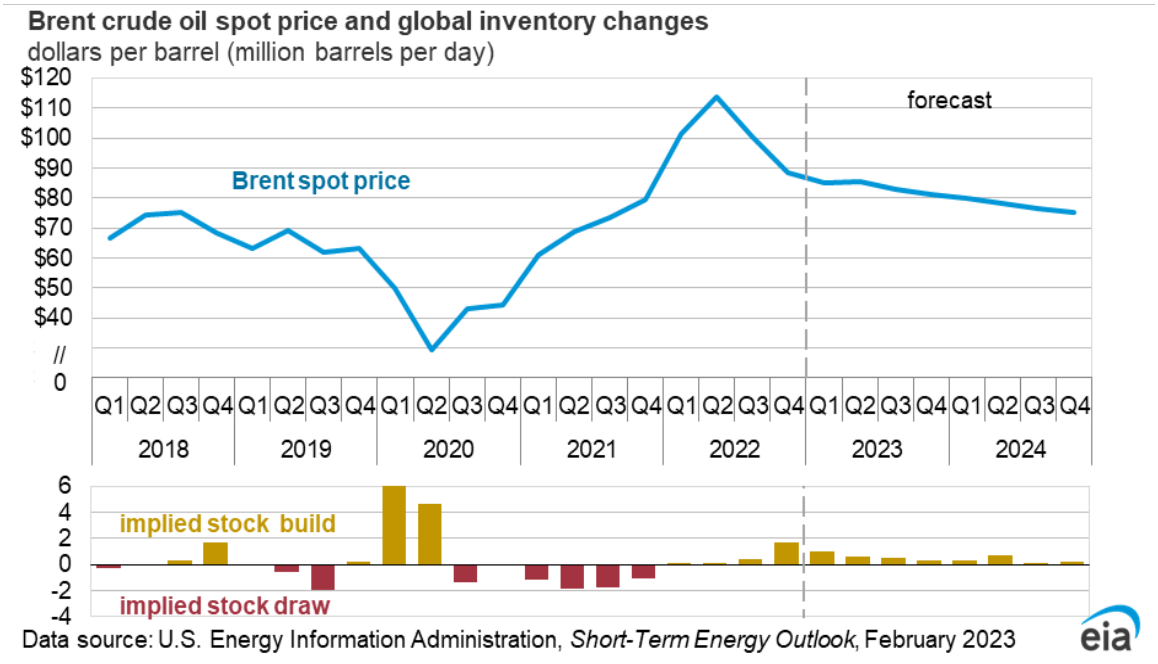
- **U.S. GDP growth.** Based on the S&P Global macroeconomic model, we assume U.S. real GDP will contract slightly in the first half of 2023 (1H23), partly resulting from a decline in residential fixed investment. GDP growth picks up in 2H23 and reaches an annual average of 2.1% in 2024.

Notable forecast changes

Current forecast: February 7, 2023; previous forecast: January 10, 2022	**2023**	**2024**
Natural gas price at Henry Hub (current) (dollars per million British thermal units)	**$3.40**	**$4.04**
Previous forecast	$4.90	$4.80
Percentage change	-30.5%	-15.8%
U.S. coal exports (current) (million short tons)	**88.1**	**96.0**
Previous forecast	83.3	92.6
Percentage change	5.7%	3.7%
Jet fuel margin (current) (dollars per gallon)	**$1.02**	**$0.49**
Previous forecast	$0.86	$0.49
Percentage change	18.7%	0.6%
U.S. crude oil production (current) (million barrels)	**12.5**	**12.6**
Previous forecast	12.4	12.8
Percentage change	0.6%	-1.2%
Russia petroleum and liquid fuels production (current) (million barrels per day)	**9.9**	**9.8**
Previous forecast	9.5	9.4
Percentage change	3.9%	3.8%
China petroleum and liquid fuels consumption (current) (million barrels per day)	**15.8**	**16.2**
Previous forecast	15.7	16.1
Percentage change	1.0%	1.0%
U.S. heating degree days (current)	**4,083**	**4,201**
Previous forecast	4,158	4,265
Percentage change	-1.8%	-1.5%

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* February 2023

Global oil markets



Crude oil prices: The Brent crude oil spot price averaged $82 per barrel (b) in January, about $2/b higher than the average in December 2022. Oil prices rose during January in part because of the expectation of increasing oil demand as a result of relaxing COVID-19 restrictions and increasing mobility in China. Perceptions of a less severe recession and some improving macroeconomic conditions also likely contributed to rising crude oil prices over the past month.

Last month, we highlighted oil demand in China and oil production in Russia as two of the main uncertainties in the oil market this year, and we have revised our outlook for both in this month's forecast. The revisions result from China relaxing COVID restrictions, which have increased our forecast of oil demand growth. At the same time, more oil was produced in Russia than we anticipated during January, and we raised our forecast for Russia's oil production through the end of 2024. We have also lowered our forecast for oil production in OPEC because of rising global oil inventories. These changes have largely offset each other in our forecast global balances, and beyond the first quarter of 2023, we have left our crude oil price forecast largely unchanged from last month's outlook.

We expect that the Brent spot price will average $85/b in the first half of 2023 (1H23). However, we expect global oil production to continue to outpace demand over the forecast period, leading to persistent global oil inventory builds through 2024 and falling oil prices. After increasing by an average of 0.6 million b/d in 2022, we expect global oil inventories to also build by an average of 0.6 million b/d in 2023, with builds moderating to 0.4 million b/d in 2024. Correspondingly, our forecast spot price of Brent crude oil falls to an average of $82/b in 2H23 and $78/b in 2024.

Global oil demand: Global liquids fuel consumption in the forecast increases from an average of 99.4 million barrels per day (b/d) in 2022 to 102.3 million b/d in 2024, driven primarily by growth in China and other non-OECD countries. However, significant uncertainty around our demand forecast remains

based on possible outcomes for the evolving global economic conditions and China's pivot away from a zero-COVID strategy. We forecast that the reversal of restrictions will contribute to oil demand in China increasing by 0.7 million b/d in 2023 and by 0.4 million b/d in 2024. We expect OECD oil demand to remain largely flat over the forecast period, as inflationary economic pressures continue to limit GDP and oil demand growth and as the oil intensity of OECD economies declines.

Global oil supply: Global liquid fuels production averaged about 100.0 million b/d in 2022, and we forecast it will increase by an average of 1.1 million b/d in 2023 and 1.5 million b/d in 2024. Growth in non-OPEC production in both 2023 and 2024, as well as increases in OPEC output in 2024, will mostly offset an approximately 1.1 million b/d decline in Russia's production over the forecast period.

We forecast Russia's production of petroleum and other liquids to decline to 9.9 million b/d in 2023 from more than 10.9 million b/d in 2022 and then average 9.8 million b/d in 2024. For both 2023 and 2024, we forecast about 0.4 million b/d more production in Russia than in last month's STEO. We had previously forecast that the majority of Russia's crude oil exports subject to EU sanctions implemented on December 5 would find new markets, but that the sanctions would lead to some decline in production. However, we assess that Russia's crude oil exports rose in January after a brief decline in December and have since begun to surpass November totals, with little impact to Russia's crude oil production.

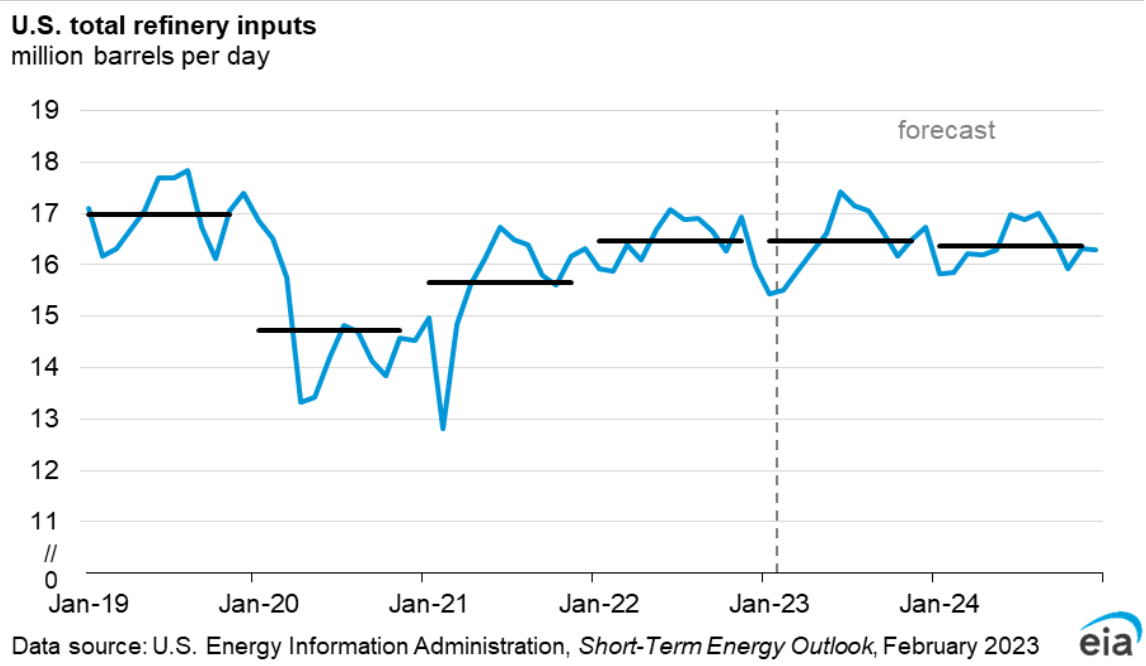
The EU ban on seaborne imports of petroleum products from Russia that began on February 5 could be more disruptive than the ban on crude oil imports implemented in December. We assume Russia will be able to reroute some of its petroleum exports subject to EU sanctions. But we do not expect all of its refined product exports will find new destinations because of limited clean tanker availability, which will cause refiners in Russia to reduce crude oil inputs and for Russia's crude oil production to decline.

Petroleum products

U.S. refinery utilization: We forecast domestic refinery maintenance will contribute to reduced refinery utilization in the United States through April. Refinery utilization dropped because of severe cold weather that swept through the midcontinent in late December, contributing to partial unit shutdowns, reductions in run rates, and a few instances of unit damage. December refinery inputs fell below 16 million barrels per day (b/d), marking the largest month-over-month decline in two years when significant cold weather disrupted refinery operations in February 2021.

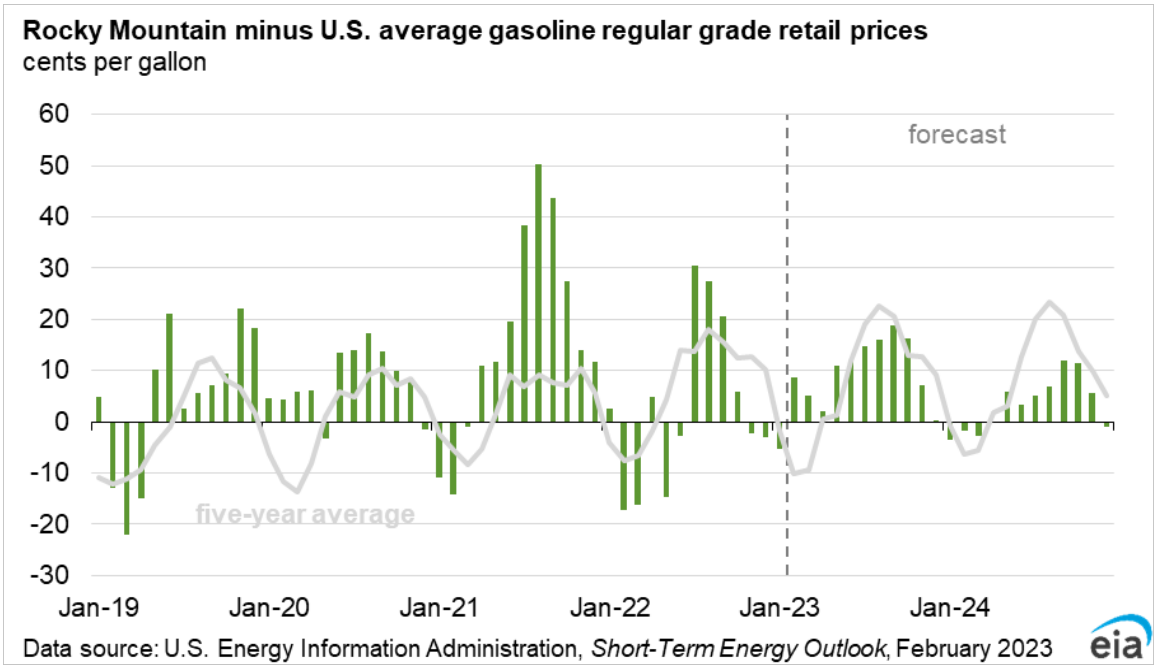
In 2022, many refiners postponed planned maintenance during the spring and fall as low product inventories and high refining margins encouraged refiners to maximize utilization. Although refining margins remain above normal levels, we expect more refiners will undergo deferred maintenance this season. We forecast U.S. distillation inputs will be less than 16 million b/d until April. Utilization remains below 90% until May, which we forecast will keep refining margins for gasoline and diesel above year-ago levels during February and March. However, we expect refinery inputs and utilization to increase after maintenance is completed, and 2023 inputs will likely be similar to 2022 inputs, leading to falling refining margins beginning in the second quarter of 2023. ExxonMobil's planned startup of a 250,000 b/d capacity expansion at its Beaumont refinery in the first half of this year will contribute to the

increase. We expect slightly less 2024 refinery inputs compared with 2023, partly due to the expected closure of LyondellBasell's Houston refinery at the end of 2023.

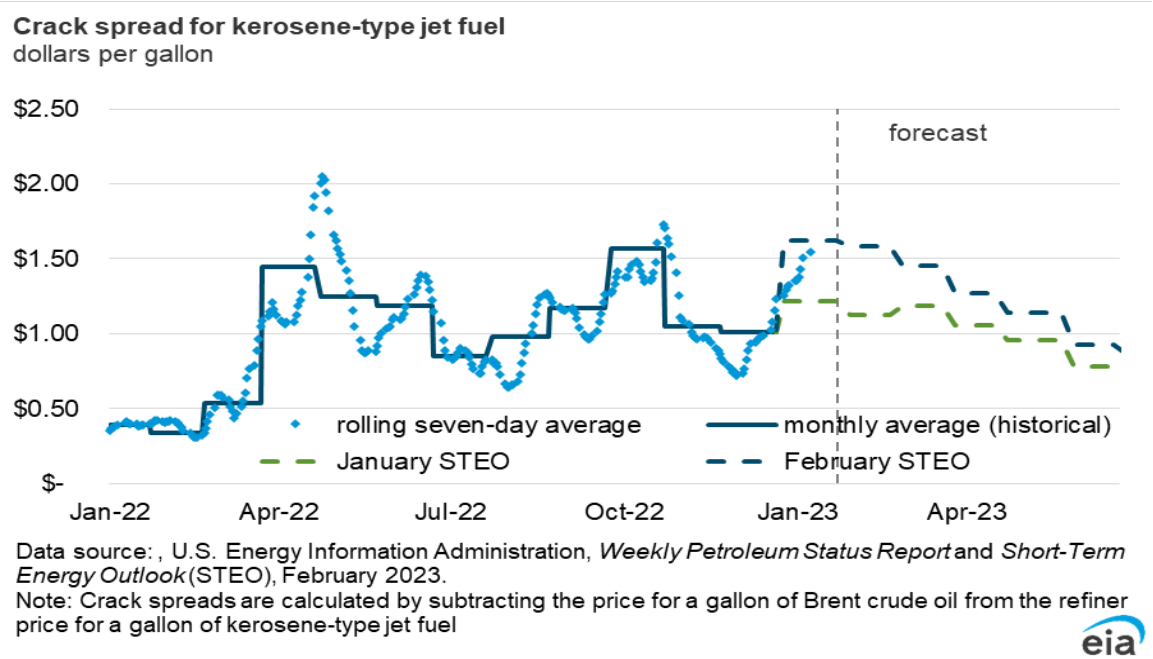


Rocky Mountain retail prices: On December 24, Suncor began repairing its 103,000 b/d Commerce City refinery in Colorado following unit damage related to cold weather. We expect this Colorado refinery will be unavailable until late in the first quarter. This outage will contribute to reduced refinery utilization and gasoline production in the Rocky Mountain region (PADD 4) through March, which we expect will lead to higher retail fuel prices.

We forecast retail gasoline prices in the Rocky Mountains will reach $3.58 per gallon (gal) in February, up from $3.18/gal in December. This increase is more than our forecast increase for the U.S. average retail gasoline price, which rises from $3.21/gal in December to $3.49/gal in February. Rocky Mountain retail fuel prices are normally lower than the U.S. average during the winter months; however, we estimate that they will be at a premium in February and March, compared with averaging a nearly 10 cent/gal discount over the past five years. Although Colorado is more connected to the Midwest and Gulf Coast regions than other parts of the Rocky Mountains, the potential for prolonged refinery outage at the Commerce City refinery could contribute to wider changes in regional retail prices.



Jet fuel prices: The jet fuel crack spread increased significantly in January, leading us to revise our February STEO forecast compared with our January STEO. The increased jet fuel price is a response to low inventories, less refinery production related to recent weather, and increasing international demand. Jet fuel prices increased sharply at several times in 2022, moving in sync with similar increases in the price of distillate fuel. However, distillate fuel prices in January did not increase as much as jet fuel prices, probably because very mild weather limited demand for heating oil (a type of distillate fuel). As China lessens COVID restrictions, leading to increasing jet fuel demand, we expect jet fuel refining margins will be higher than we previously forecast in the coming months.

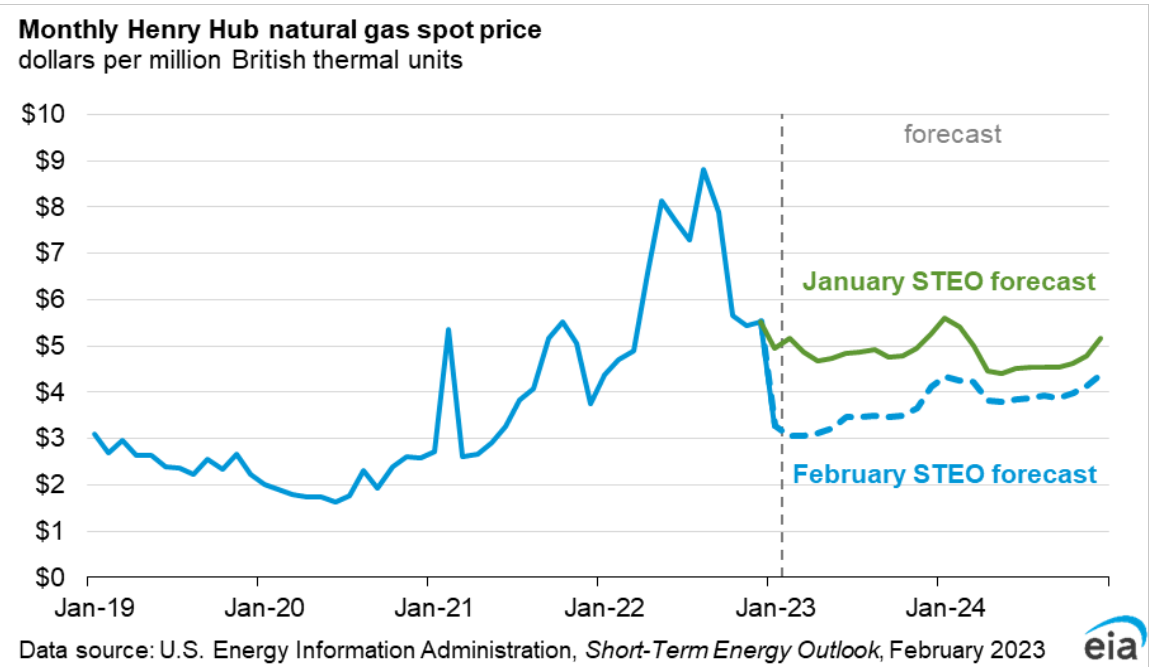


Natural gas

Natural gas prices: Temperatures across the United States in January were the mildest since 2006, which reduced consumption of natural gas for space heating and significantly changed our forecast for natural gas markets in the coming months. The Henry Hub spot price averaged $3.27 per million British thermal units (MMBtu) in January, down more than $2/MMBtu from December. In the United States, there were 16% fewer heating degree days (HDDs) in January than the 10-year average and 9% fewer than forecast in the January STEO. With less-than-expected consumption of natural gas, U.S. stocks of natural gas ended January above our previous forecast.

These developments in January contributed to significant changes in our outlook for the February STEO. We now forecast Henry Hub natural gas prices to average about $3.40/MMBtu for 2023 and to stay below $4.00/MMBtu until December. Our forecast in the January STEO was for Henry Hub prices to average almost $5.00/MMBtu in 2023.

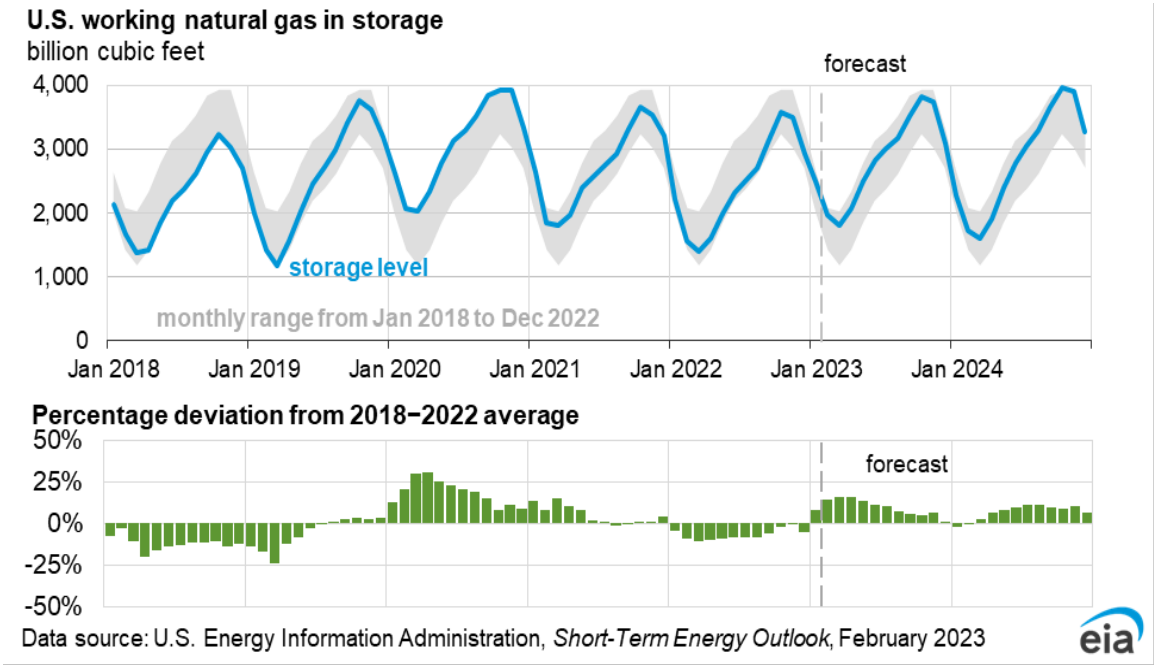
Natural gas prices remain very volatile. Extreme weather events and production freeze-offs could still potentially cause price spikes at both the Henry Hub and in regional markets, but that potential diminishes as spring approaches, particularly now that inventories have moved back above the five-year (2018–2022) average. Although we expect close-to-normal weather for February and March, colder temperatures than expected could put upward pressure on prices. The Freeport LNG export facility, which went offline in June due to a fire, is expected to come back online in the first quarter of 2023 and will likely add over 2 billion cubic feet per day (Bcf/d) of natural gas demand to the U.S. market once fully operational.



Natural gas markets: U.S. natural gas production growth has been outpacing demand growth the past several months, helping reduce natural gas prices. We estimate that dry natural gas production in the United States averaged 100.2 Bcf/d in January. We forecast dry natural gas production to continue to

hover around 100 Bcf/d for most of this year; overall, we expect dry natural gas production to average between 100 Bcf/d and 101 Bcf/d in 2023. U.S. consumption of natural gas was below average in January because very mild weather reduced demand for space heating. We expect less demand for natural gas than last year for most of 2023 due to decreased demand in the electric power sector as more renewable electric generation sources come online throughout the year and due to decreased demand in the industrial sector as a result of an expected drop in manufacturing activity. We expect utilization at U.S. liquefied natural gas (LNG) export facilities to be slightly lower in the next few months compared with our previous forecast because of high natural gas stock levels in Europe. But U.S. LNG exports in our forecast rise once the Freeport facility is back online, and LNG exports increase by 11% (1.2 Bcf/d) on an annual basis in 2023 compared with 2022.

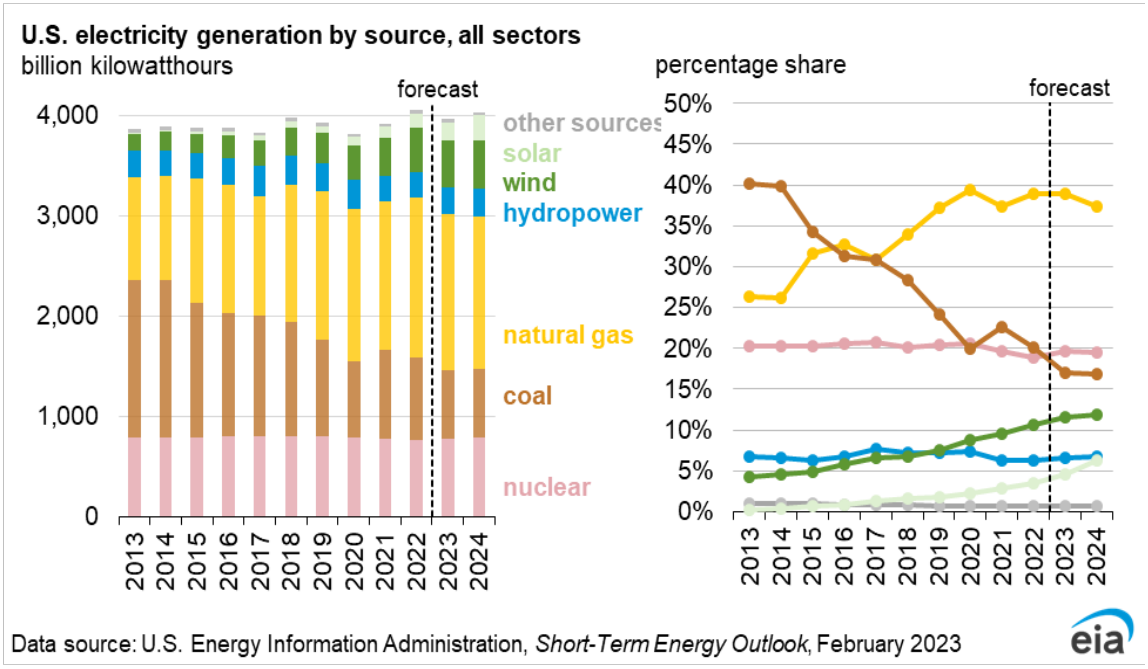
Natural gas storage: We forecast that natural gas storage inventories will end the withdrawal season (November through March) at more than 1.8 trillion cubic feet (Tcf), which would be 16% above the five-year average and 19% more than we had forecast in the January STEO. The warmer-than-normal January temperatures reduced natural gas storage withdrawals below average, causing storage inventories to rise above the five-year (2018–2022) average at the end of January. We expect above-average storage inventories to reduce natural gas prices in 2023 from 2022, when end-of-March storage inventories were 1.4 Tcf, 17% below the previous five-year (2017–2021) average.



Electricity, coal, and renewables

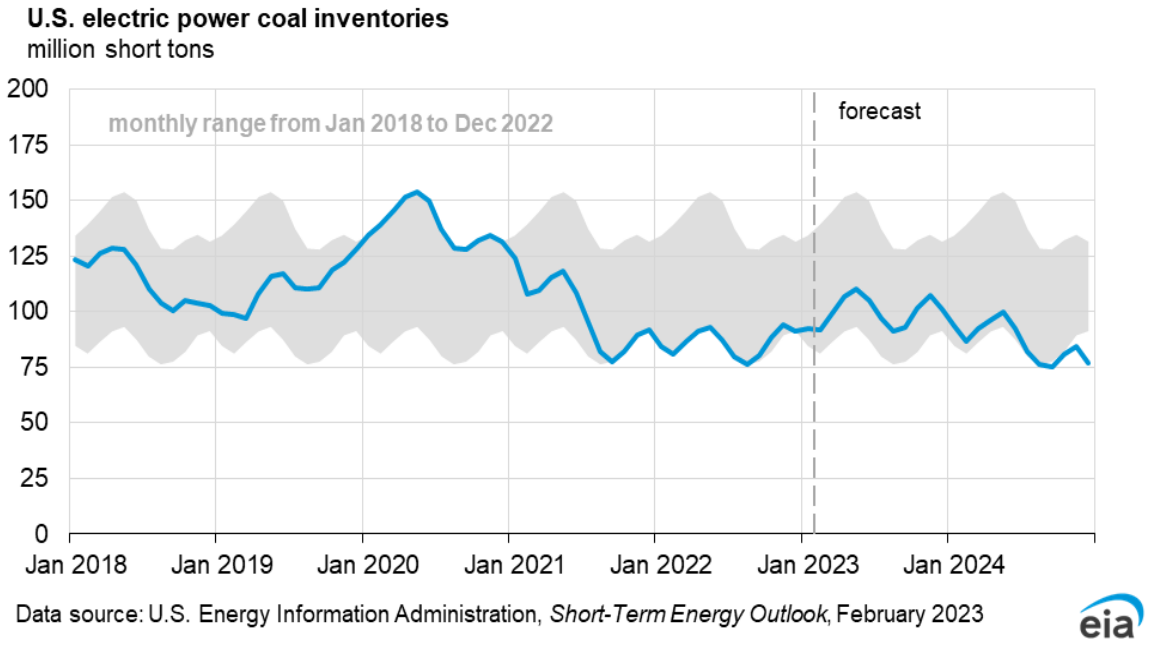
Electricity generation: We expect U.S. electric power generation to decline by 2% in 2023 before rising by a similar amount in 2024. At the same time, the makeup of the power generation mix will slightly shift. In our forecast, electricity produced from renewable sources rises from 22% of total generation in 2022 to 24% in 2023 and to 26% in 2024. The gains in the share of renewable energy generation will be driven by about 63 gigawatts (GW) of utility-scale solar generating capacity that

developers have scheduled to enter service by the end of 2024 and about 13 GW of wind capacity that will come online during the same two years. We expect the new generating capacity from renewable sources to reduce output from fossil fuel-fired power plants. The combined share of U.S. generation provided by natural gas and coal in our forecast falls from 59% in 2022 to 54% in 2024. Coal generation declines the most; coal's share falls from 20% in 2022 to 17% in 2024. Natural gas-fired generation's share drops from 39% in 2022 to 37% in 2024.



More volatility in fuel costs creates uncertainty around how natural gas and coal-fired generation will respond to increased renewable generating capacity. After lowering our February forecast for near-term natural gas prices, the forecast share of natural gas generation for 2023 is now 39%, up from a forecast 2023 share of 38% in the previous STEO. Upcoming renewable capacity additions will limit the variation in natural gas generation to changes in fuel cost.

Coal Markets: Coal stocks increased 4% in January 2023 with less coal-fired electricity generation after warmer-than-average temperatures reduced overall electricity generation and falling natural gas prices increased natural gas-fired electricity generation. At the same time, monthly coal production rose in late 2022.



We expect U.S. coal production to decline by 13% to 518 million short tons (MMst) in 2023, after increasing in both 2021 and 2022, with a further 5% decline to 494 MMst in 2024. Primarily, we forecast a 16% reduction in coal consumption by the electric power sector in 2023 followed by flat consumption in 2024. That decline largely reflects almost 9.6 GW of coal-fired capacity retirements in 2023, followed by another 2.8 GW closing in 2024. Two other factors will be the lower natural gas prices and 19% increase in renewable generation over those two years. Consequently, coal imports in our forecast decline by 47% from 2022 to less than 4 MMst in 2024.

Exports of steam coal in our forecast increase from 39 MMst in 2022 to 45 MMst in 2024, due largely to greater demand in Europe. Coal from the United States is helping supply Europe following the EU's ban of coal imports from Russia. U.S. coal exports also fulfill demand in Asia.

Economy, weather, and CO_2

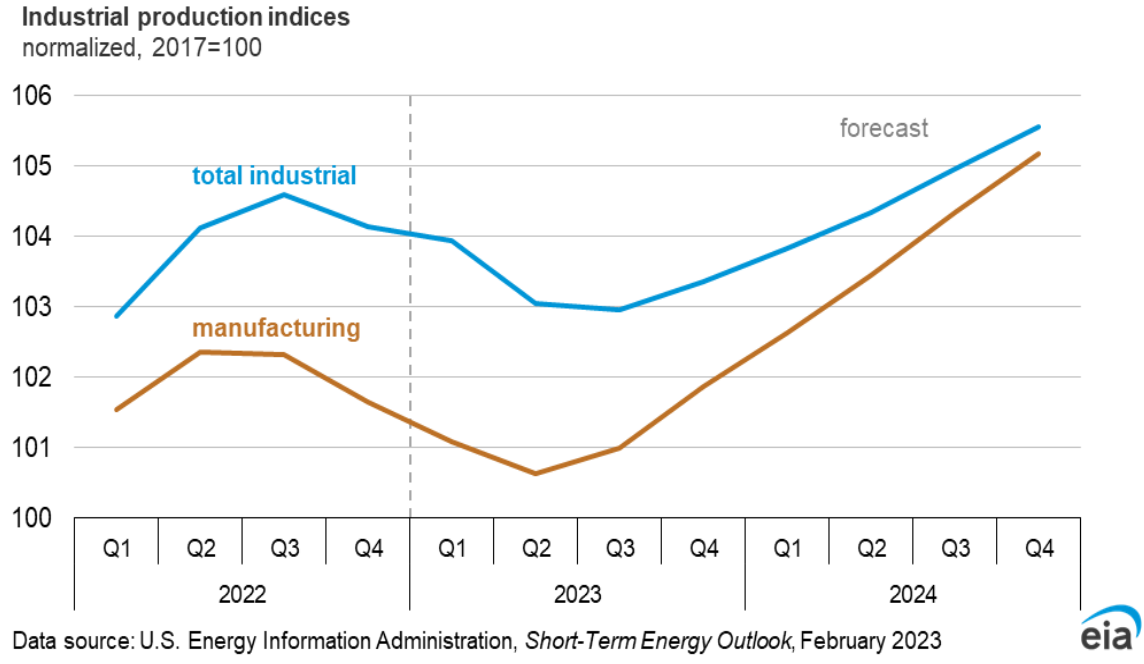
U.S. macroeconomics: Our U.S. macroeconomic forecasts are based on S&P Global's macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic assumptions.

S&P Global continues to forecast a mild recession starting in the first quarter of 2023 (1Q23) through 2Q23. Real U.S. GDP in the forecast contracts at an annualized rate of 1.3% in 1Q23 and 0.3% in 2Q23, mostly due to a decline in residential fixed investment, private business inventories of goods, and industrial production. However, we revised our forecast of 2023 real GDP upward by 0.3 percentage points from the January STEO and 2023 GDP growth now averages 0.8%.

U.S. manufacturing production contracted in November 2022. As a result, the 4Q22 estimate of the Manufacturing Production Index was revised lower by 1.0%. The slowing of manufacturing activity is

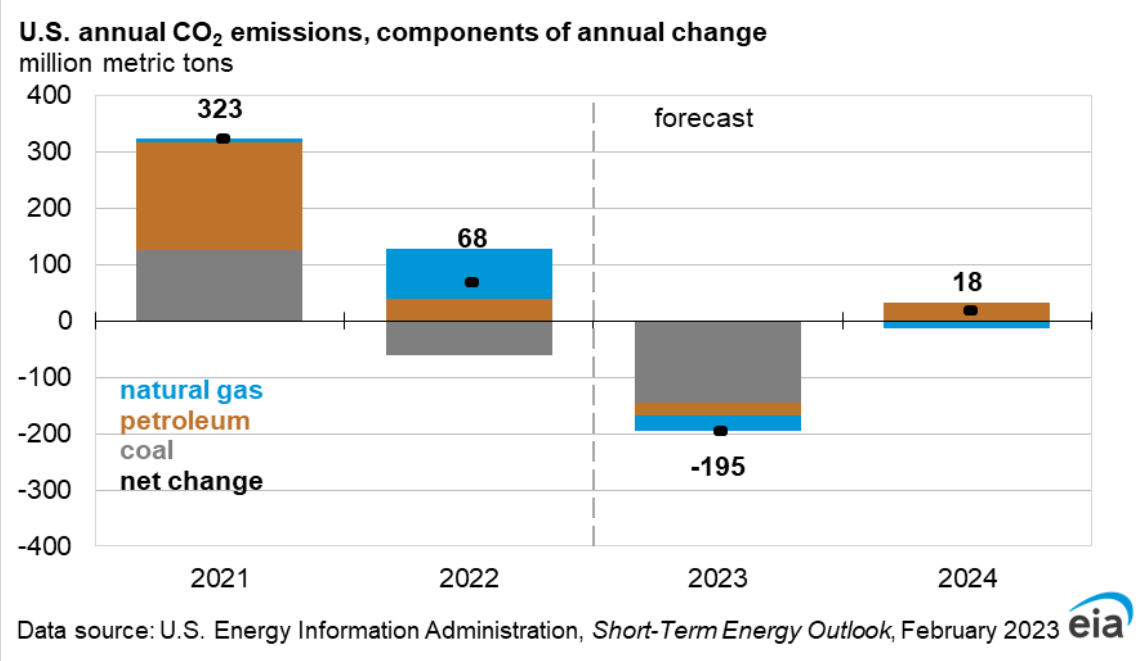
likely the result of a shift in consumer spending away from goods toward services and resulting in a reduction in diesel fuel consumption in our forecast.

S&P Global expects U.S. GDP to grow by 2.1% in 2024 as the economy shifts out of recession and returns to positive GDP growth beginning in 3Q23. In addition, GDP growth is expected to be led by net exports and personal consumption expenditures in 2Q23, with a more broad-based increase occurring later in the year.



Emissions: We expect U.S. energy-related carbon dioxide (CO_2) emissions to decrease slightly more than previously forecast, declining by almost 4% in 2023. The decrease is driven by slow economic growth and a continuing increase in electricity generation from renewable sources, which reduces fossil fuel-fired generation and associated CO_2 emissions. Among the major fossil fuel categories, CO_2 emissions from coal decline by around 15%, mostly from decreasing coal-fired electricity generation. We forecast natural gas emissions to decrease by around 1% as natural gas-fired electricity generation also decreases. Renewable sources displace generation from both fuels. We expect petroleum emissions to fall by 1% in 2023 compared with 2022.

We expect U.S. energy-related CO_2 emissions in 2024 to remain almost unchanged from 2023. Petroleum CO_2 emissions increase slightly as a result of increases in air and road travel. Coal emissions remain flat as coal-fired electricity generation continues to decrease. Natural gas emissions fall slightly. Although natural gas consumption will likely decrease in the industrial and electric power sectors in 2024, it will be partly offset by an increase in the residential and commercial sectors, driven by our expectation of increased demand for space heating.



Weather: In January, weather in the United States was very mild, with 16% fewer population-weighted HDDs than the 10-year average; the mildest January since 2006. Based on forecasts from the National Oceanic and Atmospheric Administration, in 1Q23 we expect 8% fewer HDDs in the United States compared with 1Q22 and 7% fewer than the 10-year average. We have updated our expectations for winter heating fuel expenditures based on the most recent temperature and price forecasts.

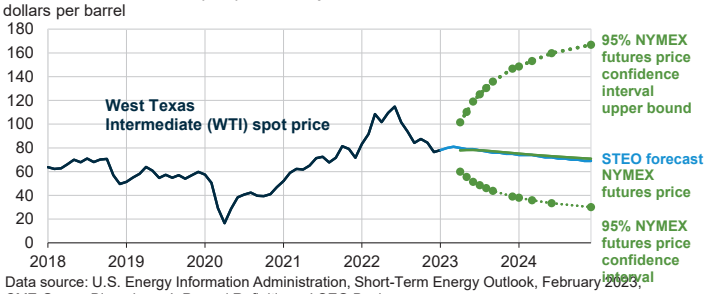
The U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (DOE), prepared this report. By law, our data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report do not represent those of DOE or any other federal agencies.

Short-Term Energy Outlook
Chart Gallery

February 7, 2023

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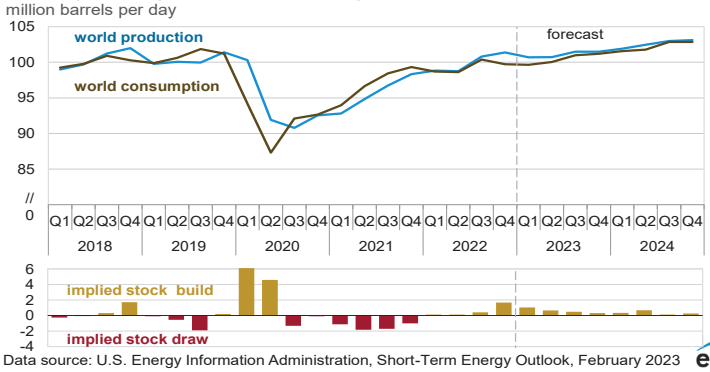
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023; CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending February 2, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.

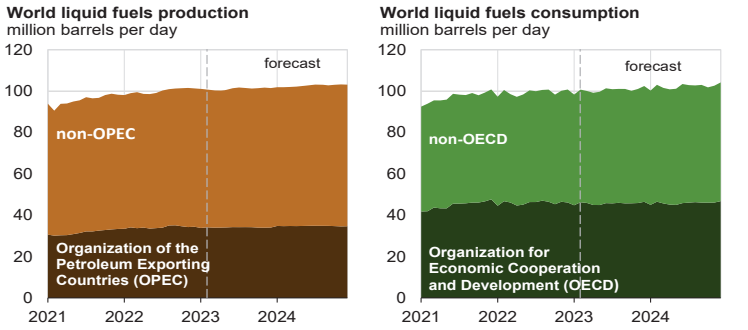
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World liquid fuels production and consumption balance
million barrels per day

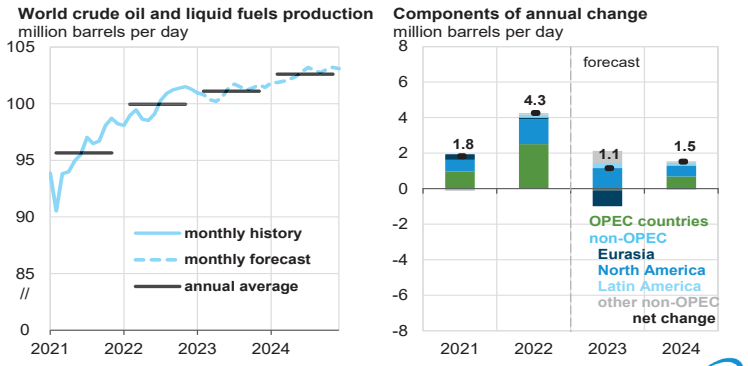


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

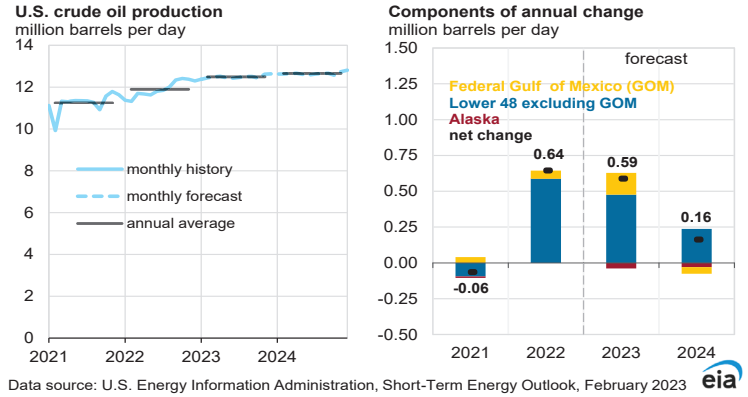
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Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

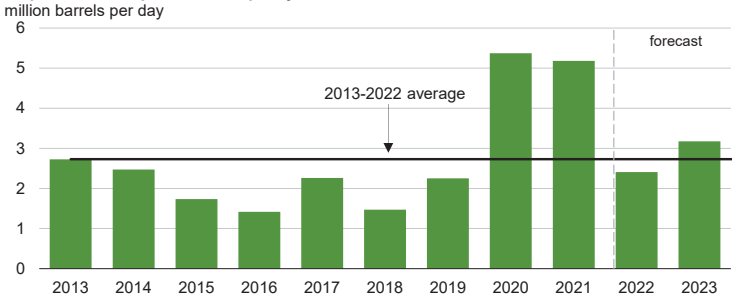


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023



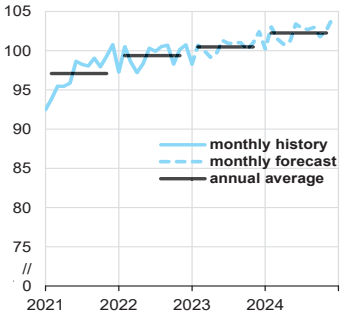
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day

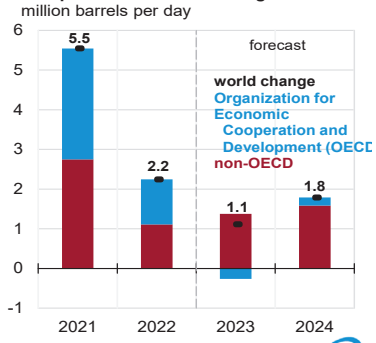


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
Note: Black line represents 2013-2022 average (2.7 million barrels per day).

World liquid fuels consumption
million barrels per day

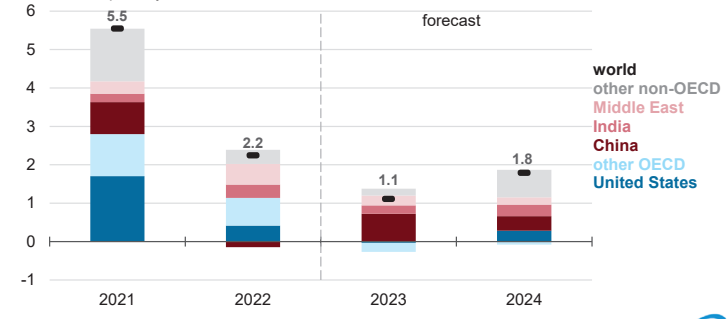


Components of annual change
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

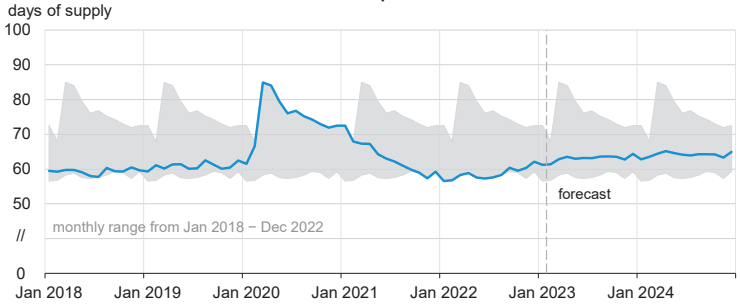
Annual change in world liquid fuels consumption
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

Organization for Economic Cooperation and Development (OECD) commercial inventories of crude oil and other liquids

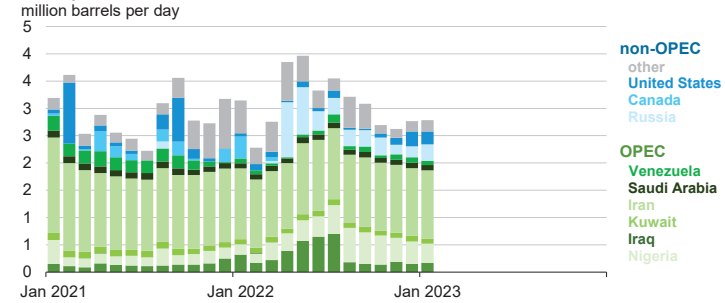
days of supply



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers

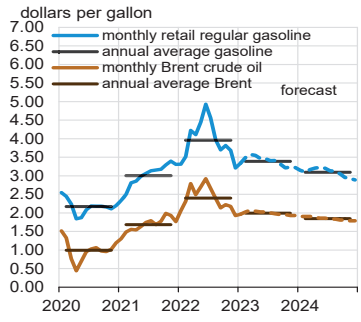
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

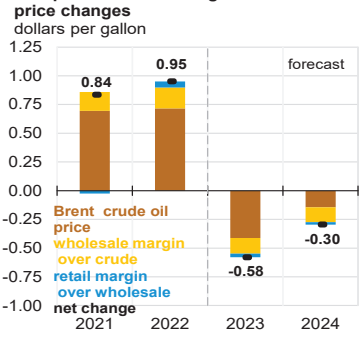
U.S. gasoline and crude oil prices

dollars per gallon

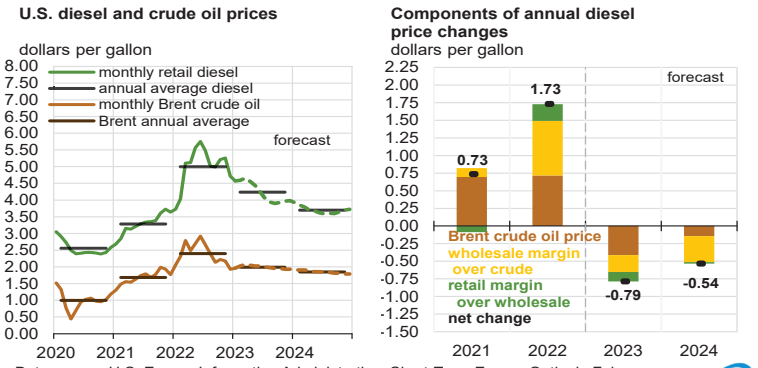


Components of annual gasoline price changes

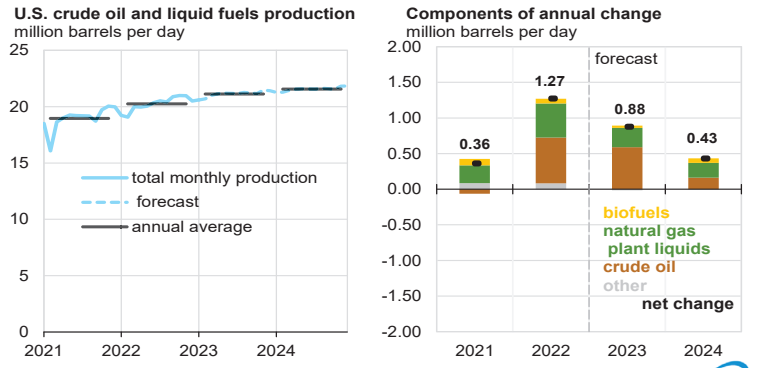
dollars per gallon



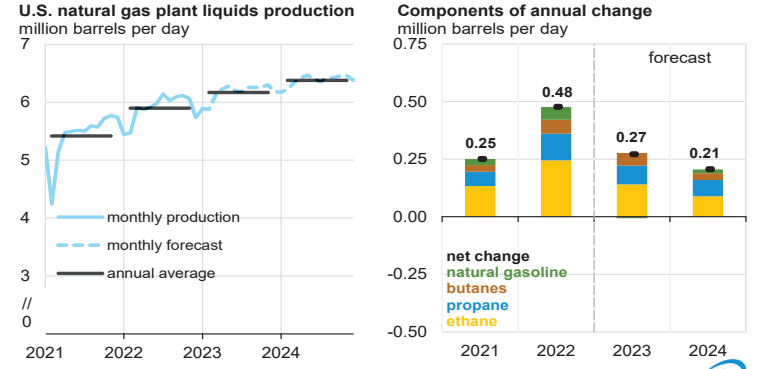
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023, and Refinitiv an LSEG Business



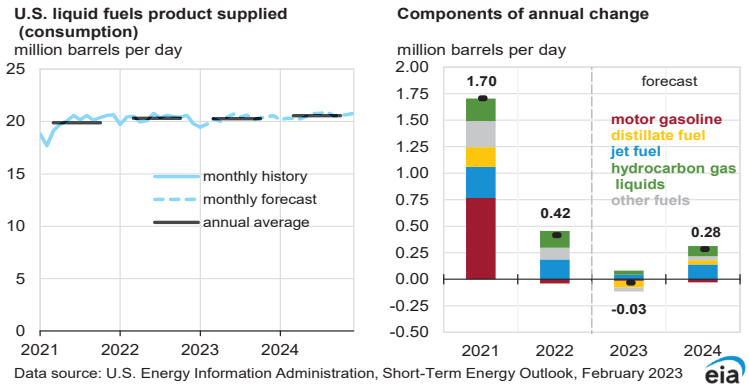
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023, and Refinitiv an LSEG Business

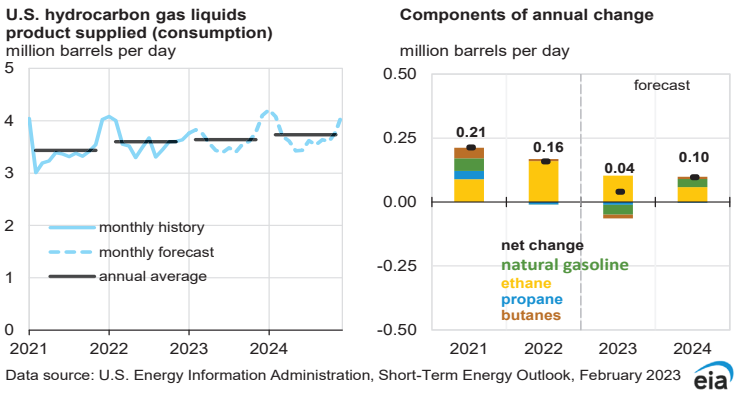


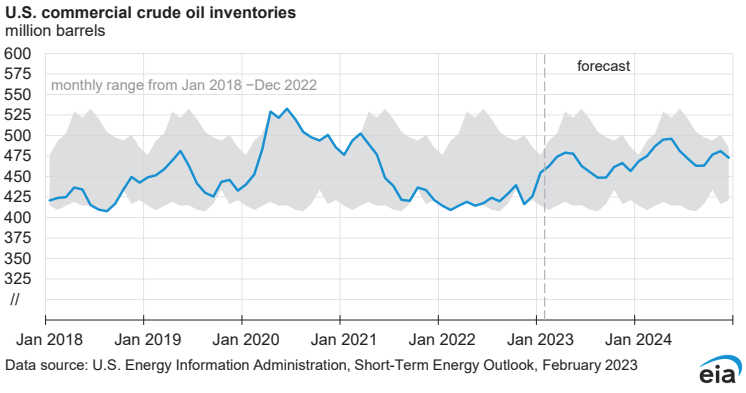
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023



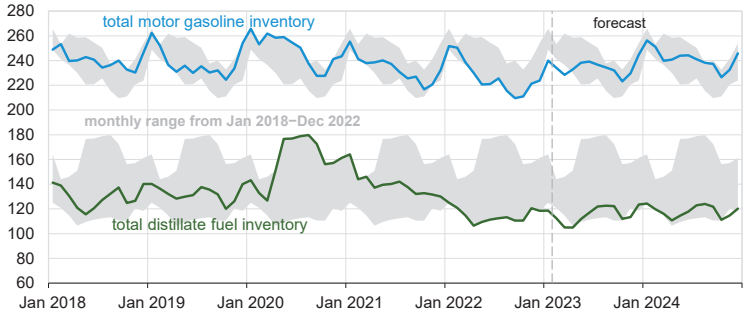
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023


U.S. liquid fuels product supplied (consumption)
million barrels per day
25
20
15
10
5
0
2021
2022
2023
2024
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
-0.25
-0.50
forecast
1.70
0.42
-0.03
0.28
motor gasoline
distillate fuel
jet fuel
hydrocarbon gas liquids
other fuels
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
eia


U.S. hydrocarbon gas liquids product supplied (consumption)
million barrels per day
5
4
3
2
1
0
2021
2022
2023
2024
monthly history
monthly forecast
annual average
Components of annual change
million barrels per day
0.50
0.25
0.00
-0.25
-0.50
forecast
0.21
0.16
0.04
0.10
net change
natural gasoline
ethane
propane
butanes
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
eia

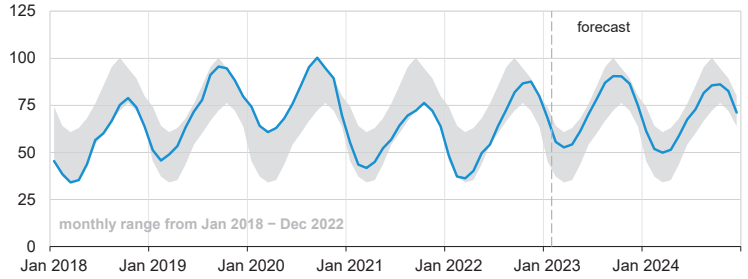

U.S. commercial crude oil inventories
million barrels
600
575
550
525
500
475
450
425
400
375
350
325
monthly range from Jan 2018 –Dec 2022
forecast
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Jan 2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
eia

U.S. gasoline and distillate inventories
million barrels



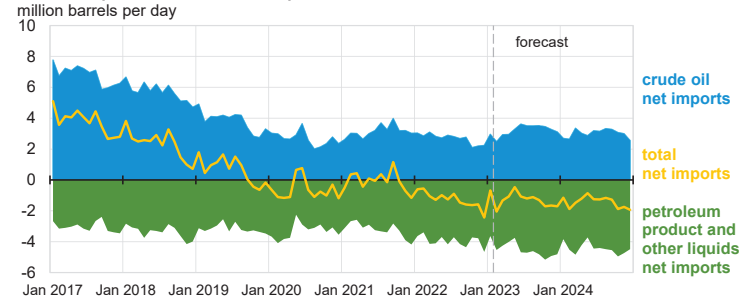
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

U.S. commercial propane inventories
million barrels



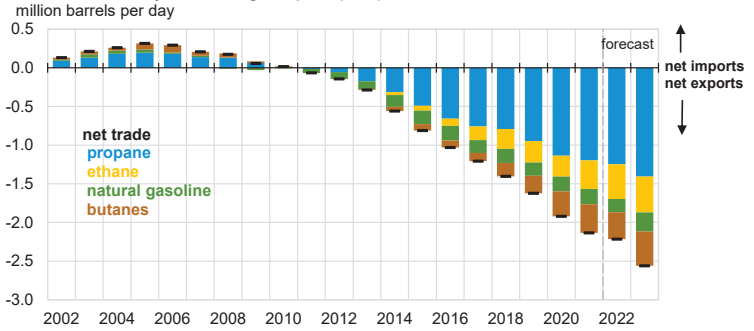
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
Note: Excludes propylene.

U.S. net imports of crude oil and liquid fuels
million barrels per day



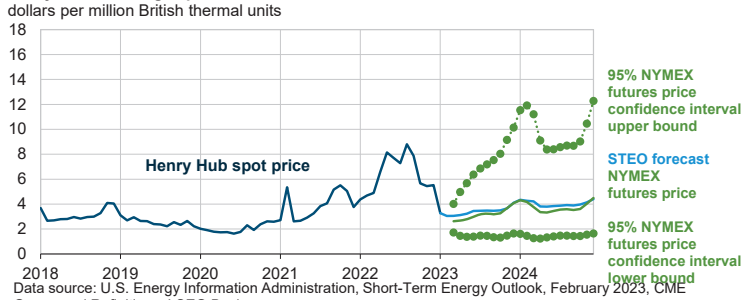
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

U.S. net trade of hydrocarbon gas liquids (HGL)
million barrels per day



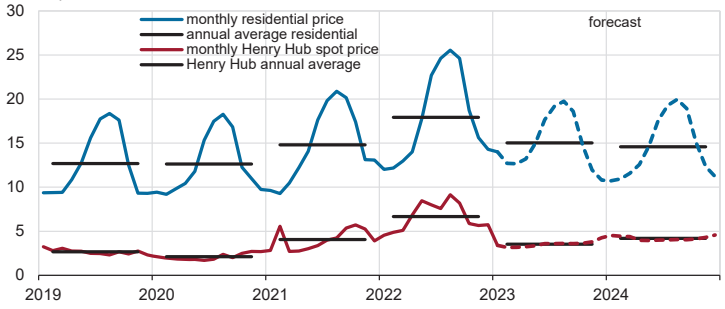
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units



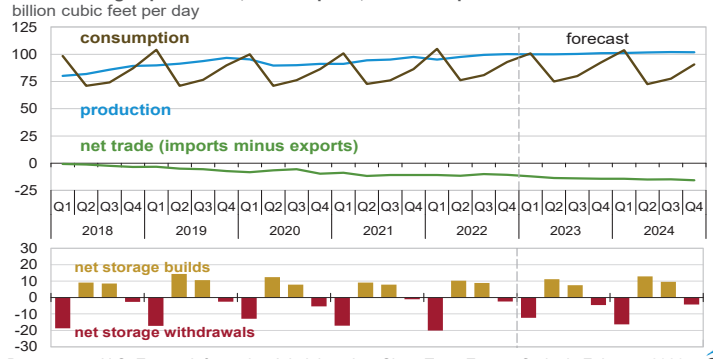
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023, CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending February 2, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.

U.S. natural gas prices
dollars per thousand cubic feet



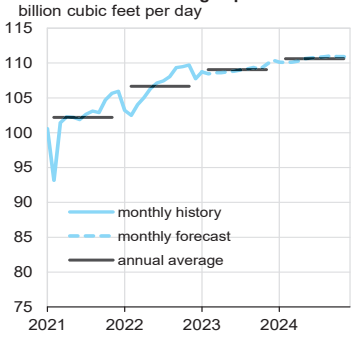
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023, and Refinitiv an LSEG Business

U.S. natural gas production, consumption, and net imports
billion cubic feet per day

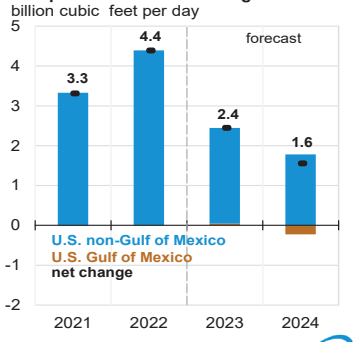


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

U.S. marketed natural gas production
billion cubic feet per day

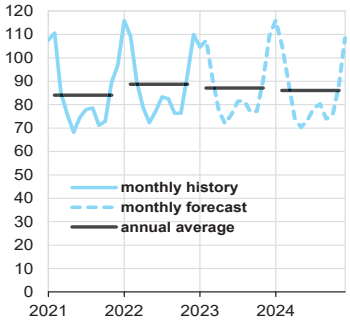


Components of annual change
billion cubic feet per day

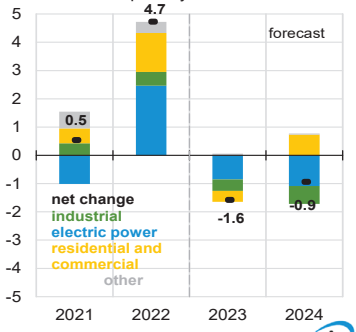


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

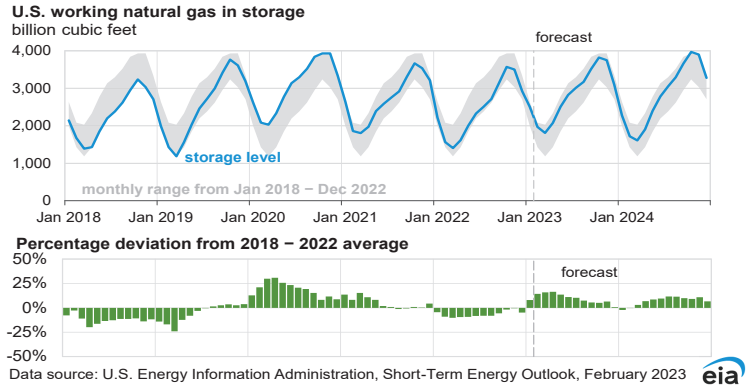
U.S. natural gas consumption
billion cubic feet per day

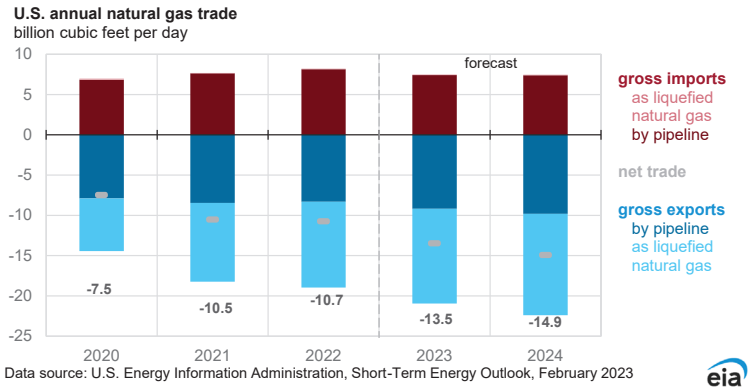


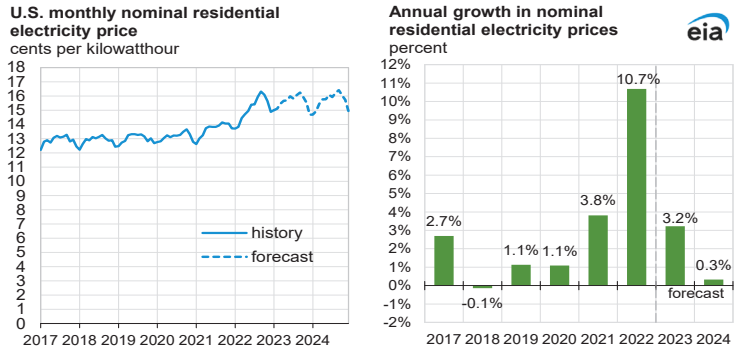
Components of annual change
billion cubic feet per day

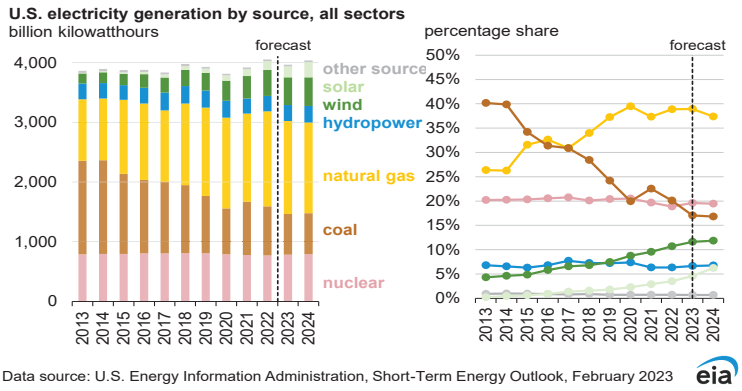


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

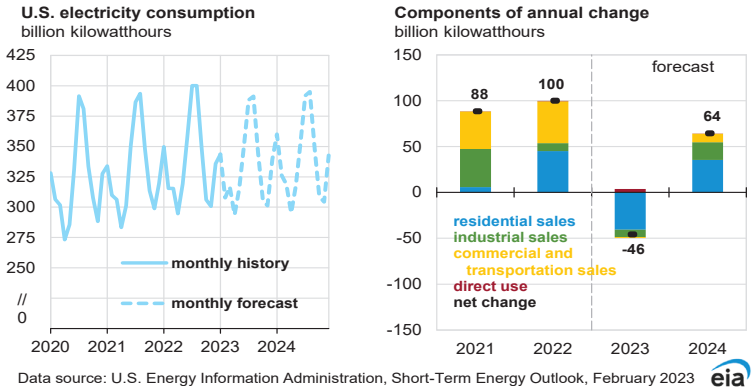

U.S. working natural gas in storage
billion cubic feet
forecast
4,000
3,000
2,000
1,000
0
storage level
monthly range from Jan 2018 – Dec 2022
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Jan 2024
Percentage deviation from 2018 – 2022 average
50%
25%
0%
-25%
-50%
forecast
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
eia


U.S. annual natural gas trade
billion cubic feet per day
10
5
0
-5
-10
-15
-20
-25
forecast
-7.5
-10.5
-10.7
-13.5
-14.9
2020
2021
2022
2023
2024
gross imports
as liquefied
natural gas
by pipeline
net trade
gross exports
by pipeline
as liquefied
natural gas
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
eia

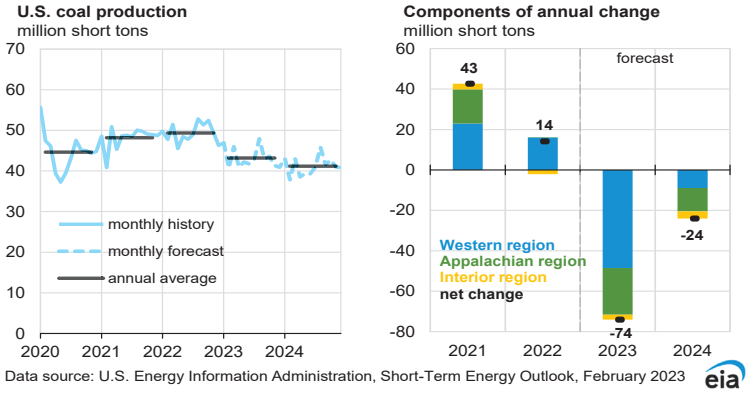

U.S. monthly nominal residential electricity price
cents per kilowatthour
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
history
forecast
2017 2018 2019 2020 2021 2022 2023 2024
Annual growth in nominal residential electricity prices
percent
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
2.7%
-0.1%
1.1%
1.1%
3.8%
10.7%
3.2%
0.3%
forecast
2017 2018 2019 2020 2021 2022 2023 2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
eia



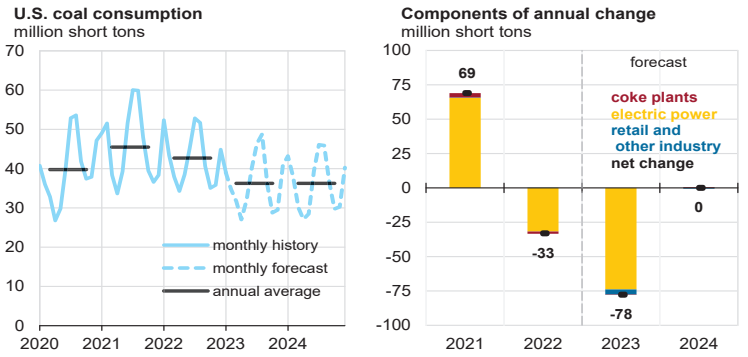
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023



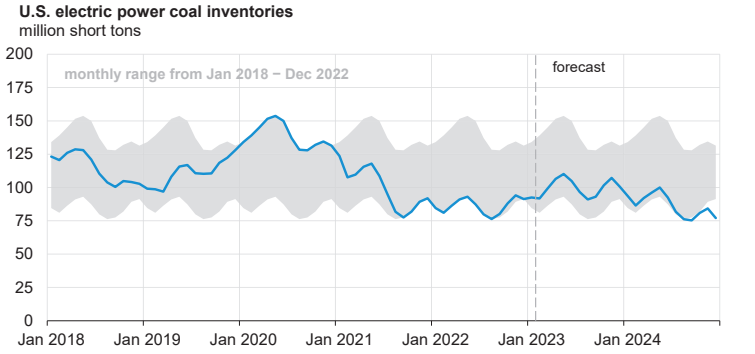
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023



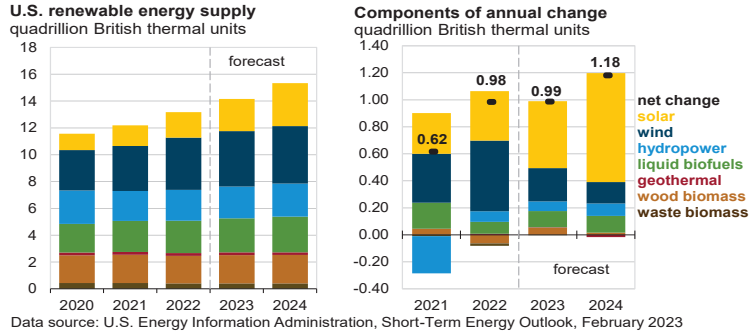
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

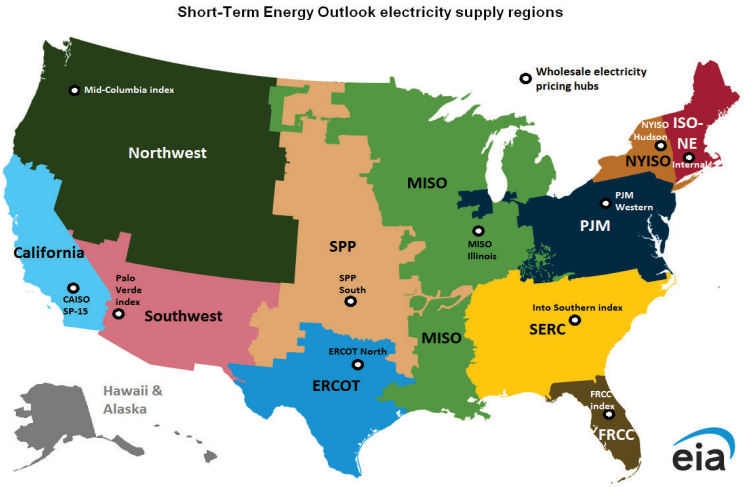


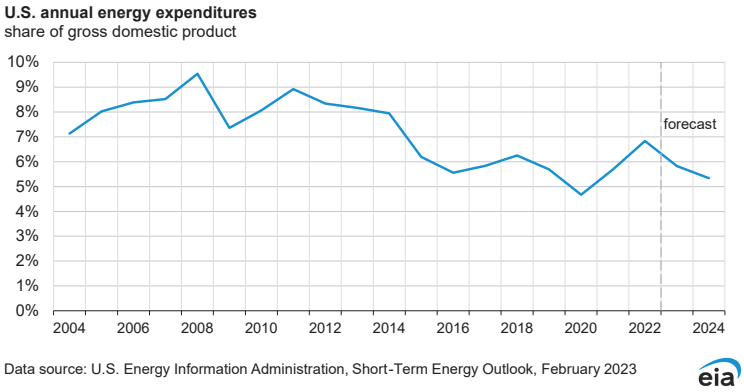
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

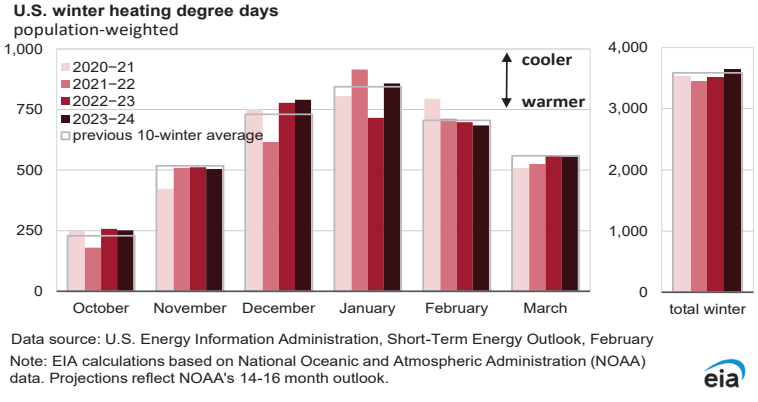


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

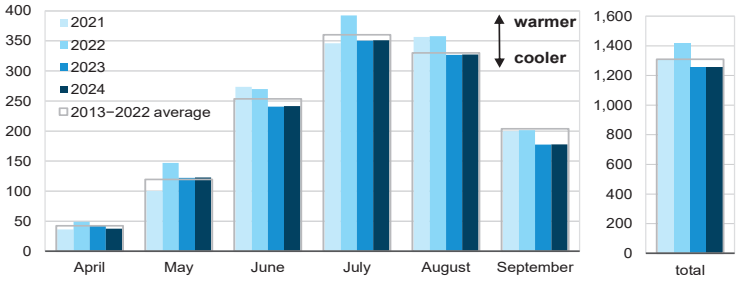
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.


Short-Term Energy Outlook electricity supply regions
Wholesale electricity pricing hubs
Mid-Columbia index
Northwest
MISO
NYISO Hudson
ISO-NE
NYISO
Internal
PJM Western
PJM
MISO Illinois
California
SPP
CAISO SP-15
Palo Verde index
Southwest
SPP South
Into Southern index
SERC
MISO
ERCOT North
ERCOT
Hawaii & Alaska
FRCC index
FRCC
eia


U.S. annual energy expenditures
share of gross domestic product
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
forecast
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
eia

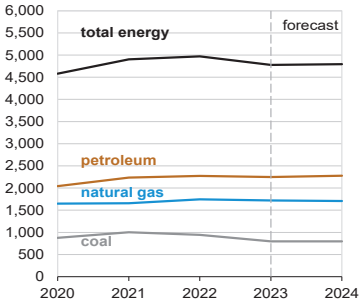

U.S. winter heating degree days
population-weighted
1,000
750
500
250
0
2020–21
2021–22
2022–23
2023–24
previous 10-winter average
cooler
warmer
October
November
December
January
February
March
4,000
3,000
2,000
1,000
0
total winter
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.
eia

U.S. summer cooling degree days
population-weighted

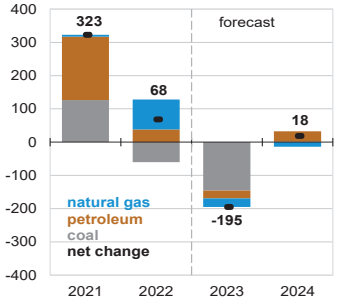


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data.
Projections reflect NOAA's 14-16 month outlook.

U.S. annual CO2 emissions by source
million metric tons



Components of annual change
million metric tons



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2023

Table 1. U.S. Energy Markets Summary

STF-3-12 Attachment E

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**11.47**	**11.70**	**12.06**	**12.36**	*12.44*	*12.46*	*12.49*	*12.56*	*12.63*	*12.62*	*12.65*	*12.70*	**11.90**	*12.49*	*12.65*
Dry Natural Gas Production															
(billion cubic feet per day)	**95.09**	**97.59**	**99.46**	**100.13**	*99.87*	*99.95*	*100.34*	*100.89*	*101.21*	*101.63*	*101.95*	*101.91*	**98.09**	*100.27*	*101.68*
Coal Production															
(million short tons)	**149**	**142**	**153**	**148**	*134*	*125*	*134*	*126*	*124*	*117*	*128*	*125*	**592**	*518*	*494*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.22**	**20.27**	**20.47**	**20.26**	*19.84*	*20.38*	*20.41*	*20.45*	*20.26*	*20.52*	*20.75*	*20.69*	**20.30**	*20.27*	*20.56*
Natural Gas															
(billion cubic feet per day)	**104.85**	**76.13**	**80.79**	**92.96**	*100.88*	*75.06*	*80.05*	*92.35*	*103.68*	*72.58*	*77.59*	*90.60*	**88.63**	*87.04*	*86.10*
Coal (b)															
(million short tons)	**134**	**118**	**145**	**116**	*105*	*99*	*131*	*99*	*111*	*95*	*128*	*100*	**512**	*435*	*435*
Electricity															
(billion kilowatt hours per day)	**10.90**	**10.68**	**12.50**	**10.25**	*10.76*	*10.55*	*12.22*	*10.29*	*11.05*	*10.62*	*12.34*	*10.39*	**11.08**	*10.96*	*11.10*
Renewables (c)															
(quadrillion Btu)	**3.34**	**3.54**	**3.11**	**3.18**	*3.48*	*3.84*	*3.37*	*3.45*	*3.77*	*4.16*	*3.71*	*3.70*	**13.17**	*14.15*	*15.34*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.53**	**23.86**	**24.94**	**25.15**	*25.53*	*23.75*	*24.77*	*25.24*	*26.64*	*23.84*	*24.93*	*25.34*	**100.48**	*99.30*	*100.75*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**95.18**	**108.93**	**93.07**	**82.69**	*79.73*	*79.30*	*77.00*	*75.35*	*74.00*	*72.34*	*70.69*	*69.36*	**94.91**	*77.84*	*71.57*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	*3.13*	*3.27*	*3.47*	*3.76*	*4.28*	*3.82*	*3.89*	*4.17*	**6.42**	*3.40*	*4.04*
Coal															
(dollars per million Btu)	**2.18**	**2.26**	**2.50**	**2.48**	*2.50*	*2.50*	*2.49*	*2.46*	*2.48*	*2.49*	*2.49*	*2.46*	**2.36**	*2.49*	*2.48*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,924**	**19,895**	**20,055**	**20,170**	*20,103*	*20,090*	*20,184*	*20,304*	*20,412*	*20,532*	*20,650*	*20,765*	**20,011**	*20,170*	*20,590*
Percent change from prior year	**3.7**	**1.8**	**1.9**	**0.8**	*0.9*	*1.0*	*0.6*	*0.7*	*1.5*	*2.2*	*2.3*	*2.3*	**2.0**	*0.8*	*2.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**124.2**	**126.9**	**128.3**	**129.4**	*130.2*	*131.0*	*131.7*	*132.5*	*133.2*	*133.7*	*134.2*	*134.9*	**127.2**	*131.4*	*134.0*
Percent change from prior year	**6.9**	**7.6**	**7.1**	**6.3**	*4.8*	*3.2*	*2.7*	*2.4*	*2.3*	*2.1*	*1.9*	*1.8*	**7.0**	*3.3*	*2.0*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,109**	**15,022**	**15,059**	**15,171**	*15,400*	*15,461*	*15,612*	*15,769*	*15,938*	*16,113*	*16,249*	*16,366*	**15,090**	*15,560*	*16,166*
Percent change from prior year	**-12.8**	**-5.7**	**-4.3**	**-2.4**	*1.9*	*2.9*	*3.7*	*3.9*	*3.5*	*4.2*	*4.1*	*3.8*	**-6.4**	*3.1*	*3.9*
Manufacturing Production Index															
(Index, 2017=100)	**101.5**	**102.4**	**102.3**	**101.6**	*101.1*	*100.6*	*101.0*	*101.9*	*102.6*	*103.4*	*104.4*	*105.2*	**102.0**	*101.1*	*103.9*
Percent change from prior year	**4.8**	**4.1**	**3.1**	**1.0**	*-0.4*	*-1.7*	*-1.3*	*0.2*	*1.5*	*2.8*	*3.3*	*3.3*	**3.2**	*-0.8*	*2.7*
Weather															
U.S. Heating Degree-Days	**2,152**	**491**	**54**	**1,547**	*1,974*	*488*	*74*	*1,546*	*2,098*	*485*	*74*	*1,544*	**4,245**	*4,083*	*4,201*
U.S. Cooling Degree-Days	**47**	**466**	**952**	**90**	*47*	*405*	*855*	*93*	*41*	*401*	*857*	*94*	**1,554**	*1,400*	*1,393*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**95.18**	**108.93**	**93.07**	**82.69**	*79.73*	*79.30*	*77.00*	*75.35*	*74.00*	*72.34*	*70.69*	*69.36*	**94.91**	*77.84*	*71.57*
Brent Spot Average	**101.17**	**113.84**	**100.53**	**88.44**	*84.88*	*85.30*	*83.00*	*81.35*	*80.00*	*78.34*	*76.69*	*75.36*	**100.94**	*83.63*	*77.57*
U.S. Imported Average	**89.85**	**107.23**	**91.86**	**79.12**	*76.91*	*76.55*	*74.26*	*72.61*	*71.25*	*69.58*	*67.92*	*66.61*	**92.72**	*74.98*	*68.82*
U.S. Refiner Average Acquisition Cost	**92.62**	**109.86**	**95.20**	**83.17**	*79.20*	*78.82*	*76.52*	*74.83*	*73.50*	*71.82*	*70.18*	*68.83*	**95.25**	*77.31*	*71.06*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**278**	**376**	**311**	**267**	*266*	*262*	*252*	*236*	*231*	*237*	*227*	*210*	**309**	*254*	*226*
Diesel Fuel	**301**	**418**	**357**	**363**	*325*	*306*	*275*	*276*	*256*	*238*	*236*	*248*	**360**	*295*	*244*
Fuel Oil	**284**	**419**	**344**	**359**	*306*	*293*	*266*	*269*	*248*	*227*	*222*	*241*	**352**	*296*	*241*
Refiner Prices to End Users															
Jet Fuel	**283**	**400**	**340**	**332**	*357*	*314*	*277*	*264*	*242*	*229*	*227*	*239*	**340**	*301*	*234*
No. 6 Residual Fuel Oil (a)	**252**	**258**	**228**	**202**	*202*	*202*	*199*	*194*	*193*	*186*	*183*	*180*	**236**	*199*	*185*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**371**	**450**	**408**	**357**	*347*	*349*	*338*	*322*	*314*	*321*	*310*	*293*	**397**	*339*	*310*
Gasoline All Grades (b)	**380**	**460**	**419**	**369**	*358*	*362*	*351*	*337*	*328*	*335*	*325*	*308*	**408**	*352*	*324*
On-highway Diesel Fuel	**432**	**549**	**516**	**507**	*461*	*441*	*396*	*396*	*385*	*366*	*359*	*369*	**502**	*423*	*370*
Heating Oil	**415**	**555**	**497**	**488**	*432*	*406*	*369*	*386*	*372*	*343*	*329*	*365*	**465**	*407*	*362*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**4.84**	**7.77**	**8.30**	**5.76**	*3.25*	*3.39*	*3.60*	*3.90*	*4.44*	*3.97*	*4.04*	*4.34*	**6.67**	*3.54*	*4.20*
Henry Hub Spot (dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	*3.13*	*3.27*	*3.47*	*3.76*	*4.28*	*3.82*	*3.89*	*4.17*	**6.42**	*3.40*	*4.04*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**6.82**	**8.24**	**9.26**	**7.25**	*5.68*	*4.43*	*4.48*	*4.90*	*5.74*	*5.05*	*4.91*	*5.37*	**7.83**	*4.89*	*5.30*
Commercial Sector	**10.00**	**11.71**	**14.10**	**11.86**	*10.40*	*9.54*	*9.52*	*8.37*	*8.45*	*9.05*	*9.51*	*8.62*	**11.28**	*9.52*	*8.72*
Residential Sector	**12.32**	**16.57**	**24.92**	**15.40**	*13.17*	*14.66*	*19.14*	*11.81*	*11.02*	*14.26*	*19.36*	*12.20*	**14.74**	*13.42*	*12.51*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.26**	**2.50**	**2.48**	*2.50*	*2.50*	*2.49*	*2.46*	*2.48*	*2.49*	*2.49*	*2.46*	**2.36**	*2.49*	*2.48*
Natural Gas	**5.95**	**7.39**	**8.23**	**5.85**	*3.69*	*3.50*	*3.63*	*4.11*	*4.86*	*4.07*	*4.09*	*4.55*	**7.00**	*3.72*	*4.37*
Residual Fuel Oil (c)	**16.81**	**26.17**	**26.53**	**22.00**	*17.99*	*17.82*	*16.27*	*15.67*	*15.61*	*15.56*	*14.55*	*14.34*	**22.02**	*17.01*	*15.04*
Distillate Fuel Oil	**21.23**	**30.70**	**26.79**	**27.19**	*24.87*	*23.58*	*21.25*	*21.14*	*20.09*	*18.37*	*18.14*	*19.01*	**25.56**	*22.93*	*19.10*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.42**	**8.41**	**9.42**	**8.22**	*7.58*	*8.17*	*9.05*	*8.06*	*7.65*	*8.16*	*9.05*	*8.06*	**8.39**	*8.23*	*8.24*
Commercial Sector	**11.63**	**12.34**	**13.37**	**12.51**	*12.29*	*12.63*	*13.40*	*12.31*	*12.09*	*12.64*	*13.55*	*12.43*	**12.51**	*12.69*	*12.71*
Residential Sector	**13.97**	**15.05**	**15.85**	**15.48**	*15.18*	*15.79*	*16.02*	*15.33*	*15.00*	*15.89*	*16.17*	*15.50*	**15.12**	*15.60*	*15.66*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Production (million barrels per day) (a)															
OECD	**31.62**	**31.87**	**32.54**	**33.28**	*33.59*	*33.75*	*33.93*	*34.44*	*34.53*	*34.38*	*34.51*	*35.06*	**32.33**	*33.93*	*34.62*
U.S. (50 States)	**19.44**	**20.12**	**20.60**	**20.82**	*20.77*	*21.18*	*21.21*	*21.34*	*21.33*	*21.56*	*21.59*	*21.73*	**20.25**	*21.13*	*21.56*
Canada	**5.66**	**5.51**	**5.72**	**5.91**	*6.00*	*5.72*	*5.93*	*6.14*	*6.21*	*5.92*	*6.13*	*6.34*	**5.70**	*5.95*	*6.15*
Mexico	**1.91**	**1.89**	**1.90**	**1.90**	*1.92*	*1.95*	*1.96*	*1.94*	*1.96*	*1.96*	*1.93*	*1.89*	**1.90**	*1.94*	*1.93*
Other OECD	**4.61**	**4.35**	**4.32**	**4.64**	*4.90*	*4.90*	*4.83*	*5.01*	*5.03*	*4.94*	*4.85*	*5.10*	**4.48**	*4.91*	*4.98*
Non-OECD	**67.21**	**66.87**	**68.26**	**68.11**	*67.11*	*66.96*	*67.54*	*67.05*	*67.37*	*68.08*	*68.47*	*68.04*	**67.62**	*67.17*	*67.99*
OPEC	**33.75**	**33.76**	**34.71**	**34.44**	*33.99*	*34.11*	*34.21*	*34.00*	*34.76*	*34.79*	*34.87*	*34.65*	**34.17**	*34.08*	*34.77*
Crude Oil Portion	**28.19**	**28.33**	**29.23**	**28.92**	*28.50*	*28.75*	*28.81*	*28.57*	*29.23*	*29.38*	*29.43*	*29.17*	**28.67**	*28.66*	*29.31*
Other Liquids (b)	**5.56**	**5.43**	**5.48**	**5.52**	*5.49*	*5.36*	*5.40*	*5.44*	*5.53*	*5.40*	*5.44*	*5.48*	**5.50**	*5.42*	*5.46*
Eurasia	**14.39**	**13.39**	**13.56**	**13.92**	*13.54*	*12.54*	*12.80*	*12.88*	*12.91*	*12.88*	*12.86*	*12.95*	**13.81**	*12.94*	*12.90*
China	**5.18**	**5.18**	**5.05**	**5.09**	*5.21*	*5.24*	*5.23*	*5.27*	*5.21*	*5.23*	*5.23*	*5.27*	**5.12**	*5.24*	*5.23*
Other Non-OECD	**13.90**	**14.54**	**14.95**	**14.66**	*14.38*	*15.08*	*15.31*	*14.90*	*14.49*	*15.18*	*15.50*	*15.18*	**14.51**	*14.92*	*15.09*
Total World Production	**98.83**	**98.75**	**100.80**	**101.39**	*100.70*	*100.71*	*101.47*	*101.50*	*101.90*	*102.46*	*102.97*	*103.11*	**99.95**	*101.10*	*102.61*
Non-OPEC Production	**65.08**	**64.98**	**66.09**	**66.94**	*66.71*	*66.60*	*67.26*	*67.49*	*67.14*	*67.68*	*68.10*	*68.46*	**65.78**	*67.02*	*67.85*
Consumption (million barrels per day) (c)															
OECD	**45.78**	**45.37**	**46.62**	**45.97**	*45.64*	*45.22*	*45.80*	*46.03*	*45.72*	*45.30*	*46.16*	*46.32*	**45.94**	*45.67*	*45.88*
U.S. (50 States)	**20.22**	**20.27**	**20.47**	**20.26**	*19.84*	*20.38*	*20.41*	*20.45*	*20.26*	*20.52*	*20.75*	*20.69*	**20.30**	*20.27*	*20.56*
U.S. Territories	**0.14**	**0.12**	**0.12**	**0.13**	*0.13*	*0.12*	*0.12*	*0.13*	*0.13*	*0.12*	*0.12*	*0.13*	**0.13**	*0.12*	*0.13*
Canada	**2.24**	**2.21**	**2.38**	**2.26**	*2.28*	*2.23*	*2.33*	*2.31*	*2.30*	*2.25*	*2.35*	*2.33*	**2.27**	*2.29*	*2.31*
Europe	**13.19**	**13.42**	**14.09**	**13.56**	*13.39*	*13.30*	*13.70*	*13.47*	*13.19*	*13.34*	*13.74*	*13.50*	**13.57**	*13.46*	*13.44*
Japan	**3.70**	**3.03**	**3.19**	**3.53**	*3.69*	*3.04*	*3.06*	*3.36*	*3.54*	*2.93*	*3.03*	*3.36*	**3.36**	*3.29*	*3.21*
Other OECD	**6.30**	**6.33**	**6.37**	**6.23**	*6.31*	*6.15*	*6.18*	*6.32*	*6.30*	*6.14*	*6.16*	*6.31*	**6.31**	*6.24*	*6.23*
Non-OECD	**52.92**	**53.25**	**53.76**	**53.75**	*54.02*	*54.83*	*55.18*	*55.16*	*55.84*	*56.47*	*56.70*	*56.53*	**53.42**	*54.80*	*56.39*
Eurasia	**4.44**	**4.33**	**4.69**	**4.56**	*4.20*	*4.35*	*4.67*	*4.58*	*4.38*	*4.53*	*4.85*	*4.76*	**4.50**	*4.45*	*4.63*
Europe	**0.75**	**0.75**	**0.76**	**0.77**	*0.74*	*0.76*	*0.76*	*0.76*	*0.74*	*0.76*	*0.77*	*0.77*	**0.76**	*0.76*	*0.76*
China	**15.09**	**15.07**	**15.06**	**15.25**	*15.49*	*15.83*	*15.91*	*16.14*	*15.99*	*16.30*	*16.26*	*16.34*	**15.12**	*15.85*	*16.22*
Other Asia	**13.74**	**13.75**	**13.46**	**13.89**	*14.30*	*14.27*	*13.69*	*13.99*	*14.88*	*14.85*	*14.25*	*14.56*	**13.71**	*14.06*	*14.64*
Other Non-OECD	**18.91**	**19.34**	**19.79**	**19.28**	*19.29*	*19.62*	*20.15*	*19.68*	*19.85*	*20.02*	*20.57*	*20.09*	**19.33**	*19.69*	*20.13*
Total World Consumption	**98.71**	**98.62**	**100.38**	**99.72**	*99.65*	*100.05*	*100.99*	*101.19*	*101.56*	*101.77*	*102.85*	*102.85*	**99.36**	*100.47*	*102.26*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.81**	**0.51**	**0.45**	**0.51**	*-0.12*	*-0.49*	*-0.08*	*0.36*	*-0.11*	*-0.55*	*-0.11*	*0.37*	**0.57**	*-0.08*	*-0.10*
Other OECD	**-0.09**	**-0.29**	**-0.48**	**-0.54**	*-0.30*	*-0.06*	*-0.13*	*-0.21*	*-0.07*	*-0.04*	*0.00*	*-0.20*	**-0.35**	*-0.17*	*-0.08*
Other Stock Draws and Balance	**-0.83**	**-0.35**	**-0.39**	**-1.63**	*-0.63*	*-0.12*	*-0.28*	*-0.46*	*-0.16*	*-0.10*	*-0.01*	*-0.43*	**-0.80**	*-0.37*	*-0.17*
Total Stock Draw	**-0.12**	**-0.12**	**-0.42**	**-1.67**	*-1.04*	*-0.67*	*-0.49*	*-0.31*	*-0.34*	*-0.69*	*-0.12*	*-0.26*	**-0.59**	*-0.62*	*-0.35*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,154**	**1,180**	**1,215**	**1,213**	*1,228*	*1,286*	*1,297*	*1,264*	*1,268*	*1,312*	*1,316*	*1,277*	**1,213**	*1,264*	*1,277*
OECD Commercial Inventory	**2,604**	**2,656**	**2,735**	**2,783**	*2,825*	*2,888*	*2,911*	*2,897*	*2,907*	*2,956*	*2,960*	*2,938*	**2,783**	*2,897*	*2,938*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

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The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	**27.01**	**27.52**	**28.22**	**28.64**	*28.69*	*28.85*	*29.10*	*29.43*	*29.51*	*29.44*	*29.66*	*29.96*	**27.85**	*29.02*	*29.64*
Canada	**5.66**	**5.51**	**5.72**	**5.91**	*6.00*	*5.72*	*5.93*	*6.14*	*6.21*	*5.92*	*6.13*	*6.34*	**5.70**	*5.95*	*6.15*
Mexico	**1.91**	**1.89**	**1.90**	**1.90**	*1.92*	*1.95*	*1.96*	*1.94*	*1.96*	*1.96*	*1.93*	*1.89*	**1.90**	*1.94*	*1.93*
United States	**19.44**	**20.12**	**20.60**	**20.82**	*20.77*	*21.18*	*21.21*	*21.34*	*21.33*	*21.56*	*21.59*	*21.73*	**20.25**	*21.13*	*21.56*
Central and South America	**5.83**	**6.41**	**6.86**	**6.58**	*6.26*	*6.96*	*7.22*	*6.84*	*6.43*	*7.15*	*7.49*	*7.19*	**6.42**	*6.82*	*7.06*
Argentina	**0.77**	**0.78**	**0.79**	**0.82**	*0.85*	*0.87*	*0.88*	*0.92*	*0.89*	*0.92*	*0.93*	*0.98*	**0.79**	*0.88*	*0.93*
Brazil	**3.33**	**3.79**	**4.15**	**3.78**	*3.41*	*4.09*	*4.36*	*3.89*	*3.54*	*4.22*	*4.50*	*4.03*	**3.76**	*3.94*	*4.07*
Colombia	**0.77**	**0.77**	**0.78**	**0.79**	*0.78*	*0.78*	*0.78*	*0.79*	*0.77*	*0.77*	*0.78*	*0.79*	**0.78**	*0.78*	*0.78*
Ecuador	**0.48**	**0.47**	**0.49**	**0.49**	*0.50*	*0.50*	*0.51*	*0.51*	*0.55*	*0.54*	*0.54*	*0.54*	**0.48**	*0.51*	*0.54*
Guyana	**0.12**	**0.24**	**0.32**	**0.35**	*0.35*	*0.36*	*0.36*	*0.36*	*0.36*	*0.36*	*0.43*	*0.54*	**0.26**	*0.36*	*0.42*
Europe	**4.04**	**3.76**	**3.81**	**4.11**	*4.36*	*4.36*	*4.30*	*4.48*	*4.51*	*4.42*	*4.33*	*4.59*	**3.93**	*4.38*	*4.46*
Norway	**1.97**	**1.74**	**1.91**	**2.11**	*2.32*	*2.32*	*2.32*	*2.40*	*2.44*	*2.37*	*2.38*	*2.55*	**1.93**	*2.34*	*2.43*
United Kingdom	**0.97**	**0.91**	**0.80**	**0.88**	*0.92*	*0.91*	*0.83*	*0.92*	*0.92*	*0.91*	*0.81*	*0.90*	**0.89**	*0.89*	*0.89*
Eurasia	**14.39**	**13.39**	**13.56**	**13.92**	*13.54*	*12.54*	*12.80*	*12.88*	*12.91*	*12.88*	*12.86*	*12.95*	**13.81**	*12.94*	*12.90*
Azerbaijan	**0.70**	**0.67**	**0.65**	**0.67**	*0.67*	*0.65*	*0.64*	*0.65*	*0.66*	*0.66*	*0.66*	*0.67*	**0.67**	*0.65*	*0.66*
Kazakhstan	**2.01**	**1.77**	**1.62**	**1.92**	*2.04*	*1.96*	*1.96*	*2.03*	*2.04*	*2.02*	*2.00*	*2.08*	**1.83**	*2.00*	*2.04*
Russia	**11.30**	**10.59**	**10.92**	**10.95**	*10.41*	*9.52*	*9.78*	*9.78*	*9.80*	*9.80*	*9.80*	*9.80*	**10.94**	*9.87*	*9.80*
Turkmenistan	**0.26**	**0.26**	**0.26**	**0.26**	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	**0.26**	*0.27*	*0.27*
Middle East	**3.23**	**3.29**	**3.33**	**3.24**	*3.21*	*3.23*	*3.22*	*3.22*	*3.23*	*3.23*	*3.23*	*3.22*	**3.27**	*3.22*	*3.23*
Oman	**1.05**	**1.07**	**1.10**	**1.08**	*1.06*	*1.06*	*1.06*	*1.06*	*1.07*	*1.07*	*1.07*	*1.07*	**1.07**	*1.06*	*1.07*
Qatar	**1.85**	**1.86**	**1.86**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.86**	*1.86*	*1.86*
Asia and Oceania	**9.16**	**9.17**	**8.87**	**9.02**	*9.22*	*9.23*	*9.20*	*9.22*	*9.17*	*9.17*	*9.15*	*9.17*	**9.05**	*9.22*	*9.17*
Australia	**0.44**	**0.47**	**0.39**	**0.43**	*0.43*	*0.43*	*0.42*	*0.42*	*0.40*	*0.40*	*0.39*	*0.39*	**0.43**	*0.42*	*0.39*
China	**5.18**	**5.18**	**5.05**	**5.09**	*5.21*	*5.24*	*5.23*	*5.27*	*5.21*	*5.23*	*5.23*	*5.27*	**5.12**	*5.24*	*5.23*
India	**0.88**	**0.89**	**0.87**	**0.87**	*0.90*	*0.90*	*0.89*	*0.89*	*0.91*	*0.91*	*0.90*	*0.90*	**0.88**	*0.90*	*0.91*
Indonesia	**0.84**	**0.83**	**0.81**	**0.82**	*0.83*	*0.82*	*0.81*	*0.80*	*0.80*	*0.79*	*0.79*	*0.78*	**0.82**	*0.81*	*0.79*
Malaysia	**0.61**	**0.60**	**0.58**	**0.61**	*0.61*	*0.60*	*0.60*	*0.60*	*0.59*	*0.58*	*0.58*	*0.57*	**0.60**	*0.60*	*0.58*
Africa	**1.41**	**1.44**	**1.45**	**1.43**	*1.44*	*1.44*	*1.43*	*1.42*	*1.39*	*1.38*	*1.38*	*1.37*	**1.43**	*1.43*	*1.38*
Egypt	**0.66**	**0.68**	**0.67**	**0.67**	*0.69*	*0.69*	*0.69*	*0.69*	*0.66*	*0.65*	*0.65*	*0.66*	**0.67**	*0.69*	*0.65*
South Sudan	**0.15**	**0.15**	**0.16**	**0.15**	*0.15*	*0.16*	*0.16*	*0.16*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.16*	*0.17*
Total non-OPEC liquids	**65.08**	**64.98**	**66.09**	**66.94**	*66.71*	*66.60*	*67.26*	*67.49*	*67.14*	*67.68*	*68.10*	*68.46*	**65.78**	*67.02*	*67.85*
OPEC non-crude liquids	**5.56**	**5.43**	**5.48**	**5.52**	*5.49*	*5.36*	*5.40*	*5.44*	*5.53*	*5.40*	*5.44*	*5.48*	**5.50**	*5.42*	*5.46*
Non-OPEC + OPEC non-crude	**70.64**	**70.42**	**71.57**	**72.46**	*72.20*	*71.96*	*72.66*	*72.93*	*72.67*	*73.08*	*73.54*	*73.94*	**71.28**	*72.44*	*73.31*
Unplanned non-OPEC Production Outages	**0.76**	**1.31**	**0.78**	**0.56**	-	-	-	-	-	-	-	-	**0.85**	-	-

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil															
Algeria	**0.97**	**1.00**	**1.02**	**1.02**	-	-	-	-	-	-	-	-	**1.00**	-	-
Angola	**1.15**	**1.19**	**1.16**	**1.10**	-	-	-	-	-	-	-	-	**1.15**	-	-
Congo (Brazzaville)	**0.27**	**0.29**	**0.28**	**0.26**	-	-	-	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.09**	**0.09**	**0.09**	**0.07**	-	-	-	-	-	-	-	-	**0.09**	-	-
Gabon	**0.19**	**0.19**	**0.20**	**0.21**	-	-	-	-	-	-	-	-	**0.20**	-	-
Iran	**2.55**	**2.53**	**2.53**	**2.56**	-	-	-	-	-	-	-	-	**2.54**	-	-
Iraq	**4.30**	**4.42**	**4.55**	**4.51**	-	-	-	-	-	-	-	-	**4.45**	-	-
Kuwait	**2.61**	**2.69**	**2.80**	**2.72**	-	-	-	-	-	-	-	-	**2.71**	-	-
Libya	**1.06**	**0.76**	**0.95**	**1.14**	-	-	-	-	-	-	-	-	**0.98**	-	-
Nigeria	**1.27**	**1.11**	**0.97**	**1.07**	-	-	-	-	-	-	-	-	**1.10**	-	-
Saudi Arabia	**10.08**	**10.30**	**10.85**	**10.50**	-	-	-	-	-	-	-	-	**10.43**	-	-
United Arab Emirates	**2.94**	**3.04**	**3.17**	**3.09**	-	-	-	-	-	-	-	-	**3.06**	-	-
Venezuela	**0.70**	**0.72**	**0.66**	**0.69**	-	-	-	-	-	-	-	-	**0.69**	-	-
OPEC Total	**28.19**	**28.33**	**29.23**	**28.92**	*28.50*	*28.75*	*28.81*	*28.57*	*29.23*	*29.38*	*29.43*	*29.17*	**28.67**	*28.66*	*29.31*
Other Liquids (a)	**5.56**	**5.43**	**5.48**	**5.52**	*5.49*	*5.36*	*5.40*	*5.44*	*5.53*	*5.40*	*5.44*	*5.48*	**5.50**	*5.42*	*5.46*
Total OPEC Production	**33.75**	**33.76**	**34.71**	**34.44**	*33.99*	*34.11*	*34.21*	*34.00*	*34.76*	*34.79*	*34.87*	*34.65*	**34.17**	*34.08*	*34.77*
Crude Oil Production Capacity															
Middle East	**25.48**	**25.46**	**25.55**	**25.66**	*25.85*	*25.98*	*25.98*	*25.98*	*26.48*	*26.58*	*26.63*	*26.63*	**25.54**	*25.95*	*26.58*
Other	**5.83**	**5.45**	**5.35**	**5.56**	*5.78*	*5.94*	*5.92*	*5.89*	*5.84*	*5.87*	*5.83*	*5.80*	**5.54**	*5.89*	*5.83*
OPEC Total	**31.31**	**30.91**	**30.89**	**31.21**	*31.63*	*31.92*	*31.90*	*31.87*	*32.32*	*32.45*	*32.46*	*32.43*	**31.08**	*31.83*	*32.42*
Surplus Crude Oil Production Capacity															
Middle East	**3.00**	**2.47**	**1.65**	**2.28**	*3.11*	*3.14*	*3.06*	*3.28*	*3.06*	*3.04*	*3.01*	*3.24*	**2.35**	*3.15*	*3.09*
Other	**0.12**	**0.11**	**0.01**	**0.01**	*0.03*	*0.03*	*0.03*	*0.03*	*0.03*	*0.02*	*0.02*	*0.02*	**0.06**	*0.03*	*0.02*
OPEC Total	**3.12**	**2.58**	**1.67**	**2.29**	*3.14*	*3.17*	*3.09*	*3.31*	*3.09*	*3.06*	*3.03*	*3.26*	**2.41**	*3.18*	*3.11*
Unplanned OPEC Production Outages	**1.98**	**2.42**	**2.50**	**2.14**	-	-	-	-	-	-	-	-	**2.26**	-	-

(a) Includes lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

OPEC = Organization of the Petroleum Exporting Countries: Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East); Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela (Other).

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

	2022				2023				2024						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	**24.22**	**24.47**	**24.82**	**24.32**	*23.91*	*24.42*	*24.55*	*24.58*	*24.33*	*24.56*	*24.89*	*24.82*	**24.46**	*24.37*	*24.65*
Canada	**2.24**	**2.21**	**2.38**	**2.26**	*2.28*	*2.23*	*2.33*	*2.31*	*2.30*	*2.25*	*2.35*	*2.33*	**2.27**	*2.29*	*2.31*
Mexico	**1.76**	**1.99**	**1.96**	**1.80**	*1.78*	*1.81*	*1.80*	*1.82*	*1.76*	*1.78*	*1.78*	*1.79*	**1.88**	*1.80*	*1.78*
United States	**20.22**	**20.27**	**20.47**	**20.26**	*19.84*	*20.38*	*20.41*	*20.45*	*20.26*	*20.52*	*20.75*	*20.69*	**20.30**	*20.27*	*20.56*
Central and South America	**6.29**	**6.42**	**6.54**	**6.53**	*6.29*	*6.42*	*6.53*	*6.46*	*6.43*	*6.56*	*6.67*	*6.61*	**6.44**	*6.43*	*6.57*
Brazil	**2.85**	**2.93**	**3.02**	**3.02**	*2.88*	*2.94*	*3.01*	*3.00*	*2.97*	*3.03*	*3.10*	*3.09*	**2.95**	*2.96*	*3.05*
Europe	**13.94**	**14.18**	**14.85**	**14.33**	*14.13*	*14.06*	*14.46*	*14.23*	*13.93*	*14.10*	*14.50*	*14.27*	**14.32**	*14.22*	*14.20*
Eurasia	**4.44**	**4.33**	**4.69**	**4.56**	*4.20*	*4.35*	*4.67*	*4.58*	*4.38*	*4.53*	*4.85*	*4.76*	**4.50**	*4.45*	*4.63*
Russia	**3.35**	**3.30**	**3.58**	**3.44**	*3.18*	*3.26*	*3.55*	*3.41*	*3.32*	*3.41*	*3.70*	*3.56*	**3.42**	*3.35*	*3.50*
Middle East	**8.89**	**9.19**	**9.63**	**8.94**	*9.17*	*9.35*	*9.87*	*9.28*	*9.48*	*9.49*	*10.03*	*9.43*	**9.16**	*9.42*	*9.61*
Asia and Oceania	**36.48**	**35.60**	**35.52**	**36.56**	*37.44*	*36.91*	*36.46*	*37.44*	*38.38*	*37.87*	*37.35*	*38.23*	**36.04**	*37.06*	*37.96*
China	**15.09**	**15.07**	**15.06**	**15.25**	*15.49*	*15.83*	*15.91*	*16.14*	*15.99*	*16.30*	*16.26*	*16.34*	**15.12**	*15.85*	*16.22*
Japan	**3.70**	**3.03**	**3.19**	**3.53**	*3.69*	*3.04*	*3.06*	*3.36*	*3.54*	*2.93*	*3.03*	*3.36*	**3.36**	*3.29*	*3.21*
India	**5.08**	**5.07**	**4.83**	**5.13**	*5.29*	*5.36*	*5.01*	*5.33*	*5.60*	*5.67*	*5.30*	*5.63*	**5.03**	*5.25*	*5.55*
Africa	**4.45**	**4.44**	**4.34**	**4.47**	*4.52*	*4.53*	*4.45*	*4.61*	*4.63*	*4.65*	*4.56*	*4.73*	**4.43**	*4.53*	*4.64*
Total OECD Liquid Fuels Consumption	**45.78**	**45.37**	**46.62**	**45.97**	*45.64*	*45.22*	*45.80*	*46.03*	*45.72*	*45.30*	*46.16*	*46.32*	**45.94**	*45.67*	*45.88*
Total non-OECD Liquid Fuels Consumption	**52.92**	**53.25**	**53.76**	**53.75**	*54.02*	*54.83*	*55.18*	*55.16*	*55.84*	*56.47*	*56.70*	*56.53*	**53.42**	*54.80*	*56.39*
Total World Liquid Fuels Consumption	**98.71**	**98.62**	**100.38**	**99.72**	*99.65*	*100.05*	*100.99*	*101.19*	*101.56*	*101.77*	*102.85*	*102.85*	**99.36**	*100.47*	*102.26*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**121.7**	**121.8**	**123.1**	**123.1**	*123.5*	*124.0*	*125.0*	*126.1*	*127.0*	*128.0*	*129.3*	*130.6*	**122.4**	*124.6*	*128.7*
Percent change from prior year	**4.4**	**3.5**	**3.2**	**1.8**	*1.5*	*1.8*	*1.5*	*2.4*	*2.8*	*3.2*	*3.5*	*3.6*	**3.2**	*1.8*	*3.3*
OECD Index, 2015 = 100													**113.3**	*113.5*	*115.2*
Percent change from prior year													**3.0**	*0.2*	*1.5*
Non-OECD Index, 2015 = 100													**128.2**	*132.2*	*138.3*
Percent change from prior year													**3.4**	*3.1*	*4.7*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**109.6**	**113.0**	**117.3**	**118.6**	*116.1*	*117.0*	*117.2*	*117.3*	*117.2*	*116.9*	*116.2*	*115.2*	**114.6**	*116.9*	*116.4*
Percent change from prior year	**2.9**	**6.5**	**9.1**	**8.7**	*6.0*	*3.6*	*-0.1*	*-1.1*	*0.9*	*-0.1*	*-0.9*	*-1.8*	**6.8**	*2.0*	*-0.5*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

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Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

STF-3-12 Attachment E

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.47**	**11.70**	**12.06**	**12.36**	*12.44*	*12.46*	*12.49*	*12.56*	*12.63*	*12.62*	*12.65*	*12.70*	**11.90**	*12.49*	*12.65*
Alaska	**0.45**	**0.44**	**0.42**	**0.45**	*0.43*	*0.36*	*0.39*	*0.41*	*0.40*	*0.34*	*0.36*	*0.38*	**0.44**	*0.40*	*0.37*
Federal Gulf of Mexico (b)	**1.67**	**1.70**	**1.80**	**1.88**	*2.00*	*1.96*	*1.86*	*1.85*	*1.91*	*1.89*	*1.83*	*1.85*	**1.76**	*1.91*	*1.87*
Lower 48 States (excl GOM)	**9.35**	**9.56**	**9.84**	**10.03**	*10.01*	*10.14*	*10.25*	*10.30*	*10.32*	*10.39*	*10.45*	*10.47*	**9.70**	*10.17*	*10.41*
Crude Oil Net Imports (c)	**3.00**	**2.81**	**2.75**	**2.17**	*2.80*	*3.28*	*3.51*	*3.28*	*2.90*	*3.02*	*3.25*	*2.87*	**2.68**	*3.22*	*3.01*
SPR Net Withdrawals	**0.31**	**0.80**	**0.84**	**0.48**	*0.05*	*0.15*	*0.05*	*0.00*	*-0.07*	*-0.07*	*-0.07*	*-0.07*	**0.61**	*0.06*	*-0.07*
Commercial Inventory Net Withdrawals	**0.08**	**-0.03**	**-0.12**	**0.03**	*-0.53*	*0.12*	*0.15*	*-0.09*	*-0.33*	*0.06*	*0.19*	*-0.10*	**-0.01**	*-0.08*	*-0.04*
Crude Oil Adjustment (d)	**0.71**	**0.81**	**0.74**	**0.82**	*0.52*	*0.56*	*0.50*	*0.44*	*0.54*	*0.61*	*0.50*	*0.46*	**0.77**	*0.50*	*0.53*
Total Crude Oil Input to Refineries	**15.56**	**16.09**	**16.26**	**15.86**	*15.28*	*16.58*	*16.69*	*16.20*	*15.68*	*16.25*	*16.52*	*15.87*	**15.94**	*16.19*	*16.08*
Other Supply															
Refinery Processing Gain	**0.95**	**1.07**	**1.05**	**1.03**	*0.95*	*1.03*	*1.04*	*1.05*	*0.99*	*1.00*	*1.02*	*1.02*	**1.03**	*1.02*	*1.01*
Natural Gas Plant Liquids Production	**5.61**	**5.92**	**6.09**	**5.97**	*5.97*	*6.24*	*6.23*	*6.25*	*6.25*	*6.43*	*6.40*	*6.43*	**5.90**	*6.17*	*6.38*
Renewables and Oxygenate Production (e)	**1.20**	**1.20**	**1.18**	**1.23**	*1.21*	*1.23*	*1.22*	*1.27*	*1.25*	*1.29*	*1.30*	*1.35*	**1.20**	*1.23*	*1.30*
Fuel Ethanol Production	**1.02**	**1.01**	**0.97**	**1.01**	*0.98*	*0.99*	*0.97*	*1.01*	*0.99*	*1.00*	*0.99*	*1.03*	**1.00**	*0.99*	*1.00*
Petroleum Products Adjustment (f)	**0.21**	**0.23**	**0.22**	**0.22**	*0.20*	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-3.74**	**-3.99**	**-4.07**	**-4.06**	*-4.13*	*-4.15*	*-4.71*	*-4.97*	*-4.40*	*-4.13*	*-4.48*	*-4.73*	**-3.96**	*-4.49*	*-4.44*
Hydrocarbon Gas Liquids	**-2.14**	**-2.31**	**-2.16**	**-2.25**	*-2.52*	*-2.57*	*-2.58*	*-2.57*	*-2.53*	*-2.74*	*-2.65*	*-2.70*	**-2.21**	*-2.56*	*-2.66*
Unfinished Oils	**0.09**	**0.25**	**0.28**	**0.25**	*0.14*	*0.26*	*0.37*	*0.19*	*0.19*	*0.25*	*0.30*	*0.19*	**0.22**	*0.24*	*0.23*
Other HC/Oxygenates	**-0.09**	**-0.10**	**-0.07**	**-0.03**	*-0.06*	*-0.04*	*-0.03*	*-0.04*	*-0.06*	*-0.05*	*-0.04*	*-0.05*	**-0.07**	*-0.05*	*-0.05*
Motor Gasoline Blend Comp.	**0.40**	**0.60**	**0.48**	**0.37**	*0.39*	*0.71*	*0.39*	*0.41*	*0.40*	*0.65*	*0.39*	*0.37*	**0.46**	*0.48*	*0.46*
Finished Motor Gasoline	**-0.76**	**-0.73**	**-0.81**	**-0.80**	*-0.73*	*-0.78*	*-0.96*	*-1.17*	*-0.95*	*-0.76*	*-0.86*	*-0.98*	**-0.78**	*-0.91*	*-0.89*
Jet Fuel	**-0.04**	**-0.06**	**-0.11**	**-0.05**	*-0.16*	*-0.08*	*-0.05*	*0.01*	*0.14*	*0.16*	*0.18*	*0.16*	**-0.06**	*-0.07*	*0.16*
Distillate Fuel Oil	**-0.81**	**-1.15**	**-1.29**	**-1.02**	*-0.82*	*-1.15*	*-1.34*	*-1.29*	*-1.08*	*-1.18*	*-1.32*	*-1.30*	**-1.07**	*-1.15*	*-1.22*
Residual Fuel Oil	**0.14**	**0.10**	**0.10**	**0.06**	*0.09*	*0.10*	*0.08*	*0.13*	*0.06*	*0.09*	*0.08*	*0.15*	**0.10**	*0.10*	*0.10*
Other Oils (g)	**-0.54**	**-0.59**	**-0.49**	**-0.59**	*-0.46*	*-0.60*	*-0.58*	*-0.64*	*-0.56*	*-0.55*	*-0.56*	*-0.57*	**-0.55**	*-0.57*	*-0.56*
Product Inventory Net Withdrawals	**0.42**	**-0.25**	**-0.26**	**-0.01**	*0.36*	*-0.76*	*-0.28*	*0.44*	*0.28*	*-0.55*	*-0.24*	*0.53*	**-0.03**	*-0.06*	*0.01*
Total Supply	**20.22**	**20.27**	**20.47**	**20.26**	*19.84*	*20.38*	*20.41*	*20.45*	*20.26*	*20.52*	*20.75*	*20.69*	**20.30**	*20.27*	*20.56*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.87**	**3.43**	**3.48**	**3.61**	*3.78*	*3.47*	*3.48*	*3.83*	*4.00*	*3.49*	*3.60*	*3.85*	**3.60**	*3.64*	*3.73*
Other HC/Oxygenates	**0.13**	**0.17**	**0.17**	**0.20**	*0.21*	*0.20*	*0.20*	*0.22*	*0.21*	*0.24*	*0.26*	*0.28*	**0.17**	*0.21*	*0.25*
Unfinished Oils	**0.13**	**0.04**	**0.11**	**0.08**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.09**	*0.00*	*0.00*
Motor Gasoline	**8.47**	**9.00**	**8.88**	**8.75**	*8.45*	*8.98*	*8.90*	*8.72*	*8.43*	*8.91*	*8.86*	*8.72*	**8.78**	*8.76*	*8.73*
Fuel Ethanol blended into Motor Gasoline	**0.87**	**0.93**	**0.92**	**0.92**	*0.87*	*0.93*	*0.92*	*0.93*	*0.88*	*0.93*	*0.92*	*0.94*	**0.91**	*0.91*	*0.92*
Jet Fuel	**1.45**	**1.61**	**1.60**	**1.57**	*1.48*	*1.63*	*1.66*	*1.64*	*1.65*	*1.75*	*1.82*	*1.75*	**1.56**	*1.60*	*1.74*
Distillate Fuel Oil	**4.14**	**3.89**	**3.86**	**3.99**	*3.98*	*3.90*	*3.83*	*3.94*	*4.04*	*3.94*	*3.84*	*3.98*	**3.97**	*3.91*	*3.95*
Residual Fuel Oil	**0.38**	**0.31**	**0.39**	**0.28**	*0.34*	*0.36*	*0.37*	*0.38*	*0.32*	*0.35*	*0.38*	*0.39*	**0.34**	*0.36*	*0.36*
Other Oils (g)	**1.65**	**1.82**	**1.99**	**1.77**	*1.60*	*1.85*	*1.99*	*1.73*	*1.62*	*1.84*	*1.99*	*1.73*	**1.81**	*1.79*	*1.80*
Total Consumption	**20.22**	**20.27**	**20.47**	**20.26**	*19.84*	*20.38*	*20.41*	*20.45*	*20.26*	*20.52*	*20.75*	*20.69*	**20.30**	*20.27*	*20.56*
Total Petroleum and Other Liquids Net Imports	**-0.74**	**-1.18**	**-1.32**	**-1.88**	*-1.33*	*-0.86*	*-1.21*	*-1.69*	*-1.50*	*-1.10*	*-1.23*	*-1.86*	**-1.28**	*-1.27*	*-1.42*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**414.4**	**417.5**	**428.8**	**426.1**	*474.0*	*463.0*	*448.7*	*456.7*	*486.9*	*481.1*	*463.2*	*472.8*	**426.1**	*456.7*	*472.8*
Hydrocarbon Gas Liquids	**142.0**	**186.7**	**243.6**	**217.4**	*174.6*	*224.2*	*262.5*	*217.1*	*179.8*	*230.3*	*266.4*	*220.8*	**217.4**	*217.1*	*220.8*
Unfinished Oils	**87.9**	**88.8**	**82.3**	**83.9**	*91.2*	*89.3*	*88.9*	*81.2*	*91.1*	*88.3*	*87.3*	*79.5*	**83.9**	*81.2*	*79.5*
Other HC/Oxygenates	**34.1**	**29.4**	**27.3**	**30.9**	*31.7*	*30.5*	*30.2*	*30.5*	*32.5*	*31.3*	*31.0*	*31.3*	**30.9**	*30.5*	*31.3*
Total Motor Gasoline	**238.5**	**221.0**	**209.6**	**223.8**	*228.4*	*239.2*	*232.1*	*244.8*	*239.9*	*244.2*	*237.2*	*245.8*	**223.8**	*244.8*	*245.8*
Finished Motor Gasoline	**17.3**	**17.1**	**17.6**	**16.4**	*14.9*	*16.8*	*18.8*	*21.5*	*18.5*	*19.6*	*21.3*	*23.5*	**16.4**	*21.5*	*23.5*
Motor Gasoline Blend Comp.	**221.2**	**203.8**	**192.0**	**207.5**	*213.5*	*222.4*	*213.3*	*223.2*	*221.4*	*224.6*	*215.9*	*222.4*	**207.5**	*223.2*	*222.4*
Jet Fuel	**35.6**	**39.3**	**36.2**	**34.1**	*37.0*	*40.1*	*41.1*	*38.0*	*39.1*	*39.1*	*40.7*	*37.2*	**34.1**	*38.0*	*37.2*
Distillate Fuel Oil	**114.6**	**111.4**	**110.5**	**118.5**	*104.9*	*116.9*	*122.3*	*123.6*	*116.1*	*117.8*	*121.8*	*120.2*	**118.5**	*123.6*	*120.2*
Residual Fuel Oil	**27.9**	**29.2**	**27.3**	**29.9**	*31.3*	*30.5*	*28.6*	*28.0*	*29.5*	*28.8*	*27.0*	*26.4*	**29.9**	*28.0*	*26.4*
Other Oils (g)	**58.5**	**56.4**	**49.5**	**48.3**	*55.4*	*53.7*	*44.9*	*46.6*	*56.0*	*54.1*	*45.1*	*46.7*	**48.3**	*46.6*	*46.7*
Total Commercial Inventory	**1153.6**	**1179.7**	**1215.1**	**1212.8**	*1228.7*	*1287.3*	*1299.2*	*1266.4*	*1270.9*	*1315.2*	*1319.7*	*1280.8*	**1212.8**	*1266.4*	*1280.8*
Crude Oil in SPR	**566.1**	**493.3**	**416.4**	**372.2**	*367.3*	*353.7*	*349.5*	*349.5*	*355.6*	*361.6*	*367.6*	*373.6*	**372.2**	*349.5*	*373.6*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
HGL Production															
Natural Gas Processing Plants															
Ethane	**2.33**	**2.43**	**2.41**	**2.41**	*2.41*	*2.59*	*2.54*	*2.59*	*2.60*	*2.66*	*2.58*	*2.66*	**2.39**	*2.53*	*2.62*
Propane	**1.77**	**1.85**	**1.92**	**1.90**	*1.91*	*1.95*	*1.96*	*1.96*	*1.97*	*2.02*	*2.03*	*2.03*	**1.86**	*1.94*	*2.01*
Butanes	**0.93**	**0.98**	**1.02**	**1.00**	*1.02*	*1.03*	*1.05*	*1.04*	*1.05*	*1.07*	*1.08*	*1.07*	**0.98**	*1.04*	*1.07*
Natural Gasoline (Pentanes Plus)	**0.59**	**0.67**	**0.74**	**0.67**	*0.63*	*0.66*	*0.69*	*0.66*	*0.64*	*0.68*	*0.71*	*0.67*	**0.66**	*0.66*	*0.68*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	*0.00*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.27**	**0.29**	**0.29**	**0.29**	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	*0.29*	*0.30*	*0.29*	**0.29**	*0.28*	*0.29*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.26**	**0.25**	*0.28*	*0.29*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.27**	*0.28*	*0.28*
Butanes/Butylenes	**-0.07**	**0.25**	**0.19**	**-0.18**	*-0.08*	*0.26*	*0.19*	*-0.20*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.05**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.50**	**-0.40**	**-0.43**	**-0.46**	*-0.46*	*-0.47*	*-0.47*	*-0.47*	*-0.49*	*-0.49*	*-0.48*	*-0.52*	**-0.45**	*-0.46*	*-0.49*
Propane/Propylene	**-1.18**	**-1.33**	**-1.21**	**-1.28**	*-1.40*	*-1.39*	*-1.39*	*-1.45*	*-1.38*	*-1.51*	*-1.47*	*-1.56*	**-1.25**	*-1.41*	*-1.48*
Butanes/Butylenes	**-0.28**	**-0.41**	**-0.34**	**-0.36**	*-0.40*	*-0.47*	*-0.47*	*-0.43*	*-0.42*	*-0.49*	*-0.48*	*-0.42*	**-0.35**	*-0.44*	*-0.45*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.17**	**-0.19**	**-0.16**	*-0.26*	*-0.25*	*-0.25*	*-0.23*	*-0.25*	*-0.24*	*-0.23*	*-0.20*	**-0.17**	*-0.25*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.44**	**0.31**	**0.35**	**0.55**	*0.44*	*0.29*	*0.32*	*0.52*	*0.43*	*0.29*	*0.33*	*0.55*	**0.41**	*0.39*	*0.40*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.22**	**0.19**	*0.17*	*0.18*	*0.19*	*0.18*	*0.17*	*0.18*	*0.19*	*0.18*	**0.20**	*0.18*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.98**	**2.03**	**1.97**	**1.89**	*1.99*	*2.08*	*2.08*	*2.12*	*2.12*	*2.13*	*2.11*	*2.16*	**1.97**	*2.07*	*2.13*
Propane	**1.16**	**0.60**	**0.69**	**0.92**	*1.08*	*0.63*	*0.62*	*0.95*	*1.12*	*0.59*	*0.66*	*0.89*	**0.84**	*0.82*	*0.81*
Propylene (refinery-grade)	**0.30**	**0.29**	**0.28**	**0.26**	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	*0.29*	*0.29*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.23**	**0.26**	**0.29**	**0.22**	*0.21*	*0.26*	*0.26*	*0.22*	*0.22*	*0.26*	*0.27*	*0.22*	**0.25**	*0.23*	*0.24*
Natural Gasoline (Pentanes Plus)	**0.21**	**0.24**	**0.26**	**0.32**	*0.21*	*0.20*	*0.22*	*0.24*	*0.23*	*0.22*	*0.27*	*0.28*	**0.26**	*0.22*	*0.25*
HGL Inventories (million barrels)															
Ethane	**51.1**	**51.7**	**49.9**	**55.8**	*55.5*	*58.6*	*58.5*	*60.5*	*58.6*	*62.8*	*62.5*	*63.3*	**52.1**	*58.3*	*61.8*
Propane	**36.3**	**54.1**	**81.9**	**80.0**	*52.7*	*70.3*	*90.5*	*74.9*	*49.9*	*67.5*	*85.6*	*71.1*	**80.0**	*74.9*	*71.1*
Propylene (at refineries only)	**1.0**	**1.2**	**1.1**	**1.1**	*1.2*	*1.5*	*1.8*	*1.7*	*1.5*	*1.7*	*1.9*	*1.8*	**1.1**	*1.7*	*1.8*
Butanes/Butylenes	**35.7**	**58.8**	**81.2**	**52.6**	*43.2*	*69.1*	*87.0*	*57.7*	*48.6*	*76.1*	*94.1*	*65.0*	**52.6**	*57.7*	*65.0*
Natural Gasoline (Pentanes Plus)	**19.4**	**22.7**	**27.2**	**25.9**	*23.0*	*23.8*	*24.3*	*23.2*	*20.4*	*21.4*	*21.9*	*21.0*	**25.9**	*23.2*	*21.0*
Refinery and Blender Net Inputs															
Crude Oil	**15.56**	**16.09**	**16.26**	**15.86**	*15.28*	*16.58*	*16.69*	*16.20*	*15.68*	*16.25*	*16.52*	*15.87*	**15.94**	*16.19*	*16.08*
Hydrocarbon Gas Liquids	**0.64**	**0.50**	**0.57**	**0.74**	*0.61*	*0.47*	*0.51*	*0.70*	*0.59*	*0.47*	*0.52*	*0.73*	**0.61**	*0.57*	*0.58*
Other Hydrocarbons/Oxygenates	**1.12**	**1.20**	**1.19**	**1.17**	*1.11*	*1.20*	*1.20*	*1.19*	*1.15*	*1.21*	*1.21*	*1.21*	**1.17**	*1.18*	*1.19*
Unfinished Oils	**-0.12**	**0.21**	**0.24**	**0.15**	*0.06*	*0.28*	*0.38*	*0.28*	*0.08*	*0.28*	*0.31*	*0.27*	**0.12**	*0.25*	*0.23*
Motor Gasoline Blend Components	**0.33**	**0.84**	**0.66**	**0.26**	*0.42*	*0.72*	*0.59*	*0.53*	*0.55*	*0.72*	*0.59*	*0.53*	**0.52**	*0.56*	*0.59*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.53**	**18.84**	**18.92**	**18.18**	*17.48*	*19.25*	*19.36*	*18.89*	*18.04*	*18.93*	*19.15*	*18.60*	**18.37**	*18.75*	*18.68*
Refinery Processing Gain	**0.95**	**1.07**	**1.05**	**1.03**	*0.95*	*1.03*	*1.04*	*1.05*	*0.99*	*1.00*	*1.02*	*1.02*	**1.03**	*1.02*	*1.01*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.49**	**0.84**	**0.75**	**0.37**	*0.48*	*0.83*	*0.77*	*0.38*	*0.48*	*0.85*	*0.78*	*0.38*	**0.61**	*0.62*	*0.62*
Finished Motor Gasoline	**9.22**	**9.74**	**9.73**	**9.56**	*9.23*	*9.84*	*9.94*	*10.09*	*9.44*	*9.74*	*9.80*	*9.89*	**9.56**	*9.78*	*9.72*
Jet Fuel	**1.48**	**1.71**	**1.67**	**1.60**	*1.67*	*1.74*	*1.71*	*1.59*	*1.52*	*1.59*	*1.65*	*1.56*	**1.62**	*1.68*	*1.58*
Distillate Fuel	**4.77**	**5.00**	**5.15**	**5.10**	*4.66*	*5.18*	*5.23*	*5.25*	*5.03*	*5.14*	*5.21*	*5.26*	**5.01**	*5.08*	*5.16*
Residual Fuel	**0.26**	**0.22**	**0.26**	**0.24**	*0.26*	*0.25*	*0.28*	*0.24*	*0.27*	*0.25*	*0.28*	*0.23*	**0.25**	*0.26*	*0.26*
Other Oils (a)	**2.26**	**2.39**	**2.40**	**2.34**	*2.13*	*2.43*	*2.47*	*2.39*	*2.29*	*2.38*	*2.45*	*2.31*	**2.35**	*2.36*	*2.36*
Total Refinery and Blender Net Production	**18.49**	**19.90**	**19.97**	**19.21**	*18.43*	*20.28*	*20.40*	*19.94*	*19.03*	*19.94*	*20.17*	*19.63*	**19.40**	*19.77*	*19.69*
Refinery Distillation Inputs	**16.07**	**16.61**	**16.82**	**16.38**	*15.61*	*16.77*	*16.96*	*16.46*	*15.96*	*16.49*	*16.80*	*16.17*	**16.47**	*16.45*	*16.36*
Refinery Operable Distillation Capacity	**17.94**	**17.94**	**17.98**	**18.01**	*18.06*	*18.27*	*18.27*	*18.27*	*18.05*	*18.00*	*18.00*	*18.00*	**17.97**	*18.21*	*18.01*
Refinery Distillation Utilization Factor	**0.90**	**0.93**	**0.94**	**0.91**	*0.86*	*0.92*	*0.93*	*0.90*	*0.88*	*0.92*	*0.93*	*0.90*	**0.92**	*0.90*	*0.91*

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Prices (cents per gallon)															
Refiner Wholesale Price	**278**	**376**	**311**	**267**	*266*	*262*	*252*	*236*	*231*	*237*	*227*	*210*	**309**	*254*	*226*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**364**	**438**	**393**	**340**	*344*	*348*	*333*	*315*	*308*	*313*	*302*	*287*	**384**	*335*	*302*
PADD 2	**352**	**436**	**397**	**345**	*335*	*335*	*323*	*311*	*302*	*309*	*300*	*279*	**383**	*326*	*297*
PADD 3	**340**	**414**	**357**	**300**	*309*	*311*	*302*	*285*	*277*	*283*	*273*	*255*	**353**	*302*	*272*
PADD 4	**360**	**446**	**434**	**359**	*350*	*357*	*354*	*330*	*311*	*324*	*318*	*298*	**401**	*348*	*313*
PADD 5	**452**	**543**	**511**	**478**	*411*	*409*	*403*	*392*	*382*	*394*	*380*	*360*	**497**	*404*	*379*
U.S. Average	**371**	**450**	**408**	**357**	*347*	*349*	*338*	*322*	*314*	*321*	*310*	*293*	**397**	*339*	*310*
Gasoline All Grades Including Taxes	**380**	**460**	**419**	**369**	*358*	*362*	*351*	*337*	*328*	*335*	*325*	*308*	**408**	*352*	*324*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**56.9**	**53.6**	**54.4**	**57.0**	*58.4*	*65.6*	*61.7*	*65.0*	*61.7*	*66.3*	*61.5*	*64.4*	**57.0**	*65.0*	*64.4*
PADD 2	**56.5**	**46.7**	**44.1**	**46.1**	*48.0*	*47.1*	*45.6*	*50.5*	*52.6*	*49.8*	*47.0*	*51.0*	**46.1**	*50.5*	*51.0*
PADD 3	**87.1**	**83.9**	**80.2**	**80.3**	*85.3*	*89.6*	*86.9*	*89.7*	*87.5*	*90.7*	*90.9*	*90.7*	**80.3**	*89.7*	*90.7*
PADD 4	**8.1**	**6.4**	**6.4**	**7.3**	*6.7*	*7.1*	*7.6*	*8.4*	*8.1*	*7.6*	*7.7*	*8.4*	**7.3**	*8.4*	*8.4*
PADD 5	**29.9**	**30.3**	**24.5**	**33.1**	*30.0*	*29.9*	*30.2*	*31.1*	*30.0*	*29.8*	*30.2*	*31.2*	**33.1**	*31.1*	*31.2*
U.S. Total	**238.5**	**221.0**	**209.6**	**223.8**	*228.4*	*239.2*	*232.1*	*244.8*	*239.9*	*244.2*	*237.2*	*245.8*	**223.8**	*244.8*	*245.8*
Finished Gasoline Inventories															
U.S. Total	**17.3**	**17.1**	**17.6**	**16.4**	*14.9*	*16.8*	*18.8*	*21.5*	*18.5*	*19.6*	*21.3*	*23.5*	**16.4**	*21.5*	*23.5*
Gasoline Blending Components Inventories															
U.S. Total	**221.2**	**203.8**	**192.0**	**207.5**	*213.5*	*222.4*	*213.3*	*223.2*	*221.4*	*224.6*	*215.9*	*222.4*	**207.5**	*223.2*	*222.4*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

STF-3-12 Attachment F

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (billion cubic feet per day)															
Total Marketed Production	**103.27**	**106.18**	**108.27**	**108.98**	*108.60*	*108.73*	*109.16*	*109.76*	*110.11*	*110.56*	*110.92*	*110.87*	**106.70**	*109.07*	*110.61*
Alaska	**1.06**	**1.00**	**0.96**	**1.02**	*1.01*	*0.93*	*0.85*	*0.98*	*1.00*	*0.92*	*0.84*	*0.97*	**1.01**	*0.94*	*0.93*
Federal GOM (a)	**2.05**	**2.11**	**2.19**	**2.17**	*2.28*	*2.26*	*2.11*	*2.05*	*2.07*	*2.00*	*1.87*	*1.85*	**2.13**	*2.17*	*1.95*
Lower 48 States (excl GOM)	**100.16**	**103.07**	**105.12**	**105.79**	*105.31*	*105.55*	*106.21*	*106.74*	*107.04*	*107.64*	*108.20*	*108.04*	**103.55**	*105.96*	*107.73*
Total Dry Gas Production	**95.09**	**97.59**	**99.46**	**100.13**	*99.87*	*99.95*	*100.34*	*100.89*	*101.21*	*101.63*	*101.95*	*101.91*	**98.09**	*100.27*	*101.68*
LNG Gross Imports	**0.15**	**0.01**	**0.06**	**0.05**	*0.10*	*0.04*	*0.04*	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.07**	*0.06*	*0.06*
LNG Gross Exports	**11.50**	**10.80**	**9.74**	**10.49**	*11.23*	*11.63*	*11.97*	*12.27*	*12.63*	*12.50*	*12.11*	*13.14*	**10.63**	*11.78*	*12.59*
Pipeline Gross Imports	**8.89**	**7.73**	**7.84**	**8.15**	*8.28*	*6.86*	*7.05*	*7.50*	*8.24*	*6.81*	*7.04*	*7.49*	**8.15**	*7.42*	*7.40*
Pipeline Gross Exports	**8.45**	**8.46**	**8.08**	**8.32**	*9.20*	*8.79*	*9.14*	*9.56*	*9.99*	*9.38*	*9.71*	*10.14*	**8.33**	*9.17*	*9.81*
Supplemental Gaseous Fuels	**0.21**	**0.17**	**0.18**	**0.16**	*0.18*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.18*	*0.19*
Net Inventory Withdrawals	**20.14**	**-10.25**	**-8.94**	**2.45**	*12.37*	*-11.14*	*-7.53*	*4.54*	*16.37*	*-12.89*	*-9.57*	*4.19*	**0.78**	*-0.48*	*-0.49*
Total Supply	**104.54**	**75.99**	**80.78**	**92.13**	*100.38*	*75.47*	*78.97*	*91.35*	*103.48*	*73.90*	*77.83*	*90.56*	**88.30**	*86.50*	*86.43*
Balancing Item (b)	**0.31**	**0.14**	**0.01**	**0.83**	*0.50*	*-0.40*	*1.08*	*1.00*	*0.21*	*-1.32*	*-0.24*	*0.04*	**0.32**	*0.55*	*-0.33*
Total Primary Supply	**104.85**	**76.13**	**80.79**	**92.96**	*100.88*	*75.06*	*80.05*	*92.35*	*103.68*	*72.58*	*77.59*	*90.60*	**88.63**	*87.04*	*86.10*
Consumption (billion cubic feet per day)															
Residential	**26.09**	**7.85**	**3.57**	**17.39**	*23.99*	*8.02*	*4.25*	*17.53*	*25.81*	*8.01*	*4.31*	*17.58*	**13.67**	*13.41*	*13.91*
Commercial	**15.61**	**6.67**	**4.74**	**11.73**	*14.51*	*6.86*	*5.19*	*11.69*	*15.37*	*6.80*	*5.20*	*11.73*	**9.67**	*9.54*	*9.77*
Industrial	**25.46**	**22.25**	**21.47**	**23.67**	*23.85*	*21.65*	*21.66*	*24.08*	*24.49*	*20.91*	*20.49*	*22.81*	**23.21**	*22.81*	*22.17*
Electric Power (c)	**28.41**	**31.00**	**42.37**	**31.03**	*29.11*	*30.11*	*40.30*	*29.90*	*28.40*	*28.43*	*38.95*	*29.34*	**33.24**	*32.38*	*31.30*
Lease and Plant Fuel	**5.26**	**5.41**	**5.51**	**5.55**	*5.53*	*5.54*	*5.56*	*5.59*	*5.61*	*5.63*	*5.65*	*5.65*	**5.43**	*5.56*	*5.63*
Pipeline and Distribution Use	**3.86**	**2.80**	**2.98**	**3.44**	*3.74*	*2.75*	*2.94*	*3.42*	*3.85*	*2.66*	*2.84*	*3.35*	**3.27**	*3.21*	*3.18*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**104.85**	**76.13**	**80.79**	**92.96**	*100.88*	*75.06*	*80.05*	*92.35*	*103.68*	*72.58*	*77.59*	*90.60*	**88.63**	*87.04*	*86.10*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,401**	**2,325**	**3,146**	**2,922**	*1,809*	*2,823*	*3,515*	*3,097*	*1,608*	*2,780*	*3,661*	*3,276*	**2,922**	*3,097*	*3,276*
East Region (d)	**242**	**482**	**759**	**692**	*312*	*614*	*855*	*706*	*255*	*586*	*875*	*726*	**692**	*706*	*726*
Midwest Region (d)	**296**	**557**	**917**	**837**	*408*	*672*	*988*	*832*	*336*	*666*	*1,033*	*889*	**837**	*832*	*889*
South Central Region (d)	**587**	**885**	**1,006**	**1,044**	*848*	*1,128*	*1,150*	*1,088*	*698*	*1,053*	*1,168*	*1,129*	**1,044**	*1,088*	*1,129*
Mountain Region (d)	**90**	**137**	**184**	**156**	*82*	*132*	*201*	*183*	*116*	*159*	*222*	*201*	**156**	*183*	*201*
Pacific Region (d)	**165**	**240**	**247**	**164**	*133*	*251*	*296*	*262*	*176*	*290*	*337*	*305*	**164**	*262*	*305*
Alaska	**21**	**25**	**32**	**29**	*26*	*26*	*26*	*26*	*26*	*26*	*26*	*26*	**29**	*26*	*26*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Wholesale/Spot															
Henry Hub Spot Price	**4.84**	**7.77**	**8.30**	**5.76**	*3.25*	*3.39*	*3.60*	*3.90*	*4.44*	*3.97*	*4.04*	*4.34*	**6.67**	*3.54*	*4.20*
Residential Retail															
New England	**17.69**	**20.93**	**26.83**	**21.19**	*19.73*	*19.31*	*21.31*	*16.48*	*15.79*	*16.58*	*19.45*	*15.31*	**19.70**	*18.78*	*16.01*
Middle Atlantic	**12.79**	**15.55**	**23.86**	**16.97**	*13.76*	*14.16*	*18.24*	*11.73*	*10.96*	*13.43*	*18.25*	*11.99*	**15.07**	*13.47*	*12.12*
E. N. Central	**9.81**	**14.81**	**25.79**	**13.50**	*10.70*	*12.77*	*18.76*	*9.59*	*9.07*	*11.97*	*18.52*	*9.76*	**12.49**	*11.16*	*10.31*
W. N. Central	**11.40**	**15.25**	**25.07**	**12.66**	*10.28*	*12.26*	*18.39*	*9.90*	*9.11*	*12.09*	*18.56*	*10.23*	**13.01**	*10.94*	*10.41*
S. Atlantic	**13.91**	**22.14**	**32.69**	**17.75**	*14.63*	*18.12*	*24.28*	*13.43*	*12.00*	*17.21*	*24.10*	*13.56*	**17.47**	*15.51*	*14.04*
E. S. Central	**11.80**	**17.16**	**26.38**	**15.75**	*13.07*	*16.44*	*23.32*	*13.71*	*12.05*	*17.16*	*24.22*	*14.58*	**14.33**	*14.67*	*14.25*
W. S. Central	**12.62**	**20.91**	**30.98**	**16.55**	*11.76*	*15.50*	*21.70*	*12.31*	*9.72*	*15.60*	*22.08*	*12.87*	**16.06**	*13.36*	*12.35*
Mountain	**10.31**	**12.87**	**19.38**	**13.89**	*11.45*	*11.82*	*14.83*	*9.17*	*8.94*	*10.87*	*14.76*	*9.48*	**12.41**	*11.00*	*9.85*
Pacific	**17.07**	**17.80**	**20.54**	**18.05**	*17.34*	*16.57*	*17.04*	*16.10*	*16.72*	*17.49*	*18.32*	*17.46*	**17.90**	*16.78*	*17.27*
U.S. Average	**12.32**	**16.57**	**24.92**	**15.40**	*13.17*	*14.66*	*19.14*	*11.81*	*11.02*	*14.26*	*19.36*	*12.20*	**14.74**	*13.42*	*12.51*
Commercial Retail															
New England	**12.62**	**14.46**	**16.18**	**15.28**	*13.70*	*12.07*	*11.02*	*10.53*	*11.06*	*11.31*	*10.97*	*10.76*	**14.07**	*12.24*	*11.00*
Middle Atlantic	**10.36**	**10.78**	**12.01**	**11.57**	*10.76*	*9.35*	*8.26*	*8.38*	*8.75*	*8.55*	*8.00*	*8.42*	**10.99**	*9.50*	*8.54*
E. N. Central	**8.12**	**10.46**	**14.23**	**10.31**	*8.96*	*8.60*	*9.50*	*7.34*	*7.60*	*8.68*	*9.89*	*7.87*	**9.56**	*8.42*	*8.01*
W. N. Central	**10.22**	**11.73**	**15.07**	**10.50**	*8.99*	*8.35*	*9.43*	*7.60*	*7.89*	*8.58*	*9.84*	*8.07*	**10.87**	*8.49*	*8.19*
S. Atlantic	**10.52**	**12.23**	**14.12**	**13.04**	*11.25*	*10.48*	*10.57*	*9.42*	*9.41*	*10.49*	*10.88*	*9.89*	**12.02**	*10.47*	*9.91*
E. S. Central	**10.41**	**12.80**	**15.54**	**13.47**	*11.49*	*10.70*	*10.71*	*9.37*	*9.03*	*10.23*	*10.81*	*9.69*	**12.24**	*10.60*	*9.60*
W. S. Central	**10.09**	**12.86**	**15.00**	**12.32**	*9.88*	*8.67*	*8.77*	*7.89*	*7.49*	*8.43*	*9.00*	*8.31*	**11.89**	*8.96*	*8.09*
Mountain	**8.78**	**9.98**	**12.60**	**11.42**	*10.24*	*9.52*	*9.72*	*8.09*	*7.79*	*8.15*	*9.01*	*7.80*	**10.19**	*9.40*	*7.98*
Pacific	**13.08**	**13.67**	**15.58**	**13.73**	*12.26*	*10.51*	*10.08*	*9.23*	*9.18*	*9.13*	*9.51*	*9.12*	**13.77**	*10.63*	*9.20*
U.S. Average	**10.00**	**11.71**	**14.10**	**11.86**	*10.40*	*9.54*	*9.52*	*8.37*	*8.45*	*9.05*	*9.51*	*8.62*	**11.28**	*9.52*	*8.72*
Industrial Retail															
New England	**11.11**	**12.09**	**12.03**	**13.01**	*11.07*	*8.86*	*7.59*	*8.60*	*9.33*	*8.86*	*7.92*	*9.04*	**12.00**	*9.35*	*8.91*
Middle Atlantic	**10.80**	**10.15**	**11.91**	**11.99**	*10.40*	*8.32*	*7.69*	*8.00*	*8.67*	*8.41*	*8.04*	*8.38*	**11.13**	*9.14*	*8.48*
E. N. Central	**7.66**	**8.72**	**10.75**	**9.89**	*7.78*	*6.24*	*6.19*	*6.27*	*7.02*	*6.84*	*6.67*	*6.75*	**8.80**	*6.89*	*6.87*
W. N. Central	**7.96**	**8.58**	**9.58**	**8.16**	*6.63*	*4.94*	*4.82*	*5.42*	*6.16*	*5.51*	*5.29*	*5.87*	**8.52**	*5.52*	*5.74*
S. Atlantic	**7.46**	**8.84**	**11.14**	**8.66**	*6.31*	*5.09*	*5.31*	*5.69*	*6.52*	*5.89*	*5.76*	*6.16*	**8.94**	*5.64*	*6.11*
E. S. Central	**6.53**	**8.70**	**10.55**	**7.70**	*5.92*	*4.79*	*4.85*	*5.30*	*6.13*	*5.55*	*5.30*	*5.77*	**8.24**	*5.25*	*5.72*
W. S. Central	**5.58**	**7.69**	**8.45**	**5.77**	*3.85*	*3.46*	*3.77*	*3.94*	*4.55*	*4.19*	*4.19*	*4.39*	**6.87**	*3.75*	*4.33*
Mountain	**7.11**	**8.39**	**10.45**	**10.20**	*8.86*	*7.45*	*6.99*	*6.49*	*6.61*	*6.40*	*6.55*	*6.42*	**8.93**	*7.52*	*6.50*
Pacific	**8.82**	**9.02**	**9.60**	**9.18**	*8.49*	*7.02*	*6.77*	*6.79*	*7.37*	*7.19*	*7.18*	*7.27*	**9.11**	*7.33*	*7.26*
U.S. Average	**6.82**	**8.24**	**9.26**	**7.25**	*5.68*	*4.43*	*4.48*	*4.90*	*5.74*	*5.05*	*4.91*	*5.37*	**7.83**	*4.89*	*5.30*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million short tons)															
Production	**149.0**	**141.7**	**153.2**	**148.3**	*133.5*	*124.9*	*133.8*	*125.8*	*123.9*	*117.2*	*128.2*	*124.6*	**592.2**	*518.0*	*493.9*
Appalachia	**40.2**	**38.7**	**38.7**	**38.4**	*36.6*	*35.2*	*31.0*	*30.1*	*31.9*	*31.6*	*28.5*	*29.3*	**156.0**	*132.9*	*121.4*
Interior	**23.8**	**21.9**	**22.7**	**22.9**	*23.2*	*21.9*	*22.7*	*21.1*	*22.3*	*20.6*	*21.6*	*20.7*	**91.4**	*88.9*	*85.3*
Western	**85.0**	**81.1**	**91.7**	**86.9**	*73.7*	*67.7*	*80.1*	*74.7*	*69.7*	*64.9*	*78.0*	*74.6*	**344.8**	*296.3*	*287.3*
Primary Inventory Withdrawals	**-1.9**	**0.0**	**3.4**	**-0.2**	*-1.7*	*0.1*	*3.5*	*0.0*	*-1.7*	*0.2*	*3.5*	*0.0*	**1.3**	*2.0*	*2.0*
Imports	**1.3**	**1.6**	**2.0**	**1.7**	*1.0*	*1.1*	*1.3*	*0.9*	*0.6*	*0.8*	*1.2*	*0.9*	**6.6**	*4.3*	*3.5*
Exports	**20.2**	**23.0**	**20.7**	**22.0**	*22.1*	*22.9*	*21.0*	*22.0*	*22.8*	*24.5*	*23.4*	*25.3*	**85.9**	*88.1*	*96.0*
Metallurgical Coal	**10.5**	**13.1**	**11.6**	**12.2**	*12.1*	*12.6*	*11.3*	*11.6*	*12.2*	*13.3*	*12.5*	*13.2*	**47.4**	*47.6*	*51.2*
Steam Coal	**9.7**	**9.9**	**9.2**	**9.8**	*10.0*	*10.3*	*9.7*	*10.4*	*10.6*	*11.2*	*10.9*	*12.1*	**38.6**	*40.5*	*44.8*
Total Primary Supply	**128.2**	**120.4**	**137.8**	**127.7**	*110.7*	*103.2*	*117.6*	*104.8*	*100.1*	*93.7*	*109.5*	*100.2*	**514.1**	*436.3*	*403.4*
Secondary Inventory Withdrawals	**5.9**	**-1.1**	**7.0**	**-12.3**	*-7.2*	*-5.8*	*11.5*	*-7.5*	*9.3*	*-0.6*	*17.0*	*-1.7*	**-0.4**	*-8.9*	*23.9*
Waste Coal (a)	**1.9**	**1.9**	**1.9**	**1.9**	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	*1.8*	**7.5**	*7.2*	*7.2*
Total Supply	**135.9**	**121.2**	**146.7**	**117.4**	*105.3*	*99.2*	*131.0*	*99.1*	*111.2*	*94.9*	*128.3*	*100.2*	**521.3**	*434.6*	*434.6*
Consumption (million short tons)															
Coke Plants	**4.2**	**3.9**	**3.9**	**3.9**	*3.8*	*3.9*	*3.9*	*4.0*	*4.0*	*4.0*	*4.1*	*4.1*	**16.0**	*15.7*	*16.2*
Electric Power Sector (b)	**122.6**	**107.2**	**134.7**	**105.1**	*95.2*	*89.9*	*121.7*	*89.0*	*101.0*	*85.7*	*119.0*	*90.1*	**469.7**	*395.7*	*395.7*
Retail and Other Industry	**6.9**	**6.7**	**6.5**	**6.7**	*6.3*	*5.4*	*5.4*	*6.1*	*6.2*	*5.2*	*5.2*	*6.0*	**26.8**	*23.2*	*22.6*
Residential and Commercial	**0.2**	**0.1**	**0.2**	**0.2**	*0.3*	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*	*0.3*	**0.8**	*0.9*	*0.9*
Other Industrial	**6.7**	**6.6**	**6.3**	**6.5**	*6.0*	*5.2*	*5.2*	*5.9*	*5.9*	*5.0*	*5.1*	*5.7*	**26.0**	*22.3*	*21.7*
Total Consumption	**133.7**	**117.9**	**145.1**	**115.7**	*105.3*	*99.2*	*131.0*	*99.1*	*111.2*	*94.9*	*128.3*	*100.2*	**512.4**	*434.6*	*434.6*
Discrepancy (c)	**2.2**	**3.3**	**1.6**	**1.7**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**8.8**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**21.0**	**20.9**	**17.5**	**17.7**	*19.4*	*19.3*	*15.7*	*15.7*	*17.4*	*17.3*	*13.7*	*13.7*	**17.7**	*15.7*	*13.7*
Secondary Inventories	**90.5**	**91.5**	**84.5**	**96.8**	*104.0*	*109.7*	*98.2*	*105.6*	*96.4*	*97.0*	*80.0*	*81.7*	**96.8**	*105.6*	*81.7*
Electric Power Sector	**86.3**	**87.4**	**80.2**	**91.3**	*99.3*	*104.9*	*93.1*	*100.7*	*92.1*	*92.6*	*75.3*	*77.1*	**91.3**	*100.7*	*77.1*
Retail and General Industry	**2.4**	**2.4**	**2.5**	**3.5**	*3.0*	*3.0*	*3.2*	*3.2*	*2.7*	*2.8*	*3.0*	*3.0*	**3.5**	*3.2*	*3.0*
Coke Plants	**1.6**	**1.6**	**1.6**	**1.8**	*1.6*	*1.7*	*1.7*	*1.6*	*1.4*	*1.5*	*1.5*	*1.5*	**1.8**	*1.6*	*1.5*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.05**	**6.05**	**6.05**	**6.05**	*5.98*	*5.98*	*5.98*	*5.98*	*5.80*	*5.80*	*5.80*	*5.80*	**6.05**	*5.98*	*5.80*
Total Raw Steel Production (Million short tons per day)	**0.253**	**0.253**	**0.247**	**0.235**	*0.237*	*0.235*	*0.235*	*0.239*	*0.245*	*0.241*	*0.244*	*0.247*	**0.247**	*0.236*	*0.244*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.18**	**2.26**	**2.50**	**2.48**	*2.50*	*2.50*	*2.49*	*2.46*	*2.48*	*2.49*	*2.49*	*2.46*	**2.36**	*2.49*	*2.48*

(a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electricity Supply (billion kilowatthours)															
Electricity Generation	**1,030**	**1,026**	**1,187**	**1,001**	*995*	*1,012*	*1,163*	*987*	*1,036*	*1,020*	*1,175*	*997*	**4,244**	*4,157*	*4,228*
Electric Power Sector (a)	**991**	**989**	**1,148**	**963**	*956*	*974*	*1,122*	*948*	*997*	*982*	*1,133*	*958*	**4,091**	*4,000*	*4,070*
Industrial Sector (b)	**36**	**34**	**36**	**36**	*36*	*35*	*37*	*36*	*36*	*35*	*37*	*36*	**141**	*144*	*144*
Commercial Sector (b)	**3**	**3**	**3**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**7**	**10**	**15**	**11**	*12*	*13*	*14*	*11*	*12*	*12*	*14*	*11*	**43**	*50*	*50*
Total Supply	**1,036**	**1,036**	**1,202**	**1,012**	*1,007*	*1,025*	*1,177*	*998*	*1,048*	*1,032*	*1,189*	*1,008*	**4,287**	*4,207*	*4,278*
Losses and Unaccounted for (c)	**56**	**64**	**53**	**70**	*39*	*65*	*53*	*52*	*43*	*66*	*54*	*52*	**242**	*209*	*215*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**945**	**938**	**1,114**	**908**	*933*	*925*	*1,087*	*911*	*970*	*931*	*1,098*	*921*	**3,905**	*3,856*	*3,920*
Residential Sector	**380**	**347**	**457**	**332**	*364*	*337*	*439*	*335*	*389*	*340*	*443*	*338*	**1,516**	*1,475*	*1,510*
Commercial Sector	**322**	**335**	**389**	**328**	*326*	*335*	*384*	*328*	*331*	*335*	*386*	*330*	**1,374**	*1,373*	*1,382*
Industrial Sector	**242**	**255**	**266**	**247**	*242*	*251*	*262*	*247*	*248*	*255*	*267*	*251*	**1,009**	*1,001*	*1,021*
Transportation Sector	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**7**	*6*	*6*
Direct Use (d)	**35**	**34**	**36**	**35**	*35*	*35*	*37*	*35*	*36*	*35*	*37*	*35*	**139**	*143*	*143*
Total Consumption	**981**	**972**	**1,150**	**943**	*968*	*960*	*1,124*	*946*	*1,005*	*966*	*1,135*	*956*	**4,045**	*3,999*	*4,063*
Average residential electricity usage per customer (kWh)	**2,711**	**2,475**	**3,265**	**2,369**	*2,573*	*2,383*	*3,108*	*2,374*	*2,731*	*2,383*	*3,109*	*2,371*	**10,821**	*10,438*	*10,593*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**86.3**	**87.4**	**80.2**	**91.3**	*99.3*	*104.9*	*93.1*	*100.7*	*92.1*	*92.6*	*75.3*	*77.1*	**91.3**	*100.7*	*77.1*
Residual Fuel (mmb)	**5.6**	**5.9**	**5.7**	**5.8**	*4.2*	*4.1*	*2.4*	*2.8*	*1.5*	*1.9*	*0.4*	*1.0*	**5.8**	*2.8*	*1.0*
Distillate Fuel (mmb)	**17.6**	**17.7**	**16.7**	**17.6**	*17.3*	*17.0*	*16.8*	*17.0*	*16.8*	*16.6*	*16.6*	*16.8*	**17.6**	*17.0*	*16.8*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.26**	**2.50**	**2.48**	*2.50*	*2.50*	*2.49*	*2.46*	*2.48*	*2.49*	*2.49*	*2.46*	**2.36**	*2.49*	*2.48*
Natural Gas	**5.95**	**7.39**	**8.23**	**5.85**	*3.69*	*3.50*	*3.63*	*4.11*	*4.86*	*4.07*	*4.09*	*4.55*	**7.00**	*3.72*	*4.37*
Residual Fuel Oil	**16.81**	**26.17**	**26.53**	**22.00**	*17.99*	*17.82*	*16.27*	*15.67*	*15.61*	*15.56*	*14.55*	*14.34*	**22.02**	*17.01*	*15.04*
Distillate Fuel Oil	**21.23**	**30.70**	**26.79**	**27.19**	*24.87*	*23.58*	*21.25*	*21.14*	*20.09*	*18.37*	*18.14*	*19.01*	**25.56**	*22.93*	*19.10*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.97**	**15.05**	**15.85**	**15.48**	*15.18*	*15.79*	*16.02*	*15.33*	*15.00*	*15.89*	*16.17*	*15.50*	**15.12**	*15.60*	*15.66*
Commercial Sector	**11.63**	**12.34**	**13.37**	**12.51**	*12.29*	*12.63*	*13.40*	*12.31*	*12.09*	*12.64*	*13.55*	*12.43*	**12.51**	*12.69*	*12.71*
Industrial Sector	**7.42**	**8.41**	**9.42**	**8.22**	*7.58*	*8.17*	*9.05*	*8.06*	*7.65*	*8.16*	*9.05*	*8.06*	**8.39**	*8.23*	*8.24*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**42.73**	**83.19**	**130.71**	**53.01**	*28.80*	*32.84*	*41.34*	*30.36*	*30.96*	*26.70*	*35.74*	*27.95*	**77.41**	*33.34*	*30.34*
CAISO SP15 zone	**45.20**	**60.34**	**110.03**	**135.13**	*87.05*	*50.75*	*69.07*	*62.22*	*61.46*	*47.36*	*62.55*	*53.65*	**87.67**	*67.27*	*56.26*
ISO-NE Internal hub	**116.48**	**73.28**	**99.14**	**80.77**	*71.13*	*45.29*	*53.30*	*64.69*	*114.61*	*45.79*	*55.19*	*68.56*	**92.42**	*58.60*	*71.04*
NYISO Hudson Valley zone	**100.10**	**79.72**	**104.71**	**77.17**	*61.53*	*48.82*	*51.80*	*60.11*	*96.75*	*46.52*	*52.91*	*63.39*	**90.42**	*55.57*	*64.89*
PJM Western hub	**58.33**	**93.00**	**110.99**	**71.60**	*50.68*	*51.36*	*54.82*	*56.02*	*67.93*	*52.23*	*59.29*	*58.00*	**83.48**	*53.22*	*59.36*
Midcontinent ISO Illinois hub	**47.88**	**89.21**	**101.80**	**57.87**	*40.40*	*40.75*	*44.18*	*44.58*	*51.19*	*44.19*	*49.82*	*46.53*	**74.19**	*42.48*	*47.93*
SPP ISO South hub	**37.25**	**72.85**	**109.97**	**56.06**	*34.12*	*36.08*	*44.42*	*40.28*	*43.26*	*41.26*	*49.15*	*42.32*	**69.03**	*38.73*	*44.00*
SERC index, Into Southern	**42.45**	**84.96**	**94.82**	**59.33**	*38.90*	*40.99*	*46.04*	*43.82*	*49.52*	*44.84*	*49.72*	*46.51*	**70.39**	*42.44*	*47.65*
FRCC index, Florida Reliability	**41.11**	**78.70**	**92.71**	**58.54**	*40.16*	*44.60*	*47.54*	*44.37*	*46.89*	*45.01*	*46.96*	*45.07*	**67.77**	*44.17*	*45.98*
Northwest index, Mid-Columbia	**39.85**	**59.39**	**137.82**	**151.39**	*83.89*	*49.16*	*73.44*	*66.92*	*64.05*	*47.93*	*64.22*	*57.01*	**97.11**	*68.35*	*58.30*
Southwest index, Palo Verde	**39.02**	**60.50**	**128.25**	**130.12**	*77.17*	*48.70*	*73.16*	*57.80*	*55.44*	*48.12*	*64.34*	*52.72*	**89.47**	*64.21*	*55.15*

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	**13.1**	**10.5**	**13.9**	**10.8**	*12.3*	*10.5*	*12.6*	*11.1*	*13.1*	*10.6*	*12.7*	*11.2*	**48.3**	*46.5*	*47.6*
Middle Atlantic	**36.1**	**30.0**	**42.5**	**29.8**	*34.3*	*30.1*	*39.2*	*30.2*	*36.3*	*30.1*	*39.4*	*30.3*	**138.4**	*133.8*	*136.0*
E. N. Central	**50.8**	**43.8**	**54.8**	**42.7**	*47.8*	*42.4*	*54.5*	*43.7*	*50.7*	*43.0*	*55.1*	*43.9*	**192.1**	*188.5*	*192.8*
W. N. Central	**30.6**	**24.7**	**31.3**	**25.0**	*29.8*	*24.3*	*31.3*	*25.4*	*31.1*	*24.7*	*31.9*	*25.9*	**111.6**	*110.9*	*113.6*
S. Atlantic	**96.0**	**91.5**	**116.2**	**85.4**	*91.5*	*89.1*	*114.1*	*86.9*	*100.9*	*90.0*	*115.3*	*87.6*	**389.1**	*381.6*	*393.9*
E. S. Central	**32.6**	**27.7**	**37.0**	**26.3**	*31.1*	*27.3*	*36.8*	*27.0*	*34.5*	*27.5*	*37.0*	*27.2*	**123.6**	*122.1*	*126.2*
W. S. Central	**56.9**	**58.8**	**81.3**	**49.5**	*52.3*	*54.9*	*76.1*	*51.1*	*58.0*	*55.4*	*76.8*	*51.6*	**246.4**	*234.4*	*241.8*
Mountain	**24.1**	**26.2**	**36.1**	**23.9**	*24.5*	*25.5*	*34.2*	*23.6*	*24.7*	*25.8*	*34.7*	*23.8*	**110.4**	*107.8*	*108.9*
Pacific contiguous	**38.4**	**32.4**	**43.1**	**36.9**	*38.7*	*31.7*	*39.2*	*35.2*	*38.8*	*31.6*	*39.2*	*35.2*	**150.8**	*144.8*	*144.8*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	*1.2*	*1.1*	*1.2*	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.8**	*4.8*	*4.8*
Total	**379.8**	**346.7**	**457.3**	**331.8**	*363.6*	*336.8*	*439.2*	*335.4*	*389.4*	*339.7*	*443.2*	*338.0*	**1,515.6**	*1,475.0*	*1,510.3*
Commercial Sector															
New England	**12.1**	**11.8**	**13.9**	**11.6**	*12.1*	*11.8*	*13.2*	*11.6*	*12.1*	*11.7*	*13.1*	*11.5*	**49.4**	*48.7*	*48.4*
Middle Atlantic	**36.0**	**34.3**	**40.5**	**34.4**	*36.0*	*34.1*	*38.7*	*33.9*	*36.2*	*33.9*	*38.7*	*33.8*	**145.1**	*142.8*	*142.6*
E. N. Central	**43.3**	**42.9**	**48.8**	**42.7**	*43.1*	*42.4*	*48.2*	*42.2*	*43.2*	*42.1*	*48.2*	*42.3*	**177.6**	*175.9*	*175.8*
W. N. Central	**25.1**	**24.6**	**28.1**	**24.5**	*25.3*	*24.6*	*27.9*	*24.4*	*25.5*	*24.5*	*27.9*	*24.5*	**102.2**	*102.3*	*102.3*
S. Atlantic	**75.1**	**82.5**	**93.5**	**78.9**	*76.9*	*83.9*	*94.8*	*80.7*	*80.3*	*85.9*	*97.5*	*83.1*	**330.0**	*336.3*	*346.9*
E. S. Central	**21.0**	**22.4**	**26.8**	**21.1**	*21.1*	*22.0*	*26.4*	*21.2*	*21.6*	*21.8*	*26.2*	*21.1*	**91.4**	*90.8*	*90.7*
W. S. Central	**47.0**	**52.1**	**61.2**	**49.5**	*48.2*	*52.0*	*60.3*	*49.6*	*49.0*	*51.7*	*60.3*	*49.8*	**209.8**	*210.0*	*210.8*
Mountain	**23.2**	**25.4**	**29.6**	**23.9**	*23.4*	*25.2*	*28.9*	*23.7*	*23.4*	*25.1*	*28.9*	*23.8*	**102.2**	*101.3*	*101.3*
Pacific contiguous	**37.7**	**37.9**	**45.4**	**39.9**	*38.4*	*38.0*	*44.4*	*38.9*	*38.1*	*37.4*	*43.9*	*38.7*	**160.9**	*159.7*	*158.1*
AK and HI	**1.3**	**1.3**	**1.4**	**1.4**	*1.3*	*1.3*	*1.4*	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	**5.4**	*5.4*	*5.5*
Total	**321.8**	**335.2**	**389.0**	**327.9**	*325.8*	*335.4*	*384.3*	*327.6*	*330.8*	*335.3*	*386.1*	*330.0*	**1,374.0**	*1,373.1*	*1,382.3*
Industrial Sector															
New England	**3.9**	**3.9**	**4.1**	**3.8**	*3.8*	*3.8*	*4.0*	*3.8*	*3.8*	*3.7*	*4.0*	*3.7*	**15.7**	*15.3*	*15.2*
Middle Atlantic	**17.5**	**18.2**	**19.4**	**18.2**	*17.5*	*18.1*	*19.1*	*18.1*	*17.8*	*18.3*	*19.4*	*18.3*	**73.3**	*72.8*	*73.8*
E. N. Central	**45.9**	**47.0**	**48.8**	**45.3**	*45.2*	*45.8*	*47.6*	*44.9*	*45.8*	*46.0*	*48.2*	*45.5*	**187.0**	*183.6*	*185.5*
W. N. Central	**24.0**	**24.8**	**26.9**	**24.9**	*23.9*	*24.2*	*26.2*	*24.9*	*24.6*	*24.9*	*27.0*	*25.7*	**100.6**	*99.2*	*102.2*
S. Atlantic	**36.3**	**37.5**	**38.7**	**36.4**	*36.1*	*36.5*	*37.5*	*36.1*	*37.0*	*37.2*	*38.3*	*36.8*	**148.9**	*146.2*	*149.3*
E. S. Central	**24.7**	**25.8**	**25.6**	**23.8**	*24.4*	*25.2*	*25.0*	*23.5*	*24.6*	*25.1*	*25.0*	*23.5*	**99.9**	*98.0*	*98.2*
W. S. Central	**49.8**	**53.3**	**53.8**	**52.3**	*51.6*	*54.0*	*54.6*	*53.7*	*54.2*	*56.3*	*56.9*	*56.0*	**209.3**	*213.8*	*223.5*
Mountain	**19.9**	**21.7**	**24.0**	**20.8**	*20.0*	*21.9*	*24.2*	*21.1*	*20.5*	*22.1*	*24.6*	*21.4*	**86.3**	*87.2*	*88.6*
Pacific contiguous	**19.0**	**21.0**	**23.4**	**20.0**	*18.5*	*20.2*	*22.4*	*19.3*	*18.2*	*19.9*	*22.2*	*19.2*	**83.4**	*80.4*	*79.6*
AK and HI	**1.1**	**1.2**	**1.3**	**1.2**	*1.1*	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.2*	**4.8**	*4.7*	*4.7*
Total	**242.2**	**254.5**	**265.9**	**246.7**	*242.0*	*250.8*	*261.9*	*246.5*	*247.6*	*254.8*	*266.8*	*251.4*	**1,009.3**	*1,001.2*	*1,020.7*
Total All Sectors (a)															
New England	**29.2**	**26.3**	**32.0**	**26.3**	*28.3*	*26.2*	*29.9*	*26.5*	*29.2*	*26.1*	*29.9*	*26.5*	**113.8**	*110.9*	*111.7*
Middle Atlantic	**90.4**	**83.3**	**103.2**	**83.3**	*88.7*	*83.0*	*97.9*	*82.9*	*91.1*	*83.0*	*98.2*	*83.2*	**360.2**	*352.5*	*355.6*
E. N. Central	**140.2**	**133.8**	**152.4**	**130.8**	*136.2*	*130.6*	*150.5*	*131.0*	*139.9*	*131.2*	*151.6*	*131.8*	**557.2**	*548.4*	*554.5*
W. N. Central	**79.7**	**74.1**	**86.2**	**74.4**	*79.0*	*73.2*	*85.5*	*74.7*	*81.3*	*74.0*	*86.8*	*76.1*	**314.4**	*312.4*	*318.2*
S. Atlantic	**207.7**	**211.8**	**248.6**	**200.9**	*204.7*	*209.7*	*246.7*	*204.0*	*218.5*	*213.4*	*251.4*	*207.8*	**869.0**	*865.2*	*891.1*
E. S. Central	**78.4**	**76.0**	**89.4**	**71.3**	*76.6*	*74.5*	*88.2*	*71.7*	*80.6*	*74.4*	*88.3*	*71.8*	**315.0**	*310.9*	*315.1*
W. S. Central	**153.7**	**164.2**	**196.4**	**151.4**	*152.1*	*160.9*	*191.0*	*154.4*	*161.3*	*163.5*	*194.1*	*157.4*	**665.7**	*658.4*	*676.3*
Mountain	**67.2**	**73.4**	**89.7**	**68.7**	*67.9*	*72.6*	*87.4*	*68.4*	*68.7*	*73.1*	*88.2*	*69.0*	**299.1**	*296.4*	*299.0*
Pacific contiguous	**95.3**	**91.5**	**112.1**	**97.0**	*95.8*	*90.1*	*106.2*	*93.6*	*95.3*	*89.2*	*105.5*	*93.3*	**396.0**	*385.6*	*383.2*
AK and HI	**3.7**	**3.6**	**3.8**	**3.9**	*3.7*	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**15.0**	*14.9*	*15.0*
Total	**945.5**	**938.0**	**1,113.9**	**908.0**	*933.0*	*924.5*	*1,087.0*	*911.1*	*969.5*	*931.5*	*1,097.8*	*920.9*	**3,905.4**	*3,855.6*	*3,919.7*

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	**23.96**	**24.31**	**24.80**	**26.03**	*28.00*	*27.59*	*27.37*	*27.47*	*28.70*	*27.87*	*27.58*	*27.97*	**24.74**	*27.61*	*28.05*
Middle Atlantic	**17.13**	**18.29**	**18.96**	**19.26**	*18.40*	*18.40*	*18.53*	*18.66*	*18.43*	*18.76*	*18.92*	*18.91*	**18.40**	*18.50*	*18.75*
E. N. Central	**14.21**	**15.50**	**16.20**	**16.03**	*15.46*	*16.30*	*16.53*	*15.82*	*15.09*	*16.15*	*16.61*	*16.13*	**15.48**	*16.04*	*16.00*
W. N. Central	**11.28**	**13.26**	**14.36**	**12.42**	*11.56*	*13.28*	*14.04*	*12.15*	*11.48*	*13.36*	*14.05*	*12.15*	**12.84**	*12.77*	*12.76*
S. Atlantic	**12.68**	**13.61**	**14.27**	**13.81**	*13.89*	*14.31*	*14.51*	*13.57*	*13.44*	*14.15*	*14.43*	*13.56*	**13.62**	*14.10*	*13.92*
E. S. Central	**11.97**	**13.08**	**13.79**	**13.06**	*12.63*	*13.02*	*13.25*	*12.68*	*12.68*	*13.40*	*13.59*	*12.98*	**12.99**	*12.92*	*13.17*
W. S. Central	**11.82**	**12.93**	**13.81**	**13.97**	*13.10*	*13.61*	*14.10*	*13.78*	*12.90*	*13.82*	*14.37*	*14.02*	**13.18**	*13.69*	*13.81*
Mountain	**12.14**	**12.85**	**13.23**	**13.09**	*12.88*	*13.67*	*13.95*	*13.59*	*13.08*	*13.56*	*13.71*	*13.52*	**12.87**	*13.56*	*13.49*
Pacific	**18.12**	**20.54**	**22.06**	**19.28**	*19.47*	*21.99*	*22.73*	*19.45*	*19.69*	*22.75*	*23.55*	*19.97*	**20.05**	*20.90*	*21.47*
U.S. Average	**13.97**	**15.05**	**15.85**	**15.48**	*15.18*	*15.79*	*16.02*	*15.33*	*15.00*	*15.89*	*16.17*	*15.50*	**15.12**	*15.60*	*15.66*
Commercial Sector															
New England	**18.47**	**17.46**	**18.32**	**18.27**	*20.01*	*18.50*	*18.98*	*18.37*	*19.89*	*18.47*	*19.17*	*18.77*	**18.14**	*18.97*	*19.09*
Middle Atlantic	**14.04**	**14.92**	**16.60**	**15.00**	*14.65*	*14.68*	*15.93*	*14.22*	*14.07*	*14.65*	*16.06*	*14.16*	**15.19**	*14.90*	*14.77*
E. N. Central	**11.06**	**11.85**	**12.15**	**11.73**	*11.58*	*11.94*	*11.83*	*11.19*	*11.13*	*11.85*	*12.02*	*11.41*	**11.71**	*11.64*	*11.61*
W. N. Central	**9.65**	**10.71**	**11.70**	**10.05**	*9.19*	*9.79*	*11.17*	*9.92*	*9.56*	*10.92*	*12.14*	*10.06*	**10.56**	*10.05*	*10.71*
S. Atlantic	**10.30**	**10.87**	**11.52**	**11.04**	*10.81*	*11.00*	*11.30*	*10.46*	*10.24*	*10.75*	*11.26*	*10.53*	**10.96**	*10.91*	*10.72*
E. S. Central	**11.69**	**12.20**	**13.02**	**12.37**	*12.51*	*12.56*	*13.04*	*12.17*	*12.35*	*12.72*	*13.36*	*12.44*	**12.36**	*12.60*	*12.75*
W. S. Central	**8.68**	**9.63**	**10.47**	**9.44**	*8.84*	*9.54*	*10.49*	*9.60*	*9.17*	*9.98*	*10.94*	*9.92*	**9.62**	*9.67*	*10.05*
Mountain	**9.56**	**10.31**	**10.96**	**10.42**	*10.18*	*10.78*	*11.33*	*10.59*	*10.14*	*10.60*	*11.17*	*10.52*	**10.35**	*10.75*	*10.64*
Pacific	**16.10**	**17.77**	**20.29**	**18.42**	*18.31*	*19.98*	*22.09*	*19.33*	*18.53*	*19.68*	*21.98*	*19.46*	**18.25**	*20.00*	*19.99*
U.S. Average	**11.63**	**12.34**	**13.37**	**12.51**	*12.29*	*12.63*	*13.40*	*12.31*	*12.09*	*12.64*	*13.55*	*12.43*	**12.51**	*12.69*	*12.71*
Industrial Sector															
New England	**15.12**	**15.17**	**15.92**	**14.76**	*15.96*	*15.61*	*16.09*	*14.74*	*15.92*	*15.65*	*16.24*	*14.96*	**15.25**	*15.61*	*15.70*
Middle Atlantic	**7.88**	**8.29**	**9.81**	**8.09**	*7.61*	*7.71*	*9.01*	*7.73*	*7.68*	*7.53*	*8.84*	*7.57*	**8.54**	*8.03*	*7.92*
E. N. Central	**7.72**	**8.56**	**9.01**	**8.39**	*7.83*	*8.27*	*8.63*	*8.31*	*8.02*	*8.36*	*8.75*	*8.39*	**8.43**	*8.26*	*8.38*
W. N. Central	**7.16**	**7.99**	**8.69**	**7.44**	*7.27*	*7.93*	*8.59*	*7.49*	*7.45*	*8.08*	*8.75*	*7.61*	**7.84**	*7.83*	*7.99*
S. Atlantic	**6.85**	**8.10**	**9.11**	**7.62**	*6.81*	*7.67*	*8.57*	*7.42*	*6.92*	*7.69*	*8.57*	*7.43*	**7.94**	*7.63*	*7.66*
E. S. Central	**6.35**	**7.36**	**8.40**	**7.24**	*6.61*	*7.11*	*8.04*	*7.09*	*6.69*	*7.13*	*8.06*	*7.10*	**7.35**	*7.22*	*7.25*
W. S. Central	**6.20**	**7.28**	**8.08**	**7.11**	*6.26*	*6.84*	*7.37*	*6.69*	*6.12*	*6.57*	*7.09*	*6.45*	**7.18**	*6.80*	*6.56*
Mountain	**6.58**	**7.27**	**8.41**	**7.44**	*7.06*	*7.42*	*8.42*	*7.40*	*7.07*	*7.46*	*8.44*	*7.42*	**7.47**	*7.61*	*7.63*
Pacific	**10.37**	**11.97**	**14.15**	**12.19**	*11.02*	*12.30*	*14.38*	*12.36*	*11.29*	*12.68*	*14.79*	*12.73*	**12.27**	*12.60*	*12.96*
U.S. Average	**7.42**	**8.41**	**9.42**	**8.22**	*7.58*	*8.17*	*9.05*	*8.06*	*7.65*	*8.16*	*9.05*	*8.06*	**8.39**	*8.23*	*8.24*
All Sectors (a)															
New England	**20.46**	**19.83**	**20.80**	**20.91**	*22.91*	*21.69*	*22.09*	*21.62*	*23.30*	*21.84*	*22.32*	*22.07*	**20.51**	*22.09*	*22.40*
Middle Atlantic	**14.07**	**14.66**	**16.27**	**14.99**	*14.69*	*14.50*	*15.61*	*14.41*	*14.55*	*14.56*	*15.76*	*14.43*	**15.05**	*14.84*	*14.86*
E. N. Central	**11.11**	**11.89**	**12.60**	**11.97**	*11.69*	*12.06*	*12.52*	*11.74*	*11.54*	*12.03*	*12.65*	*11.94*	**11.90**	*12.02*	*12.05*
W. N. Central	**9.53**	**10.65**	**11.73**	**9.97**	*9.50*	*10.33*	*11.43*	*9.87*	*9.66*	*10.78*	*11.79*	*9.94*	**10.50**	*10.31*	*10.57*
S. Atlantic	**10.79**	**11.56**	**12.43**	**11.60**	*11.48*	*11.82*	*12.37*	*11.25*	*11.16*	*11.65*	*12.30*	*11.26*	**11.63**	*11.76*	*11.62*
E. S. Central	**10.12**	**10.88**	**12.02**	**10.91**	*10.68*	*10.89*	*11.71*	*10.70*	*10.77*	*11.09*	*11.95*	*10.89*	**11.02**	*11.03*	*11.20*
W. S. Central	**9.04**	**10.05**	**11.20**	**10.12**	*9.43*	*10.02*	*11.04*	*9.97*	*9.48*	*10.11*	*11.17*	*10.03*	**10.17**	*10.17*	*10.24*
Mountain	**9.60**	**10.32**	**11.19**	**10.45**	*10.24*	*10.78*	*11.55*	*10.64*	*10.28*	*10.69*	*11.41*	*10.60*	**10.45**	*10.85*	*10.79*
Pacific	**15.76**	**17.41**	**19.68**	**17.45**	*17.36*	*18.94*	*20.68*	*17.92*	*17.60*	*19.18*	*21.02*	*18.25*	**17.67**	*18.78*	*19.07*
U.S. Average	**11.49**	**12.28**	**13.45**	**12.43**	*12.19*	*12.57*	*13.41*	*12.27*	*12.12*	*12.60*	*13.51*	*12.36*	**12.46**	*12.64*	*12.68*

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
United States															
Natural Gas	**337.0**	**365.5**	**509.4**	**377.6**	*346.8*	*357.2*	*487.9*	*366.0*	*344.5*	*340.0*	*474.5*	*361.7*	**1,589.5**	*1,557.9*	*1,520.6*
Coal	**217.5**	**189.1**	**234.6**	**181.6**	*166.2*	*155.0*	*208.5*	*151.4*	*178.0*	*148.0*	*204.8*	*153.6*	**822.8**	*681.0*	*684.4*
Nuclear	**195.6**	**184.4**	**201.5**	**190.1**	*194.6*	*186.9*	*206.5*	*196.3*	*201.2*	*192.9*	*208.2*	*190.0*	**771.6**	*784.2*	*792.3*
Renewable Energy Sources:	**233.2**	**244.9**	**197.4**	**207.6**	*242.2*	*269.7*	*214.5*	*229.1*	*267.1*	*296.4*	*241.5*	*247.7*	**883.1**	*955.6*	*1,052.7*
Conventional Hydropower	**74.4**	**69.2**	**62.3**	**53.2**	*67.2*	*76.3*	*63.0*	*58.8*	*71.7*	*79.9*	*64.6*	*59.6*	**259.1**	*265.4*	*275.7*
Wind	**119.0**	**121.0**	**80.6**	**116.2**	*129.1*	*128.1*	*85.0*	*122.2*	*135.4*	*131.0*	*87.5*	*128.2*	**436.8**	*464.4*	*482.2*
Solar (a)	**29.1**	**44.3**	**43.2**	**27.5**	*35.1*	*55.3*	*55.5*	*37.6*	*49.7*	*76.3*	*78.3*	*49.8*	**144.1**	*183.5*	*254.1*
Biomass	**6.6**	**6.5**	**7.1**	**6.4**	*6.5*	*6.2*	*6.7*	*6.2*	*6.6*	*6.3*	*6.9*	*6.3*	**26.6**	*25.6*	*26.0*
Geothermal	**4.1**	**4.0**	**4.2**	**4.2**	*4.3*	*3.9*	*4.3*	*4.2*	*3.7*	*2.8*	*4.3*	*3.9*	**16.5**	*16.6*	*14.7*
Pumped Storage Hydropower	**-1.2**	**-1.3**	**-2.0**	**-1.3**	*-1.0*	*-1.3*	*-1.9*	*-1.3*	*-1.2*	*-1.4*	*-2.0*	*-1.3*	**-5.9**	*-5.5*	*-5.9*
Petroleum (b)	**6.4**	**4.1**	**4.5**	**4.5**	*5.3*	*3.8*	*4.4*	*4.2*	*5.5*	*3.7*	*4.4*	*4.3*	**19.5**	*17.7*	*17.8*
Other Gases	**0.8**	**0.9**	**1.0**	**0.8**	*0.8*	*0.8*	*0.9*	*0.8*	*0.8*	*0.9*	*0.9*	*0.8*	**3.5**	*3.3*	*3.4*
Other Nonrenewable Fuels (c)	**1.6**	**1.6**	**1.6**	**1.6**	*1.5*	*1.4*	*1.4*	*1.4*	*1.3*	*1.2*	*1.1*	*1.3*	**6.4**	*5.6*	*4.9*
Total Generation	**990.8**	**989.3**	**1,147.8**	**962.6**	*956.3*	*973.5*	*1,122.0*	*947.9*	*997.1*	*981.6*	*1,133.4*	*958.2*	**4,090.5**	*3,999.8*	*4,070.2*
New England (ISO-NE)															
Natural Gas	**12.1**	**12.6**	**17.4**	**12.2**	*13.1*	*12.3*	*15.2*	*13.1*	*13.4*	*11.5*	*14.8*	*12.6*	**54.3**	*53.8*	*52.2*
Coal	**0.3**	**0.0**	**0.0**	**0.0**	*0.1*	*0.0*	*0.0*	*0.0*	*0.2*	*0.0*	*0.0*	*0.0*	**0.3**	*0.2*	*0.3*
Nuclear	**7.1**	**5.6**	**7.3**	**7.5**	*7.2*	*5.6*	*7.3*	*6.2*	*7.2*	*7.2*	*7.3*	*5.7*	**27.4**	*26.3*	*27.4*
Conventional hydropower	**1.7**	**1.5**	**1.0**	**1.3**	*1.9*	*2.2*	*1.2*	*1.7*	*2.0*	*2.2*	*1.2*	*1.7*	**5.5**	*7.0*	*7.1*
Nonhydro renewables (d)	**3.2**	**3.2**	**3.0**	**2.8**	*3.1*	*3.2*	*3.1*	*2.9*	*3.3*	*3.9*	*3.6*	*3.6*	**12.2**	*12.2*	*14.4*
Other energy sources (e)	**1.4**	**0.4**	**0.4**	**0.4**	*1.1*	*0.3*	*0.2*	*0.3*	*0.9*	*0.3*	*0.3*	*0.3*	**2.5**	*1.9*	*1.9*
Total generation	**25.7**	**23.1**	**29.2**	**24.3**	*26.4*	*23.6*	*27.0*	*24.3*	*26.9*	*25.1*	*27.2*	*24.0*	**102.2**	*101.4*	*103.2*
Net energy for load (f)	**30.2**	**26.0**	**33.0**	**27.3**	*29.4*	*28.0*	*32.2*	*28.9*	*31.1*	*28.2*	*32.5*	*29.2*	**116.5**	*118.4*	*121.1*
New York (NYISO)															
Natural Gas	**14.1**	**15.5**	**21.2**	**14.3**	*11.5*	*15.2*	*15.4*	*12.5*	*13.3*	*14.7*	*16.6*	*13.1*	**65.1**	*54.5*	*57.8*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**6.4**	**7.0**	**6.4**	**7.0**	*6.7*	*6.4*	*7.0*	*7.0*	*6.3*	*6.9*	*6.8*	*6.4*	**26.8**	*27.1*	*26.4*
Conventional hydropower	**7.3**	**6.9**	**6.6**	**6.5**	*6.4*	*6.6*	*6.7*	*7.0*	*6.9*	*6.8*	*6.9*	*7.1*	**27.3**	*26.7*	*27.7*
Nonhydro renewables (d)	**2.1**	**2.0**	**1.7**	**2.2**	*2.4*	*2.5*	*2.0*	*2.8*	*3.6*	*4.1*	*3.2*	*3.7*	**7.9**	*9.7*	*14.5*
Other energy sources (e)	**1.1**	**0.1**	**0.1**	**0.1**	*0.5*	*0.1*	*0.2*	*0.1*	*0.6*	*0.1*	*0.2*	*0.1*	**1.5**	*0.9*	*1.1*
Total generation	**31.0**	**31.5**	**36.0**	**30.1**	*27.6*	*30.8*	*31.2*	*29.4*	*30.7*	*32.7*	*33.7*	*30.4*	**128.6**	*119.0*	*127.4*
Net energy for load (f)	**37.6**	**34.0**	**43.3**	**34.8**	*35.8*	*35.3*	*41.4*	*35.0*	*37.0*	*35.3*	*41.6*	*35.2*	**149.7**	*147.4*	*149.1*
Mid-Atlantic (PJM)															
Natural Gas	**76.8**	**74.3**	**103.8**	**80.1**	*82.3*	*80.9*	*103.6*	*81.7*	*81.8*	*83.8*	*103.8*	*82.0*	**335.0**	*348.4*	*351.4*
Coal	**48.6**	**35.3**	**42.2**	**30.4**	*33.2*	*32.4*	*37.2*	*25.3*	*36.5*	*30.5*	*36.7*	*27.8*	**156.4**	*128.1*	*131.6*
Nuclear	**69.0**	**65.1**	**69.7**	**66.6**	*67.6*	*67.1*	*72.0*	*68.6*	*69.0*	*64.8*	*72.0*	*68.6*	**270.4**	*275.4*	*274.5*
Conventional hydropower	**2.7**	**2.4**	**1.4**	**1.9**	*2.6*	*2.6*	*1.7*	*2.1*	*2.7*	*2.6*	*1.7*	*2.1*	**8.5**	*9.0*	*9.0*
Nonhydro renewables (d)	**13.3**	**13.0**	**9.7**	**12.9**	*14.1*	*14.2*	*11.2*	*14.6*	*16.4*	*17.4*	*14.3*	*16.6*	**48.8**	*54.0*	*64.8*
Other energy sources (e)	**0.7**	**0.4**	**0.2**	**0.7**	*0.7*	*0.4*	*0.3*	*0.7*	*0.6*	*0.5*	*0.3*	*0.7*	**2.0**	*2.1*	*2.1*
Total generation	**211.1**	**190.3**	**227.1**	**192.6**	*200.5*	*197.5*	*226.0*	*193.0*	*207.1*	*199.6*	*228.9*	*197.9*	**821.1**	*817.0*	*833.4*
Net energy for load (f)	**201.0**	**180.3**	**213.2**	**185.1**	*193.1*	*180.5*	*206.8*	*182.0*	*201.2*	*180.9*	*208.3*	*183.5*	**779.5**	*762.4*	*773.9*
Southeast (SERC)															
Natural Gas	**63.5**	**67.1**	**86.7**	**65.9**	*60.2*	*62.1*	*88.9*	*70.0*	*67.7*	*63.8*	*86.8*	*70.9*	**283.2**	*281.3*	*289.1*
Coal	**32.3**	**32.8**	**32.0**	**26.9**	*24.5*	*27.3*	*32.1*	*19.0*	*26.8*	*22.6*	*32.7*	*20.0*	**124.0**	*102.9*	*102.2*
Nuclear	**51.4**	**51.1**	**55.4**	**51.1**	*52.3*	*53.1*	*57.3*	*57.4*	*57.5*	*57.6*	*60.1*	*54.3*	**209.1**	*220.1*	*229.4*
Conventional hydropower	**10.3**	**8.3**	**6.1**	**7.7**	*11.0*	*8.9*	*8.0*	*9.1*	*11.5*	*9.0*	*8.1*	*9.1*	**32.4**	*37.0*	*37.7*
Nonhydro renewables (d)	**5.0**	**7.0**	**6.5**	**4.8**	*5.5*	*7.7*	*7.2*	*5.4*	*6.3*	*8.6*	*8.0*	*6.0*	**23.4**	*25.7*	*28.9*
Other energy sources (e)	**-0.2**	**-0.3**	**-0.6**	**-0.4**	*-0.3*	*-0.4*	*-0.8*	*-0.4*	*-0.2*	*-0.5*	*-0.8*	*-0.4*	**-1.6**	*-1.8*	*-1.9*
Total generation	**162.3**	**166.0**	**186.2**	**155.9**	*153.2*	*158.7*	*192.8*	*160.6*	*169.6*	*161.2*	*194.8*	*159.9*	**670.4**	*665.2*	*685.5*
Net energy for load (f)	**164.8**	**167.3**	**180.3**	**154.3**	*157.6*	*161.2*	*188.1*	*159.7*	*175.2*	*168.3*	*194.5*	*164.8*	**666.8**	*666.5*	*702.8*
Florida (FRCC)															
Natural Gas	**38.4**	**47.7**	**56.8**	**42.9**	*41.2*	*43.9*	*58.7*	*41.0*	*44.8*	*44.4*	*60.1*	*42.5*	**185.8**	*184.8*	*191.7*
Coal	**3.5**	**4.3**	**3.7**	**4.0**	*2.2*	*2.7*	*2.8*	*3.1*	*2.2*	*2.6*	*2.7*	*3.2*	**15.5**	*10.8*	*10.8*
Nuclear	**7.3**	**7.9**	**7.5**	**8.1**	*7.2*	*6.9*	*7.5*	*7.7*	*7.2*	*7.8*	*7.1*	*7.1*	**30.8**	*29.3*	*29.3*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.9**	**3.7**	**3.5**	**2.7**	*3.8*	*4.7*	*4.4*	*3.4*	*5.2*	*6.1*	*5.7*	*4.3*	**12.8**	*16.3*	*21.2*
Other energy sources (e)	**0.7**	**0.6**	**0.7**	**0.6**	*0.8*	*0.6*	*0.7*	*0.6*	*0.8*	*0.6*	*0.7*	*0.6*	**2.5**	*2.7*	*2.6*
Total generation	**52.9**	**64.2**	**72.2**	**58.3**	*55.2*	*58.8*	*74.2*	*55.8*	*60.3*	*61.6*	*76.4*	*57.6*	**247.6**	*244.1*	*255.9*
Net energy for load (f)	**53.3**	**65.8**	**76.6**	**60.4**	*49.7*	*60.3*	*68.0*	*53.2*	*51.3*	*60.3*	*68.4*	*53.6*	**256.0**	*231.1*	*233.6*

(a) Solar generation from large-scale power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Midwest (MISO)															
Natural Gas	**41.6**	**47.4**	**59.7**	**43.4**	*43.2*	*51.3*	*53.5*	*46.2*	*40.5*	*48.7*	*55.7*	*45.7*	**192.1**	*194.2*	*190.6*
Coal	**64.5**	**54.1**	**68.6**	**52.7**	*50.7*	*43.3*	*63.9*	*45.8*	*55.1*	*42.6*	*60.2*	*45.8*	**239.8**	*203.8*	*203.7*
Nuclear	**23.8**	**19.6**	**24.3**	**23.7**	*22.8*	*21.1*	*24.4*	*20.9*	*23.2*	*22.5*	*23.8*	*21.5*	**91.4**	*89.2*	*90.9*
Conventional hydropower	**2.9**	**2.7**	**2.4**	**2.2**	*2.6*	*2.9*	*2.4*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.2**	*10.0*	*10.0*
Nonhydro renewables (d)	**32.0**	**28.7**	**20.3**	**31.6**	*34.5*	*30.7*	*22.2*	*33.7*	*36.3*	*32.5*	*24.7*	*35.7*	**112.7**	*121.2*	*129.3*
Other energy sources (e)	**1.4**	**1.7**	**1.3**	**1.6**	*1.6*	*1.5*	*1.5*	*1.6*	*1.6*	*1.5*	*1.5*	*1.6*	**6.0**	*6.2*	*6.2*
Total generation	**166.1**	**154.2**	**176.8**	**155.1**	*155.4*	*150.9*	*167.9*	*150.4*	*159.2*	*150.7*	*168.2*	*152.6*	**652.3**	*624.6*	*630.7*
Net energy for load (f)	**165.1**	**158.9**	**179.5**	**154.9**	*157.1*	*159.6*	*179.0*	*156.6*	*164.0*	*160.1*	*180.5*	*158.0*	**658.5**	*652.3*	*662.6*
Central (Southwest Power Pool)															
Natural Gas	**10.6**	**13.4**	**22.4**	**15.3**	*14.5*	*15.0*	*22.4*	*13.9*	*14.5*	*15.7*	*22.2*	*14.1*	**61.6**	*65.8*	*66.5*
Coal	**22.1**	**20.5**	**30.1**	**18.8**	*16.0*	*14.6*	*21.0*	*12.9*	*16.9*	*13.1*	*21.7*	*13.6*	**91.5**	*64.5*	*65.5*
Nuclear	**4.3**	**4.3**	**3.9**	**2.1**	*4.3*	*4.3*	*4.4*	*4.4*	*4.3*	*3.0*	*4.4*	*3.5*	**14.6**	*17.4*	*15.2*
Conventional hydropower	**4.3**	**3.9**	**3.2**	**2.9**	*3.6*	*4.2*	*3.7*	*3.1*	*3.6*	*4.2*	*3.7*	*3.1*	**14.3**	*14.6*	*14.5*
Nonhydro renewables (d)	**28.6**	**29.6**	**21.3**	**28.9**	*31.7*	*31.5*	*22.6*	*29.9*	*33.6*	*32.4*	*23.7*	*31.4*	**108.4**	*115.7*	*121.1*
Other energy sources (e)	**0.3**	**0.4**	**0.2**	**0.2**	*0.3*	*0.3*	*0.1*	*0.2*	*0.3*	*0.3*	*0.2*	*0.2*	**1.1**	*1.0*	*1.0*
Total generation	**70.2**	**72.0**	**81.1**	**68.3**	*70.5*	*70.0*	*74.1*	*64.3*	*73.3*	*68.7*	*75.8*	*65.9*	**291.6**	*278.9*	*283.8*
Net energy for load (f)	**67.3**	**69.0**	**82.6**	**67.8**	*66.0*	*65.6*	*77.7*	*62.6*	*67.2*	*66.4*	*79.1*	*64.1*	**286.7**	*271.9*	*276.8*
Texas (ERCOT)															
Natural Gas	**33.6**	**42.9**	**64.7**	**40.1**	*32.7*	*34.8*	*54.0*	*35.4*	*28.5*	*27.2*	*45.5*	*30.1*	**181.3**	*156.8*	*131.3*
Coal	**17.7**	**16.8**	**20.2**	**16.6**	*11.7*	*14.4*	*19.4*	*14.4*	*12.7*	*14.0*	*18.9*	*14.0*	**71.2**	*59.9*	*59.7*
Nuclear	**11.0**	**9.9**	**10.7**	**10.0**	*10.9*	*8.9*	*11.0*	*10.1*	*10.9*	*9.7*	*11.0*	*9.1*	**41.6**	*40.9*	*40.7*
Conventional hydropower	**0.2**	**0.1**	**0.0**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.4**	*0.6*	*0.6*
Nonhydro renewables (d)	**30.9**	**39.1**	**28.0**	**30.2**	*36.8*	*45.7*	*33.7*	*34.5*	*41.3*	*51.8*	*42.0*	*40.5*	**128.2**	*150.6*	*175.6*
Other energy sources (e)	**0.4**	**0.5**	**0.4**	**0.3**	*0.4*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.3*	*0.3*	**1.5**	*1.5*	*1.3*
Total generation	**93.7**	**109.2**	**124.0**	**97.3**	*92.6*	*104.4*	*118.6*	*94.8*	*93.8*	*103.3*	*117.9*	*94.2*	**424.3**	*410.3*	*409.1*
Net energy for load (f)	**93.7**	**109.2**	**124.0**	**97.3**	*92.6*	*104.4*	*118.6*	*94.8*	*93.8*	*103.3*	*117.9*	*94.2*	**424.3**	*410.3*	*409.1*
Northwest															
Natural Gas	**20.2**	**15.9**	**27.3**	**25.8**	*19.6*	*12.2*	*26.7*	*19.8*	*18.6*	*6.7*	*26.6*	*18.9*	**89.3**	*78.3*	*70.8*
Coal	**21.6**	**18.1**	**26.9**	**23.9**	*21.0*	*15.1*	*24.0*	*22.7*	*20.2*	*17.3*	*23.4*	*21.5*	**90.5**	*82.8*	*82.4*
Nuclear	**2.5**	**2.3**	**2.5**	**2.6**	*2.4*	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.9**	*8.4*	*9.6*
Conventional hydropower	**38.9**	**35.7**	**33.9**	**26.0**	*32.5*	*38.6*	*29.8*	*28.0*	*35.4*	*41.2*	*30.7*	*28.2*	**134.5**	*128.9*	*135.4*
Nonhydro renewables (d)	**19.2**	**20.4**	**15.9**	**18.4**	*20.1*	*22.2*	*17.7*	*20.2*	*22.9*	*25.0*	*20.9*	*22.0*	**73.9**	*80.1*	*90.8*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.7**	*0.4*	*0.4*
Total generation	**102.6**	**92.6**	**106.7**	**96.9**	*95.7*	*89.4*	*100.7*	*93.2*	*99.6*	*92.7*	*104.1*	*93.2*	**398.8**	*379.1*	*389.6*
Net energy for load (f)	**90.1**	**88.0**	**98.5**	**94.8**	*90.9*	*86.2*	*96.6*	*88.6*	*91.5*	*86.1*	*96.7*	*88.8*	**371.3**	*362.2*	*363.1*
Southwest															
Natural Gas	**9.6**	**12.9**	**18.6**	**13.1**	*12.9*	*15.7*	*22.5*	*10.8*	*8.4*	*12.6*	*20.1*	*9.3*	**54.2**	*61.8*	*50.5*
Coal	**6.1**	**6.3**	**8.1**	**6.2**	*4.9*	*3.7*	*5.1*	*5.7*	*5.5*	*3.9*	*5.4*	*5.3*	**26.7**	*19.6*	*20.0*
Nuclear	**8.2**	**7.5**	**8.7**	**7.6**	*8.5*	*7.5*	*8.6*	*7.5*	*8.5*	*7.4*	*8.6*	*7.6*	**32.0**	*32.1*	*32.1*
Conventional hydropower	**1.9**	**2.1**	**1.8**	**1.5**	*1.7*	*1.9*	*1.9*	*1.4*	*1.7*	*2.0*	*1.8*	*1.4*	**7.2**	*6.8*	*6.9*
Nonhydro renewables (d)	**4.6**	**5.7**	**3.9**	**3.9**	*4.5*	*6.1*	*4.1*	*4.6*	*5.7*	*7.2*	*5.0*	*5.2*	**18.1**	*19.3*	*23.0*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	**0.2**	*0.2*	*0.1*
Total generation	**30.4**	**34.4**	**41.1**	**32.4**	*32.5*	*34.9*	*42.3*	*30.0*	*29.8*	*33.2*	*41.0*	*28.7*	**138.4**	*139.7*	*132.6*
Net energy for load (f)	**21.7**	**27.3**	**34.8**	**23.2**	*22.9*	*27.2*	*34.6*	*23.3*	*22.8*	*27.2*	*34.7*	*23.4*	**106.9**	*107.9*	*108.1*
California															
Natural Gas	**15.8**	**15.5**	**29.9**	**23.7**	*14.9*	*13.3*	*26.3*	*20.9*	*12.4*	*10.3*	*21.5*	*21.7*	**85.0**	*75.4*	*65.9*
Coal	**0.5**	**0.7**	**2.4**	**1.9**	*1.4*	*1.1*	*2.5*	*1.8*	*1.4*	*1.0*	*2.6*	*1.8*	**5.5**	*6.8*	*6.8*
Nuclear	**4.6**	**4.2**	**5.0**	**3.9**	*4.7*	*4.7*	*4.6*	*4.1*	*4.7*	*3.6*	*4.7*	*3.9*	**17.6**	*18.1*	*16.9*
Conventional hydropower	**3.6**	**5.3**	**5.3**	**2.7**	*4.3*	*7.7*	*7.2*	*3.8*	*4.7*	*8.3*	*7.7*	*4.1*	**16.9**	*23.0*	*24.8*
Nonhydro renewables (d)	**16.7**	**22.8**	**20.7**	**15.6**	*18.1*	*24.4*	*22.9*	*17.8*	*20.3*	*26.8*	*25.3*	*18.6*	**75.7**	*83.2*	*91.0*
Other energy sources (e)	**0.0**	**-0.2**	**0.1**	**-0.1**	*-0.1*	*-0.3*	*0.0*	*-0.2*	*-0.2*	*-0.5*	*-0.1*	*-0.2*	**-0.2**	*-0.6*	*-1.1*
Total generation	**41.2**	**48.2**	**63.4**	**47.6**	*43.3*	*51.0*	*63.5*	*48.2*	*43.3*	*49.5*	*61.7*	*49.9*	**200.5**	*206.0*	*204.4*
Net energy for load (f)	**57.3**	**62.0**	**79.5**	**61.3**	*57.7*	*62.0*	*75.3*	*59.6*	*58.3*	*62.0*	*75.4*	*59.7*	**260.2**	*254.6*	*255.4*

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

(f) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226; and *Electric Power Annual* , DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

STF-3-12 Attachment E

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electric Power Sector															
Geothermal	**0.036**	**0.035**	**0.037**	**0.038**	*0.038*	*0.034*	*0.038*	*0.037*	*0.032*	*0.025*	*0.038*	*0.035*	**0.146**	*0.147*	*0.130*
Hydroelectric Power (a)	**0.658**	**0.612**	**0.551**	**0.471**	*0.599*	*0.680*	*0.561*	*0.524*	*0.638*	*0.712*	*0.575*	*0.530*	**2.292**	*2.363*	*2.455*
Solar (b)	**0.259**	**0.394**	**0.384**	**0.245**	*0.313*	*0.492*	*0.494*	*0.335*	*0.443*	*0.680*	*0.697*	*0.443*	**1.283**	*1.634*	*2.262*
Waste Biomass (c)	**0.055**	**0.053**	**0.053**	**0.053**	*0.054*	*0.053*	*0.053*	*0.053*	*0.054*	*0.053*	*0.053*	*0.053*	**0.214**	*0.213*	*0.213*
Wood Biomass	**0.051**	**0.046**	**0.056**	**0.045**	*0.046*	*0.041*	*0.050*	*0.043*	*0.047*	*0.043*	*0.052*	*0.044*	**0.198**	*0.180*	*0.187*
Wind	**1.060**	**1.077**	**0.718**	**1.035**	*1.150*	*1.141*	*0.757*	*1.088*	*1.206*	*1.167*	*0.779*	*1.142*	**3.889**	*4.136*	*4.294*
Subtotal	**2.119**	**2.218**	**1.798**	**1.888**	*2.199*	*2.441*	*1.954*	*2.080*	*2.420*	*2.679*	*2.195*	*2.246*	**8.023**	*8.673*	*9.541*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.203**	**0.203**	**0.197**	**0.205**	*0.196*	*0.200*	*0.198*	*0.206*	*0.199*	*0.201*	*0.201*	*0.209*	**0.808**	*0.800*	*0.810*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.008**	**0.011**	**0.012**	**0.008**	*0.008*	*0.012*	*0.012*	*0.009*	*0.009*	*0.013*	*0.013*	*0.009*	**0.039**	*0.041*	*0.045*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	*0.040*	*0.039*	*0.039*	*0.041*	*0.040*	*0.039*	*0.039*	*0.041*	**0.160**	*0.159*	*0.159*
Wood Biomass	**0.319**	**0.324**	**0.322**	**0.320**	*0.331*	*0.333*	*0.345*	*0.348*	*0.337*	*0.334*	*0.346*	*0.348*	**1.284**	*1.357*	*1.366*
Subtotal (e)	**0.580**	**0.586**	**0.576**	**0.583**	*0.583*	*0.592*	*0.603*	*0.611*	*0.594*	*0.596*	*0.607*	*0.616*	**2.324**	*2.390*	*2.413*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.033**	**0.048**	**0.048**	**0.032**	*0.038*	*0.056*	*0.057*	*0.040*	*0.046*	*0.066*	*0.067*	*0.047*	**0.162**	*0.189*	*0.226*
Waste Biomass (c)	**0.009**	**0.009**	**0.009**	**0.010**	*0.009*	*0.009*	*0.009*	*0.010*	*0.009*	*0.009*	*0.009*	*0.010*	**0.037**	*0.037*	*0.038*
Wood Biomass	**0.020**	**0.021**	**0.021**	**0.021**	*0.020*	*0.021*	*0.021*	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.077**	**0.092**	**0.093**	**0.076**	*0.081*	*0.100*	*0.101*	*0.084*	*0.089*	*0.110*	*0.112*	*0.091*	**0.338**	*0.365*	*0.402*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.080**	**0.119**	**0.120**	**0.090**	*0.101*	*0.154*	*0.158*	*0.111*	*0.126*	*0.195*	*0.200*	*0.141*	**0.410**	*0.524*	*0.663*
Wood Biomass	**0.119**	**0.121**	**0.122**	**0.119**	*0.119*	*0.121*	*0.122*	*0.119*	*0.119*	*0.121*	*0.122*	*0.119*	**0.480**	*0.480*	*0.480*
Subtotal	**0.209**	**0.250**	**0.252**	**0.218**	*0.230*	*0.285*	*0.290*	*0.240*	*0.255*	*0.326*	*0.332*	*0.269*	**0.930**	*1.044*	*1.183*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.094**	**0.117**	**0.116**	**0.130**	*0.136*	*0.142*	*0.146*	*0.152*	*0.148*	*0.168*	*0.181*	*0.188*	**0.457**	*0.576*	*0.685*
Ethanol (g)	**0.259**	**0.281**	**0.279**	**0.283**	*0.258*	*0.281*	*0.281*	*0.284*	*0.264*	*0.281*	*0.282*	*0.285*	**1.102**	*1.104*	*1.112*
Subtotal	**0.353**	**0.397**	**0.395**	**0.413**	*0.388*	*0.423*	*0.427*	*0.436*	*0.413*	*0.448*	*0.462*	*0.474*	**1.558**	*1.675*	*1.797*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.094**	**0.117**	**0.116**	**0.130**	*0.136*	*0.142*	*0.146*	*0.152*	*0.148*	*0.168*	*0.181*	*0.188*	**0.457**	*0.576*	*0.685*
Biofuel Losses and Co-products (d)	**0.203**	**0.203**	**0.197**	**0.205**	*0.196*	*0.200*	*0.198*	*0.206*	*0.199*	*0.201*	*0.201*	*0.209*	**0.808**	*0.800*	*0.810*
Ethanol (f)	**0.271**	**0.293**	**0.292**	**0.291**	*0.272*	*0.294*	*0.294*	*0.297*	*0.276*	*0.293*	*0.294*	*0.298*	**1.147**	*1.156*	*1.162*
Geothermal	**0.053**	**0.052**	**0.054**	**0.053**	*0.055*	*0.051*	*0.055*	*0.054*	*0.049*	*0.042*	*0.055*	*0.052*	**0.212**	*0.215*	*0.198*
Hydroelectric Power (a)	**0.661**	**0.615**	**0.553**	**0.474**	*0.602*	*0.683*	*0.564*	*0.526*	*0.641*	*0.715*	*0.577*	*0.533*	**2.302**	*2.374*	*2.466*
Solar (b)(f)	**0.381**	**0.573**	**0.565**	**0.375**	*0.459*	*0.714*	*0.721*	*0.495*	*0.624*	*0.955*	*0.978*	*0.640*	**1.894**	*2.389*	*3.196*
Waste Biomass (c)	**0.106**	**0.102**	**0.099**	**0.105**	*0.103*	*0.101*	*0.101*	*0.103*	*0.103*	*0.102*	*0.101*	*0.103*	**0.412**	*0.409*	*0.409*
Wood Biomass	**0.509**	**0.511**	**0.521**	**0.505**	*0.516*	*0.515*	*0.539*	*0.530*	*0.524*	*0.519*	*0.542*	*0.532*	**2.046**	*2.100*	*2.116*
Wind	**1.060**	**1.077**	**0.718**	**1.035**	*1.150*	*1.141*	*0.757*	*1.088*	*1.206*	*1.167*	*0.779*	*1.142*	**3.889**	*4.136*	*4.294*
Total Consumption	**3.338**	**3.543**	**3.114**	**3.178**	*3.481*	*3.841*	*3.374*	*3.451*	*3.771*	*4.160*	*3.708*	*3.696*	**13.173**	*14.147*	*15.336*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,083**	**6,083**	**6,019**	**5,987**	*5,984*	*6,020*	*6,020*	*6,001*	*6,001*	*6,020*	*6,020*	*6,020*	**5,987**	*6,001*	*6,020*
Waste	**3,648**	**3,649**	**3,585**	**3,552**	*3,549*	*3,585*	*3,585*	*3,583*	*3,583*	*3,602*	*3,602*	*3,602*	**3,552**	*3,583*	*3,602*
Wood	**2,435**	**2,435**	**2,435**	**2,435**	*2,435*	*2,435*	*2,435*	*2,419*	*2,419*	*2,419*	*2,419*	*2,419*	**2,435**	*2,419*	*2,419*
Conventional Hydroelectric	**79,645**	**79,649**	**79,649**	**79,500**	*79,699*	*79,713*	*79,739*	*79,766*	*79,766*	*79,772*	*79,772*	*79,774*	**79,500**	*79,766*	*79,774*
Geothermal	**2,523**	**2,540**	**2,578**	**2,578**	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	**2,578**	*2,603*	*2,603*
Large-Scale Solar (b)	**63,191**	**65,253**	**67,177**	**73,387**	*78,850*	*83,266*	*88,322*	*105,189*	*111,607*	*121,271*	*124,376*	*136,625*	**73,387**	*105,189*	*136,625*
Wind	**134,822**	**137,344**	**138,029**	**141,678**	*144,549*	*145,284*	*145,484*	*148,136*	*148,478*	*150,562*	*150,814*	*154,824*	**141,678**	*148,136*	*154,824*
Other Sectors (c)															
Biomass	**6,306**	**6,298**	**6,310**	**6,312**	*6,339*	*6,339*	*6,339*	*6,330*	*6,330*	*6,330*	*6,330*	*6,330*	**6,312**	*6,330*	*6,330*
Waste	**817**	**817**	**817**	**817**	*817*	*817*	*817*	*817*	*817*	*817*	*817*	*817*	**817**	*817*	*817*
Wood	**5,489**	**5,481**	**5,493**	**5,495**	*5,522*	*5,522*	*5,522*	*5,513*	*5,513*	*5,513*	*5,513*	*5,513*	**5,495**	*5,513*	*5,513*
Conventional Hydroelectric	**299**	**302**	**302**	**299**	*299*	*300*	*298*	*298*	*298*	*298*	*298*	*298*	**299**	*298*	*298*
Large-Scale Solar (b)	**559**	**569**	**571**	**583**	*588*	*597*	*643*	*643*	*643*	*643*	*643*	*643*	**583**	*643*	*643*
Small-Scale Solar (d)	**34,700**	**36,348**	**38,092**	**40,302**	*42,944*	*45,680*	*48,552*	*51,563*	*54,726*	*58,047*	*61,537*	*65,207*	**40,302**	*51,563*	*65,207*
Residential Sector	**22,293**	**23,588**	**24,993**	**26,837**	*28,916*	*31,069*	*33,333*	*35,710*	*38,210*	*40,840*	*43,611*	*46,531*	**26,837**	*35,710*	*46,531*
Commercial Sector	**10,175**	**10,502**	**10,807**	**11,122**	*11,624*	*12,144*	*12,689*	*13,259*	*13,857*	*14,482*	*15,133*	*15,814*	**11,122**	*13,259*	*15,814*
Industrial Sector	**2,232**	**2,257**	**2,291**	**2,343**	*2,404*	*2,466*	*2,529*	*2,594*	*2,659*	*2,726*	*2,793*	*2,862*	**2,343**	*2,594*	*2,862*
Wind	**125**	**125**	**125**	**125**	*125*	*125*	*125*	*125*	*125*	*125*	*125*	*125*	**125**	*125*	*125*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**6.6**	**6.5**	**7.1**	**6.4**	*6.5*	*6.2*	*6.7*	*6.2*	*6.6*	*6.3*	*6.9*	*6.3*	**26.6**	*25.6*	*26.0*
Waste	**3.5**	**3.6**	**3.6**	**3.5**	*3.6*	*3.5*	*3.6*	*3.5*	*3.6*	*3.5*	*3.5*	*3.5*	**14.2**	*14.2*	*14.1*
Wood	**3.1**	**2.9**	**3.6**	**2.9**	*2.9*	*2.6*	*3.2*	*2.7*	*3.0*	*2.7*	*3.3*	*2.8*	**12.5**	*11.4*	*11.9*
Conventional Hydroelectric	**74.4**	**69.2**	**62.3**	**53.2**	*67.2*	*76.3*	*63.0*	*58.8*	*71.7*	*79.9*	*64.6*	*59.6*	**259.1**	*265.4*	*275.7*
Geothermal	**4.1**	**4.0**	**4.2**	**4.2**	*4.3*	*3.9*	*4.3*	*4.2*	*3.7*	*2.8*	*4.3*	*3.9*	**16.5**	*16.6*	*14.7*
Large-Scale Solar (b)	**29.1**	**44.3**	**43.2**	**27.5**	*35.1*	*55.3*	*55.5*	*37.6*	*49.7*	*76.3*	*78.3*	*49.8*	**144.1**	*183.5*	*254.1*
Wind	**119.0**	**121.0**	**80.6**	**116.2**	*129.1*	*128.1*	*85.0*	*122.2*	*135.4*	*131.0*	*87.5*	*128.2*	**436.8**	*464.4*	*482.2*
Other Sectors (c)															
Biomass	**6.7**	**6.8**	**6.8**	**6.6**	*6.7*	*6.8*	*6.8*	*6.6*	*6.8*	*6.8*	*6.8*	*6.6*	**26.9**	*26.9*	*27.0*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.0**	**6.1**	**6.2**	**5.8**	*6.0*	*6.1*	*6.2*	*5.8*	*6.1*	*6.1*	*6.2*	*5.8*	**24.1**	*24.1*	*24.1*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.3**	**0.3**	**0.2**	*0.2*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**1.0**	*1.0*	*1.0*
Small-Scale Solar (d)	**12.0**	**17.7**	**17.8**	**12.9**	*14.8*	*22.5*	*23.0*	*16.2*	*18.6*	*28.4*	*29.0*	*20.4*	**60.5**	*76.4*	*96.4*
Residential Sector	**7.6**	**11.3**	**11.4**	**8.6**	*9.8*	*15.1*	*15.5*	*11.0*	*12.7*	*19.7*	*20.3*	*14.3*	**38.9**	*51.5*	*67.0*
Commercial Sector	**3.6**	**5.2**	**5.2**	**3.5**	*4.1*	*6.0*	*6.1*	*4.2*	*4.9*	*7.2*	*7.3*	*5.0*	**17.5**	*20.5*	*24.4*
Industrial Sector	**0.8**	**1.2**	**1.2**	**0.8**	*0.9*	*1.3*	*1.3*	*0.9*	*1.0*	*1.5*	*1.5*	*1.0*	**4.1**	*4.5*	*5.0*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.
Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,924**	**19,895**	**20,055**	**20,170**	*20,103*	*20,090*	*20,184*	*20,304*	*20,412*	*20,532*	*20,650*	*20,765*	**20,011**	*20,170*	*20,590*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**14,028**	**14,099**	**14,179**	**14,303**	*14,337*	*14,364*	*14,422*	*14,479*	*14,531*	*14,598*	*14,679*	*14,756*	**14,152**	*14,401*	*14,641*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,629**	**3,582**	**3,550**	**3,500**	*3,441*	*3,401*	*3,403*	*3,431*	*3,465*	*3,501*	*3,536*	*3,571*	**3,565**	*3,419*	*3,518*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**257**	**145**	**71**	**130**	*54*	*1*	*11*	*35*	*59*	*79*	*90*	*97*	**151**	*25*	*81*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,393**	**3,379**	**3,411**	**3,422**	*3,450*	*3,458*	*3,466*	*3,474*	*3,482*	*3,490*	*3,496*	*3,504*	**3,401**	*3,462*	*3,493*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,437**	**2,517**	**2,604**	**2,570**	*2,565*	*2,590*	*2,629*	*2,670*	*2,701*	*2,731*	*2,764*	*2,794*	**2,532**	*2,614*	*2,748*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,926**	**3,947**	**3,873**	**3,861**	*3,880*	*3,865*	*3,882*	*3,914*	*3,953*	*3,993*	*4,042*	*4,087*	**3,902**	*3,885*	*4,019*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,109**	**15,022**	**15,059**	**15,171**	*15,400*	*15,461*	*15,612*	*15,769*	*15,938*	*16,113*	*16,249*	*16,366*	**15,090**	*15,560*	*16,166*
Non-Farm Employment															
(millions)	**150.4**	**151.6**	**152.7**	**153.5**	*154.0*	*153.4*	*152.9*	*152.6*	*152.7*	*153.1*	*153.5*	*153.8*	**152.0**	*153.2*	*153.3*
Civilian Unemployment Rate															
(percent)	**3.8**	**3.6**	**3.6**	**3.6**	*3.7*	*4.3*	*4.7*	*4.9*	*4.8*	*4.6*	*4.4*	*4.2*	**3.6**	*4.4*	*4.5*
Housing Starts															
(millions - SAAR)	**1.72**	**1.65**	**1.45**	**1.40**	*1.26*	*1.19*	*1.19*	*1.19*	*1.23*	*1.27*	*1.31*	*1.38*	**1.56**	*1.21*	*1.30*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**102.9**	**104.1**	**104.6**	**104.1**	*103.9*	*103.1*	*103.0*	*103.4*	*103.8*	*104.3*	*105.0*	*105.6*	**103.9**	*103.3*	*104.7*
Manufacturing	**101.5**	**102.4**	**102.3**	**101.6**	*101.1*	*100.6*	*101.0*	*101.9*	*102.6*	*103.4*	*104.4*	*105.2*	**102.0**	*101.1*	*103.9*
Food	**105.5**	**105.1**	**104.6**	**105.2**	*105.4*	*105.6*	*105.8*	*106.0*	*106.2*	*106.4*	*106.9*	*107.3*	**105.1**	*105.7*	*106.7*
Paper	**96.4**	**97.3**	**92.8**	**89.0**	*88.3*	*88.4*	*88.1*	*88.3*	*88.2*	*88.3*	*88.5*	*88.8*	**93.9**	*88.3*	*88.5*
Petroleum and Coal Products	**94.2**	**94.2**	**95.7**	**95.5**	*95.0*	*94.9*	*94.7*	*94.7*	*94.4*	*94.3*	*94.5*	*94.6*	**94.9**	*94.8*	*94.5*
Chemicals	**102.4**	**103.0**	**103.0**	**102.3**	*102.0*	*102.5*	*102.3*	*102.8*	*103.2*	*103.7*	*104.3*	*105.0*	**102.7**	*102.4*	*104.0*
Nonmetallic Mineral Products	**102.9**	**103.2**	**104.7**	**105.9**	*104.0*	*102.9*	*102.5*	*102.7*	*103.2*	*103.9*	*104.6*	*105.3*	**104.2**	*103.0*	*104.2*
Primary Metals	**95.6**	**97.4**	**96.9**	**94.9**	*94.1*	*94.8*	*94.0*	*95.0*	*94.7*	*95.0*	*96.0*	*96.7*	**96.2**	*94.5*	*95.6*
Coal-weighted Manufacturing (a)	**96.2**	**96.7**	**96.4**	**95.5**	*94.6*	*94.7*	*94.1*	*94.5*	*94.5*	*94.7*	*95.3*	*95.7*	**96.2**	*94.5*	*95.1*
Distillate-weighted Manufacturing (a)	**99.8**	**100.3**	**100.1**	**99.3**	*98.1*	*97.6*	*97.4*	*97.8*	*98.2*	*98.6*	*99.3*	*99.9*	**99.9**	*97.7*	*99.0*
Electricity-weighted Manufacturing (a)	**98.0**	**98.6**	**97.9**	**96.6**	*96.0*	*96.3*	*96.1*	*96.5*	*96.7*	*97.1*	*97.7*	*98.2*	**97.8**	*96.2*	*97.4*
Natural Gas-weighted Manufacturing (a)	**95.2**	**95.4**	**94.3**	**92.6**	*92.1*	*92.4*	*92.0*	*92.3*	*92.3*	*92.6*	*93.1*	*93.5*	**94.4**	*92.2*	*92.9*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.85**	**2.92**	**2.96**	**2.98**	*3.00*	*3.01*	*3.03*	*3.05*	*3.06*	*3.07*	*3.08*	*3.09*	**2.93**	*3.02*	*3.08*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.53**	**2.73**	**2.70**	**2.59**	*2.51*	*2.46*	*2.44*	*2.43*	*2.43*	*2.39*	*2.39*	*2.40*	**2.64**	*2.46*	*2.40*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**3.16**	**4.21**	**3.74**	**3.43**	*2.81*	*2.75*	*2.61*	*2.52*	*2.45*	*2.41*	*2.35*	*2.29*	**3.63**	*2.67*	*2.38*
GDP Implicit Price Deflator															
(index, 2012=100)	**124.2**	**126.9**	**128.3**	**129.4**	*130.2*	*131.0*	*131.7*	*132.5*	*133.2*	*133.7*	*134.2*	*134.9*	**127.2**	*131.4*	*134.0*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,372**	**9,164**	**9,319**	**8,869**	*8,417*	*9,323*	*9,448*	*9,036*	*8,579*	*9,401*	*9,558*	*9,192*	**8,933**	*9,059*	*9,183*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**656**	**686**	**692**	**714**	*655*	*697*	*707*	*703*	*650*	*689*	*716*	*695*	**687**	*691*	*688*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**356**	**419**	**422**	**398**	*374*	*428*	*423*	*410*	*376*	*424*	*427*	*418*	**399**	*409*	*411*
Airline Ticket Price Index															
(index, 1982-1984=100)	**225.6**	**328.7**	**293.1**	**285.2**	*232.9*	*295.0*	*289.6*	*299.1*	*278.4*	*324.9*	*304.2*	*302.6*	**283.1**	*279.1*	*302.5*
Raw Steel Production															
(million short tons per day)	**0.253**	**0.253**	**0.247**	**0.235**	*0.237*	*0.235*	*0.235*	*0.239*	*0.245*	*0.241*	*0.244*	*0.247*	**0.247**	*0.236*	*0.244*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**562**	**564**	**576**	**570**	*545*	*564*	*568*	*571*	*561*	*567*	*575*	*576*	**2,272**	*2,248*	*2,279*
Natural Gas	**511**	**375**	**403**	**456**	*492*	*369*	*399*	*459*	*511*	*357*	*387*	*451*	**1,745**	*1,720*	*1,706*
Coal	**245**	**216**	**266**	**215**	*193*	*182*	*239*	*183*	*204*	*174*	*234*	*185*	**942**	*797*	*798*
Total Energy (c)	**1,321**	**1,157**	**1,248**	**1,244**	*1,233*	*1,118*	*1,209*	*1,216*	*1,278*	*1,101*	*1,199*	*1,215*	**4,971**	*4,776*	*4,794*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - February 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Real Gross State Product (Billion $2012)															
New England	**1,032**	**1,024**	**1,031**	**1,037**	*1,033*	*1,032*	*1,036*	*1,041*	*1,046*	*1,051*	*1,056*	*1,061*	**1,031**	*1,036*	*1,054*
Middle Atlantic	**2,858**	**2,858**	**2,879**	**2,892**	*2,879*	*2,874*	*2,887*	*2,904*	*2,919*	*2,934*	*2,949*	*2,964*	**2,872**	*2,886*	*2,941*
E. N. Central	**2,596**	**2,583**	**2,592**	**2,602**	*2,593*	*2,594*	*2,604*	*2,618*	*2,628*	*2,641*	*2,653*	*2,664*	**2,593**	*2,602*	*2,647*
W. N. Central	**1,220**	**1,215**	**1,220**	**1,228**	*1,224*	*1,224*	*1,231*	*1,239*	*1,245*	*1,252*	*1,259*	*1,265*	**1,221**	*1,229*	*1,255*
S. Atlantic	**3,578**	**3,578**	**3,601**	**3,623**	*3,609*	*3,606*	*3,625*	*3,651*	*3,671*	*3,694*	*3,716*	*3,739*	**3,595**	*3,623*	*3,705*
E. S. Central	**884**	**883**	**887**	**892**	*888*	*888*	*891*	*896*	*899*	*903*	*907*	*912*	**886**	*891*	*905*
W. S. Central	**2,377**	**2,383**	**2,424**	**2,447**	*2,442*	*2,442*	*2,454*	*2,470*	*2,487*	*2,507*	*2,526*	*2,544*	**2,408**	*2,452*	*2,516*
Mountain	**1,359**	**1,354**	**1,366**	**1,375**	*1,371*	*1,370*	*1,375*	*1,384*	*1,392*	*1,402*	*1,411*	*1,421*	**1,363**	*1,375*	*1,407*
Pacific	**3,805**	**3,802**	**3,838**	**3,858**	*3,845*	*3,843*	*3,863*	*3,883*	*3,904*	*3,927*	*3,949*	*3,972*	**3,826**	*3,859*	*3,938*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**99.3**	**100.0**	**99.7**	**98.7**	*98.1*	*97.6*	*98.1*	*99.0*	*99.8*	*100.6*	*101.4*	*102.2*	**99.4**	*98.2*	*101.0*
Middle Atlantic	**96.6**	**97.3**	**96.9**	**96.2**	*95.5*	*94.9*	*95.1*	*95.8*	*96.4*	*97.0*	*97.7*	*98.4*	**96.8**	*95.3*	*97.4*
E. N. Central	**98.9**	**99.3**	**98.9**	**98.3**	*97.9*	*97.7*	*98.0*	*98.6*	*99.1*	*99.8*	*100.6*	*101.3*	**98.9**	*98.0*	*100.2*
W. N. Central	**102.0**	**102.5**	**102.4**	**102.0**	*101.4*	*100.9*	*101.3*	*102.3*	*103.1*	*103.9*	*104.9*	*105.7*	**102.2**	*101.5*	*104.4*
S. Atlantic	**103.4**	**104.5**	**104.7**	**103.8**	*103.3*	*102.7*	*102.9*	*103.9*	*104.7*	*105.5*	*106.5*	*107.4*	**104.1**	*103.2*	*106.1*
E. S. Central	**100.9**	**101.2**	**100.9**	**100.3**	*99.7*	*99.3*	*99.6*	*100.2*	*100.8*	*101.6*	*102.5*	*103.2*	**100.8**	*99.7*	*102.0*
W. S. Central	**103.5**	**104.9**	**105.4**	**104.8**	*104.2*	*103.9*	*104.4*	*105.4*	*106.2*	*107.0*	*107.9*	*108.8*	**104.7**	*104.5*	*107.5*
Mountain	**112.7**	**113.8**	**114.3**	**113.7**	*113.0*	*112.5*	*113.0*	*114.0*	*114.8*	*115.7*	*116.7*	*117.6*	**113.6**	*113.1*	*116.2*
Pacific	**97.8**	**98.6**	**98.4**	**97.7**	*97.3*	*96.8*	*97.3*	*98.3*	*99.3*	*100.2*	*101.3*	*102.2*	**98.1**	*97.4*	*100.7*
Real Personal Income (Billion $2012)															
New England	**949**	**939**	**942**	**949**	*951*	*951*	*954*	*959*	*965*	*972*	*979*	*984*	**945**	*954*	*975*
Middle Atlantic	**2,414**	**2,393**	**2,394**	**2,401**	*2,419*	*2,418*	*2,427*	*2,437*	*2,455*	*2,474*	*2,489*	*2,503*	**2,400**	*2,425*	*2,480*
E. N. Central	**2,448**	**2,430**	**2,426**	**2,435**	*2,451*	*2,452*	*2,461*	*2,473*	*2,493*	*2,514*	*2,532*	*2,547*	**2,435**	*2,459*	*2,522*
W. N. Central	**1,165**	**1,161**	**1,163**	**1,166**	*1,176*	*1,178*	*1,183*	*1,190*	*1,200*	*1,211*	*1,219*	*1,227*	**1,164**	*1,182*	*1,214*
S. Atlantic	**3,395**	**3,384**	**3,398**	**3,410**	*3,445*	*3,449*	*3,468*	*3,492*	*3,527*	*3,562*	*3,594*	*3,621*	**3,397**	*3,463*	*3,576*
E. S. Central	**943**	**937**	**935**	**935**	*943*	*942*	*945*	*949*	*956*	*963*	*970*	*976*	**937**	*945*	*966*
W. S. Central	**2,085**	**2,085**	**2,094**	**2,103**	*2,122*	*2,123*	*2,134*	*2,149*	*2,170*	*2,192*	*2,211*	*2,228*	**2,092**	*2,132*	*2,200*
Mountain	**1,307**	**1,306**	**1,320**	**1,320**	*1,326*	*1,326*	*1,331*	*1,338*	*1,349*	*1,361*	*1,372*	*1,382*	**1,313**	*1,330*	*1,366*
Pacific	**2,956**	**2,931**	**2,936**	**3,003**	*2,980*	*2,985*	*3,000*	*3,016*	*3,041*	*3,069*	*3,093*	*3,115*	**2,957**	*2,995*	*3,080*
Households (Thousands)															
New England	**6,101**	**6,100**	**6,098**	**6,100**	*6,113*	*6,123*	*6,131*	*6,138*	*6,146*	*6,153*	*6,160*	*6,166*	**6,100**	*6,138*	*6,166*
Middle Atlantic	**16,123**	**16,119**	**16,108**	**16,110**	*16,134*	*16,155*	*16,170*	*16,188*	*16,207*	*16,225*	*16,243*	*16,263*	**16,110**	*16,188*	*16,263*
E. N. Central	**19,057**	**19,063**	**19,063**	**19,074**	*19,101*	*19,129*	*19,157*	*19,185*	*19,211*	*19,237*	*19,261*	*19,285*	**19,074**	*19,185*	*19,285*
W. N. Central	**8,655**	**8,668**	**8,679**	**8,692**	*8,716*	*8,740*	*8,762*	*8,784*	*8,806*	*8,826*	*8,844*	*8,862*	**8,692**	*8,784*	*8,862*
S. Atlantic	**27,106**	**27,219**	**27,316**	**27,397**	*27,501*	*27,599*	*27,683*	*27,763*	*27,838*	*27,907*	*27,974*	*28,037*	**27,397**	*27,763*	*28,037*
E. S. Central	**7,826**	**7,847**	**7,864**	**7,886**	*7,917*	*7,946*	*7,972*	*7,999*	*8,024*	*8,047*	*8,069*	*8,090*	**7,886**	*7,999*	*8,090*
W. S. Central	**15,858**	**15,922**	**15,979**	**16,028**	*16,090*	*16,150*	*16,207*	*16,262*	*16,314*	*16,364*	*16,418*	*16,470*	**16,028**	*16,262*	*16,470*
Mountain	**9,792**	**9,826**	**9,858**	**9,883**	*9,925*	*9,965*	*10,002*	*10,039*	*10,075*	*10,112*	*10,147*	*10,184*	**9,883**	*10,039*	*10,184*
Pacific	**19,052**	**19,064**	**19,067**	**19,072**	*19,108*	*19,138*	*19,164*	*19,191*	*19,217*	*19,242*	*19,267*	*19,295*	**19,072**	*19,191*	*19,295*
Total Non-farm Employment (Millions)															
New England	**7.4**	**7.4**	**7.5**	**7.5**	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.4**	*7.5*	*7.5*
Middle Atlantic	**19.4**	**19.6**	**19.7**	**19.8**	*19.9*	*19.8*	*19.7*	*19.7*	*19.7*	*19.7*	*19.7*	*19.8*	**19.6**	*19.7*	*19.7*
E. N. Central	**21.8**	**21.9**	**22.0**	**22.1**	*22.2*	*22.1*	*22.0*	*22.0*	*22.0*	*22.0*	*22.1*	*22.1*	**22.0**	*22.1*	*22.0*
W. N. Central	**10.6**	**10.7**	**10.7**	**10.8**	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	**10.7**	*10.8*	*10.8*
S. Atlantic	**29.5**	**29.8**	**30.1**	**30.2**	*30.3*	*30.2*	*30.1*	*30.0*	*30.1*	*30.2*	*30.3*	*30.4*	**29.9**	*30.1*	*30.2*
E. S. Central	**8.4**	**8.4**	**8.4**	**8.5**	*8.5*	*8.5*	*8.5*	*8.4*	*8.4*	*8.5*	*8.5*	*8.5*	**8.4**	*8.5*	*8.5*
W. S. Central	**18.1**	**18.3**	**18.5**	**18.6**	*18.7*	*18.6*	*18.5*	*18.5*	*18.5*	*18.6*	*18.7*	*18.7*	**18.4**	*18.6*	*18.6*
Mountain	**11.4**	**11.5**	**11.6**	**11.6**	*11.7*	*11.6*	*11.6*	*11.5*	*11.6*	*11.6*	*11.6*	*11.7*	**11.5**	*11.6*	*11.6*
Pacific	**23.6**	**23.9**	**24.1**	**24.2**	*24.3*	*24.2*	*24.1*	*24.0*	*24.0*	*24.1*	*24.1*	*24.2*	**23.9**	*24.1*	*24.1*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Heating Degree Days															
New England	**3,141**	**787**	**115**	**1,989**	*2,901*	*865*	*136*	*2,210*	*3,128*	*853*	*137*	*2,210*	**6,032**	*6,113*	*6,327*
Middle Atlantic	**2,942**	**672**	**73**	**1,965**	*2,647*	*694*	*86*	*2,023*	*2,877*	*678*	*85*	*2,022*	**5,652**	*5,448*	*5,663*
E. N. Central	**3,268**	**753**	**100**	**2,225**	*2,917*	*734*	*122*	*2,251*	*3,061*	*714*	*122*	*2,251*	**6,345**	*6,025*	*6,148*
W. N. Central	**3,484**	**793**	**111**	**2,511**	*3,129*	*704*	*156*	*2,449*	*3,190*	*703*	*156*	*2,450*	**6,899**	*6,439*	*6,499*
South Atlantic	**1,338**	**188**	**13**	**975**	*1,213*	*192*	*13*	*972*	*1,405*	*193*	*13*	*970*	**2,514**	*2,391*	*2,581*
E. S. Central	**1,822**	**248**	**22**	**1,326**	*1,587*	*248*	*20*	*1,307*	*1,793*	*253*	*20*	*1,307*	**3,419**	*3,162*	*3,373*
W. S. Central	**1,341**	**56**	**2**	**799**	*1,013*	*77*	*5*	*828*	*1,195*	*92*	*5*	*827*	**2,198**	*1,923*	*2,119*
Mountain	**2,308**	**737**	**85**	**2,004**	*2,341*	*698*	*148*	*1,880*	*2,266*	*710*	*148*	*1,879*	**5,134**	*5,067*	*5,003*
Pacific	**1,426**	**607**	**50**	**1,281**	*1,577*	*607*	*91*	*1,231*	*1,544*	*607*	*91*	*1,233*	**3,364**	*3,506*	*3,475*
U.S. Average	**2,152**	**491**	**54**	**1,547**	*1,974*	*488*	*74*	*1,546*	*2,098*	*485*	*74*	*1,544*	**4,245**	*4,083*	*4,201*
Heating Degree Days, Prior 10-year Average															
New England	**3,100**	**853**	**107**	**2,104**	*3,151*	*859*	*106*	*2,095*	*3,130*	*861*	*103*	*2,086*	**6,164**	*6,211*	*6,179*
Middle Atlantic	**2,887**	**684**	**71**	**1,908**	*2,945*	*692*	*70*	*1,911*	*2,914*	*692*	*66*	*1,907*	**5,551**	*5,619*	*5,579*
E. N. Central	**3,133**	**727**	**97**	**2,162**	*3,215*	*741*	*93*	*2,168*	*3,178*	*739*	*94*	*2,148*	**6,119**	*6,218*	*6,158*
W. N. Central	**3,219**	**726**	**125**	**2,357**	*3,317*	*754*	*121*	*2,372*	*3,289*	*734*	*126*	*2,345*	**6,427**	*6,565*	*6,495*
South Atlantic	**1,380**	**187**	**11**	**905**	*1,401*	*190*	*10*	*903*	*1,370*	*188*	*10*	*902*	**2,483**	*2,504*	*2,470*
E. S. Central	**1,763**	**243**	**15**	**1,228**	*1,809*	*251*	*14*	*1,229*	*1,775*	*247*	*15*	*1,218*	**3,249**	*3,303*	*3,254*
W. S. Central	**1,145**	**93**	**3**	**754**	*1,189*	*95*	*3*	*763*	*1,173*	*89*	*3*	*744*	**1,995**	*2,049*	*2,009*
Mountain	**2,181**	**685**	**132**	**1,818**	*2,202*	*701*	*129*	*1,840*	*2,193*	*697*	*131*	*1,828*	**4,816**	*4,871*	*4,849*
Pacific	**1,455**	**523**	**79**	**1,136**	*1,442*	*523*	*76*	*1,147*	*1,444*	*534*	*76*	*1,147*	**3,193**	*3,188*	*3,202*
U.S. Average	**2,096**	**479**	**62**	**1,473**	*2,133*	*486*	*60*	*1,477*	*2,109*	*484*	*60*	*1,466*	**4,110**	*4,157*	*4,118*
Cooling Degree Days															
New England	**0**	**80**	**559**	**0**	*0*	*85*	*415*	*1*	*0*	*85*	*415*	*1*	**639**	*501*	*501*
Middle Atlantic	**0**	**153**	**683**	**1**	*0*	*152*	*540*	*4*	*0*	*152*	*540*	*4*	**837**	*696*	*696*
E. N. Central	**1**	**256**	**555**	**2**	*0*	*214*	*539*	*7*	*0*	*215*	*539*	*7*	**813**	*761*	*762*
W. N. Central	**3**	**305**	**734**	**8**	*3*	*266*	*677*	*10*	*3*	*266*	*677*	*10*	**1,050**	*956*	*956*
South Atlantic	**158**	**716**	**1,200**	**233**	*138*	*650*	*1,157*	*233*	*116*	*644*	*1,158*	*234*	**2,306**	*2,178*	*2,153*
E. S. Central	**28**	**599**	**1,067**	**37**	*25*	*511*	*1,047*	*66*	*28*	*507*	*1,047*	*66*	**1,731**	*1,649*	*1,647*
W. S. Central	**57**	**1,095**	**1,662**	**170**	*98*	*898*	*1,499*	*191*	*82*	*875*	*1,499*	*192*	**2,984**	*2,687*	*2,648*
Mountain	**15**	**465**	**1,021**	**67**	*15*	*423*	*917*	*71*	*15*	*421*	*918*	*71*	**1,568**	*1,426*	*1,426*
Pacific	**31**	**214**	**767**	**79**	*24*	*165*	*577*	*62*	*25*	*164*	*576*	*62*	**1,091**	*827*	*827*
U.S. Average	**47**	**466**	**952**	**90**	*47*	*405*	*855*	*93*	*41*	*401*	*857*	*94*	**1,554**	*1,400*	*1,393*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**87**	**471**	**2**	*0*	*87*	*479*	*2*	*0*	*86*	*476*	*2*	**560**	*568*	*564*
Middle Atlantic	**0**	**162**	**608**	**8**	*0*	*159*	*614*	*8*	*0*	*159*	*616*	*8*	**779**	*781*	*783*
E. N. Central	**3**	**238**	**571**	**9**	*1*	*234*	*561*	*10*	*1*	*234*	*568*	*10*	**821**	*805*	*813*
W. N. Central	**7**	**299**	**681**	**11**	*4*	*292*	*674*	*12*	*4*	*295*	*677*	*12*	**999**	*982*	*988*
South Atlantic	**147**	**668**	**1,189**	**269**	*144*	*676*	*1,193*	*273*	*147*	*681*	*1,204*	*271*	**2,272**	*2,286*	*2,304*
E. S. Central	**44**	**518**	**1,057**	**83**	*36*	*521*	*1,059*	*83*	*37*	*526*	*1,072*	*84*	**1,702**	*1,699*	*1,720*
W. S. Central	**113**	**853**	**1,536**	**224**	*101*	*861*	*1,548*	*223*	*104*	*873*	*1,546*	*225*	**2,726**	*2,733*	*2,748*
Mountain	**23**	**458**	**945**	**84**	*23*	*455*	*951*	*82*	*22*	*450*	*952*	*84*	**1,511**	*1,511*	*1,508*
Pacific	**31**	**208**	**665**	**86**	*32*	*213*	*676*	*86*	*31*	*208*	*674*	*87*	**989**	*1,006*	*1,000*
U.S. Average	**53**	**412**	**889**	**109**	*50*	*415*	*894*	*110*	*51*	*418*	*899*	*110*	**1,463**	*1,469*	*1,479*

- = no data available

Notes: EIA completed modeling and analysis for this report on February 2, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (http://www.eia.gov/tools/glossary/) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Forecasts: Based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml).

Appendix to the February 2022 *Short-Term Energy Outlook*

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in early editions of the NDAA report.

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Dec 2022	Jan 2023	Dec 2022 – Jan 2023 Average	Dec 2021 – Jan 2022 Average	2019 – 2021 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	101.3	101.0	101.1	98.1	96.6
Global Petroleum and Other Liquids Consumption (b)	100.7	98.3	99.5	99.0	96.5
Biofuels Production (c)	2.3	2.3	2.3	2.3	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.8	3.8	3.8	3.5	3.2
Iran Liquid Fuels Consumption	2.3	2.6	2.4	2.0	2.0
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	95.2	94.9	95.0	92.3	90.7
Consumption (d)	95.9	93.2	94.6	94.4	92.0
Production minus Consumption	-0.7	1.7	0.5	-2.1	-1.3
World Inventory Net Withdrawals Including Iran	-0.5	-2.6	-1.6	0.9	-0.1
Estimated OECD Inventory Level (e) (million barrels)	2,783	2,831	2,807	2,643	2,946
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	2.4	3.3	2.9	3.5	4.3

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.
Data source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Dec 2022	Jan 2023	Dec 2022 – Jan 2023 Average	Dec 2021 – Jan 2022 Average	2019 – 2021 Average
Brent Front Month Futures Price ($ per barrel)	81.34	83.91	82.59	79.93	59.44
WTI Front Month Futures Price ($ per barrel)	76.52	78.16	77.32	77.07	54.82
Dubai Front Month Futures Price ($ per barrel)	77.36	80.94	79.11	78.42	58.86
Brent 1st - 13th Month Futures Spread ($ per barrel)	2.94	4.22	3.56	6.21	1.80
WTI 1st - 13th Month Futures Spread ($ per barrel)	2.50	2.89	2.69	6.77	1.37
RBOB Front Month Futures Price ($ per gallon)	2.23	2.48	2.35	2.26	1.67
Heating Oil Front Month Futures Price ($ per gallon)	3.12	3.23	3.17	2.42	1.75
RBOB - Brent Futures Crack Spread ($ per gallon)	0.29	0.49	0.39	0.36	0.25
Heating Oil - Brent Futures Crack Spread ($ per gallon)	1.19	1.23	1.21	0.52	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Data source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).